Education at a Glance 2024

OECD Indicators

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Please cite this publication as:
OECD (2024), *Education at a Glance 2024: OECD Indicators*, OECD Publishing, Paris, https://doi.org/10.1787/c00cad36-en.

ISBN 978-92-64-78360-7 (print)
ISBN 978-92-64-38326-5 (PDF)
ISBN 978-92-64-51425-6 (HTML)
ISBN 978-92-64-70589-0 (epub)

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

Revised version, December 2024
Details of revisions available at: https://www.oecd.org/en/publications/support/corrigenda.html

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Corrigenda to OECD publications may be found at: https://www.oecd.org/en/publications/support/corrigenda.html.

Foreword

Governments are increasingly looking to international comparisons of education systems 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 quantitative, internationally comparable indicators that it publishes annually in *Education at a Glance*. Together with OECD policy work, these indicators assist governments in building more effective and equitable education systems. Beyond government officials, *Education at a Glance* also aims to support researchers with data for further analysis and help the general public understand how their countries' education systems compare internationally.

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 2024* was led by Abel Schumann and contains statistical and analytical contributions from Étienne Albiser, Éric Charbonnier, Minne Chu, Darien Dinaro, Leonardo Geretto, Jaione González Yubero, Yanjun Guo, Corinne Heckmann, Janina Jasper, Viktoria Kis, Qi Kuang, Erika Lee, Bernardo Mayorga, Simon Normandeau, Christopher Olivares, Gara Rojas González, Özge Özcan Sahin, Giovanni Maria Semeraro and Choyi Whang. Inputs and advice were provided by Olof Bystrom, Lucie Cerna, Katherine Hasset, Thomas Liebig, Edoardo Magalini, Deborah Nusche, Alexander Pick, Marcia Rocha, Samo Varsik and Alina Winter. Administrative support was provided by Ameline Besin and Valérie Forges. Rachel Linden supported the editorial and production process. The development of the publication was steered by INES 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.

INES member countries and the OECD continue to strive to provide internationally comparable data to meet policy needs. The OECD will develop new indicators where this is feasible and will work to advance in areas where conceptual progress is needed before indicators can be produced. This effort takes place not only within the INES Programme, but also in the OECD Programme for International Student Assessment (PISA), in the Programme for the International Assessment of Adult Competencies (PIAAC), as well as in the OECD Teaching and Learning International Survey (TALIS).

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Editorial

Levelling the educational playing field for high quality and lifelong learning opportunities

High quality education systems, with fair access for children from all social and economic backgrounds, can be a means to lift people out of poverty and empower students to reach their full potential. There has been good progress in educational attainment and outcomes, for example, with a significant drop in the share of 25–34 year-olds without an upper secondary qualification, which has decreased from 17% in 2016 to 14% in 2023, in many countries. However, challenges remain in achieving equality of opportunity.

The 2024 edition of Education at a Glance, with a spotlight on equity in education, finds that family background, for example, remains a strong influence on education outcomes. Fewer than 1 in 5 adults, whose parents did not complete upper secondary education, have university degrees or another form of tertiary qualification. And children from low-income families are, on average in countries with available data[1], 18 percentage points less likely to be enrolled in early childhood education and care before the age of 3.

This early disadvantage persists across the different levels, affecting performance in primary and secondary school assessments and reducing the likelihood of completing upper secondary and tertiary programmes. This underscores the need for interventions that target early childhood, to give all children equal opportunities. Early childhood education helps close developmental gaps before children enter primary school, making it a key tool for mitigating the effects of socio-economic disadvantage.

Recognising this, many OECD countries have lowered the starting age of compulsory education. They have also increased public expenditure on early childhood education, by 9% on average between 2015 and 2021 when measured as a share of gross domestic product (GDP). In some countries, the rise was much higher. For example, public expenditure in this area went up 50% in Lithuania and 42% in Germany. However, Education at a Glance shows that gaps remain, particularly in the affordability and accessibility of early childhood education for low-income families.

The widespread shortage of well-qualified teachers represents another pressing challenge. Many countries are struggling to fill vacant teaching posts, and the impact is felt most acutely in schools serving socio-economically disadvantaged communities. While some countries offer financial incentives to attract teachers to these schools, financial measures alone are insufficient. Comprehensive support and recognition of the unique challenges faced by teachers in disadvantaged areas are essential to attract and retain motivated educators.

This year's edition also finds there have been significant strides in educational attainment and labour market outcomes for young adults, particularly from vulnerable households. The percentage of 18–24-year-olds not in employment, education, or training has decreased from 16% in 2016 to 14% in 2023 on

[1] Austria, Belgium, Bulgaria, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom.

average across the OECD. Employment rates for young adults have also improved, with a notable increase among those without upper secondary qualifications.

These gains, driven by prolonged educational engagement and a robust labour market, underscore the importance of sustained efforts to keep young people in education. However, these improvements are not met with better learning outcomes. The proportion of low-performing 15-year-olds in the Programme for International Student Assessment (PISA) has remained unchanged or even increased in many countries since 2012. To ensure our children and young people have the foundational skills needed for future employment, it is essential that countries ensure standards in core subjects such as maths, reading and science.

Gender disparities also persist. Despite their higher educational attainment, women continue to face significant disadvantages in the labour market. Girls outperform boys in nearly all educational measures, including test scores, grade repetition rates, and completion rates at both upper secondary and tertiary levels. Women are also more likely to pursue tertiary education, with 54% of young women holding a tertiary qualification compared to 41% of young men. However, these educational successes do not translate into equivalent labour market opportunities. Young women are less likely to be employed than young men, particularly those without an upper secondary qualification. The employment rate for women aged 25-34 without an upper secondary qualification is 47%, compared to 72% for their male counterparts. Even among those with tertiary qualifications, women face an employment rate six percentage points lower than men. They also earn significantly less, with a 15% lower average for those lacking an upper secondary qualification and a 17% lower average for those with a tertiary qualification. This disparity highlights the urgent need for policies that address gender inequalities in the labour market. The OECD's Contribution to Promoting Gender Equality aims to help guide and coordinate these efforts, by bridging gender data gaps to measure and support progress on gender equality and by shaping policies to achieve gender equality through the implementation of OECD legal instruments and multi-disciplinary expert advice.

Looking ahead, additional measures are needed to continue laying the foundations for a more level playing field in education for social and economic progress. From policies to enhance access to high quality early childhood education for all socio-economic backgrounds, to those aimed at improving the attractiveness of the teaching profession, the 2024 edition of Education at a Glance provides policymakers with the evidence needed to design the education systems that will help give our children and young people the best possible future.

Mathias Cormann,
OECD Secretary-General

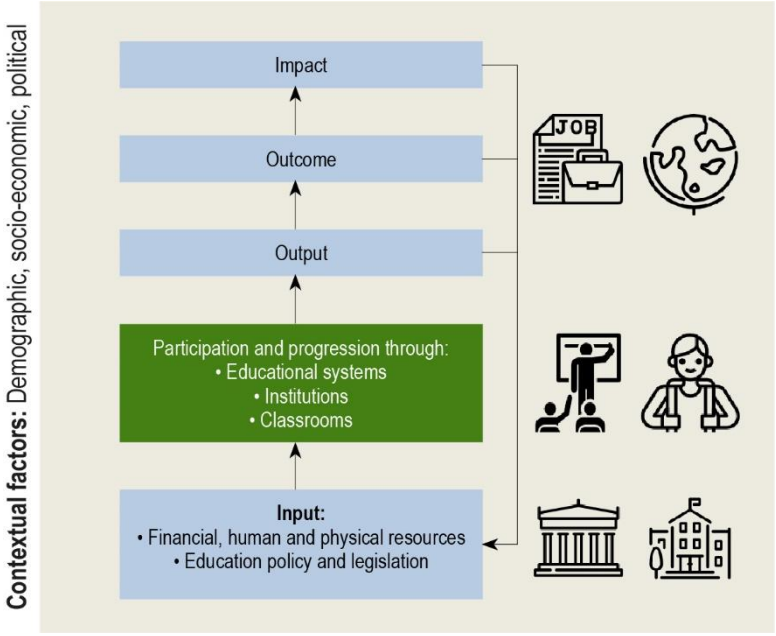
Reader's guide

The organising framework

Education at a Glance 2024: 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 in parts, 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 2024* have been developed within this framework. The parts 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.

Part 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 part 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.

Part 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 of education (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.

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

- **Part 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.
- **Part 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 part 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 equity in Education at a Glance 2024

Every edition of *Education at a Glance* focuses on a specific theme. As the selected theme for this year's publication, equity is at the centre of *Education at a Glance 2024*. The publication aims to show disparities within education systems and in subsequent labour market and social outcomes. It also focuses on several dimensions that are particularly important for equity in education, such as early childhood education and the funding of education.

Recognising that equity is a complex concept that can only partially be reflected in quantitative indicators, *Education at a Glance 2024* does not aim at providing a comprehensive overview of how equitable education systems are. Instead, it highlights differences in outcomes between population groups (e.g. men and women, natives and migrants, children from high income and low income families, etc.) that can be indicative of potential inequities within education systems and beyond. An overview of the findings related to equity contained in *Education at a Glance 2024* can be found in the associated *Spotlight on Equity* ((OECD, 2024[1])).

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[2]).

Comparability over time

The indicators in *Education at a Glance* are the result of a continuous process of methodological improvement aimed at improving the robustness and international comparability of the indicators. As a result, when analysing indicators over time, it is strongly advised to do so within the most recent edition only, rather than comparing data across different editions. All comparisons over time presented in this report and on the *Education and Skills* dataset on *OECD Data Explorer* (https://data-explorer.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[3]). 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 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, Czechia, 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 2024* (OECD/Eurostat/UNESCO Institute for Statistics, 2015[4]).

Table B. Education levels under the ISCED 2011 classification

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

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

Fields of education and training

Within ISCED, programmes and related qualifications can be classified by field of education and training as well as by level. Following the adoption of ISCED 2011, a separate review and global consultation process took place on the ISCED fields of education. The ISCED fields were revised, and the UNESCO General Conference adopted the ISCED 2013 Fields of Education and Training classification (ISCED-F 2013) (UNESCO Institute for Statistics, 2014[5]) in November 2013 at its 37th session. The broad ISCED-F fields considered in this publication are: education; arts and humanities; social sciences, journalism and information; business, administration and law; natural sciences, mathematics and statistics; information and communication technologies; engineering, manufacturing and construction; and health and welfare. Throughout this publication, the term "field of study" is used to refer to the different fields of this classification. The term STEM (science, technology, engineering and mathematics) refers to the aggregation of the broad fields of natural sciences, mathematics and statistics; information and communication technologies; and engineering, manufacturing and construction.

Standard error (S.E.)

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

In tables showing standard errors, the column with the heading "%" indicates the average percentage, and the column with the heading "S.E." indicates the standard error. Given the survey method, there is a sampling uncertainty in the percentages (%) of twice the standard error (S.E.). For example, for the values % = 10 and S.E. = 2.6, 10% has 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: $\% +/-1.96 * S.E.$, 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 Database* on the OECD Data Explorer (https://data-explorer.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. It 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.

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 StatLlink indicated at the end of the chapter.

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 2024 edition focuses on equity in education. Readers interested in a summary of the findings on this topic are referred to the accompanying Spotlight on Equity.

Educational attainment and labour-market outcomes have improved for the lowest performing groups

Educational and labour-market outcomes for young adults at risk of falling behind have improved. Since 2016, the share of 18-24 year-olds not in employment, education or training has fallen from 16% to 14% on average across the OECD. At the same time, the share of 25-34 year-olds without an upper secondary qualification has decreased from 17% to 14%. Job opportunities have also improved: the employment rate among 25-34 year-olds without an upper secondary qualification has risen from 59% to 61%, and for those with upper secondary or post-secondary non-tertiary attainment, it has increased from 76% to 79%.

These positive trends are driven by 18-24 year-olds staying in education longer and a robust labour market. However, they do not indicate better learning outcomes. The proportion of low-performing 15-year-olds in the Programme for International Student Assessment (PISA) has remained unchanged or increased since 2012 in most countries. Moreover, the skills acquired by young adults often do not match labour market needs. To sustain positive employment trends during weaker labour markets, it is essential to ensure that improved educational attainment is grounded in better learning outcomes. This includes strong foundational skills that facilitate lifelong learning and relevant employability skills that support individuals in their careers.

Girls outperform boys in education, but women remain disadvantaged in the labour market

Girls and women outperform boys and men in education by most available measures. They tend to have higher test scores in standardised assessments and are 28% less likely to repeat a grade at primary and lower secondary levels. At upper secondary and tertiary levels, they are more likely to successfully complete their programmes in all countries for which data are available, with gender gaps often exceeding 10 percentage points. Women are also more likely to enter tertiary education than men, and the proportion of women aged 25-34 with a tertiary qualification is significantly higher (54% of young women compared to 41% of young men across the OECD).

However, despite their high educational attainment, women continue to be disadvantaged in the labour market. Young women are less likely to be employed, and the gap is particularly large for those who have not completed upper secondary education. At 47%, the employment rate of women aged 25-34 without an upper secondary qualification is 25 percentage points lower than their male counterparts. Among young

women with a tertiary qualification, 84% are employed, which is 6 percentage points below the employment rate for similarly qualified men. Young women also earn less than young men, with average earnings 15% lower for those lacking an upper secondary qualification and 17% lower for those with a tertiary qualification.

Educational outcomes are strongly influenced by family background

Educational outcomes are transmitted across generations. Inequalities start early and persist through all stages of the education system. In countries with available data, children from low-income families are on average 18 percentage points less likely to be enrolled in early childhood education and care before the age of 3. In primary and secondary education, students from less advantaged socio-economic backgrounds perform worse in standardised assessments such as the Progress in International Reading Literacy Study (PIRLS) and PISA. Students who start an upper secondary programme are 19 percentage points less likely to successfully complete their studies if their parents have not attained upper secondary education than their peers with parents who have a tertiary qualification, and this gap is 13 percentage points for those starting a bachelor's programmes. These disadvantages result in very different levels of educational attainment. While 72% of adults who have at least one parent with a tertiary qualification have also obtained a tertiary qualification, only 19% of those whose parents have not completed upper secondary education have tertiary attainment.

Early childhood education helps to give all children a fair start into education

Early childhood education is an important tool for reducing the impact of family background on educational opportunities, as it helps to close developmental gaps between children before they enter primary school. To ensure that all children attend pre-primary education, 10 out of 38 OECD countries have lowered the starting age of compulsory education within the last decade to include some or all pre-primary education, and it is now compulsory in 19 OECD countries. Moreover, governments are prioritising early childhood education in their budgets. Public expenditure on early childhood education measured as a share of gross domestic product (GDP) increased by 9% between 2015 and 2021, significantly more than for other levels of education. Enrolment rates in early childhood education have also continued to rise across all age groups. On average across the OECD, 83% of children aged 3-5 are enrolled in pre-primary education, up from 79% in 2013.

The gap between the end of paid parental leave and the start of free education, during which time parents have to pay for early childhood education, is particularly important for the enrolment of children from low-income families. Seven OECD countries offer free childcare or pre-primary education that starts immediately after the end of paid parental leave, while in eight OECD countries there is a gap of five years or more between the end of paid parental leave and the start of free education. Moreover, even if early childhood education is nominally free of charge, private expenditure on it remains high in many countries, putting children from poorer families at a disadvantage. This is due to a number of factors, such as the limited availability of places in publicly funded institutions or a limited number of hours offered free of charge, which parents often have to supplement privately.

Teacher shortages can aggravate inequalities

Recruiting well-qualified teachers to replace those who retire or resign is a challenge in most countries. At the start of the 2022/23 academic year, 18 out of 21 countries for which data are available faced teacher shortages and had been unable to fill all their vacant teaching posts.

Schools are not equally affected by teacher shortages. In order to attract more teachers to the most affected schools, about one-third of countries with available data offer allowances to teachers who teach in remote schools and about one in ten countries offer allowances for teaching in socio-economically disadvantaged ones. However, financial incentives alone are not enough to attract motivated candidates. Other measures are equally important, including sufficient professional support and strong public recognition of the efforts of teachers who teach in disadvantaged schools.

SDG. Equity in the Education Sustainable Development Goal

Highlights

- Out-of-school rates at upper secondary education have fallen for most OECD countries from an average of 8% in 2013 to 7% in 2022.
- For most OECD and partner countries, less than 5% of lower secondary students are more than two years older than the intended age for their grade.
- There are wide differences in the share of students with minimum proficiency in mathematics according to socio-economic status and immigration background. In comparison, gender differences are small across OECD countries.

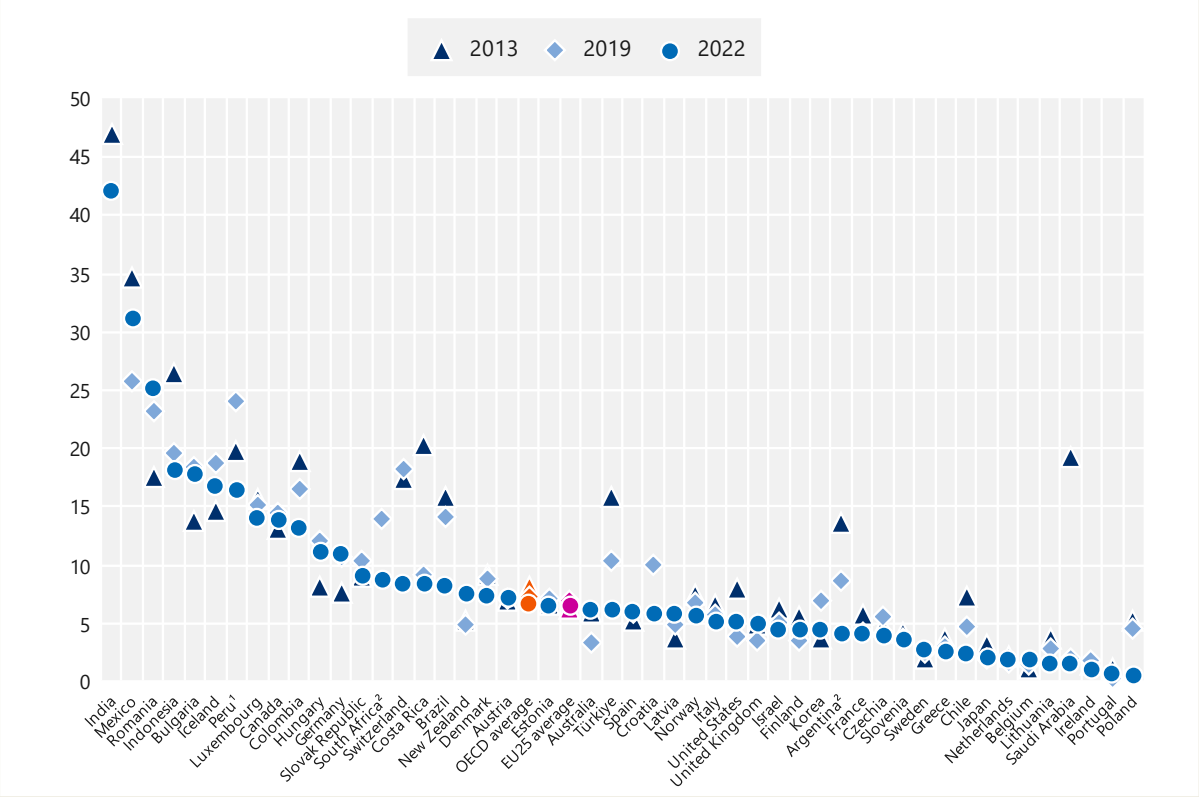
Context

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

Unlike previous global targets, such as the Millennium Development Goals (United Nations, 2015[2]), SDG 4 focuses on the quality of education, with indicators related to teacher training and student outcomes, alongside more traditional measures of quantity, such as access and participation. It also emphasises the importance of learning at all stages of life, by investigating education at all levels (from early childhood education and care to tertiary education) and adult learning. This chapter builds on a selection of SDG 4 indicators to investigate gender differences in participation at school, looking at gender disparities in enrolment at different levels of education, out-of-school rates, and students who are over the intended age for their grade. It also considers equity in outcomes through differences in mathematics performance across a number of equity dimensions, and information and communication technologies (ICT) skills among young people and adults by gender and locality.

Figure 1. Trends in out-of-school rates for children at upper secondary level (2013, 2019 and 2022)

Indicator SDG 4.1.4 (in per cent)



Note: The upper secondary out-of-school rate is defined as the percentage of children in the official age range for upper secondary education who are not enrolled in school.

1. Year of reference differs from 2013 and 2019. Refer to the source table for more details.
2. Year of reference differs from 2022. Refer to the source table for more details.

Countries are ranked in descending order of the out-of-school rate in 2022.

See Table 1 for data and Chapter SDG Tables section for StatLink.

Other findings

- The gender gap on participation in vocational education and training varies widely among OECD and partner countries. Italy, New Zealand, Norway and Poland are among the countries where the share of 15-24 year-old men who are in vocational education surpasses the share among 15-24 year-old women by at least 8percentage points.
- There are wide gender differences in ICT skills, with the share of men who reported having installed and configured software 20% higher than the share of women on average.
- However, in many countries the differences in ICT skills between urban and rural locations are also wide, with inhabitants of urban regions generally reporting higher ICT skills.
- Indigenous adults are less likely to have achieved at least an upper secondary education than non-Indigenous adults in all the countries analysed.

Note

This chapter focuses partly on Target 4.5 of the SDG 4, which calls for the elimination of inequalities in education. The analysis below builds on selected SDG 4 indicators to investigate equity in participation in education and in learning outcomes. Global Indicator 4.5.1 sets the parity index as the main measure of inequity in education within the SDG 4 agenda. This indicator provides a wide scope for measuring inequity, as it is meant to be applied to all other SDG 4 indicators with available data and can be used to measure equity along several dimensions. This chapter presents a number of parity indices for a number of different indicators. Due to data availability, it only analyses four dimensions of equity: gender, immigration and socio-economic status (measured using the index of economic, social and cultural status (ESCS), and locality (rural/urban). Box 1 discusses equity in school participation for First Nations and Indigenous population among OECD countries.

Analysis

Equity in school participation

Gender differences in participation according to SDG 4 Indicators

Participation in organised learning (one year before the official primary entry age)

Among OECD and partner countries, there are small differences between boys and girls in participation in organised education before the start of primary school (Figure 2). The widest gap is found in South Africa, where 70% of boys are enrolled in pre-primary education compared to 57% of girls. The difference is smaller but important in Brazil and Indonesia, where the proportion of boys enrolled in pre-primary is at least 4 percentage points higher than that of girls (Table 1).

Participation in technical and vocational programmes (15-24 year-olds)

There is much wider variation in the participation rates in technical or vocational education among people aged between 15 and 24 (Figure 2). On average across OECD countries, around 17% of young people in this age group take part in technical or vocational education programmes. Participation rates in Austria, Czechia, Poland and Slovenia are substantially above the OECD average, at over 25%. In contrast, 5% or less of 15-24 year-olds in Argentina, India and Saudi Arabia participate in technical or vocational education (Table 1).

There are also considerable gender differences in participation rates. On average across OECD countries, young men aged 15-24 are 4 percentage points more likely to participate in technical or vocational education than young women. This difference is particularly considerable in Italy, New Zealand, Norway and Poland where the share of men doing so is at least 8 percentage points higher than the share of women. In Iceland and India, young men are approximately twice as likely to participate in technical or vocational programmes as their female counterparts. This trend is even more pronounced in Saudi Arabia, where the participation rate in such programmes among 15-24 year-old men is more than four times higher than among women, although the rates remain small (Table 1).

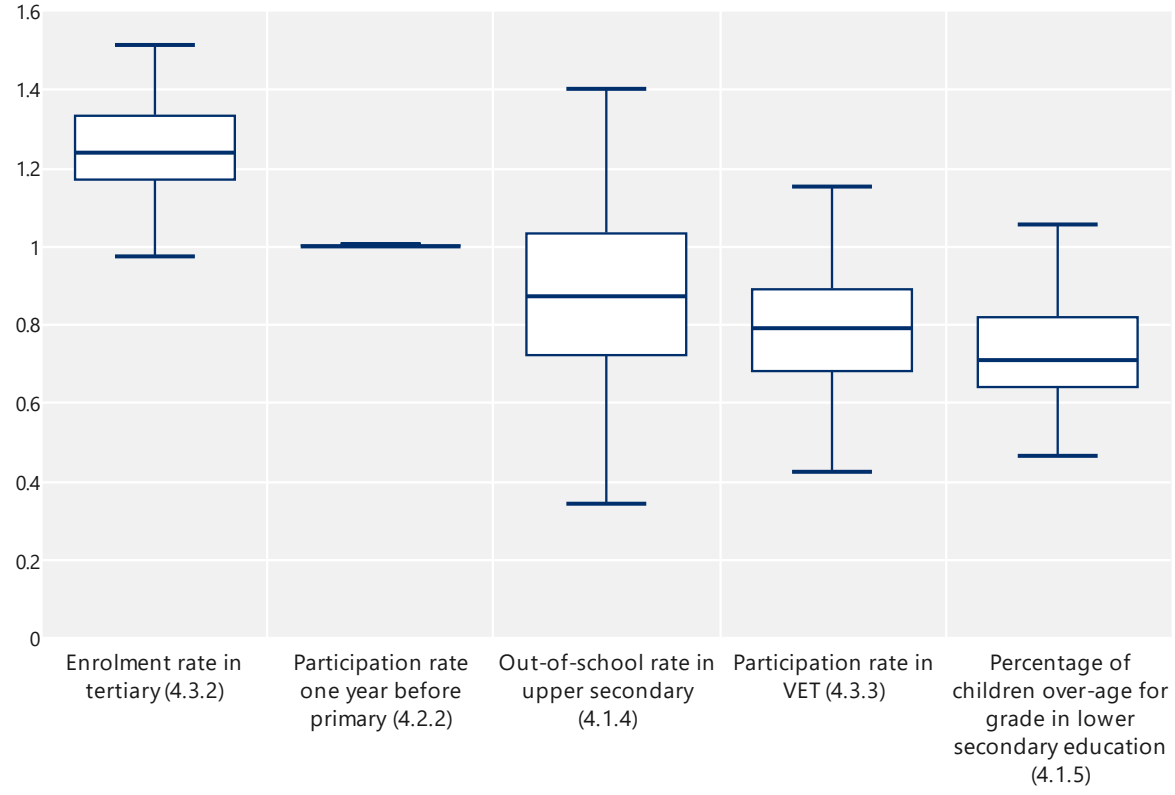
Gross enrolment ratio for tertiary education

As mentioned in Chapter B4, which discusses differences in access and outcomes of tertiary education, over the years there has been a gender reversal in the participation at tertiary level. In almost all OECD

and partner countries the share of women enrolled in tertiary education is higher than the share of men (Figure 2). The gender gaps in gross enrolment rates in tertiary education are close to parity only in India, Japan, Türkiye and Luxembourg (Table 1).

Figure 2. Overview of the gender parity index for selected SDG indicators (2022)

Gender parity index refers to the ratio of the female value over the male value



Note: The box plot indicates the position of the median country among OECD and partner countries with available data (shown by the line within the box) and the first and the third quartiles of the distribution (corresponding to the box boundaries). The caps of the lines above and below the box represent the maximum and minimum values respectively. See Box 1. for more information on the methods in the index calculation.
Indicators are ranked in decreasing order of the median value.
See Table 1 for data and Chapter SDG Tables section for StatLink.

Out-of-school rate

One way to capture student's participation of studies is by measuring the out-of-school rate, which is defined as the percentage of children in the official age range for a given level of education who are not enrolled in school (SDG Indicator 4.1.5).

In most countries, the proportion of boys of upper secondary age who are not in school is higher than the proportion of girls. In Croatia, Mexico and South Africa, this share is at least 5 percentage points higher for boys than for girls. This difference is even more important in Croatia and South Africa, where boys are at least three times more likely to drop out of upper secondary education than girls. Contrary to these countries, in Bulgaria and Indonesia, the proportion of girls out of upper secondary education is 4 percentage points higher than for boys (Table 1).

Out-of-school rates at upper secondary level have fallen for most countries from 2013 to 2022, but there are some exceptions. The out-of-school rates rose by 4 percentage points in Bulgaria over this period and

by nearly 8 percentage points in Romania. The rate also increased in Germany, Hungary, Iceland, Latvia and New Zealand, by 2 percentage points or more (Figure 1). In 2022, the out-of-school rate at upper secondary is above 30% in India and Mexico despite having fallen in both countries since 2013. Considering the size of these countries' populations, particularly in India, this corresponds to a considerable fraction of the number of students who are out of school globally (Table 1).

A few countries have seen the trend of falling out-of-school rates reverse over the period. In Australia, Mexico and New Zealand, although the out-of-school rates fell between 2013 and 2019 by more than two percentage points, between 2019 and 2022 the proportion of young people not enrolled in upper secondary education increased by 3 percentage points in Australia and New Zealand and 5 percentage points in Mexico. This might be partly due to school disruptions and uncertainty caused by the COVID-19 pandemic, which could have slowed the earlier progress made by these two countries in reducing the number of young people out of school. In Australia, the pandemic has had a negative impact on school attendance among socio-economically disadvantaged secondary students (Tomaszewski et al., 2022[3]). However, a different trend is seen in Brazil, Peru, South Africa or Switzerland, where the out-of-school rate was at least 5 percentage points higher in 2019 than in 2022 (Figure 1). Government initiatives to tackle the disruptions of the pandemic have included implementing school-based mechanisms to track vulnerable student groups not returning to school and providing financial incentives such as cash, food or transport, or waived school fees to encourage vulnerable students to return to school. For instance, this last measure was implemented in Costa Rica, Estonia, Poland, Portugal, Hungary, Spain and Türkiye (OECD, 2021[4]).

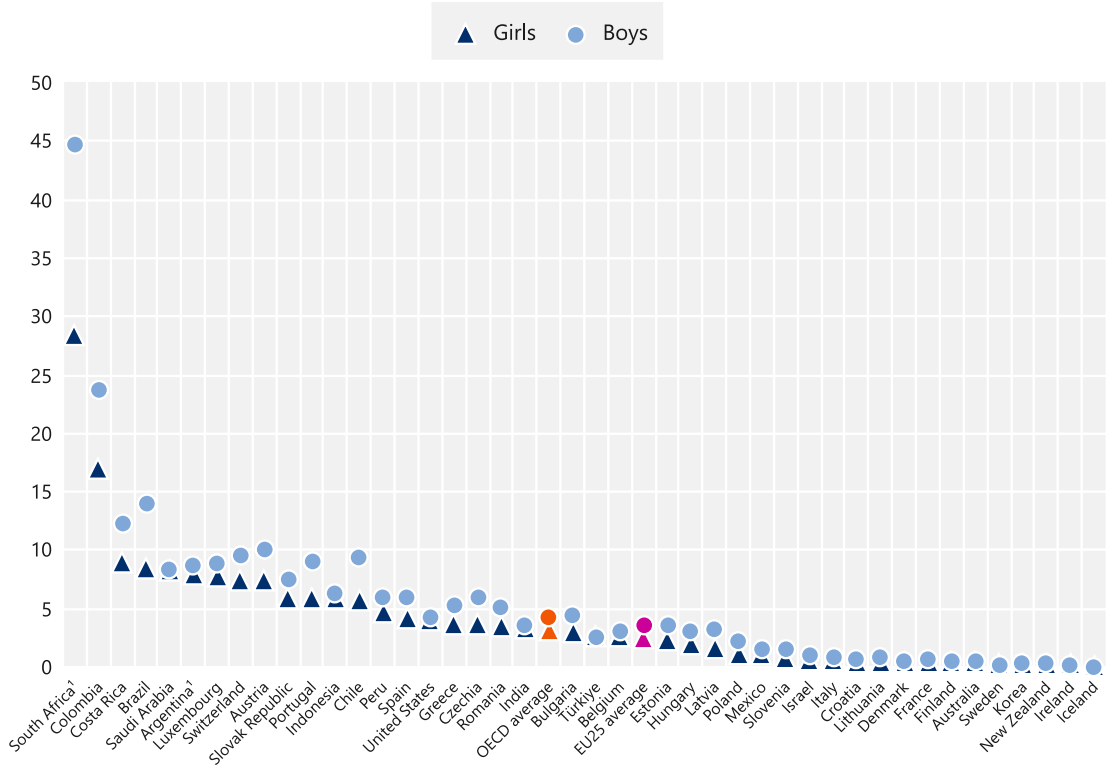
Percentage of children over-age for grade

The percentage of lower secondary students who are two years older than the intended age for their grade is one of the SDG 4 indicators that helps to assess whether girls and boys are completing free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes. Students might be over-age because they entered school later than their country's theorical school starting age, or because they had to repeat grades at school (see Chapters B2 and B3).

For most OECD and partner countries, less than 5% of lower secondary male and female students are two years over-age for their grade (Figure 3). For some countries the share is close to zero, as it is the case in Iceland, Ireland, Korea, New Zealand and Sweden. Boys tend to be slightly more likely than girls to be over-age at lower secondary school, more notably in South Africa and some Latin American countries. South Africa has the highest share of over-age boys in lower secondary, with almost half of all boys at least two years older than expected for their grade. The second highest is Colombia, where the share of boys over-age for their grade is 24%, compared to 17% of girls. Boys also tend to be over-represented among those repeating grades (Chapter B2). In countries where the end of compulsory education corresponds to the end of lower secondary programmes (Chapter B2), over-age students may drop out of school before they complete their lower secondary education.

Figure 3. Share of students over-age for grade at lower secondary level, by gender (2022)

Indicator SDG 4.1.5 (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 percentage of girls who are over-age for grade in lower secondary education
See Table 1 for data and Chapter SDG Tables section for StatLink.

Box 1. The case of First Nations and Indigenous populations in OECD countries.

SDG Target 4.5 aims to ensure vulnerable groups have equal access to all levels of education and vocational training, including those individuals belonging to Indigenous populations or to First Nations. However, many OECD countries record disparities between Indigenous and non-Indigenous populations in the attainment of at least upper secondary education among 25-64 year-olds (OECD, 2019[5]).

The concept of Indigenous peoples is complex. The term “Indigenous” varies in meaning depending on the context, it evolves over time, and can differ across and within countries. This leads to divisions within Indigenous societies, challenges in collecting statistics, and impacting public policy effectiveness. International conventions, such as the ILO’s Indigenous and Tribal Peoples Convention 169, have been formative in developing global definitions, emphasising self-identification as a fundamental criterion. This convention identifies Indigenous groups as those distinguished by social, cultural, and economic conditions or descent from pre-conquest populations, retaining unique social, economic, cultural, and political institutions. Most OECD member and selected partner countries incorporate the ILO Convention 169 framework in their legal and statistical definitions of Indigenous peoples (OECD, 2019[5]).

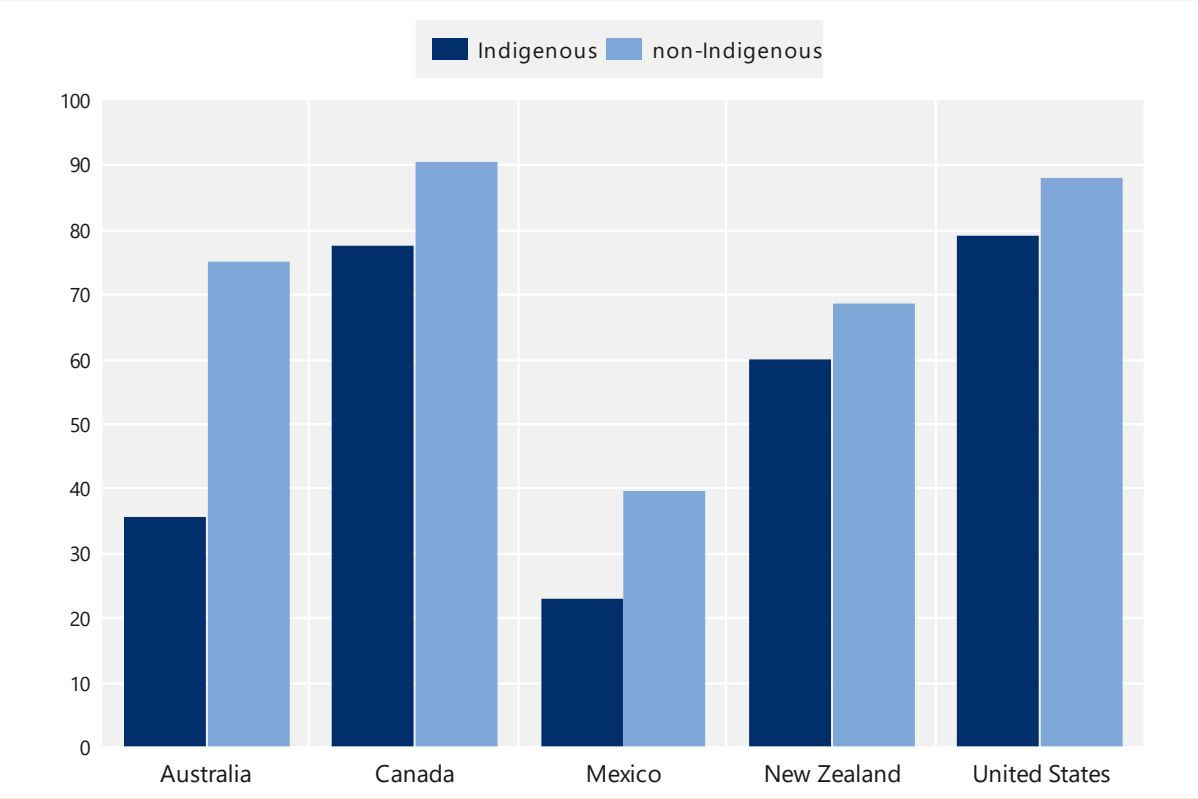
Indigenous adults are less likely to have achieved at least an upper secondary education than non-Indigenous adults in all the countries analysed (OECD, 2019[5]). The United States has a highly educated Indigenous population and a small attainment gap, with 79% of the Indigenous population having upper secondary attainment, 9 percentage points lower than among the non-Indigenous population. Mexico has a low upper secondary attainment rate among the Indigenous population (23% compared to 40% for non-Indigenous population). Australia has a large attainment gap (39 percentage points) (Figure 4). Educational attainment disparities between Indigenous and non-Indigenous populations may be even greater at tertiary levels in some countries, as it is the case in the United States (National Center for Education Statistics, 2023[6]).

These outcomes represent a disadvantage for Indigenous Peoples to access “knowledge economy” jobs in the future. Indeed, fundamental skills (such as literacy and numeracy) along with high-level communication, interpersonal and problem-solving skills are valued in the labour market. Upper secondary education is therefore fundamental for Indigenous adults to acquire the skills necessary to access the labour market, health and general well-being (OECD, 2019[5]).

In Australia, some progress is seen in closing the attainment gap in upper secondary education. Upper secondary attainment rate of Indigenous Australians aged 20 to 24 increased by around 21 percentage points, from around 45% in 2008 to 66 % in 2018–19. The proportion of non-Indigenous students attaining year 12 or equivalent increased by around 5 percentage points. This has narrowed the gap by 15 percentage points (Australian Government, 2020[7]). Some of the measures implemented by the Australian government to retain Indigenous students in education comprise teacher training, the adaptation of school curricula to Indigenous histories and cultures, and school funding loadings to support Indigenous students (UNESCO, 2019[8]).

Figure 4. Educational attainment among adult Indigenous and non-Indigenous Peoples

The share of adult population (25-64) with at least upper secondary education. 2016 or the latest year available



Note: The latest available year is 2013 for New Zealand; 2015 for Mexico; and 2016 for Australia, Canada and the United States. For Canada, educational attainment rate refer to populations aged 15 and over.

Sources: Calculation based on data drawn from ABS Census of Population and Housing, 2016, TableBuilder for Australia; Statistics Canada, 2016 Census of Population, products of Statistics Canada for Canada; INEGI Population census 2010 and 2015 and Population and Housing Census available from the Integrated Public Use Microdata Series, International website (https://international.ipums.org/international) for Mexico; Statistics New Zealand 2013 for New Zealand and U.S. Census Bureau's American Community Survey, 2012-2016 American community Survey 5-Year Estimates, Tables C15002A, C15002B, C15002C, C15002D using American FactFinder http://factfinder2.census.gov for the United States. For more information on definitions and methodology please see (OECD, 2019[5]).

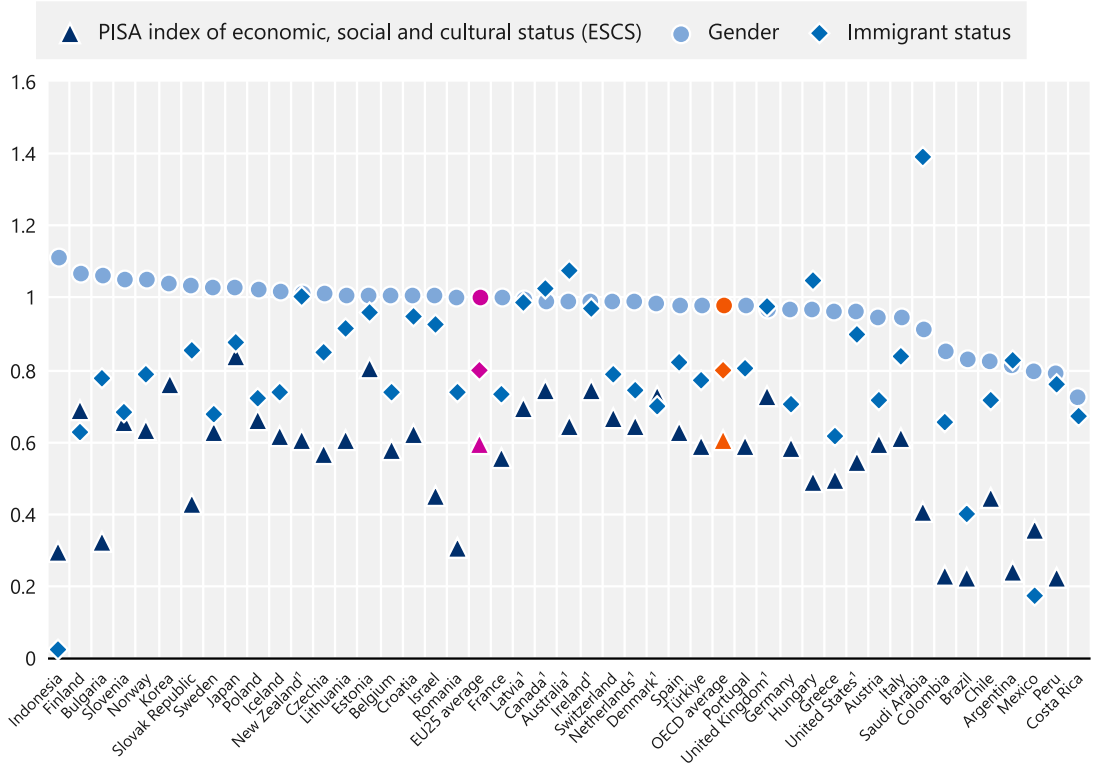
Equity in school outcomes

Differences in performance in mathematics

The OECD Programme for International Student Assessment (PISA) provides insights about students' performance at the age of 15. As such, it is used to monitor SDG Indicator 4.1.1, which measures the proportion of children and young people achieving at least minimum proficiency level at the end of secondary education (i.e. Level 2 or above in the PISA context) in reading and mathematics. The release of PISA 2022 focuses mainly on mathematics and includes results from almost 90 countries (including from PISA for Development (OECD, 2023[9])). The indicator is calculated using the PISA index of economic, social and cultural status (ESCS), gender and immigration status (OECD, 2023[10]).

Figure 5. Parity indices for minimum proficiency in mathematics, by socio-economic background, gender and immigration status (2022)

Indicator SDG 4.1.1



How to read this figure: On average across OECD countries, the proportion of children from the bottom quartile of the PISA ESCS index achieving at least PISA Level 2 in mathematics is 40% lower than that of children from the top ESCS quartile. The proportion of students achieving at least PISA Level 2 in mathematics is almost equal for girls and for boys (a parity index of 1 indicates perfect parity). The proportion of immigrants achieving at least PISA Level 2 in mathematics is 20% lower than that of non-immigrants.
Note: The ESCS parity index refers to the ratio of the value for the bottom quartile over the value for the top quartile of the ESCS index. ESCS refers to the PISA index of economic, social and cultural status. The gender parity index refers to the ratio of the value for girls over the value for boys. The immigrant status parity index refers to the ratio of the value for immigrants over the value for non-immigrants. For more information on the methods in the index calculation, please refer to the Methodology section.
1. Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see PISA 2022 Reader's Guide, Annexes A2 and A4).
Countries are ranked in descending order of the gender parity index.
See Table 2 for data and Chapter SDG Tables section for StatLink.
Source: (OECD, 2023[10]), *PISA 2022 Results (Volume I): The State of Learning and Equity in Education*, OECD Publishing, Paris, https://doi.org/10.1787/53f23881-en.

The proportion of students who achieve at least the minimum proficiency in mathematics is higher among those in the top quartile of the ESCS index compared to those in the bottom one. Brazil and Peru have the largest gaps, while the differences in Estonia and Japan are the smallest among OECD and partner countries (Figure 5).

There is variation among OECD countries on mathematics proficiency according to students' immigration status, but there is no uniform pattern (Figure 5). In Indonesia and Mexico, the proportion of students with an immigrant background achieving at least PISA Level 2 is at least 80% lower than for students without an immigrant background. In contrast, in Australia, Canada, Hungary and Saudi Arabia, a greater share of students with an immigrant background achieve at least minimum proficiency than those without (Table 2).

In contrast with the other two dimensions, the gender gap for minimum proficiency in mathematics is small. Among OECD and partner countries, those from Latin America have a wide gender gap, in favour of male students. In Bulgaria, Finland and Korea, the proportion of girls with at least minimum proficiency in maths is higher than that of boys by at least 3 percentage points (Figure 5).

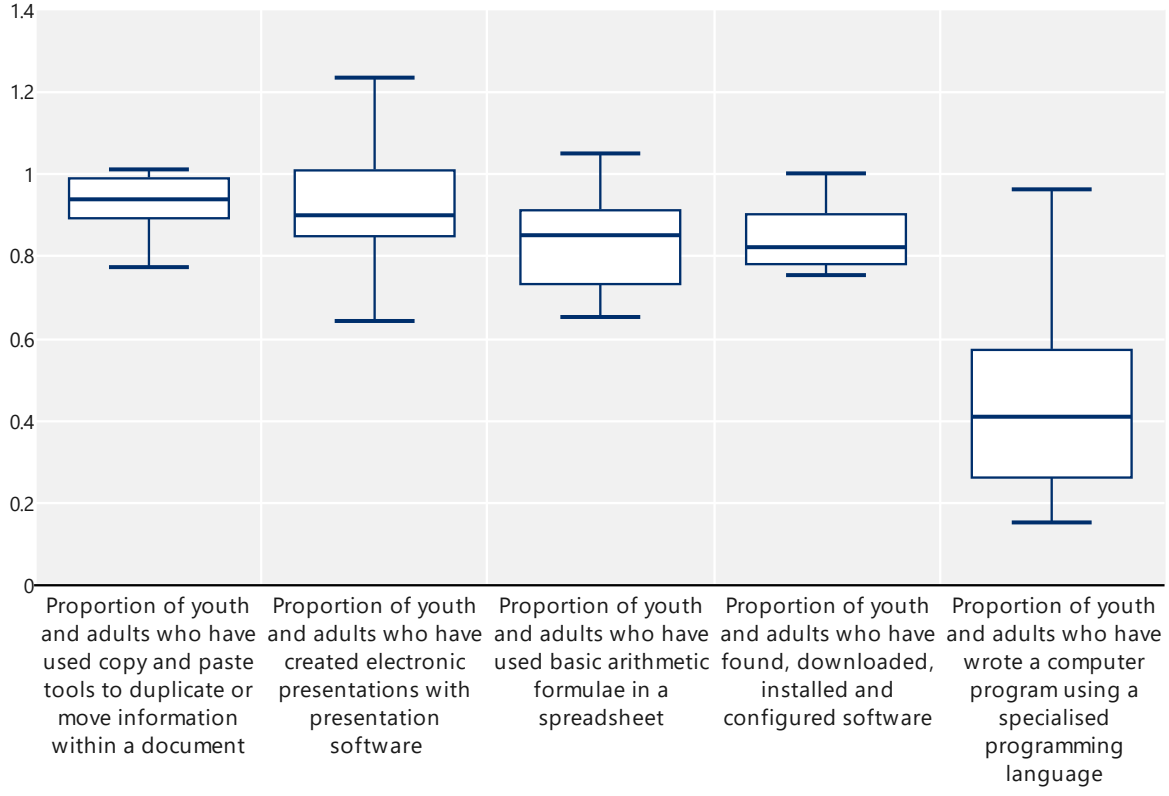
Differences in information and communications technology skills by gender

Target 4.4 aims to increase the number of young people and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship (UNESCO-UIS, 2024[11]). Information and communication technologies (ICT) skills have become necessary to succeed, but they are not evenly distributed across the population.

There are differences in the digital skills between men and women among OECD and partner countries. Although differences in ability to use tools to copy and paste in electronic documents tend to be small, the gaps widen in favour of men when it comes to creating electronic presentations, using formulas in spreadsheets, installing software and writing computer programmes (Figure 6For example, 41% of men in Japan have used presentation software compared to only 26% of women. Similarly, gender differences in computer programming skills are large in Austria, Luxembourg, Sweden and Switzerland (Table 3).

Figure 6. Overview of the gender parity index for selected ICT skills (2021)

Gender parity index refers to the ratio of the female value over the male value (Indicator SDG 4.4.1)



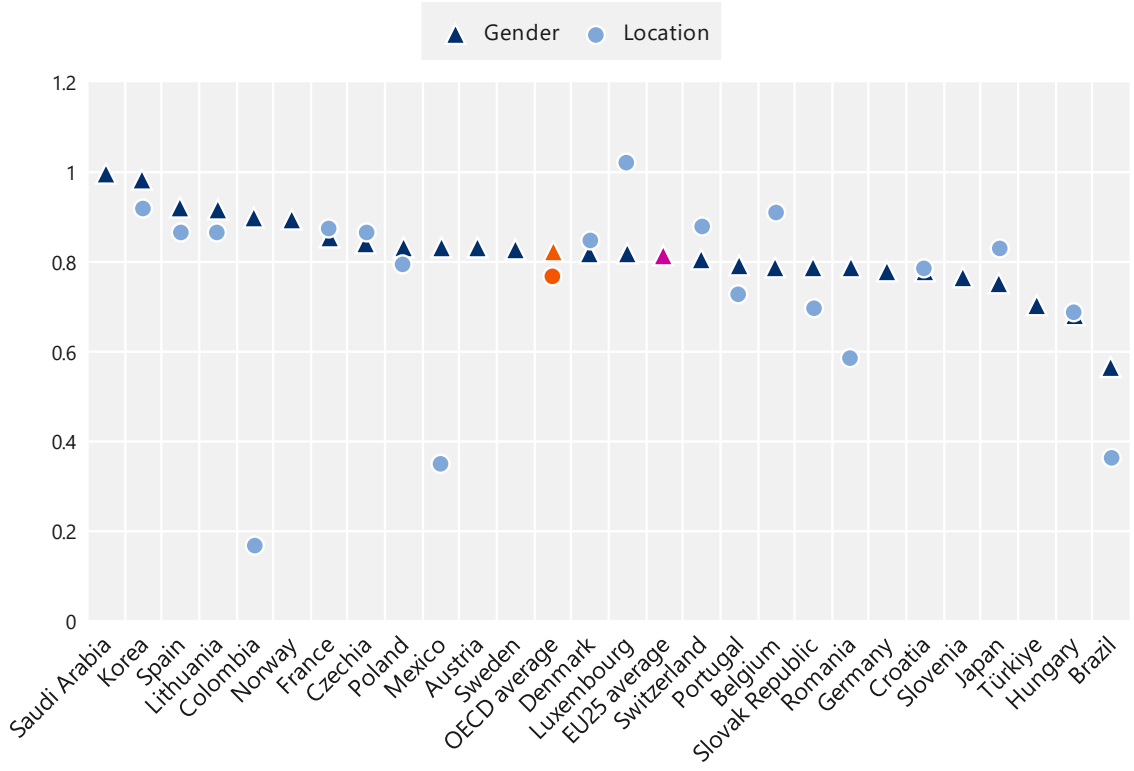
Note: The box plot indicates the position of the median country among OECD and partner countries with available data (shown by the line within the box) and the first and the third quartiles of the distribution (corresponding to the box boundaries). The caps of the lines above and below the box represent the maximum and minimum values respectively.
Indicators are ranked in decreasing order of the median value.
See Table 3 for data and Chapter SDG Tables section for StatLink.
Source: (International Telecommunication Union, 2024[12])

Differences in software usage by gender and locality

When it comes to the downloading, installation and configuration of software among young people and adults in OECD countries, there are clear differences between men and women and also between urban and rural populations (Figure 7.). On average among OECD and partner countries with available data, the share of men who report having applied this skill is 17% higher than the share of women. But some countries have wider gaps based on locality. On average, the share of people in rural areas who applied this skill is more than 20% lower than those from urban areas. In Colombia, only 3% of those in rural areas report having installed any software, the lowest share among OECD countries, compared to 19% of those in urban areas. Luxembourg is the only country where the locality index favours those in rural areas, as well as having the narrowest difference, with 57% of people in urban areas reporting software installation skills compared to 59% in rural areas (Table 3).

Figure 7. Parity indices for software installation and configuration skills, by gender and locality (2021)

The gender parity index refers to the ratio of the value for women over the value for men. The locality parity index refers to the ratio of the value for rural areas over the value for urban areas (Indicator SDG 4.4.1)



How to read this figure: In Mexico, the proportion of women who have found, downloaded, installed and configured software is 20% lower than the proportion of men. The share of people from rural areas who have done the same task is more than 60% lower than that of people from urban areas.
Note: For more information on the methods in the index calculation, please refer to the Methodology section.
OECD and EU averages to be taken with caution since more than 40% of countries report missing information
Countries are ranked in descending order of the gender parity index.
See Table 3 for data and Chapter SDG Tables section for StatLink.
Source: (International Telecommunication Union, 2024[12])

There are many initiatives to address gender digital skill gaps. In Colombia and Costa Rica, there are co-operatives and foundations working to increase the visibility of women's experiences in the digital sector. In Mexico, the Laboratoria Coding AC provided job-oriented digital skills education to women from vulnerable backgrounds. Focused on job placement, this organisation's bootcamp programme has reached more than 1 000 applicants and worked with the technology sector to increase diversity in its recruitment and workforce (World Wide Web Foundation, 2020[13]).

Measures to bridge the digital gap between rural and urban areas have focused on providing the infrastructure needed for the use of technology. The European Union (EU) has launched Rural Digital Futures, an initiative to provide universal and affordable access to high-speed connectivity using private-sector investments with complementary funding from national or EU funds (European Union, 2024[14]).

Definitions

Definition and limitations of selected SDG 4 indicators

Indicator	Definition	Limitations and comments
4.1.1 Proportion of children and young people at the end of lower secondary achieving at least a minimum proficiency level in mathematics	Percentage of children and young people achieving at least a minimum proficiency level in mathematics at the end of lower secondary education.	Learning outcomes from cross-national learning assessments are directly comparable for all countries which participated in the same cross-national learning assessment. However, these outcomes are not comparable across different cross-national learning assessments or with national learning assessments. A level of comparability of learning outcomes across assessments could be achieved by using different methodologies, each with varying standard errors.
4.1.4 Out-of-school rate	Proportion of children and young people in the official age range for the given level of education who are not enrolled in upper secondary education.	Inconsistencies between enrolment and population data from different sources may result in inaccurate estimates of out-of-school children and adolescents. Data from household surveys conducted late in the school year where ages are recorded at the enumeration date may result in over-estimates.
4.1.5 Percentage of children over-age for grade	Percentage of pupils in lower secondary general education who are at least 2 years above the intended age for their grade. The intended age for a given grade is the age at which pupils would enter the grade if they had started school at the official primary entrance age, had studied full-time and had progressed without repeating or skipping a grade.	Inconsistencies between enrolment and population data from different sources may result in inaccurate estimates of this indicator. Data from household surveys conducted late in the school year where ages are recorded at the enumeration date may result in over-estimates.
4.2.2 Participation rate in organized learning (one year before the official primary entry age)	Percentage of children aged one year before the official primary entry age, who participate in one or more organised learning programme, including programmes which offer a combination of education and care. Participants in early childhood education and in primary education are both included	Participation in learning programmes in the early years is not full time for many children, meaning that exposure to learning environments outside of the home will vary in intensity. The indicator measures the percentage of children who are exposed to organised learning but not the intensity or quality of the programme. More work is needed to ensure that the definition of learning programmes is consistent across various surveys and defined in a manner that is easily understood by survey respondents.
4.3.2 Gross enrolment ratio for tertiary education	Total enrolment in tertiary education regardless of age expressed as a percentage of the population in the 5-year age group immediately following upper secondary education.	The gross enrolment ratio is a broad measure of participation in tertiary education and does not consider differences in duration of programmes between countries or between different levels of education and fields of study. It is standardised by measuring it relative to a 5-year age group for all countries but may underestimate participation especially in countries with poorly developed tertiary education systems or those where provision is limited to first tertiary programmes.
4.3.3 Participation rate in technical and vocational programmes	Bitmap Bitmap Percentage of young people aged 15-24 years participating in technical or vocational education either in formal or non-formal (e.g. work-based, or other settings)	Technical and vocational education and training can be offered in a variety of settings including schools and universities, workplace environments and others. Administrative data often capture only provision in formal settings such as schools and universities. Participation rates do not capture the intensity or quality of the

	education, on a given date or during a specified period.	provision nor the outcomes of the education and training on offer.
4.4.1 Proportion of youth and adults with information and communications technology (ICT) skills	The proportion of youth and adults with information and communication technologies (ICT) skills, by type of skill as defined as the percentage of individuals that have undertaken certain ICT-related activities in the last 3 months. The indicator is expressed as a percentage.	This indicator is based on an internationally agreed definition and methodology, which have been developed under the co-ordination of International Telecommunications Union (ITU), through its Expert Groups and following an extensive consultation process with countries. It was also endorsed by the UN Statistical Commission in 2014, and again in 2020. The indicator is based on the responses provided by interviewees regarding certain activities that they have carried out in a reference period of time. However, it is not a direct assessment of skills and it is unclear if those activities were undertaken effectively.

Source : https://tcg.uis.unesco.org/methodological-toolkit/metadata/ .

Methodology

All indicators presented in this chapter follow the agreed SDG methodology, including for recommended data sources, and may differ in some cases from other measures presented in *Education at a Glance*. Please see *Education at a Glance 2024 Sources, Methodologies and Technical Notes* for country-specific notes (OECD, 2024[15]).

The main indicator chosen to measure equity across the SDG 4 agenda is the parity index. It is defined as the ratio between the values of a given indicator for two different groups, with the value of the group most likely to be disadvantaged in the numerator. In Figures 2, 3 and 5, to measure gender parity, the numerator is girls and the denominator is boys. To measure socio-economic background parity, the numerator is students from the lowest quartile of the PISA index of economic, social and cultural status (ESCS), and the denominator is students from the highest quartile. To measure immigration status parity, the numerator is students with an immigrant background and the denominator is non-immigrants. A parity index of between 0.97 and 1.03 indicates parity between the two considered groups. A value of less than 0.97 indicates a disparity in favour of the likely most advantaged group, and a value greater than 1.03 indicates a disparity in favour of the most disadvantaged group.

The use of a parity index provides the relative magnitude of the disparity in a simple, easy-to-communicate way. However, it also has some drawbacks, such as being sensitive to low values and not being symmetrical around 1 (perfect equality). For example, if the enrolment rate is 40% for girls and 50% for boys, the gender parity index (GPI) has a value of 0.8 (UNESCO-UIS, 2010[16]). If the female and male values are reversed, the GPI has a value of 1.25, which gives the mistaken impression of greater gender disparity because 1.25 is further from 1 than 0.8. To solve this, an adjusted parity index, which is symmetrical around 1, is used in the tables and figures of this chapter whenever values for the likely advantaged and likely disadvantaged groups are switched for an observation.

For more information on measuring inequity in education, please see the *UNESCO Handbook on Measuring Equity in Education* (UNESCO-UIS, 2018[17]). The handbook provides a conceptual framework for measuring equity in education and offers thorough methodological guidance on how to calculate and interpret various types of equity indicators.

Source

Indicator	Source
4.1.1	PISA Database (OECD, 2023[10]).
4.1.4	UOE 2023 data collection and UNESCO Institute of Statistics (UIS) for data from Argentina, China, India, Indonesia, Saudi Arabia and South Africa.

4.1.5	UOE 2023 data collection and UNESCO Institute of Statistics (UIS) for data from Argentina, China, India, Indonesia, Saudi Arabia and South Africa.
4.2.2	UOE 2023 data collection and UNESCO Institute of Statistics (UIS) for data from Argentina, China, India, Indonesia, Saudi Arabia and South Africa.
4.3.2	UOE 2023 data collection and UNESCO Institute of Statistics (UIS) for data from Argentina, China, India, Indonesia, Saudi Arabia and South Africa.
4.3.3	UOE 2023 data collection and UNESCO Institute of Statistics (UIS) for data from Argentina, China, India, Indonesia, Saudi Arabia and South Africa.
4.4.1	International Telecommunication Union DataHub (International Telecommunication Union, 2024[12])

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Chapter SDG Tables

Tables Chapter SDG. Equity in the Education Sustainable Development Goal

StatLink https://stat.link/dw05ar

Cut-off date for the data: 14 June 2024. Any updates on data and more breakdowns can be found on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

Table 1. Selected SDG4 indicators, by gender (2022)

	Proportion of children and young people in the official age range for the given level of education who are not enrolled in upper secondary education (SDG 4.1.4)					Percentage of pupils in lower secondary general education who are at least 2 years above the intended age for their grade (SDG 4.1.5)		Percentage of children aged one year before the official primary entry age, who participate in one or more organised learning programme, including programmes which offer a combination of education and care (SDG 4.2.2)		Total enrolment in tertiary education regardless of age expressed as a percentage of the population in the 5-year age group immediately following upper secondary education (SDG 4.3.2)		Percentage of young people aged 15-24 years participating in technical or vocational education, on a given date or during a specified period (SDG 4.3.3)	
			Total										
	Female	Male	2013	2019	2022	Female	Male	Female	Male	Female	Male	Female	Male
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Australia	4	8	6	3	6	0	0	92	92	128	86	12	16
Austria	6	8	7	7	7	7	10	98	97	107	83	27	30
Belgium	2	2	1	1	2	2	3	99	99	97	71	21	26
Canada	15	13	13	14	14	m	m	95	94	90	65	7	7
Chile	3	2	7	5	2	6	9	92	92	109	90	13	12
Colombia	12	14	19	16	13	17	24	100	98	64	54	10	9
Costa Rica	7	10	20	9	8	9	12	91	90	37	28	9	8
Czechia	4	4	5	5	4	4	6	94	94	83	59	27	31
Denmark	7	8	9	9	7	0	0	98	98	99	71	9	16
Estonia	6	7	7	7	6	2	3	94	93	87	57	9	14
Finland	4	5	5	3	4	0	0	96	95	118	92	17	22
France	3	5	6	4	4	0	1	100	100	81	61	17	22
Germany	11	10	7	11	11	m	m	96	96	81	74	17	22
Greece	3	2	4	3	3	4	5	100	100	172	162	11	16
Hungary	11	12	8	12	11	2	3	96	96	65	51	22	26
Iceland	16	18	15	19	17	0	0	97	97	115	57	5	13
Ireland	0	2	1	2	1	0	0	95	92	84	69	5	10
Israel	3	5	6	5	4	1	1	97	97	68	48	16	14
Italy	5	5	7	6	5	0	1	94	95	87	62	16	26
Japan	1	3	3	2	2	m	m	m	m	64	65	m	m
Korea	5	4	4	7	4	0	0	97	97	95	111	9	14
Latvia	5	7	4	5	6	2	3	98	97	108	75	17	19
Lithuania	1	2	4	3	1	0	1	100	100	92	62	6	10
Luxembourg	12	16	16	15	14	8	9	98	100	23	19	21	23
Mexico	27	35	35	26	31	1	1	98	97	50	43	12	11
Netherlands	2	2	2	1	2	m	m	99	98	94	78	21	23
New Zealand	7	8	5	5	7	0	0	81	81	97	58	10	18
Norway	5	6	7	7	6	m	m	98	97	118	78	14	23
Poland	0	1	5	4	0	1	2	100	100	92	59	22	31
Portugal	0	1	1	0	1	6	9	100	100	83	69	12	18
Slovak Republic	9	9	9	10	9	6	7	91	90	63	42	23	26
Slovenia	3	4	4	4	3	1	1	95	95	100	66	29	37
Spain	5	7	5	6	6	4	6	97	98	107	83	16	20
Sweden	3	3	2	2	3	0	0	99	99	108	62	12	16
Switzerland	9	8	17	18	8	7	9	98	98	79	70	20	26
Türkiye	6	6	16	10	6	3	2	98	100	130	125	21	24
United Kingdom	4	6	5	3	5	m	m	100	100	93	68	15	17
United States	4	7	8	4	5	4	4	87	86	95	65	m	m
OECD average	6	7	8	7	7	3	4	96	96	91	69	15	19
Partner and/or accession countries													
Argentina[1]	m	m	14	9	4	8	9	97	95	140	75	0	0
Brazil	7	9	16	14	8	8	14	88	92	72	49	5	4
Bulgaria	20	16	14	18	18	3	4	86	85	83	63	15	21
China[1]	m	m	m	m	m	m	m	m	m	78	67	m	m
Croatia	3	9	m	10	6	0	1	100	100	96	66	22	27
India	42	42	47	m	42	3	4	95	94	33	32	2	3
Indonesia	20	16	26	20	18	6	6	84	88	47	39	13	15
Peru[2,3]	17	16	20	24	16	5	6	100	99	m	m	m	m
Romania	24	26	17	23	25	3	5	81	81	66	51	18	20
Saudi Arabia	1	1	19	2	1	8	8	56	54	78	70	1	3
South Africa[1]	3	14	m	14	9	28	45	57	70	32	19	6	4
EU25 average	6	7	6	7	6	2	4	96	96	91	68	17	22
G20 average	10	11	14	m	10	5	7	90	91	82	65	10	12

Note: See under Chapter SDG Tables section for StatLink and Box 2 for the notes related to this Table.

Table 2. Share of 15-year-olds achieving at least a minimum proficiency in mathematics by the end of lower secondary education, by socio-economic background, gender and immigration status (2022)

Indicator SDG 4.1.1

	Socio-economic status		Gender		Immigration status	
	Bottom quartile (disadvantaged)	Top quartile (advantaged)	Female	Male	All immigrant students	Non-immigrant students
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)
Australia[1]	57	88	73	74	79	73
Austria	55	93	73	77	59	82
Belgium	54	94	75	75	60	81
Canada[1]	66	89	78	79	81	79
Chile	29	66	40	48	34	47
Colombia	12	54	27	31	20	31
Costa Rica	m	m	24	33	20	30
Czechia	52	91	75	74	64	75
Denmark[1]	66	91	79	80	58	83
Estonia	75	94	85	85	82	86
Finland	61	89	78	73	49	78
France	51	91	71	71	55	76
Germany	53	92	69	72	55	78
Greece	36	73	52	54	35	57
Hungary	45	92	69	72	74	71
Iceland	49	80	66	65	51	68
Ireland[1]	68	92	80	81	80	82
Israel	38	85	63	63	61	66
Italy	52	86	68	73	61	73
Japan	79	94	89	87	77	89
Korea	71	94	85	82	m	m
Latvia[1]	63	91	78	78	77	78
Lithuania	53	89	72	72	67	73
Luxembourg	m	m	m	m	m	m
Mexico	19	54	31	38	6	36
Netherlands[1]	58	90	72	73	59	79
New Zealand[1]	53	88	72	71	73	73
Norway	53	84	70	67	57	73
Poland	61	92	78	76	56	78
Portugal	53	90	69	71	58	73
Slovak Republic	37	88	68	66	58	68
Slovenia	59	90	77	74	54	79
Spain	56	89	72	73	62	76
Sweden	56	89	74	72	54	80
Switzerland	63	95	80	81	69	88
Türkiye	47	80	61	62	48	62
United Kingdom[1]	65	90	74	77	76	77
United States[1]	47	86	65	67	62	69
OECD average	53	86	68	69	58	71
Partner and/or accession countries						
Argentina	12	49	24	30	23	28
Brazil	11	51	24	29	11	29
Bulgaria	23	71	48	45	38	49
China	m	m	m	m	m	m
Croatia	52	84	67	67	64	68
India	m	m	m	m	m	m
Indonesia	9	32	19	17	0	19
Peru	13	58	30	38	26	35
Romania	25	81	51	51	39	53
Saudi Arabia	18	45	29	31	47	28
South Africa	m	m	m	m	m	m
EU25 average	53	88	71	71	59	74
G20 average	m	m	m	m	m	m

Note: See under Chapter SDG Tables section for StatLink and Box 2 for the notes related to this Table

Table 3. Share of youth and adults with information and communication technologies (ICT) skills, by gender and locality (2021)

Indicator SDG 4.4.1

	Share who have used copy and paste tools to duplicate or move information within a document		Share who have used basic arithmetic formulae in a spreadsheet		Share who have created electronic presentations with presentation software		Share who have written a computer program using a specialised programming language		Share who have found, downloaded, installed and configured software			
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Rural	Urban
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	63	67	m	m	m	m	5	15	50	61	m	m
Belgium	m	m	40	49	43	48	1	8	41	52	43	47
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	27	27	20	20	21	21	4	6	14	16	3	19
Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m
Czechia	44	49	35	39	15	18	2	8	40	48	40	46
Denmark	m	m	41	56	54	62	7	15	59	71	61	72
Estonia	m	m	m	m	m	m	m	m	m	m	m	m
Finland	m	m	m	m	m	m	m	m	m	m	m	m
France	63	65	m	m	43	47	3	9	49	58	48	55
Germany	m	m	29	39	22	27	2	7	38	50	m	m
Greece	m	m	m	m	m	m	m	m	m	m	m	m
Hungary	m	m	m	m	25	27	1	7	29	42	27	39
Iceland	m	m	m	m	m	m	m	m	m	m	m	m
Ireland	m	m	m	m	m	m	m	m	m	m	m	m
Israel	m	m	m	m	m	m	m	m	m	m	m	m
Italy	m	m	m	m	m	m	m	m	m	m	m	m
Japan	59	71	43	59	26	41	m	m	48	64	51	62
Korea	97	98	48	59	41	52	9	12	83	84	78	85
Latvia	59	57	m	m	m	m	3	7	m	m	m	m
Lithuania	52	53	40	39	33	31	2	8	43	47	41	47
Luxembourg	62	68	36	53	m	m	3	14	52	64	59	57
Mexico	28	31	23	26	26	28	5	7	17	20	8	22
Netherlands	m	m	m	m	m	m	m	m	m	m	m	m
New Zealand	m	m	m	m	m	m	m	m	m	m	m	m
Norway	58	64	48	60	58	64	8	16	69	77	m	m
Poland	m	m	28	29	34	34	4	7	40	48	38	48
Portugal	37	39	37	39	44	43	4	10	31	40	28	39
Slovak Republic	64	67	38	43	34	38	2	7	34	43	31	44
Slovenia	48	49	31	35	m	m	3	8	35	46	m	m
Spain	63	66	39	45	46	50	5	11	62	67	59	69
Sweden	54	62	36	47	m	m	4	15	41	49	m	m
Switzerland	m	m	42	58	37	44	3	13	52	65	53	60
Türkiye	m	m	m	m	14	18	1	4	28	40	m	m
United Kingdom	m	m	m	m	m	m	m	m	m	m	m	m
United States	m	m	m	m	m	m	m	m	m	m	m	m
OECD average	55	58	36	44	34	38	4	10	43	52	42	51
Partner and/or accession countries												
Argentina	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	21	27	10	16	10	11	1	3	11	19	6	16
Bulgaria	39	39	m	m	20	20	1	2	m	m	m	m
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	77	86	43	49	30	23	3	5	37	48	37	47
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	32	36	m	m	m	m	m	m	22	28	18	30
Saudi Arabia	100	100	75	75	63	61	25	26	89	90	m	m
South Africa	m	m	m	m	m	m	m	m	m	m	m	m
EU25 average	54	57	36	43	34	36	3	9	41	51	41	49
G20 average	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter SDG Tables section for StatLink and Box 2 for the notes related to this Table.

Box 2. Notes for Chapter SDG Tables

Table 1. Selected SDG4 indicators, by gender (2022)

1. Year of reference differs from 2022: 2018 for China, 2021 for Argentina and South Africa.
2. Year of reference differs from 2019: 2018 for Peru.
3. Year of reference differs from 2013: 2016 for Peru.

Table 2 Share of 15-year-olds achieving at least a minimum proficiency in mathematics by the end of lower secondary education, by socio-economic background, gender and immigration status (2022)

1. Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see PISA 2022 Reader's Guide, Annexes A2 and A4).

Table 3. Share of youth and adults with information and communication technologies (ICT) skills, by gender and locality (2021)

Note: See the United Nations' Principles and Recommendations for Population and Housing Censuses (https://unstats.un.org/unsd/demographic/sconcerns/densurb/densurbmethods.htm) for a definition of urban/rural areas. See Textbox 1 for the definitions and limitations of the SDG indicator.

See Definitions and Methodology sections and Education at a Glance 2024 Sources Methodologies and Technical Notes https://doi.org/10.1787/e7d20315-en for more information.

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

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

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

Chapter A1. To what level have adults studied?

Highlights

- In almost all countries with available data, the share of younger adults (25-34 year-olds) without an upper secondary qualification has fallen since 2016 and for Costa Rica, Mexico, Portugal and Türkiye these declines have been in double digits in percentage-point terms. This means many more younger adults will have the opportunity to succeed in the labour market.
- On average across OECD countries, the share of women with at least a bachelor's or equivalent degree has almost doubled in a generation: going from 24% among 55-64 year-olds to 47% among 25-34 year-olds, reflecting a substantial increase in educational attainment.
- On average, foreign-born adults are more likely than native-born adults to have either below upper secondary attainment (by an average of 4 percentage points) or a tertiary qualification (by an average of 3 percentage points). However, differences vary widely across countries, with foreign-born adults in some countries having considerably higher attainment levels than native-born adults and lower attainment levels in others.

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 professions with nationally or professionally regulated admission (e.g. medical doctors), formal recognition of qualifications is an essential requirement for exercising the profession. But even in occupations where this is not the case, 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 (see Chapter A4), labour-market (see Chapter A3) and social (see Chapter A6) outcomes for individuals. While educational attainment measures formal educational achievements and not learning outcomes, higher attainment is strongly correlated with greater proficiency in literacy and numeracy (OECD, 2019[1]). Highly educated adults are also more likely to participate in lifelong learning (see Chapter A5).

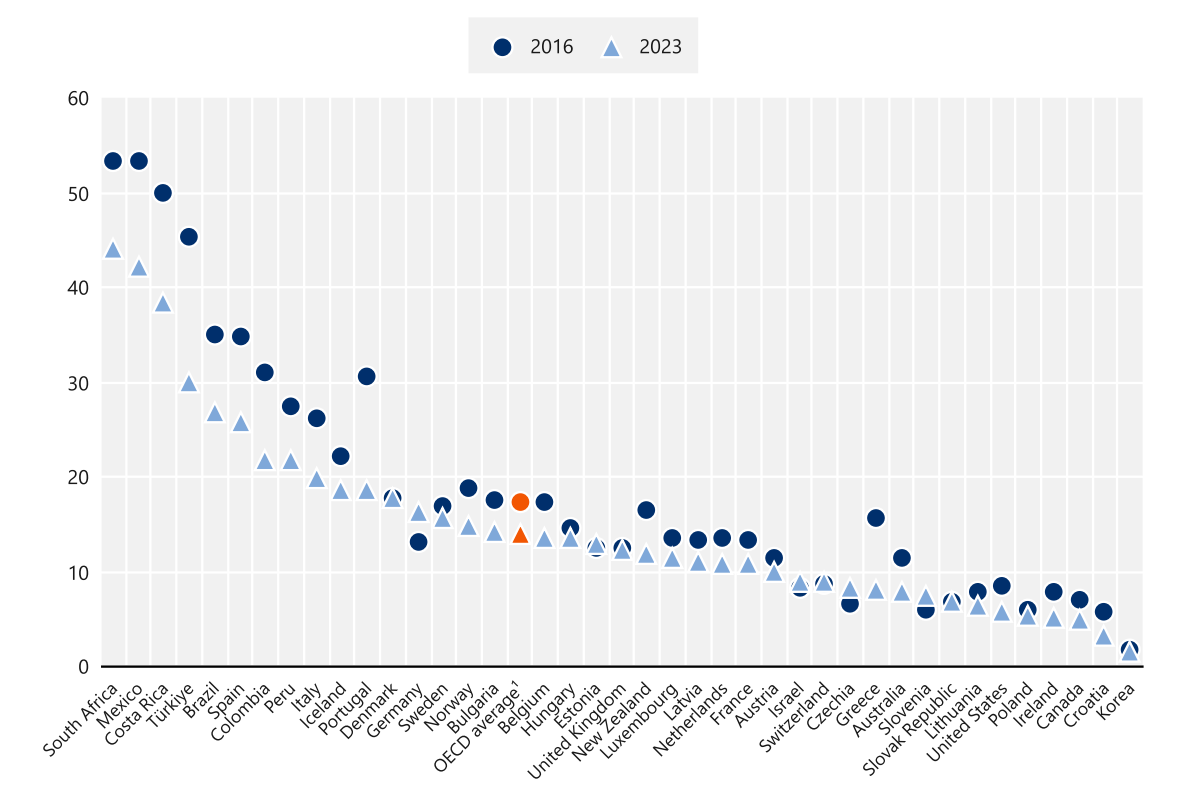
The benefits of higher attainment offer strong incentives for individuals to pursue their education. At the same time, many governments have adopted policies to expand access to education because of the societal and economic benefits. Together, these have resulted in strong increases in educational attainment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

Educational attainment among the native-born and foreign-born population should inform policies related to human capital. For instance, differences between the two groups could signal the need for formal and/or non-formal adult education programmes (see Chapter A5). The *International Migration Outlook 2022* (OECD, 2022[2]), highlights the recognition that more needs to be done to facilitate access to education among adult migrants where necessary; in OECD countries with large numbers of high-skilled jobs, a lack of education can present a substantial barrier to integration.

It is also important to consider how a country's geographical location or proximity to other countries affects the demographics of its foreign-born population. According to the OECD's international migration statistics (OECD, 2022[3]), for example, a large part of new permanent migration inflows in European OECD countries are from Europe. In addition, differences in the overall size and characteristics of a country's foreign-born population, as well as its size relative to the total population and other factors likely contribute to these differences.

Figure A1.1. Trends in the share of 25-34 year-olds with below upper secondary attainment (2016 and 2023)

In per cent



1. The OECD average is derived from the unweighted mean of all countries with available and comparable data for both years. Countries are ranked in descending order of the share of 25-34 year-olds with below upper secondary attainment in 2023.
See Table A1.2. for data and under Chapter A1 Tables for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Other findings

- Although more younger adults are obtaining upper secondary qualifications than before, there is a slight decrease in the share of those for whom this is the highest level of education, as increasing numbers pursue tertiary qualifications.
- Younger women consistently outpace younger men in attaining tertiary education across all OECD countries except Mexico. However, the gender gap is narrowing in some countries.
- National-level data often hide important regional differences. For instance, in Brazil, Canada, Colombia, Mexico, Portugal, Spain, and the Republic of Türkiye (hereafter Türkiye), the differences between the regions with the largest and the smallest shares of adults with below upper secondary attainment are 30 percentage points or more.

Analysis

Education is an asset not only because of its intrinsic value, but also because it provides individuals with skills and qualifications act as a signal of such skills. On average across OECD countries, 41% of adults (25-64 year-olds) have a tertiary qualification as their highest level of education, another 40% have attained upper secondary or post-secondary non-tertiary education, and 19% have attained below upper secondary education. Disparities among countries are large: more than 50% of adults in Costa Rica, Mexico and Türkiye lack an upper secondary qualification, while the share is the lowest, 6%, in Czechia, Poland and the Slovak Republic. At the other end of the attainment spectrum, across OECD countries, the share of adults with a tertiary qualification ranges from less than 25% in Italy and Mexico, to more than 60% in Canada (Table A1.1).

Among younger adults aged 25-34, the percentage without an upper secondary qualification has markedly decreased in almost all countries with available data since 2016, with Costa Rica, Mexico, Portugal and Türkiye experiencing double-digit percentage-point declines. Additionally, there has been a decrease in the proportion of younger adults with only an upper secondary or post-secondary non-tertiary qualification, while those attaining tertiary education have increased (Table A1.2).

Below upper secondary attainment

Adults without upper secondary attainment face severe challenges in the labour market, reflected in higher unemployment rates and lower wages, on average compared to adults with higher levels of attainment (see Chapters A3 and A4). As the educational landscape changes, there may be a need to focus on lifelong learning and continuing education to ensure that all individuals can continue to adapt to rapidly changing job markets (see Chapter A5).

Over the period from 2016 to 2023, there has been a shift towards greater educational achievement among younger adults (25-34 year-olds) in OECD countries across the entire attainment spectrum. Among OECD countries with comparable data for both years, there has been a 3 percentage-point fall in the share of younger adults with below upper secondary attainment and Costa Rica, Mexico, Portugal and Türkiye have seen falls of more than 10 percentage points. In Korea, just 1% of 25-34 year-olds have not attained upper secondary education in 2023. Countries with already low percentages of younger adults with below upper secondary attainment have also seen improvements, with the share in the United States falling from 9% in 2016 to 6% in 2023 (Table A1.2).

When looking at individuals with below upper secondary attainment by gender, the share fell by 3 percentage points each among younger men and younger women on average for OECD countries with comparable data for both years. Costa Rica and Portugal have made considerable strides, witnessing the

largest reductions in the share of younger men without an upper secondary qualification by 13 percentage points between 2016 and 2023. Türkiye has seen substantial improvements among younger women without upper secondary attainment, with the share falling from 49% to 31% over the same period (Table A1.2).

Despite this positive trend, some countries still have large proportions of younger adults without upper secondary attainment. The highest shares are in Costa Rica, where 41% of younger men and 36% of younger women have below upper secondary attainment, and Mexico, where the shares are 42% for both younger men and younger women. In Argentina, 40% of secondary school students (both male and female) leave school without a qualification. Such drop-out rates often reflect students' failure to acquire essential skills in early childhood, exacerbated by frequent grade repetition later in life. Further expansion of early childhood education would also enable more women to continue their education or seek remunerated employment in the labour force, thereby increasing their income and life options (OECD, 2019[4]).

In contrast, Canada, Ireland, Korea, Poland and the United States had the lowest shares of younger adults without upper secondary attainment in 2023, around 5% or below for both younger men and younger women (Table A1.2).

Upper secondary or post-secondary non-tertiary attainment

Although more younger adults than ever before are obtaining at least an upper secondary qualification, there has been a slight decrease in the share of those with upper secondary or post-secondary non-tertiary education as their highest attainment level because more of them are going on to obtain a tertiary qualification. In 2023, 39% of 25-34 year-olds have upper secondary or post-secondary non-tertiary educational attainment on average across OECD countries with comparable data for both years, a decline of 2 percentage points compared to 2016. The share of younger men with upper secondary or post-secondary non-tertiary attainment has decreased by 1 percentage point to 44% while the share of younger women has fallen by 2 percentage points to 34%, on average across OECD countries with comparable data for 2016 and 2023 (Table A1.1).

Tertiary attainment

Bachelor's or equivalent degrees are the most common tertiary attainment level among all adults (25-64 year-olds) with a tertiary qualification, but in some countries master's or equivalent degrees are more prevalent. This pattern may be linked to strong traditions of long first-degree programs, or conversion to the Bologna standards which reclassified some bachelor's degrees to a master's or equivalent. Short-cycle tertiary attainment is less common, with an average of 7% of 25-64 year-olds across OECD countries holding this degree as their highest educational qualification, but there is variation across countries. The share is less than 1% in Czechia, Greece, Italy, Mexico, Poland, Portugal and the Slovak Republic, but exceeds 20% in Canada. In Austria and Canada, short-cycle degrees are the predominant attainment among tertiary-educated adults (Table A1.1).

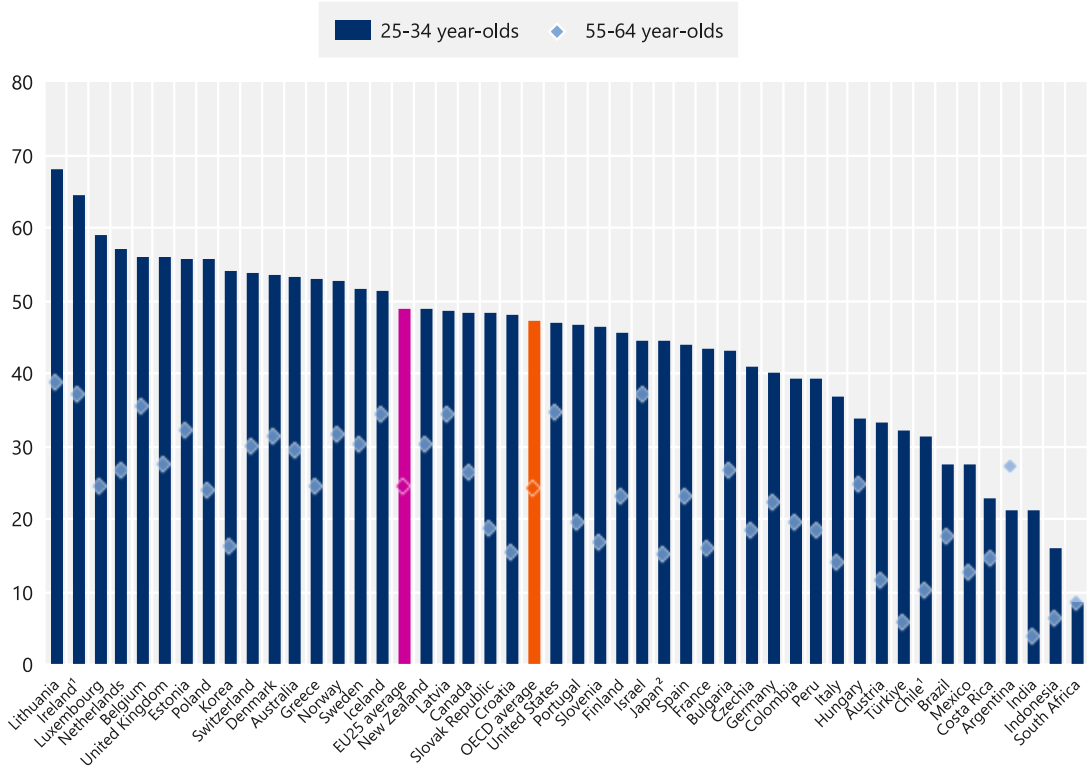
The share of younger adults (25-34 year-olds) with a tertiary degree increased by 5 percentage points between 2016 and 2023 on average for OECD countries with comparable data for both years. Remarkable increases – by 10 percentage points or more in Chile, Ireland, Spain and Türkiye – highlight dynamic changes in some educational systems. This may reflect a shift towards a knowledge-based economy where higher qualifications are required (Table A1.2).

Younger women (25-34 year-olds) continue to consistently outpace their male peers in attaining tertiary education across all OECD countries except Mexico. On average across OECD countries, 54% of younger women have a tertiary degree compared to 41% of younger men. Although the gender gap widened by 1 percentage point in favour of women on average across OECD countries with comparable data between

2016 and 2023, it has narrowed by at least 3 percentage points in Costa Rica, Finland, Ireland and Portugal (Table A1.2).

Figure A1.2. Share of women with at least a bachelor's or equivalent degree among all women, by age group (2023)

In per cent



1. Year of reference differs from 2023. Refer to the OECD Data Explorer (http://data-explorer.oecd.org/s/4s) for more details.
2. Data for tertiary education include upper secondary or post-secondary non-tertiary programmes (less than 5% of adults are in this group).
Countries are ranked in descending order of the share of 25-34 year-old women with at least a bachelor's or equivalent degree among all 25-34 year-old women.
See OECD Data Explorer (http://data-explorer.oecd.org/s/4s) for data and under Chapter A1 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

When it comes to attainment of at least a bachelor's or equivalent degree among women, the younger generation outpace their older counterparts in most countries. In 2023, on average across OECD countries, 24% of 55-64 year-old women have attained this level, rising to 47% among 25-34 year-olds (Table A1.2). This increase could reflect government policies to promote higher education, either in general or focused on women, increased access to educational institutions, or societal recognition of the value of a higher education and changes in societal attitudes that have encouraged more women to pursue higher education.

The difference is particularly striking in Greece, Korea, Luxembourg and Poland, where over half of 25-34 year-old women have at least a bachelor's or equivalent degree, compared to less than 25% among 55-64 year-old women– a testament to considerable generational progress in educational attainment. At the other end of the spectrum, there are minimal generational differences among women in South Africa while

Argentina is the only country where the older generation has a higher share than the younger generation Table A1.2).

There has also been a generational improvement in attainment among men, but less pronounced: 23% of 55-64 year-olds have at least a bachelor's degree or equivalent, compared to 35% of 25-34 year-old men (OECD, 2024[5]). However, the broad attainment picture obscures gender disparities in fields of study, with women often dominating in health and welfare but under-represented in science, technology, engineering and mathematics (STEM) (OECD, 2022[6]). Nevertheless, as economies begin to value sectors traditionally dominated by female graduates, such as health and education, and as societal norms about gender roles change, women may feel more empowered to pursue higher education in traditionally male-dominated fields, such as engineering, which have historically been associated with relatively high employment rates and salaries. Policies need to evolve not only to maintain gains among women, but also to address any emerging gaps where men may start to lag behind (OECD, 2024[7]).

Improved educational attainment across generations could be an indicator of increased social mobility, allowing individuals from younger generations to access better job opportunities and potentially achieve higher socio-economic status than their parents (see Box A1.3).

Immigration background and educational attainment

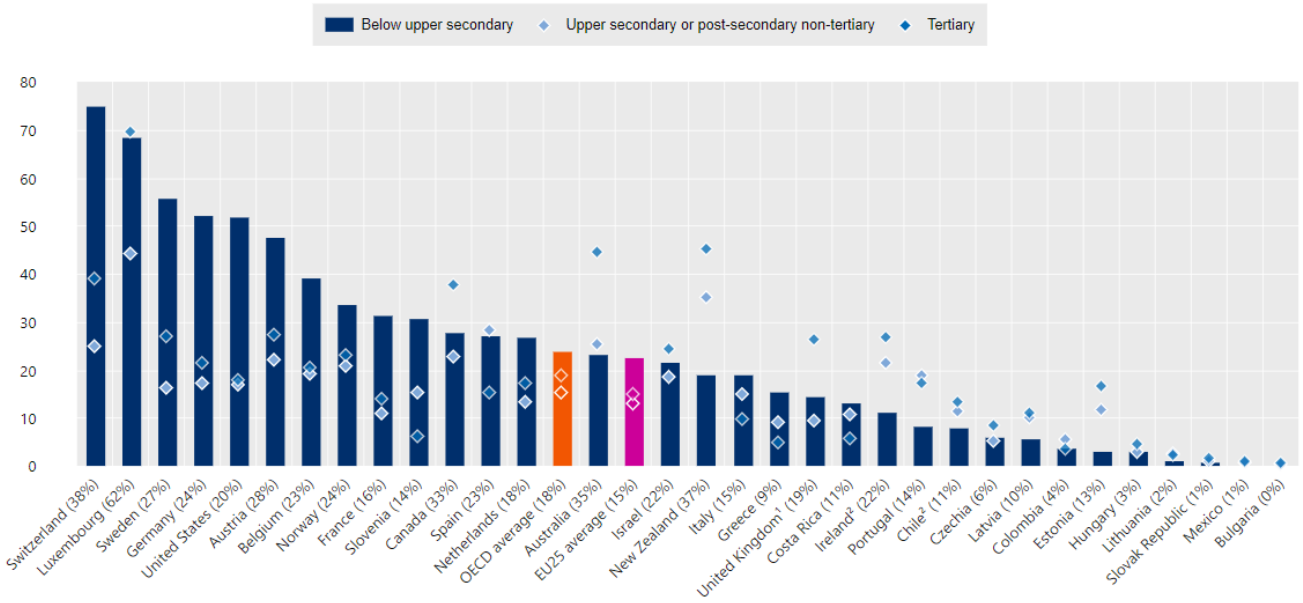
In OECD countries, foreign-born adults make up, on average, 18% of the population aged 25-64 while ranging from 1% of the population in Mexico and the Slovak Republic to 62% of the population in Luxembourg. Recognising the overall human capital of this demographic group is crucial for countries. However, there can be differences in educational achievement between native-born and foreign-born adults across OECD countries. Focusing on the percentage of native-born and foreign-born adults who have each level of educational attainment, on average, 19% of native-born adults have below upper secondary attainment, compared to 23% of foreign-born adults (i.e., 4-percentage-point difference). The figures for upper secondary or post-secondary non-tertiary attainment are 42% among native-born adults and 35% among foreign-born, while tertiary attainment stands at 39% for native-born and 42% for foreign-born adults (Table A1.3).

Focusing on the proportion of foreign-born adults among all adults with each level of education, Table A1.3 shows that in many OECD, partner and/or accession countries with available data, foreign-born adults represent a higher share among adults with below upper secondary educational attainment than among adults with higher levels of educational attainment. On average across OECD countries, foreign-born adults represent 24% of those with below upper secondary educational attainment, 15% of those with upper secondary or post-secondary non-tertiary educational attainment and 19% of those with tertiary educational attainment (Figure A1.3).

Interpreting the share of foreign-born adults among all adults with a given level of educational attainment needs to consider the overall share of immigrant population and the distribution of educational attainment in each country. For instance, Switzerland has a relatively large share of foreign-born adults (38%), but they make up an even larger share of those with below upper secondary educational attainment, at 75%, compared to only 14% of all adults (both foreign- and native-born) with below upper secondary attainment in the country. In contrast, in Luxembourg, foreign-born adults have high levels of educational attainment, with 70% having a tertiary qualification, compared to only about half of all adults (both foreign- and native-born) in the country (Figure A1.3 and Table A1.1).

Figure A1.3. Share of foreign-born adults among all adults, by educational attainment (2023)

25-64 year-olds; in per cent



How to read this figure: In Switzerland, 75% of 25-64 year-olds with below upper secondary attainment are foreign-born.
Note: The percentage in parentheses represents the share of adults who are foreign-born.
1. Year of reference differs from 2023. 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 adults with below upper secondary attainment who are foreign-born.
See Table A1.3. and the OECD Data Explorer (http://data-explorer.oecd.org/s/4s) for data and under Chapter A1 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

The association between age at arrival in the country and educational attainment levels varies across OECD countries. In Australia, Austria, Estonia, Lithuania, Luxembourg, Switzerland and the United Kingdom, tertiary attainment among foreign-born adults who arrived after the age of 15 is more than 10 percentage points higher than among those who arrived when they were younger. In contrast, in Czechia, Hungary and the Slovak Republic the difference is around 10 percentage points the other way, with younger arrivals having higher tertiary attainment rates (Table A1.3). These variations arise from a number of factors including cohort effects, differing national immigration policies and the relative appeal of each country and composition by categories of entry. Importantly, migrant youth who arrive as small children generally come along with their family and generally integrate into the host-country school system, while young adults come on their own and often do not pursue further schooling in the host country.

One finding across OECD countries is that the share of tertiary-educated adults among native-born and foreign-born adults often aligns with a country's overall educational attainment distribution. For instance, in Canada, the share of tertiary-educated adults is notably high among native-born adults (59%) and even higher among foreign-born adults (73%), regardless of their age at arrival. Conversely, Italy has consistently low shares of tertiary-educated adults, irrespective of their country of birth: 23% for native-born and 14% for foreign-born (Table A1.3). Similarly, in countries with a large share of adults with below upper secondary attainment, this tends to be the case for both native- and foreign-born populations. This situation is partly driven by different immigration policies but other factors may also play a role, such as whether education systems offer opportunities for individuals to pursue tertiary education and/or an

emphasis on lifelong learning, or labour markets that demand a more- or less-skilled labour force. Nevertheless, foreign-born adults often face barriers such as recognition of their qualifications, language skills, and integration into the host country's labour market, which can impact their educational outcomes.

Box A1.3. Intergenerational mobility in educational attainment

Education is often regarded as a means to equalise opportunities. However, educational attainment frequently passes down from one generation to the next, potentially perpetuating inequalities. To promote social inclusion and enhance socioeconomic outcomes both now and in the future, it is crucial for countries to ensure all young people have equitable access to quality education. Children raised in families with low educational attainment typically face limited financial support for further studies (Breen and Jonsson, 2005[8]). They might also lack intellectual stimuli and the support needed to access enriching educational activities and resources, which can hinder their educational development (Cunha and Heckman, 2007[9]). This is exacerbated when the education system fails to support students from disadvantaged backgrounds. In the short term, staying in education might require giving up potential earnings from employment (see Chapter A4), which may be an additional obstacle for those from less privileged backgrounds, leading them to leave education prematurely. Children from low-income families have significantly lower rates of upward educational mobility compared to their peers from higher-income families, even when controlling for academic ability (Chetty et al., 2020[10]) and, despite increased access to education, the relative advantages of children from higher socioeconomic backgrounds have not diminished significantly over time (Pfeffer and Hertel, 2015[11]).

Intergenerational mobility in education relates closely to equity because it reflects the extent to which a society provides equal opportunities for individuals regardless of their family background. High intergenerational mobility indicates a more equitable society where individuals can achieve their potential based on their abilities rather than their socioeconomic status at birth. Conversely, low mobility suggests persistent inequities that limit opportunities for those from disadvantaged backgrounds (Blanden and MacMillan, 2016[12]) (Valentini, 2024[13]).

Intergenerational mobility in education can be analysed in two ways:

By comparing the simple distribution of educational levels attained by adults to that of their parents (Table A1.4, available online, and Figure A1.4)

- This method provides a broad view of changes in educational attainment across generations and can highlight general trends in educational access and achievement. It is important to note that the analysis encompasses large age groups (25-64 year-olds and their parents) and the changes over time also reflect changes in the economic, social and cultural context between the two generations.
- By analysing the educational attainment level of adults conditional to that of their parents (Table A1.4, available online). This method looks at specific subgroups within the population, comparing the educational outcomes among adults whose parents have similar educational backgrounds. For example, it analyses the proportion of adults with tertiary education whose parents also have tertiary education versus those whose parents have only upper secondary or post-secondary non-tertiary education. This approach helps to uncover the extent to which parental education influences children's educational outcomes, highlighting whether educational inequalities persist across generations or not.

Figure A1.4 shows key patterns according to which countries with high educational attainment among adults also have high educational attainment among their parents' generation and vice versa. In addition,

the figure displays a general upward trend in educational attainment both among those with a least one tertiary-educated parent and among those with both parents without upper secondary education.

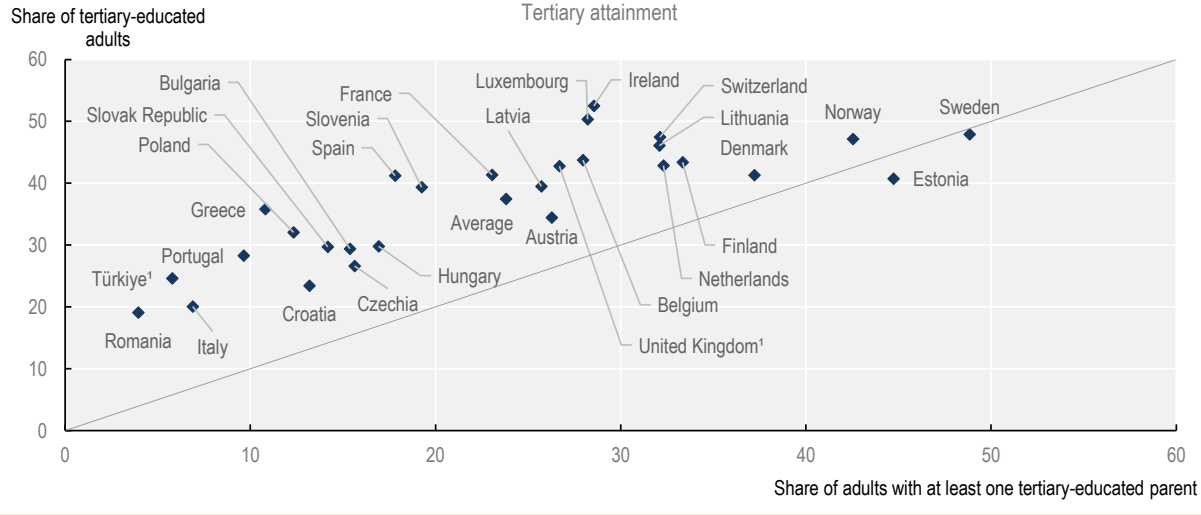
Countries like Estonia, Norway and Sweden exhibit a strong correlation between the educational attainment of parents and their children. These countries have a high share of adults with tertiary education whose parents also have tertiary education, indicating that higher educational attainment tends to persist across generations. Conversely, Croatia, Romania and Türkiye show lower overall levels of tertiary education and less intergenerational transmission, suggesting that lower educational attainment is more common and possibly harder to overcome in these contexts.

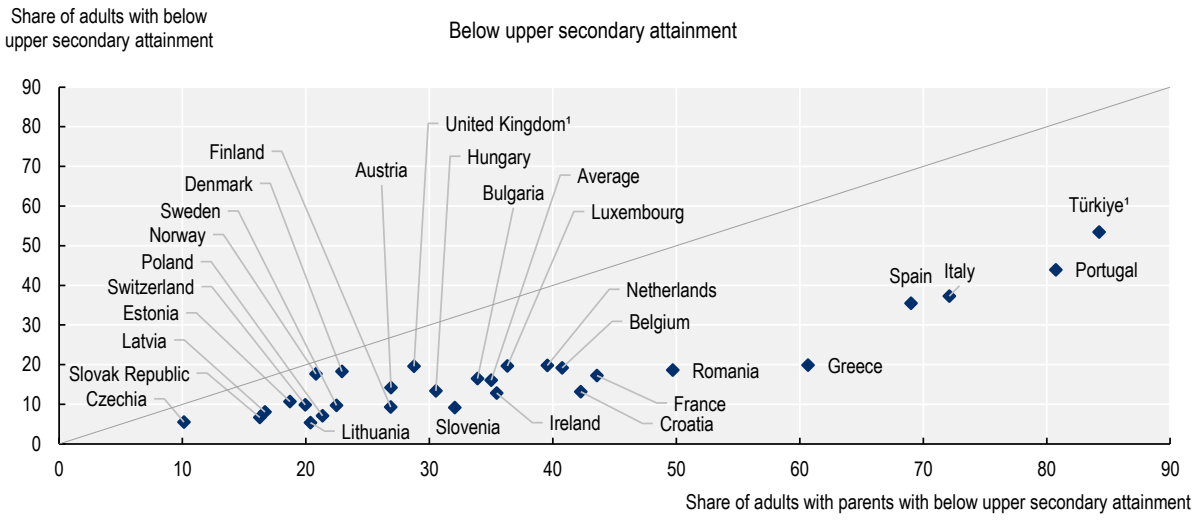
Conversely, a few countries deviate from this pattern. Notable examples include Slovenia and Spain, where tertiary educational attainment doubled from one generation to the next.

Countries like Norway, Poland and Switzerland have smaller shares of adults with below upper secondary attainment, and these adults tend to have parents with similarly low educational levels, demonstrating strong intergenerational transmission at the lower end of the educational spectrum.

Figure A1.4. Educational attainment of adults and their parents, by educational attainment (2021)

Share of 25-64 year-olds and share of their parents with a given educational attainment level; in per cent





Note: Parents' educational attainment refers to the highest educational level attained by at least one parent.
1. Year of reference differs from 2021. Refer to the source table for more details.
See Table A1.4, available on line for data and under Chapter A1 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Examining conditional attainment implies analysing the educational attainment level of adults conditional to the one of their parents to identify patterns of intergenerational dependence, and upward and downward mobility:

- Intergenerational dependence: High levels of educational attainment in children mirroring their parents' levels indicate strong dependence, suggesting limited mobility.
- Upward mobility: A substantive number of children achieving higher educational levels than their parents indicates upward mobility, reflecting improved access to educational opportunities.
- Downward mobility: Instances where children attain lower educational levels than their parents point to downward mobility, potentially signalling barriers to educational progress.

The increasing levels of educational attainment over time make it difficult to measure upward mobility. As more people achieve higher levels of education, the benchmark for what constitutes upward mobility shifts. This can make it harder to discern genuine improvements in educational and social mobility, as the bar for measuring success continuously rises. Consequently, even as more individuals achieve higher education, relative advantages based on family background may still persist, complicating efforts to assess true progress in educational equity.

Table A1.4 (available online) provides a detailed breakdown of intergenerational mobility in education by highlighting the educational attainment of 25-64 year-olds conditional to the educational attainment of their parents.

- Overall, educational attainment is persistent over generations and the potential for upward mobility depends on parental education levels. On average, 30% of adults whose parents did not attain upper secondary education also fail to attain upper secondary education themselves, while 70% attained a higher educational level. Among those with at least one parent with upper secondary education, 53% also attained upper secondary education while 39% attained tertiary education. Finally, 72% of adults whose parents attained tertiary education also reached tertiary education.
- In most countries, having at least one parent with tertiary education markedly increases the likelihood of attaining tertiary education. For instance, in Poland, 80% of adults with at least one parent who attained tertiary education also reached this level, compared to only 9% whose parents did not complete upper secondary education.
- In countries such as Portugal and Türkiye, a substantive proportion of adults whose parents did not attain upper secondary education also have below upper secondary education themselves (50% in Portugal and 61% in Türkiye). This indicates a strong persistence of educational attainment across generations.
- Nordic countries, such as Finland, Norway and Sweden, exhibit relatively high levels of upward educational mobility. In Finland and Sweden, for example, 30% of adults whose parents did not attain upper secondary education have completed tertiary education. This suggests that effective social policies and support systems in these countries facilitate upward mobility. Outside the Nordic countries, in Ireland 38% of adults whose parents attained upper secondary education and 31% in Spain reached tertiary education, indicating moderate upward mobility facilitated by accessible educational pathways.

- Downward mobility is less prevalent but still notable in some contexts. For example, in Denmark and Norway, 17% of adults whose parents attained upper secondary education did not attain upper secondary education themselves. Furthermore, in Estonia and Finland, 40% or more of adults with at least one tertiary-educated parent have below tertiary educational attainment.

Variations in educational attainment by subnational regions

National level data often hide regional differences. For instance, in Colombia, the share of 25-64 year-olds with below upper secondary attainment varies from 19% in Bogotá District to 57% in Caquetá, a difference of almost 40 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, 2024[14]).

Regions which contain the capital city tend to have a smaller share of adults with lower educational attainment than the rest of the 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 15 countries with available data. In contrast, in Belgium, the Brussels Capital Region has the largest share (21%) of adults with below upper secondary attainment. In Mexico City, 31% of adults have upper secondary or post-secondary non-tertiary attainment, which is the highest share across regions (OECD, 2024[14]).

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 21% in Ceuta to 56% in the Basque Country, while similar-sized differences exist in many other countries. In contrast, short-cycle tertiary attainment is relatively homogeneous across subnational regions (Figure A1.5). 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 and New Zealand, the difference does not exceed 5 percentage points (OECD, 2024[14]).

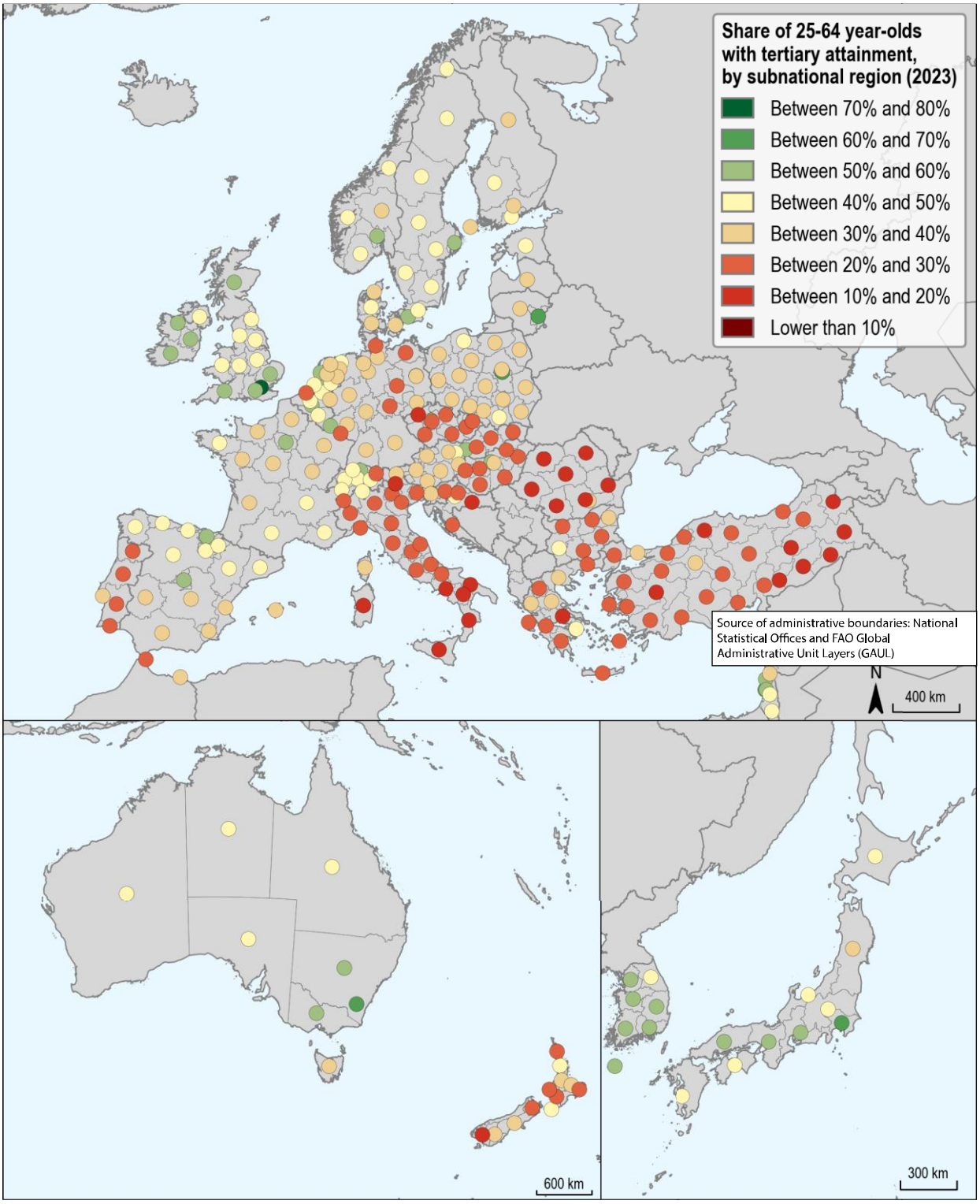
Just as they tend to have smaller shares of adults with lower attainment, capital regions in many countries often have exceptionally high tertiary attainment levels. Partly, this is due to the high number of tertiary-educated workers employed in national administrations, which have their seat in the capital region. 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.

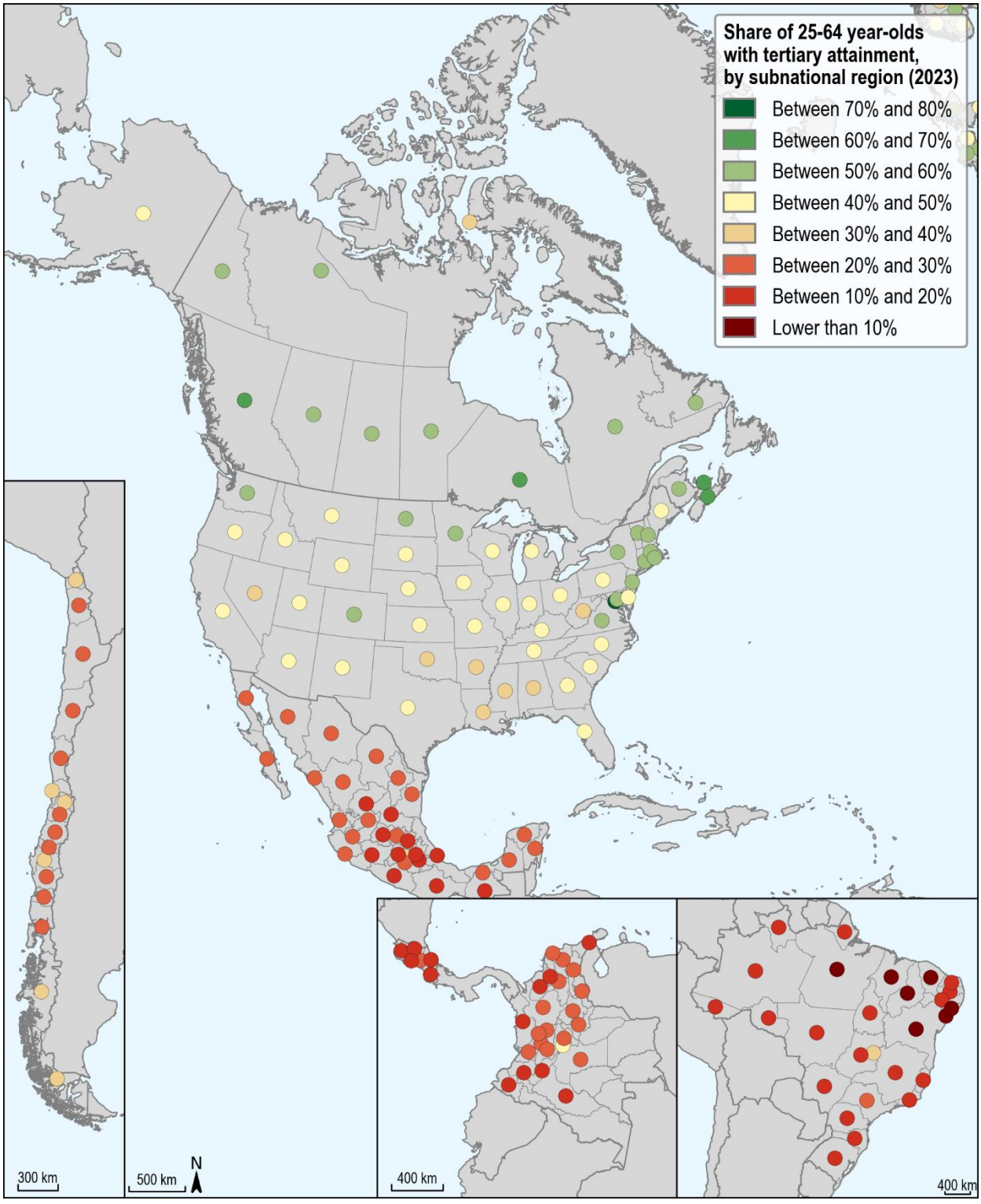
Diversity in attainment within countries has important policy implications. For example, some regions within a country might face shortages of skilled workers, while in others workers with the same qualifications are unemployed. It is therefore important to look beyond national averages and develop policies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

When interpreting the results for subnational entities, readers should consider that their population size can vary widely within countries. For example, in 2022, in Canada, the population of Nunavut is 40 673 people, while the population of the province of Ontario it is 15 million (OECD, 2024[15]).

Figure A1.5. Share of adults with tertiary attainment, by subnational region (2023)

25-64 year-olds; in per cent





Note: Year of reference differs from 2023: 2022 for Canada, Chile, Colombia, Israel, 2021 for Australia, 2020 for Japan, New Zealand and the United States; and 2015 for Brazil.

See under Chapter A1 Tables for StatLink.

Source: (OECD, 2024[14]), *Education and Skills-Subnational education and indicators*, OECD Data Explorer (http://data-explorer.oecd.org/s/3q). For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Definitions

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

Country of birth: Native-born individuals are those who were born in the country where they answered the survey, and **foreign-born individuals** are those who were born outside the country where they answered the survey.

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

Intergenerational dependence in education refers to the influence that parents' education has on the educational attainment of their children: for example, high levels of educational attainment in children mirroring their parents' levels. **Upward educational mobility** refers to children achieving higher educational levels than their parents. **Downward educational mobility** refers to children attaining lower educational levels than their parents.

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

Methodology

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

In OECD statistics, recognised qualifications from ISCED 2011 level 3 programmes that are not of sufficient duration for ISCED 2011 level 3 completion are classified at ISCED 2011 level 2 (see the *Reader's Guide*). Where countries have been able to demonstrate equivalencies in the labour-market value of attainment formally classified as the "completion of intermediate upper secondary programmes" – 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[16]).

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[17]) and *Education at a Glance 2024 Sources, Methodologies and Technical Notes (*https://doi.org/10.1787/e7d20315-en*)*.

Source

Data on 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 and Indonesia are taken from the International Labour Organization (ILO) database.

Data on intergenerational mobility in education in Box A1.1 come from the 2021 EU Labour Force Survey (EU-LFS) ad-hoc module on 'Labour market situation of migrants and their immediate descendants', which also collected data on parents' educational attainment (Eurostat, 2024[18]). Data on the Republic of Türkiye and the United Kingdom come from Eurostat's 2022 and 2016 EU Adult Education Survey (EU-AES) respectively (Eurostat, 2024[19]).

Data on subnational regions for selected indicators are available in the OECD *Education and Skills-Subnational education and indicators* (OECD, 2024[14]).

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Chapter A1 Tables

Tables Chapter A1. To what level have adults studied?

Table A1.1	Educational attainment of 25-64 year-olds (2023)
Table A1.2	Trends in educational attainment of 25-34 year-olds, by gender (2016 and 2023)
Table A1.3	Educational attainment of native- and foreign-born adults, by age at arrival in the country and gender (2023)
WEB Table A1.4	*Adults' and their parents' educational attainment (2021)*

StatLink https://stat.link/m8eh0g

Cut-off date for the data: 14 June 2024. Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

Table A1.1. Educational attainment of 25-64 year-olds (2023)

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	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)	(11)	(12)	(13)	(14)	(15)
Australia	0	3	a	11	a	14	28	6	34	12	29	9	2	51	100
Austria	x(2)	1[d]	a	13	a	14	46	3	49	15	6	14	1	37	100
Belgium	3	4	a	11	a	18	36	2	37	1	25	18	1	45	100
Canada	x(2)	2[d]	a	5	a	7	20	10	30	26	25	12[d]	x(12)	63	100
Chile[1]	5	4	a	17	a	25	42	a	42	10	20	2	0	33	100
Colombia	x(4)	x(4)	a	33[d]	4	37	34[d]	x(7)	34	x(11)	29[d]	x(11)	x(11)	29	100
Costa Rica	10	25	8	9	3	54	20	0	20	6	16	3	c	25	100
Czechia	0	0	a	6	a	6	67[d]	x(7)	67	0	7	19	1	27	100
Denmark	x(2)	1[d]	a	16	a	18	39	0	39	5	21	15	2	43	100
Estonia	0	1	a	10	a	11	37	10	48	5	15	21	1	42	100
Finland	x(2)	1	a	10	a	11	45	2	46	7	18	16	1	43	100
France	1	3	a	12	a	16	41	0	41	14	12	15	1	42	100
Germany	x(2)	5[d]	a	11	a	17	36	14	50	1	19	12	2	33	100
Greece	1	10	a	9	0	19	37	9	46	0	24	9	1	34	100
Hungary	0	1	a	12	a	13	51	7	58	1	14	14	1	30	100
Iceland	x(2)	0[d]	a	20	a	20	29	6	35	6	20	17	1	44	100
Ireland	0	3	a	8	a	12	19	14	33	3	35	16	2	55	100
Israel	3	3	a	6	a	12	38	a	38	11	24	14	1	50	100
Italy	1	4	a	30	a	35	42	2	44	0	6	15	1	22	100
Japan[2]	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)	2[d]	a	5	a	7	38	a	38	15	35	5[d]	x(12)	55	100
Latvia	0	0	a	8	2	11	36	13	50	4	17	18	1	39	100
Lithuania	0	0	0	5	2	7	27	19	46	a	30	16	1	46	100
Luxembourg	1	6	a	12	c	19	28	2	30	4	14	30	3	51	100
Mexico	9	14	2	27	3	56	23	a	23	1	18	2	0	21	100
Netherlands	2	4	a	13	a	19	36	0	36	2	24	17	1	44	100
New Zealand	x(4)	x(4)	a	17[d]	a	17	27	14	41	4	30	6	1	42	100
Norway	0	0	0	15	a	16	33	1	35	12	20	15	1	49	100
Poland	0	1	a	5	a	6	53	3	56	0	8	29	1	38	100
Portugal	1	20	a	19	a	41	28	1	30	0	9	19	1	30	100
Slovak Republic	0	0	0	5	0	6	63	2	65	0	4	24	1	29	100
Slovenia	x(6)	x(6)	a	x(6)	a	12	55	a	55	7	11	13	3	34	100
Spain	2	5	a	28	a	36	23	0	23	13	11	16	1	41	100
Sweden	x(2)	3[d]	a	9	3	14	28	8	36	10	20	17	2	49	100
Switzerland	0	1	a	12	a	14	40[d]	x(7)	40	x(11,12,13)	25	17	3	46	100
Türkiye	4	32	a	15	a	51	23	a	23	7	16	2	0	26	100
United Kingdom[2]	0	0	c	17	11	18	19	a	30	9	27	15	2	53	100
United States	1	2	a	5	a	8	41[d]	x(7)	41	10	25	13	2	51	100
OECD average	2	5	m	13	m	19	36	6	40	7	20	14	1	41	100
Partner and/or accession countries															
Argentina	3	14	m	16	m	32	44	a	44	x(11)	24[d]	x(11)	m	24	100
Brazil	11	15	a	13	a	40	x(9)	x(9)	39	x(11)	20[d]	1	0	22	100
Bulgaria	1	2	a	12	m	15	55	0	55	a	9	21	0	30	100
China[1]	2	17	a	44	a	63	18	0	18	10	8	1[d]	x(12)	19	100
Croatia	0	0	a	10	a	11	61	a	61	3	6	19	1	28	100
India	30	14	a	31	a	75	9	1	11	x(11)	14[d]	x(11)	m	14	100
Indonesia[1]	13	26	a	18	a	57	30	a	30	3	10	1	0	13	100
Peru	3	20	a	12	a	34	31	a	31	6	27	2[d]	x(12)	34	100
Romania	1	2	a	16	5	25	53	3	56	x(14)	x(14)	x(14)	x(14)	19	100
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
South Africa	9	4	5	6	27	50	33	7	40	1	7	1[d]	x(12)	10	100
EU25 average	1	3	m	12	m	16	42	5	46	4	15	18	1	37	100
G20 average	7	10	m	17	m	34	31	m	33	9	19	7	m	34	100

Note: See under Chapter A1 Tables for StatLink and Box A1.4 for the notes related to this Table.
Source: OECD/ILO/UIS (2024). See *Source* section for more information and Education at a Glance 2024 Sources Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Table A1.2. Trends in the educational attainment of 25-34 year-olds, by gender (2016 and 2023)

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			
	2016		2023		2016		2023		2016		2023	
	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)
Australia	12	11	9	6	44	35	43	29	44	55	48	65
Austria	11	12	11	9	53	45	50	43	36	43	39	48
Belgium	19	16	15	12	43	34	42	31	38	51	43	57
Canada	8	5	6	4	40	25	36	20	51	70	58	76
Chile[1,2]	17	16	13	10	55	52	50	45	28	31	37	45
Colombia	34	28	25	18	41	40	44	42	25	32	30	40
Costa Rica	54	46	41	36	22	21	29	30	24	33	30	34
Czechia	6	7	8	8	68	54	65	50	26	39	27	41
Denmark	20	16	20	15	42	33	40	27	38	52	40	58
Estonia	15	10	18	8	53	39	51	36	32	51	32	56
Finland	12[b]	8[b]	11	9	55[b]	42[b]	56	45	33[b]	50[b]	33	46
France	15	12	12	10	46	39	40	35	39	49	48	56
Germany	13	13	18	15	57	56	46	45	30	32	36	41
Greece	18	13	9	7	48	39	55	40	34	48	36	53
Hungary	15	14	14	13	60	50	63	51	24	37	23	36
Iceland	28	16	22	15	40	36	47	27	32	49	31	58
Ireland	10	6	6	4	45	33	34	29	46	61	60	67
Israel	10	7	11	7	52	37	54	37	38	57	36	56
Italy	30	23	23	17	51	46	53	46	20	32	24	37
Japan[3]	m	m	m	m	x(13)	x(14)	x(16)	x(17)	58[d]	62[d]	62[d]	69[d]
Korea	2	2	2	1	33	24	35	22	66	74	63	77
Latvia	17	9	13	9	53	36	53	34	30	55	34	57
Lithuania	10	5	8	4	45	29	44	28	44	66	48	68
Luxembourg	15	12	13	9	36	34	31	26	49	54	55	65
Mexico	53	53	42	42	25	25	30	30	22	22	28	28
Netherlands	16	11	13	9	43	37	37	32	41	52	50	59
New Zealand	17	16	13	10	43	37	47	38	40	47	40	52
Norway	21	17	17	12	39	26	36	20	40	57	47	68
Poland	7	5	6	4	59	42	57	40	34	54	37	56
Portugal	36	25	23	14	37	32	43	39	27	43	34	47
Slovak Republic	6	7	7	6	68	52	62	45	26	41	31	49
Slovenia	8	4	8	7	61	41	62	40	32	55	30	53
Spain	41	29	30	21	24	24	24	21	35	47	46	58
Sweden	20	14	18	12	41	31	35	26	39	55	47	62
Switzerland	8	9	9	8	43	42	41	38	49	49	50	54
Türkiye	42	49	29	31	28	21	31	24	31	30	40	46
United Kingdom[4]	13	12	13	11	37	35	29	26	50	53	57	63
United States	9	8	6	5	47	41	47	38	43	52	47	57
OECD average	19	15	15	12	45	37	44	34	37	48	41	54
OECD average for countries with available and comparable data for both years	19	15	15	12	45	36	44	34	36	48	40	54
Partner and/or accession countries												
Argentina[1]	37	28	30	22	49	49	53	56	15	23	16	21
Brazil	39	31	30	23	45	47	50	49	16	22	20	28
Bulgaria	17	18	14	15	57	42	58	42	26	40	29	43
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	6	5	3	3	70	53	69	48	24	42	28	49
India	m	m	57	65	m	m	18	14	m	m	25	21
Indonesia[2]	50	53	42	43	37	30	43	36	13	17	15	21
Peru	25	30	20	23	34	28	35	29	42	42	45	48
Romania[1]	26[b]	27[b]	25	25	51[b]	45[b]	55	49	23[b]	28[b]	19	26
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
South Africa	56	51	47	41	33	35	45	49	11	14	8	11
EU25 average	16	13	14	11	51	40	49	38	33	47	37	52
G20 average	m	m	24	22	m	m	40	35	m	m	37	45

Note: See under Chapter A1 Tables for StatLink and Box A1.4 for the notes related to this Table.
Source: OECD/ILO/UIS (2024). See *Source* section for more information and Education at a Glance 2024 Sources Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Table A1.3. Educational attainment of native- and foreign-born adults, by age at arrival in the country and gender (2023)

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

			Below upper secondary					Upper secondary or post-secondary non-tertiary					Tertiary				
				Foreign-born					Foreign-born					Foreign-born			
	Percentage of adults who are native-born	Percentage of adults who are foreign-born	Native-born	Arrived in the country by the age of 15	Arrived in the country at 16 or older	Total	Total	Native-born	Arrived in the country by the age of 15	Arrived in the country at 16 or older	Total	Total	Native-born	Arrived in the country by the age of 15	Arrived in the country at 16 or older	Total	Total
OECD countries	(3)	(6)	(9)	(12)	(15)	(18)	(21)	(24)	(27)	(30)	(33)	(36)	(39)	(42)	(45)	(48)	(51)
Australia	65	35	15	11	8	9	13	39	35	21	24	34	46	54	71	67	53
Austria	72	28	10	28	24	24	14	53	46	38	40	49	37	27	38	36	37
Belgium	77	23	14	26	31	30	18	39	41	28	31	37	46	33	40	39	45
Canada	67	33	7	5	6	6	7	34	25	21	21	30	59	71	73	73	63
Chile[1]	88	11	26	16	19	18	25	42	44	43	43	42	32	40	39	39	33
Colombia	96	4	37	x(18)	x(18)	33	37	34	x(33)	x(33)	43	34	29	x(48)	x(48)	24	29
Costa Rica	89	11	53	x(18)	x(18)	67	54	20	x(33)	x(33)	20	20	27	x(48)	x(48)	13	25
Czechia	94	6	38	32	40	36	38	35	27	31	29	35	26	41	29	36	27
Denmark	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Estonia	87	13	12	6	1	3	11	48	54	37	44	48	40	40	62	53	42
Finland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
France	84	16	13	21	36	33	16	44	42	24	29	41	43	36	39	38	42
Germany	76	24	10	29	38	36	17	55	48	32	35	50	35	23	31	29	33
Greece	91	9	18	28	35	33	19	46	48	48	48	46	36	24	17	19	34
Hungary	97	3	13	4	12	11	13	58	42	50	49	58	29	53	38	40	30
Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Ireland[1]	78	22	21	16	8	9	18	37	35	35	35	36	43	49	57	55	46
Israel	78	22	11	6	13	11	11	37	35	27	30	36	52	58	60	59	53
Italy	85	15	33	37	45	43	35	44	49	41	43	44	23	13	14	14	22
Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Korea	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Latvia	90	10	12	9	5	6	11	50	52	48	50	50	39	39	48	44	39
Lithuania	98	2	7	3	4	4	7	46	60	45	50	46	46	36	51	46	46
Luxembourg	38	62	16	24	21	21	19	43	44	19	21	30	41	32	61	58	51
Mexico	99	1	56	x(18)	x(18)	28	56	23	x(33)	x(33)	33	23	21	x(48)	x(48)	39	21
Netherlands	82	18	17	22	32	29	19	40	41	25	29	38	43	37	43	42	43
New Zealand	63	37	22	12	8	9	17	42	38	40	40	41	36	50	52	51	42
Norway	76	24	14	23	23	23	16	36	34	30	30	35	49	43	47	47	49
Poland	98	2	6	x(18)	x(18)	c	6	57	x(33)	x(33)	41	56	38	x(48)	x(48)	56	38
Portugal	86	14	43	27	22	24	41	28	34	43	39	30	29	39	35	36	30
Slovak Republic	99	1	6	c	c	6	6	65	46	65	54	65	29	48	29	40	29
Slovenia	86	14	9	c	c	25	11	54	c	c	59	55	37	c	c	15	34
Spain	77	23	34	38	44	43	36	21	29	28	29	23	45	33	27	28	41
Sweden	73	27	9	18	32	30	14	42	38	18	22	36	50	44	50	49	49
Switzerland	62	38	6	19	28	27	14	49	48	23	26	40	46	33	49	47	46
Türkiye	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
United Kingdom[2]	81	19	19	14	13	13	18	33	26	12	15	30	48	60	75	72	53
United States	80	20	5	14	22	20	8	43	42	33	35	41	52	44	45	45	51
OECD average	82	18	19	19	22	23	20	42	41	34	35	40	39	41	45	42	40
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	100	0	15	x(18)	x(18)	5	15	55	x(33)	x(33)	38	55	30	x(48)	x(48)	58	30
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	100	0	20	x(18)	x(18)	c	20	62	x(33)	x(33)	53	62	19	x(48)	x(48)	35	19
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	85	15	17	22	25	23	18	46	43	36	39	45	37	36	39	39	37
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter A1 Tables for StatLink and Box A1.4 for the notes related to this Table.
Source: OECD/ILO/UIS (2024). See *Source* section for more information and Education at a Glance 2024 Sources Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Box A1.4. Notes for Chapter A1 Tables

Table A1.1. Educational attainment of 25-64 year-olds (2023)

Note: 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. See *Definitions* and *Methodology* sections for more information.

1. Year of reference differs from 2023: 2022 for Chile and Indonesia; and 2020 for 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 the educational attainment of 25-34 year-olds, by gender (2016 and 2023)

Note: In most countries data refer to ISCED 2011. For Argentina and India data refer to ISCED-97. See *Definitions and Methodology* sections for more information. Columns showing the total of men and women are available for consultation on line.

1. Year of reference differs from 2016: 2015 for Chile and Romania; and 2014 for Argentina.

2. Year of reference differs from 2023: 2022 for Chile and Indonesia.

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

4. Data for upper secondary attainment include completion of a sufficient volume and standard of programmes that would be classified individually as completion of intermediate upper secondary programmes (11% of adults aged 25-64 are in this group).

Table A1.3. Educational attainment of native- and foreign-born 25-64 year-olds, by age at arrival in the country and gender (2023)

How to read this table: Data in Columns 9, 24 and 39 show that in Australia, among native-born adults, 19% attained below upper secondary education, 40% attained upper secondary or post-secondary non-tertiary education and 41% attained tertiary education.

Note: The percentage of native- and foreign-born adults might not add up to 100% for some countries because of some missing data on country of birth. See *Definitions and Methodology* sections for more information. Columns showing the breakdown by gender are available for consultation on line.

1. Year of reference differs from 2023: 2022 for Chile; and 2017 for Ireland.

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).

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

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

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

Highlights

- In most OECD countries, the share of 18-24 year-olds who are neither employed nor in formal education or training (NEET) has decreased between 2016 and 2023. Costa Rica and Lithuania are exceptions, having experienced a rise above 3 percentage points in the share over this period.
- On average across OECD countries, 70% of 18-24 year-old NEET women compared to 56% of 18-24 year-old NEET men are inactive. In Iceland, Mexico and Slovenia, more than 90% of NEET women are inactive. The difference by gender exceeds 30 percentage points in the Slovak Republic and Slovenia.
- Among 15-29 year-olds, the share of foreign-born adults who are NEET varies widely across OECD countries, ranging from 8.0% in Australia to 45.6% in Costa Rica. In almost all countries with available data, more foreign-born 15-29 year-olds are NEET compared to their native-born peers.

Context

How easily young people transition from education to the job market depends on several factors, including the duration and type of their education and the skills they acquired, market conditions, and the overall economy. Having the right skills remains crucial for successfully entering the job market, especially during economically challenging times. This is even more important for individuals who have newly immigrated to a country. This process is also influenced by individual traits. Despite higher education levels, women historically face lower employment rates (Petrongolo, 2019[1]). Bridging the gender gap in employment remains a work in progress, demanding focused attention.

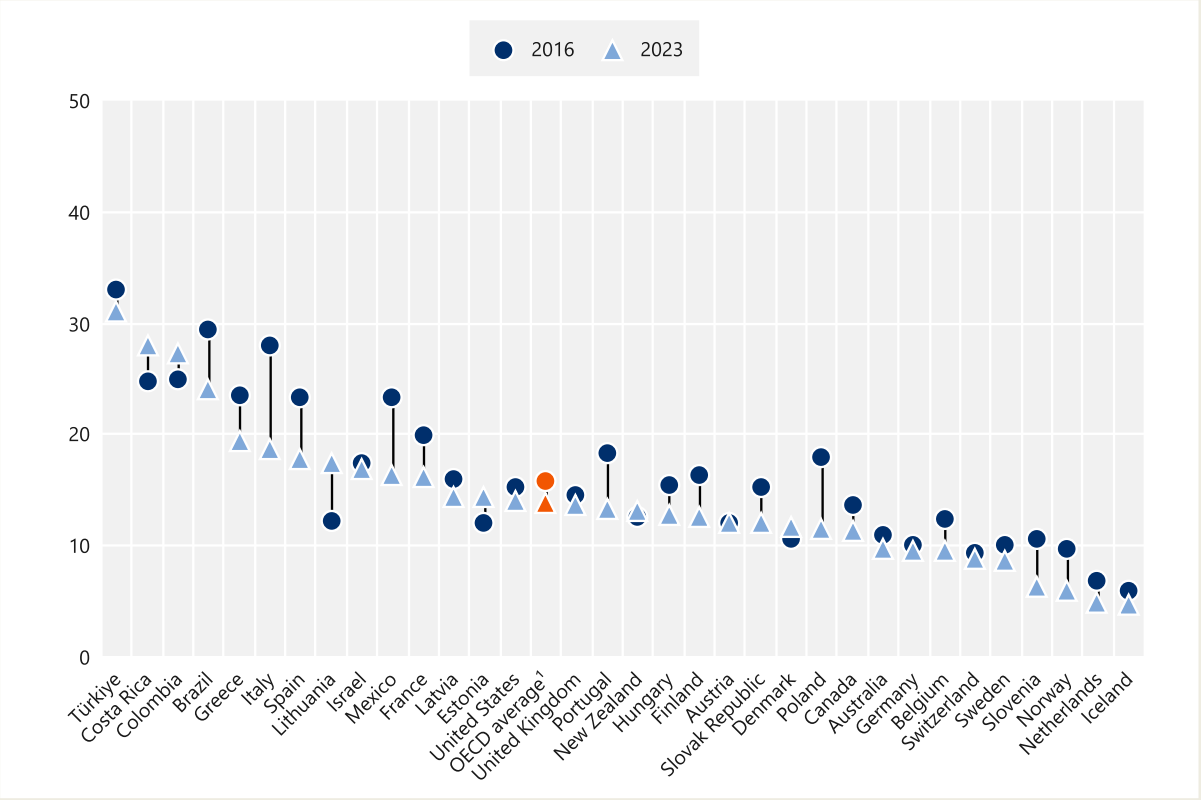
Attention is particularly warranted for NEET youth. Early joblessness can have lasting repercussions, especially as prolonged spells of inactivity may discourage young people from searching for a job (Helbling, Sacchi and Imdorf, 2019[2]). Preventive policies are crucial to curb NEET rates and help those affected to reintegrate into education or work. Notably, NEET rates differ between men and women; caregiving responsibilities often contribute to women being NEET (Amendola, 2022[3]; Brunet, Canada and Council of Ministers of Education, 2019[4]).

Country of birth – being native- or foreign-born – can have a significant impact on labour-market transitions. The age of migration also affects individuals' attainment and how well they integrate into the job market. Research suggests that migration before the age of 6 avoids long-term disadvantages

(Lemmermann and Riphahn, 2018[5]). The educational qualifications of foreign-born individuals also vary across countries, substantially influencing their access to the labour market.

Figure A2.1. Trends in the share of 18-24 year-old NEETs (2016 and 2023)

In per cent



Note: NEET refers to young people neither employed nor in formal education or training. 1. The OECD average is derived from the unweighted mean of all countries with available and comparable data for both years.
Countries are ranked in descending order of the share of 18-24 year-old who were NEET in 2023.
See Table A2.2 for data and under Chapter A2 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Other findings

- On average across OECD countries, about one-third of 18-24 year-olds are no longer in formal education or training and have started employment.
- Although foreign-born 15-29 year-olds are more likely to be NEET than their native-born peers in most OECD and partner countries, the opposite is observed in Australia, Hungary, Israel, Mexico, New Zealand and the United Kingdom.
- In most countries, NEET rates are higher among 15-29 year-old foreign-born individuals who arrived in their country of residence at the age of 16 or older, compared to those who arrived before they turned 16.

Note

This chapter analyses the situation of young people in transition from education to work: those in formal education or training, 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 15-29 year-olds, as a significant proportion of those in the narrower age group will be continuing their studies even though they are no longer in compulsory education in most countries.

Analysis

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

Understanding how 18-24 year-olds are doing in the job market is particularly important because people in this age group have usually just completed upper secondary education (typically between the age of 17 and 19, see Chapter B3). Their labour-market status reflects how open the job market is to new school leavers and how easily they can enter the workforce. The share of 18-24 year-olds who are neither employed nor in formal education or training (NEET) decreased by an average of 2 percentage points between 2016 and 2023, on average across OECD countries with comparable data for both years. However, while the NEET rate decreased in some countries, it increased in others. Italy experienced the largest decrease in NEET rate (over 9 percentage points), while in Costa Rica and Lithuania the share rose over 3 percentage points over the same period (Figure A2.1).

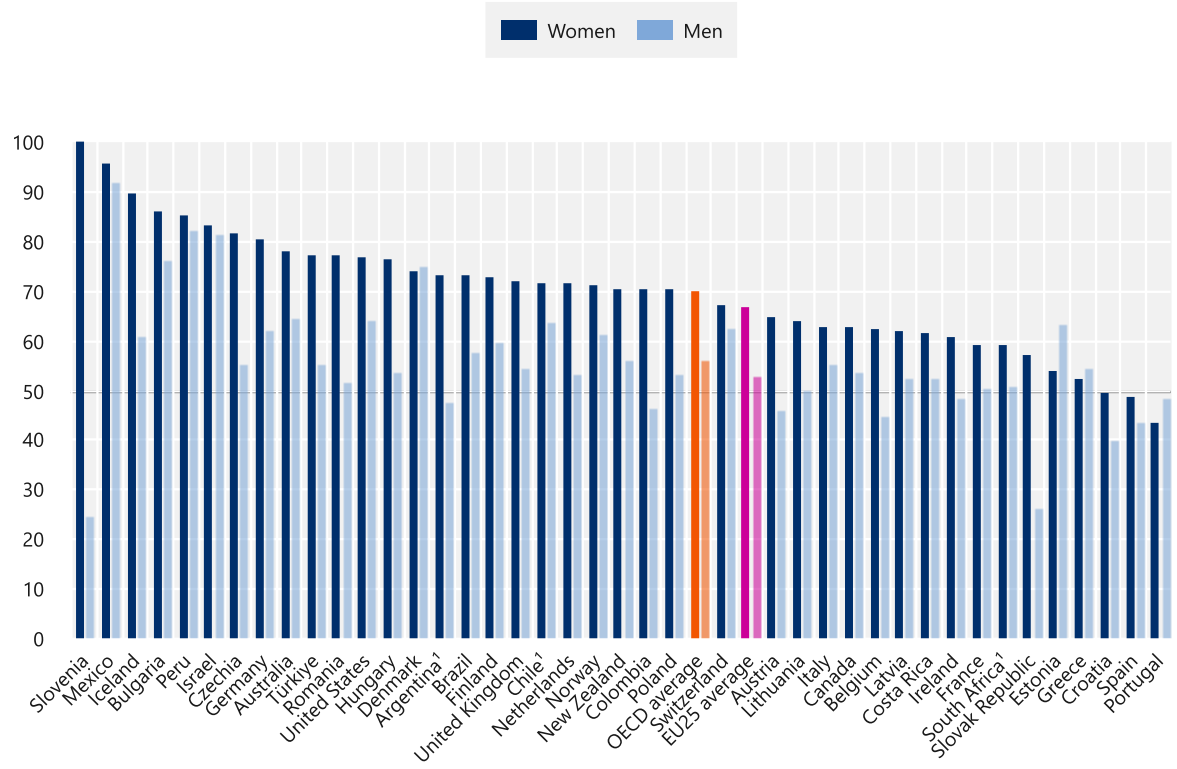
More than two-thirds of 18-24 year-olds in Colombia, Israel and New Zealand are not in education. In New Zealand, 57% of young people in this age group are not in education but are employed, and 13.0% are NEET. In Israel, 52% are not in education but are employed, and 16.8% are NEET. In contrast, in Luxembourg, Mexico, the Netherlands and Slovenia, only 32% of 18-24 year-olds are not in education (Table A2.1). Cross-country differences may be influenced by typical graduation ages, with countries where young people complete their education earlier seeing more 18-24 year-olds entering the labour market.

When it comes to gender differences in NEET rates among 18-24 year-olds, there is no clear pattern across OECD countries. On average among OECD countries with available and comparable data for 2016 and 2023, 14.5% of women in this age group are NEET compared to 13.3% of men. In the Republic of Türkiye (hereafter “Türkiye”), the gender gap is the widest, with NEET rates of 41.4% among 18-24 year-old women and 21.4% among 18-24 year-old men. In contrast, in about one third OECD countries, 18-24 year-old men are more likely to become NEET than their female counterpart. This is notably the case in Estonia, where the NEET rates is 5 percentage points lower for 18-24 year-old women than for men in the same age group (Table A2.2).

NEET women are more likely to be inactive than NEET men. Inactive individuals are those who are not working and not seeking employment, unlike the unemployed, who are actively looking for work but may not be finding it due to skill mismatches or low demand for workers. The reasons why individuals are inactive can be varied. Although men tend to have lower educational attainment than women in most OECD countries (see Chapter A1) and therefore may have trouble matching their skills to labour-market needs, women are more likely to have family responsibilities. Gender differences in the share of 18-24 year-olds NEETs who are inactive vary significantly by country. For example, in Iceland, Mexico and Slovenia, over 90% of 18-24 year-old NEET women are inactive, while in Denmark, Estonia, Greece and Portugal, the gap between men and women is reversed, although less pronounced (Figure A2.2).

Figure A2.2. Share of 18-24 year-old NEETs who are inactive, by gender (2023)

In per cent



How to read this figure: The data represent the percentage of men and women classified as NEET who are inactive in the labour market. "Inactive" means they are not employed and not actively seeking employment. For example, on average across OECD countries, 70% of NEET women are inactive, and 56% of NEET men are inactive.
Note: NEET refers to young people neither in employment nor in formal education or training.
1. Year of reference differs from 2023. Refer to the source table for more details.
Countries are ranked in descending order of the share of 18-24 year-old NEET women who are inactive.
See Table A2.2 for data and under Chapter A2 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

The interplay between education and employment in early adulthood varies significantly across OECD and partner countries. Combining education and employment helps students acquire technical and inter-personal skills that are helpful in the labour market and increases their chances of having a smooth transition into work. On average across OECD countries, 33% of 18-24 year-olds are in education and inactive in the labour market, while 19% combine their studies with employment. Some students' jobs are related to their study programmes, allowing them to gain relevant work experience and technical skills. Work-study programmes are common in certain countries, such as Germany and Switzerland, but in others, students may combine working in unrelated jobs with their studies, which is often less beneficial to their labour-market prospects Table A2.1). Employment which is unconnected to students' education can have adverse effects such as stress, especially when compounded by financial constraints or excessive work hours (Grozev and Easterbrook, 2022[6]).

Combining education and employment can significantly enhance labour market outcomes by equipping individuals with both theoretical knowledge and practical experience. Studies have shown that students who engage in work during their studies tend to have higher employment rates and earn higher wages upon graduation compared to their peers who do not work while studying (OECD, 2020[7]). This dual

approach fosters the development of soft skills such as time management, teamwork, and problem-solving, which are highly valued by employers (Robotham, 2012[8]).

Transition from education to work among foreign- and native-born 15-29 years-olds

Being NEET significantly affects young people's transition into the labour market (Bynner and Parsons, 2002[9]). Individuals who remain NEET for long periods often find it harder to secure employment and even when they do find work, they tend to earn a lower income throughout their careers. Studies have also established a correlation between being NEET and experiencing marginalisation (Uchida and Norasakkunkit, 2015[10]). For foreign-born individuals, the transition from education to the labour market is more challenging than for their native-born counterparts and they are more likely to be unemployed (Uhlendorff and Zimmermann, 2014[11]). However, their unemployment rates tend to fall the longer they have been in their new country of residence (Amuedo-Dorantes and De La Rica, 2007[12]).

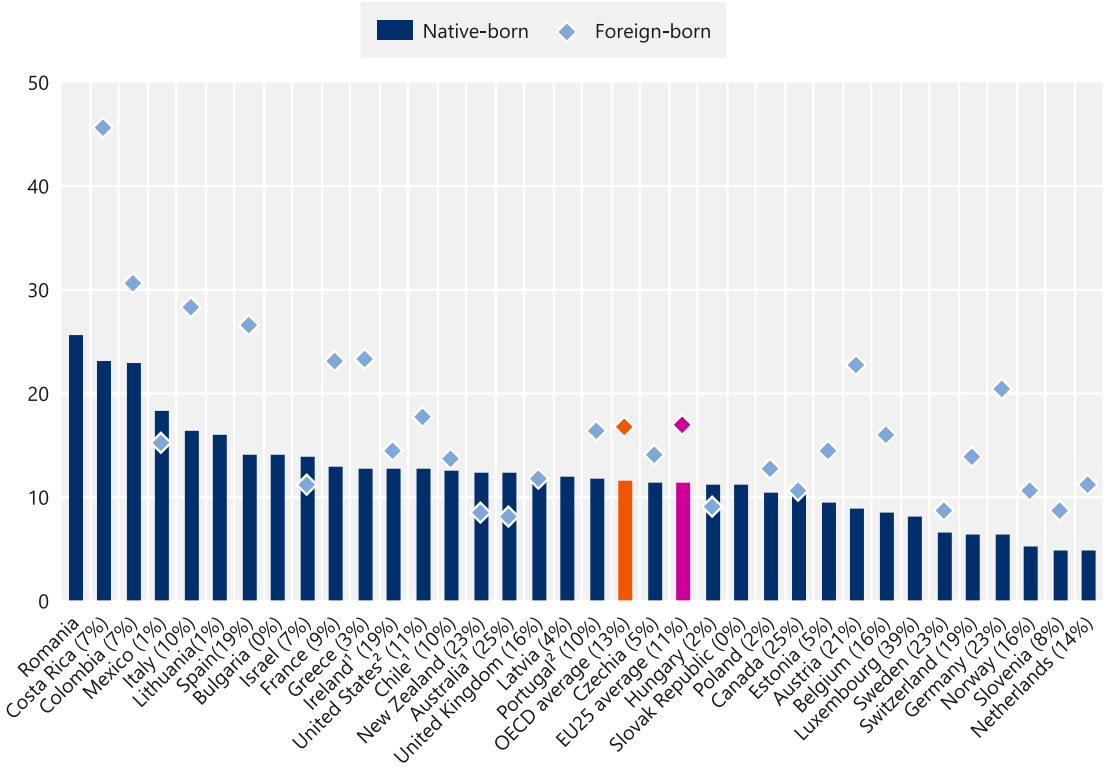
Foreign-born young people encounter more obstacles in education systems. Some education systems are ill-equipped to welcome foreign students (Nichols, Ha and Tyyskä, 2020[13]). As a result, foreign students often experience lack of assistance with the local language, rejection of foreign school transcripts and underfunded settlement services. These students find fewer opportunities to join the labour market and tend to have smaller networks; therefore, they are more likely to become NEET (OECD, 2017[14]).

The share of foreign-born 15-29 year-olds who are NEET differs considerably among OECD countries. In most countries, the NEET rates among foreign-born individuals in this age group are higher than among native-born 15-29 year-olds. The gap between the share of native-born and foreign-born 15-29 year-olds who are NEET varies considerably by country. In Austria, Costa Rica and Germany for example, the difference in the NEET rates between native- and foreign-born 15-29 year-olds is more than 13 percentage points, while in Canada and Chile, it is less than 1 percentage point. In contrast, in a few countries, including Australia, Hungary, Israel, Mexico, New Zealand and the United Kingdom, it is the native born who are more likely to be NEET (Figure A2.3). Differences in the size and characteristics of a country’s foreign-born population as well as other factors likely contribute to these differences.

In some countries foreign-born individuals are more likely to have tertiary qualifications than the native population. In others, it is foreign-born individuals who tend to have lower educational attainment than the native population (see Chapter A1). Lower educational attainment increases the risk of becoming NEET (OECD, 2022[15]).

Figure A2.3. Share of 15-29 year-olds who are NEET, by country of birth (2023)

In per cent



How to read this figure: In Australia, 12.4% of native-born and 8.0% of foreign-born 15-29 year-olds are NEET.
Note: NEET refers to young people neither employed nor in formal education or training. The percentages in parentheses represent the share of 15- to 29-year-olds in the country who are foreign-born.
1. Year of reference differs from 2023. Refer to the source table for more details.
2. The age group refers to 16-29 year-olds.
Countries are ranked in descending order of the share of native-born 15-29 year-olds who are NEET.
See for data and under Chapter A2 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

The labour-market outcomes of foreign-born individuals are significantly influenced by the age at which they arrived in the host country (Lemmermann and Riphahn, 2018[5]). The age at which immigrants arrive in a new country can be an indicator of their future success (Myers, Gao and Emeka, 2009[16]). Individuals who arrive at a younger age tend to achieve higher wages and better educational outcomes (Beck, Corak and Tienda, 2012[17]). Various factors contribute to this trend. For instance, those who arrive in the host country at a younger age are more likely to attain native-level proficiency in the country's language (Myers, Gao and Emeka, 2009[16]). Early arrivals are also more likely to hold qualifications from the host country and they have better networks and knowledge of the labour market.

In most countries, NEET rates are higher among 15-29 year-olds who arrived in the country when they were 16 years old or older than among those who arrived before they turned 16. On average across the OECD countries, 12.6% of foreign-born 15-29 year-olds who arrived at the country of residence before they turned 16 years-old are NEET. The gap between these two groups of foreign-born individuals is widest in Italy, where 19.0% of those who arrived by the age of 15 are NEET compared to 42.0% of those who arrived at the age of 16 years or older (Table A2.3).

However, the impact of age at arrival on education and labour outcomes is influenced by country-specific factors such as the composition of the immigrant inflow – notably by category of immigrant, labour-market conditions and integration policies, to name just a few. Policies aimed at strengthening educational attainment and enhancing equity for older children or younger adults could help bridge the labour-market gap between individuals arriving as young children and those arriving later.

Definitions

Country of Birth: Native-born individuals are those who were born in the country where they answered the survey, and **foreign-born individuals** are those who were born outside the country where they answered the survey

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

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

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.

For more information see the *OECD Handbook for Internationally Comparative Education Statistics* (OECD, 2018[18]) and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Source

For information on the sources, see Chapter A1.

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Chapter A2 Tables

Tables Chapter 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 (2023)
Table A2.2	Trends in the percentage of 18–24-year-olds in education/not in education, by work status and gender (2016 and 2023)
Table A2.3	Percentage of native-born and foreign-born 15–29-year-olds who are NEET, by age at arrival in the country (2023)

StatLink https://stat.link/40chjv

Cut-off date for the data: 14 June 2024. Any updates on data and more breakdowns can be found on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

Table A2.1. Percentage of 18-24 year-olds in education/not in education, by work status (2023)

	In education						Not in education					
	Employed							NEET				
OECD countries	Students in work-study programmes	Other employed	Total	Unemployed	Inactive	Total	Employed	Unemployed	Inactive	Total	Total	Total
	(1)	(2)	(3) = (1) + (2)	(4)	(5)	(6) = (3) + (4) + (5)	(7)	(8)	(9)	(10) = (8) + (9)	(11) = (7) + (10)	(12) = (6) + (11)
Australia	6	29	35	2	10	48	43	2.8	6.9	9.7	52	100
Austria	9	14	23	2	23	48	40	5.3	6.7	12.0	52	100
Belgium	2	10	12	1	54	67	23	4.5	4.9	9.4	33	100
Canada	x(2)	24 [d]	24	2	23	48	40	4.8	6.5	11.3	52	100
Chile [1]	x(2)	10 [d]	10	5	40	55	25	6.3	13.5	19.8	45	100
Colombia	a	8	8	2	23	33	40	10.3	17.0	27.3	67	100
Costa Rica	a	11	11	4	28	43	29	11.9	16.0	27.9	57	100
Czechia	1	5	6	0	52	59	31	2.6	7.0	9.6	41	100
Denmark	x(2)	33 [d]	33	5	17	55	33	2.9	8.7	11.6	45	100
Estonia	c	22	23	4	30	56	29	5.8	8.5	14.3	44	100
Finland	x(2)	26 [d]	26	4	31	61	26	4.2	8.3	12.5	39	100
France	9	8	17	2	35	54	30	7.4	8.8	16.1	46	100
Germany	15	19	34	1	24	60	31	2.7	6.9	9.6	40	100
Greece	a	5	5	1	52	58	22	9.0	10.4	19.4	42	100
Hungary	0	3	3	0	47	51	36	4.2	8.6	12.8	49	100
Iceland	a	36	36	4	14	53	42	1.4	3.3	4.7	47	100
Ireland	a	29	29	1	28	58	33	3.9	4.7	8.6	42	100
Israel	x(2)	10 [d]	10	1	20	31	52	2.9	13.9	16.8	69	100
Italy	a	4	4	1	52	57	24	7.7	11.0	18.7	43	100
Japan	m	m	m	m	m	m	m	m	m	m	m	m
Korea	m	m	m	m	m	m	m	m	m	m	m	m
Latvia	a	16	16	1	37	55	31	6.2	8.2	14.4	45	100
Lithuania	c	15	15	c	42	57	25	7.5	10.0	17.5	43	100
Luxembourg	a	11	11	c	54	68	23	c	c	c	32	100
Mexico	a	33	33	2	34	68	15	0.9	15.4	16.3	32	100
Netherlands	x(2)	52 [d]	52	4	12	68	27	1.8	3.1	4.9	32	100
New Zealand	a	19	19	1	9	30	57	4.7	8.3	13.0	70	100
Norway	2	37	38	4	23	65	29	2.0	4.0	6.0	35	100
Poland	a	11	11	1	47	59	30	4.3	7.1	11.4	41	100
Portugal	a	7	7	2	47	55	32	7.1	6.1	13.2	45	100
Slovak Republic	c	5	5	c	57	62	26	7.1	4.8	11.9	38	100
Slovenia	c	16	19	c	49	68	26	2.1	4.1	6.2	32	100
Spain	x(2)	10 [d]	10	3	48	61	21	9.5	8.2	17.8	39	100
Sweden	a	20	20	8	28	56	36	4.4	4.2	8.6	44	100
Switzerland	17	19	36	2	19	57	34	3.1	5.7	8.9	43	100
Türkiye	a	12	12	3	20	35	34	9.4	21.6	31.1	65	100
United Kingdom	7	14	21	1	22	45	42	5.0	8.7	13.7	55	100
United States	x(2)	18 [d]	18	1	25	44	42	4.1	9.9	14.1	56	100
OECD average	m	17	19	2	33	54	32	5.1	8.6	13.7	46	100
Partner and/or accession countries												
Argentina [1]	a	12	12	4	31	47	29	8.8	15.3	24.1	53	100
Brazil	a	18	18	4	15	37	39	7.9	16.1	24.0	63	100
Bulgaria	x(2)	6 [d]	6	c	55	61	24	2.8	12.2	15.1	39	100
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	x(2)	4 [d]	4	0	51	55	31	7.7	6.2	13.9	45	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	x(2)	16 [d]	16	2	19	37	41	3.6	19.1	22.7	63	100
Romania	x(2)	2 [d]	2	c	52	54	26	6.8	13.7	20.5	46	100
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
South Africa [1]	a	1	1	1	36	38	14	21.8	27.0	48.8	62	100
EU25 average	m	14	16	2.2	41	59	29	5.3	7.6	12.9	41	100
G20 average	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter A2 Tables for StatLink and Box A2.5 for the notes related to this Table.
Source: OECD (2024). See *Source* section for more information and Education at a Glance 2024 Sources Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Table A2.2. Trends in the percentage of 18-24 year-olds in education/not in education, by work status and gender (2016 and 2023)

	In education				Not in education							
					Employed				NEET			
	2016		2023		2016		2023		2016		2023	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Australia	51	54	47	48	39	34	43	42	10.1	11.8	10.1	9.3
Austria	46	51	46	49	42	38	42	39	12.5	11.6	11.8	12.2
Belgium	57	63	62	73	30	25	27	20	12.9	11.8	10.9	7.7
Canada	44	52	44	53	41	36	43	38	15.3	12.0	13.3	9.3
Chile[1,2]	50	51	54	57	34	23	29	21	16.1	26.0	17.6	22.1
Colombia	32	35	32	34	53	31	50	30	15.2	34.4	18.7	35.7
Costa Rica	44	45	39	48	39	22	36	20	17.5	33.3	24.8	31.5
Czechia	m	m	55	63	m	m	38	25	m	m	6.7	12.4
Denmark	64	67	55	55	25	24	34	33	11.9	9.0	11.3	12.0
Estonia	50	58	54	58	41	27	29	30	9.2	14.9	16.9	11.8
Finland	50	59	60	63	31	27	28	25	18.8	14.0	12.2	12.8
France	50	56	51	58	29	25	31	28	20.9	18.7	17.9	14.3
Germany	61	62	57	62	30	27	34	27	9.2	10.9	8.8	10.4
Greece	60	65	55	61	17	11	26	18	23.0	24.1	18.5	20.3
Hungary	48	52	49	53	38	30	41	32	13.3	17.8	10.4	15.1
Iceland	48	52	48	60	46	41	46	37	5.7	6.2	6.0	3.3
Ireland	m	m	58	59	m	m	33	33	m	m	8.6	8.6
Israel	26	36	29	33	58	45	55	49	15.8	19.0	16.2	17.5
Italy	49	57	51	65	22	16	30	17	28.9	27.1	19.3	18.0
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	41	57	49	62	42	28	35	26	16.5	15.5	15.9	12.9
Lithuania	56	65	55	60	30	24	28	22	13.3	10.9	16.8	18.2
Luxembourg	c	c	69	67	c	c	23	c	c	c	c	c
Mexico	37	35	70	67	53	28	17	13	9.5	36.7	12.9	19.8
Netherlands	63	62	67	69	30	31	28	26	7.4	6.4	4.9	4.9
New Zealand	44	46	28	31	46	39	60	54	10.0	15.4	11.7	14.4
Norway	44	55	59	72	46	35	35	22	10.1	9.2	5.7	6.3
Poland	36	53	52	66	48	28	37	22	16.5	19.5	10.9	12.0
Portugal	52	55	52	59	29	27	35	28	18.6	17.9	13.4	13.0
Slovak Republic	48	63	54	70	39	21	33	19	13.8	16.8	12.9	10.9
Slovenia	63	80	61	77	23	13	34	16	13.7	7.5	5.3	7.2
Spain	55	62	58	65	21	16	23	18	23.7	22.7	18.4	17.1
Sweden	49	58	48	64	40	33	42	28	11.0	8.9	9.3	7.8
Switzerland	56	54	55	59	33	38	34	34	11.0	7.7	10.1	7.6
Türkiye	44	35	35	36	36	19	44	23	19.6	46.4	21.4	41.4
United Kingdom	44	42	44	46	44	42	43	41	12.7	16.4	13.7	13.7
United States	45	50	40	47	40	34	46	39	14.6	16.0	13.9	14.2
OECD average	49	54	51	57	37	28	36	28	14.5	17.5	13.1	14.4
OECD average for countries with available and comparable data for both years	49	54	50	57	37	29	37	29	14.4	17.2	13.3	14.5
Partner and/or accession countries												
Argentina[2]	m	m	43	51	m	m	38	20	m	m	18.9	29.3
Brazil	31	32	33	40	48	30	48	30	21.7	37.1	18.7	29.4
Bulgaria	m	m	58	65	m	m	27	20	m	m	15.0	15.1
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	41	55	46	64	34	26	40	22	25.1	19.4	14.4	13.4
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	34	37	34	39	50	36	47	34	16.4	26.8	18.8	26.7
Romania[1]	42[b]	46[b]	50	58	35[b]	25[b]	34	18	23.0[b]	29.0[b]	16.7	24.5
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
South Africa[2]	42	42	37	38	20	13	17	11	38.0	45.5	46.5	51.1
EU25 average	51	59	55	62	32	25	33	25	16.3	15.9	12.8	13.0
G20 average	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter A2 Tables for StatLink and Box A2.5 for the notes related to this Table.
Source: OECD (2024). See *Source* section for more information and Education at a Glance 2024 Sources Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Table A2.3. Percentage of native-born and foreign-born 15-29 year-olds who are NEET, by age at arrival in the country (2023)

		Foreign-born			
	Native-born	Arrived in the country by the age of 15	Arrived in the country at 16 or older	Total	Total
OECD countries	(1)	(2)	(3)	(4)	(5)
Australia[1]	12.4	7.4	8.4	8.0	11.3
Austria	9.0	19.6	24.7	22.6	11.8
Belgium	8.6	11.4	23.6	16.0	10.0
Canada	10.5	9.2	13.9	10.6	10.5
Chile[1]	12.7	8.6	16.5	13.7	12.8
Colombia	23.1	x(4)	x(4)	30.7	23.6
Costa Rica	23.2	x(4)	x(4)	45.6	24.9
Czechia	11.5	13.9	15.6	14.0	11.6
Denmark	m	m	m	m	m
Estonia	9.6	13.8	c	14.3	9.9
Finland	m	m	m	m	m
France	13.1	15.6	30.4	23.0	14.0
Germany	6.5	12.2	25.7	20.4	9.2
Greece	12.9	19.1	c	23.3	13.3
Hungary	11.4	7.0	10.4	8.9	11.4
Iceland	m	m	m	m	m
Ireland[1]	12.9	15.7	13.5	14.5	13.2
Israel	14.0	12.3	9.2	11.2	13.8
Italy	16.5	19.0	42.0	28.3	17.7
Japan	m	m	m	m	m
Korea	m	m	m	m	m
Latvia	12.1	c	c	c	12.0
Lithuania	16.1	c	c	c	16.1
Luxembourg	8.4	c	c	c	7.7
Mexico	18.5	x(4)	x(4)	15.2	18.5
Netherlands	4.9	6.2	15.8	11.1	5.8
New Zealand	12.5	7.4	10.8	8.5	11.6
Norway	5.3	9.5	12.3	10.5	6.2
Poland	10.7	x(4)	x(4)	12.8	10.7
Portugal[2]	12.0	15.1[r]	17.3	16.4	12.4
Slovak Republic	11.4	c	c	c	11.3
Slovenia	5.0	c	c	8.7	5.3
Spain	14.2	19.7	35.3	26.5	16.6
Sweden	6.6	c	c	8.7	7.1
Switzerland	6.6	10.9	16.3	13.9	8.3
Türkiye	m	m	m	m	m
United Kingdom	12.2	9.2	13.8	11.7	12.1
United States[2]	12.8	13.9	20.8	17.6	13.4
OECD average	11.8	12.6	m	16.7	12.3
Partner and/or accession countries					
Argentina	m	m	m	m	m
Brazil	m	m	m	m	m
Bulgaria	14.1	c	c	c	14.1
China	m	m	m	m	m
Croatia	m	m	m	m	m
India	m	m	m	m	m
Indonesia	m	m	m	m	m
Peru	m	m	m	m	m
Romania	25.8	c	c	c	25.7
Saudi Arabia	m	m	m	m	m
South Africa	m	m	m	m	m
EU25 average	11.5	m	m	16.9	12.1
G20 average	m	m	m	m	m

How to read this table: In Column 1 for Australia, 12.4% of native-born 15-29 year-olds are NEET.
Note: See under Chapter A2 Tables for StatLink and Box A2.5 for the notes related to this Table.
Source: OECD (2024). See *Source* section for more information and Education at a Glance 2024 Sources Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Box A2.5. Notes for Chapter A2 Tables

Table A2.1. Percentage of 18-24 year-olds in education/not in education, by work status (2023)

Note: NEET refers to young people who are neither employed nor in formal education or training. 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. See *Definitions* and *Methodology* sections for more information.

1. Reference year differs from 2023: 2022 for Chile and South Africa; and 2018 for Argentina.

Table A2.2. Trends in the percentage of 18-24 year-olds in education/not in education, by work status and gender (2016 and 2023)

Note: NEET refers to young people who are neither employed nor in formal education or training. 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. See Definitions and Methodology sections for more information. Columns showing the totals for both men and women are available for consultation on line.

1. Reference year differs from 2016: 2015 for Chile and Romania.

2. Reference year differs from 2023: 2022 for Chile and South Africa; and 2018 for Argentina.

Table A2.3. Percentage of native-born and foreign-born 15-29 year-olds who are NEET, by age at arrival in the country (2023)

Note: NEET refers to young people who are neither employed nor in formal education or training. 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. See *Definitions* and *Methodology* sections for more information.

1. Reference year differs from 2023: 2022 for Chile, 2019 for Australia and 2017 for Ireland.

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

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

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

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

Highlights

- Employment rates for younger adults (25-34 year-olds) slightly improved in most countries between 2016 and 2023, irrespective of their educational attainment level. However, the gap in employment rates between younger adults with below upper secondary attainment and those with tertiary attainment has widened in more than half of OECD, partner and/or accession countries with comparable data for both years.
- Between 2016 and 2023, subnational regions with particularly low employment rates for 25-64 year-olds with below upper secondary attainment have shown considerable improvement, leading to a convergence in regional employment rates for some countries.
- Older workers without an upper secondary education are more likely to leave the labour market early. On average across OECD countries, nearly half of 55-64 year-olds with below upper secondary attainment have exited the workforce, compared to only one in five tertiary-educated adults in that age group.

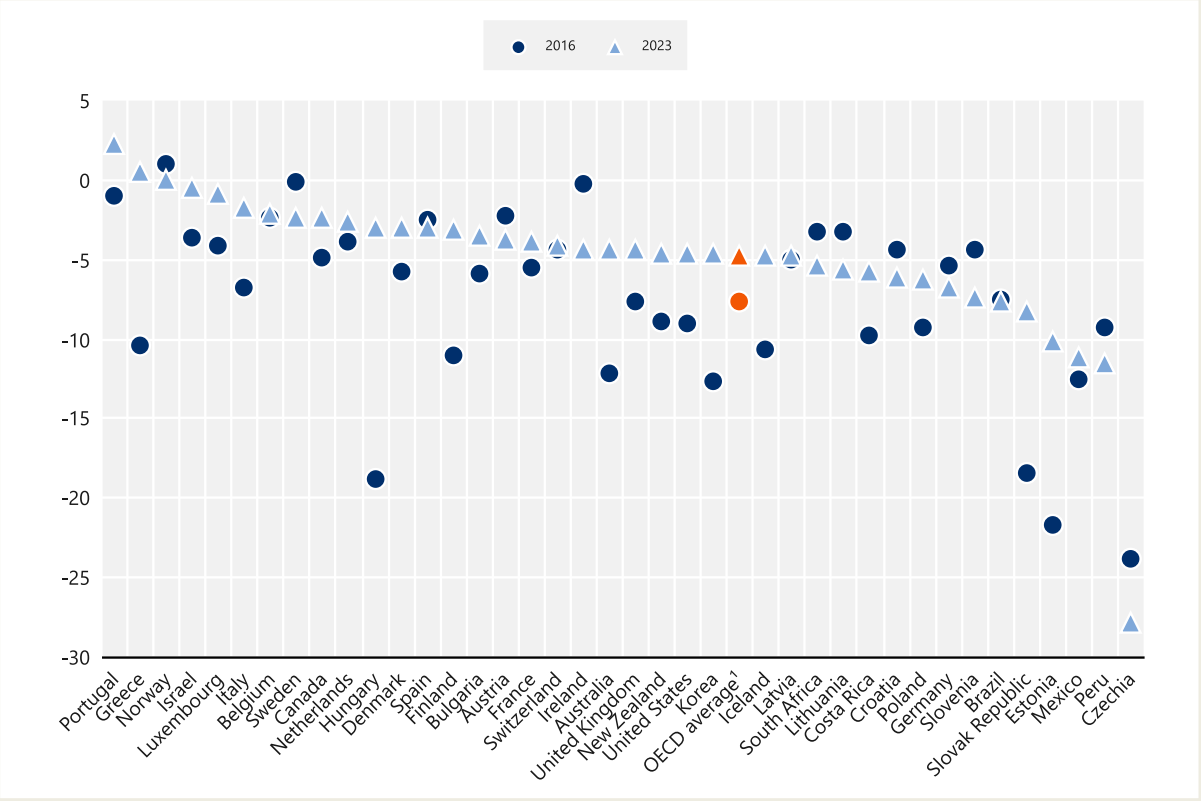
Context

Modern economies depend heavily on a supply of highly skilled workers who, in turn, reap substantial labour-market benefits. These advantages, coupled with expanded educational opportunities, are some of the motivations for individuals across the OECD to pursue higher levels of education to acquire more skills. As demand for skills has increased, labour markets have successfully absorbed the growing number of highly skilled workers, providing them with better employment prospects (OECD, 2023[1]). Conversely, adults with lower levels of qualifications face more challenging labour-market prospects, including lower earnings (see Chapter A4) and a greater risk of unemployment.

Automation poses an ongoing threat to today's labour market, with occupations at the highest risk of automation accounting for 27% of employment across OECD countries (OECD, 2023[1]). The rapid development of artificial intelligence (AI) has introduced new challenges and opportunities to the labour market. As AI expands the range of tasks that could be automated beyond routine, non-cognitive tasks, it also brings the need for new skills. Additionally, ageing has an uneven impact on older workers, particularly those lacking higher education, who are more likely to leave the workforce early, leading to pension disparities and economic insecurity (OECD, 2019[2]). Education systems at all levels must respond to these emerging challenges, ensuring that all individuals, regardless of gender, age or migration status, can benefit from economic opportunities.

Figure A3.1. Trends in the gender difference in employment rates among 25-34 year-olds with at least a bachelor's or equivalent degree (2016 and 2023)

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



1. The OECD average is derived from the unweighted mean of all countries with available and comparable data for both years.

Countries are ranked in descending order of the difference in employment rates between 25-34 year-old men and 25-34 year-old women in 2023.

See the OECD Data Explorer (http://data-explorer.oecd.org/s/4s for data and under Chapter A3 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Other findings

- Among younger adults with at least a bachelor's or equivalent degree, the gender gap in employment rates in favour of men has fallen from 8 percentage points in 2016 to 5 percentage points in 2023 on average across OECD countries with comparable data for both years.
- Foreign-born women face a dual challenge in the labour market as immigrants and as women, regardless of their level of educational attainment. For instance, the gender gap in employment rates among native-born tertiary-educated adults stands at 5 percentage points in favour of men on average across OECD countries, but is more than double that among foreign-born adults, at 13 percentage points.
- Workers with below upper secondary attainment are more likely to have temporary contracts or be in involuntary part-time jobs compared to their peers with greater educational attainment. For example, on average across OECD countries with available data, 12% of 25-64 year-old

employees are on temporary contracts, compared to 8% of those with higher levels of educational attainment.

Analysis

Greater educational attainment is associated with higher employment rates, lower unemployment and labour-market inactivity rates. This relationship exists in nearly all OECD, partner and/or accession countries with available data, regardless of gender, age group, immigration background or subnational region. On average across OECD countries, 60% of adults (25-64 year-olds) with below upper secondary attainment are employed, compared to 77% of those with upper secondary or post-secondary non-tertiary attainment and 87% of tertiary-educated adults (Table A3.1). In parallel, 9.0% of adults with below upper secondary attainment are unemployed and 34% are inactive; 5.1% of those with upper secondary or post-secondary non-tertiary attainment are unemployed and 19% are inactive; and 3.4% of those with tertiary attainment are unemployed and 10% are inactive (OECD, 2024[3]).

The analysis in this chapter focuses on labour-market outcomes and educational attainment, which refers to the highest level of education an individual has completed. It should be noted that progression through education is not always linear. A recent study from Canada has shown that adults with a bachelor's or equivalent degree may go on to pursue an additional qualification at the same or lower level, to complement and enhance the skills they established during their higher education (Wall, 2021[4]). Interpreting the figures on labour-market status by educational attainment takes into account the fact that an individual's attainment level may not always reflect the latest qualification that individual has obtained.

Educational attainment and employment rates

A higher level of education attained in a country generally offers better job opportunities for young people. On average across OECD countries, 61% of 25-34 year-olds with below upper secondary attainment are employed, compared to 79% among those with upper secondary or post-secondary non-tertiary attainment. The employment rate for younger adults with tertiary attainment is even higher, at 87%. Between 2016 and 2023, employment rates have slightly improved for younger adults of all attainment levels in most countries with comparable trend data. The increases tend to be the highest for those with tertiary attainment. Greece, Hungary and Italy have experienced the highest percentage-point increase in employment rates for tertiary-educated 25-34 year-olds, of at least 10 percentage points over this period (Table A3.2).

The rapidly evolving capacity of artificial intelligence (AI) has recently created fears of job losses or less job openings for some non-routine, cognitive tasks performed by adults with higher levels of education. However, the early evidence suggests that AI-related vacancies still only represent a small share of overall vacancies in the labour market as the adoption of AI technologies is highly concentrated in those establishments that have a task structure suitable for deploying AI-powered algorithms (Acemoglu et al., 2022[5]; Borgonovi et al., 2023[6]). While the impact of AI on the labour market is currently very small because AI adoption is not widespread, the progress is so rapid that the effects in 2024 will have to be measured carefully.

Although Artificial Intelligence (AI) and other digital technologies are likely to transform the employment skill structure by creating demand for skills that are complemented by technology rather than replaced by it, adults with low educational attainment are less likely to be able to adapt to the shift in skills needed (Lassébie and Quintini, 2022[7]; Autor, 2024[8]). Between 2016 and 2023, the gap in employment rates between 25-34 year-olds with below upper secondary attainment and those with tertiary attainment has widened in more than half of OECD, partner and/or accession countries with comparable trend data.

Czechia is the only exception where the gap in employment rates between younger adults with below upper secondary attainment and those with tertiary attainment has reduced by over 10 percentage points over the same period (Table A3.2).

Gender differences in employment rates

Personal and family responsibilities, including unpaid care work, often disproportionately affect women. These traditional gender roles can prevent women not just from working but also from actively searching for employment or being available to work at short notice (Gomis et al., 2023[9]). In most OECD, partner and/or accession countries, 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 is 21 percentage points among 25-64 year-olds with below upper secondary attainment, but it narrows to 14 percentage points among those with upper secondary or post-secondary non-tertiary attainment. Among those with tertiary attainment the gender gap closes even further to 7 percentage points (OECD, 2024[3]).

Many countries have seen signs of the gender gap in employment falling lately. Among younger adults, although the gender gap in employment rates remains in favour of men, it has narrowed by 1 percentage point between 2016 and 2023 for those with below upper secondary attainment and by 3 percentage points for those with upper secondary or post-secondary non-tertiary attainment, or tertiary attainment across OECD countries with comparable trend data. This differential is leading to widening differences in gender outcomes across educational attainment levels (Table A3.4).

In addition to evolving cultural norms, women's advantages in social and interpersonal skills may have played some role in the narrowing of gender gaps in employment rates, particularly among those with higher levels of educational attainment (Cortes, Jaimovich and Siu, 2018[10]; Deming, 2017[11]). Between 2016 and 2023, among 25-34 year-olds with at least a bachelor's or equivalent degree, the gender gap in employment rates, favouring men, has fallen from 8 percentage points to 5 percentage points on average across OECD countries with comparable trend data. The gender gap fell by at least 10 percentage points in Estonia, Greece, Hungary and the Slovak Republic. In Greece and Portugal, younger women with at least a bachelor's or equivalent degree now have similar employment rates to their male peers (Figure A3.1.). This trend is likely to continue in the age of AI, as social skills are often complementary to AI skills (Alekseeva et al., 2021[12]).

Subnational variations in employment rates

Regional disparities in employment rates tend to be smaller among adults with higher levels of educational attainment. In Spain for example, employment rates among 25-64 year-olds with below upper secondary attainment are as low as 38% in Melilla, and as high as 69% in Aragon in 2023, a difference of over 30 percentage points. Meanwhile, the employment rates among tertiary-educated adults only range from 79% in the Canary Islands to 87% in Catalonia, a difference of just 8 percentage points (OECD, 2024[13]).

Some subnational regions with relatively low employment rates for adults lacking upper secondary attainment are catching up with better-performing regions in the country, resulting in the rates converging. Türkiye is a notable example: the difference between the employment rates in the Eastern Black Sea (the region with the highest rates) and Southeastern Anatolia East (with the lowest employment rates) fell by more than 10 percentage points between 2016 and 2022. In contrast, regional differences in employment rates for adults with below upper secondary attainment has widened by 20 percentage points or more in Poland and Romania over the same period. The employment rates for adults with at least an upper secondary degree have been relatively stable between 2016 and 2022 in most regions across countries (OECD, 2024[13]).

Employment rates by migration status

For both native-born and foreign-born adults, the likelihood of being employed increases with higher educational attainment, but the rise is steeper for native-born adults, suggesting that labour markets tend to underutilise the potential skills of foreign-born adults. On average across OECD countries, 60% of native-born adults and 63% of foreign-born adults with below upper secondary education are employed, rising to 77% of native-born and 75% of foreign-born adults with upper secondary or post-secondary non-tertiary attainment. For those with tertiary attainment, the employment rates are 88% for native-born and 82% for foreign-born adults (Table A3.4). A key factor in explaining these values are difficulties in transferring foreign qualifications into the host-country labour market context (OECD/European Union, 2014[14]).

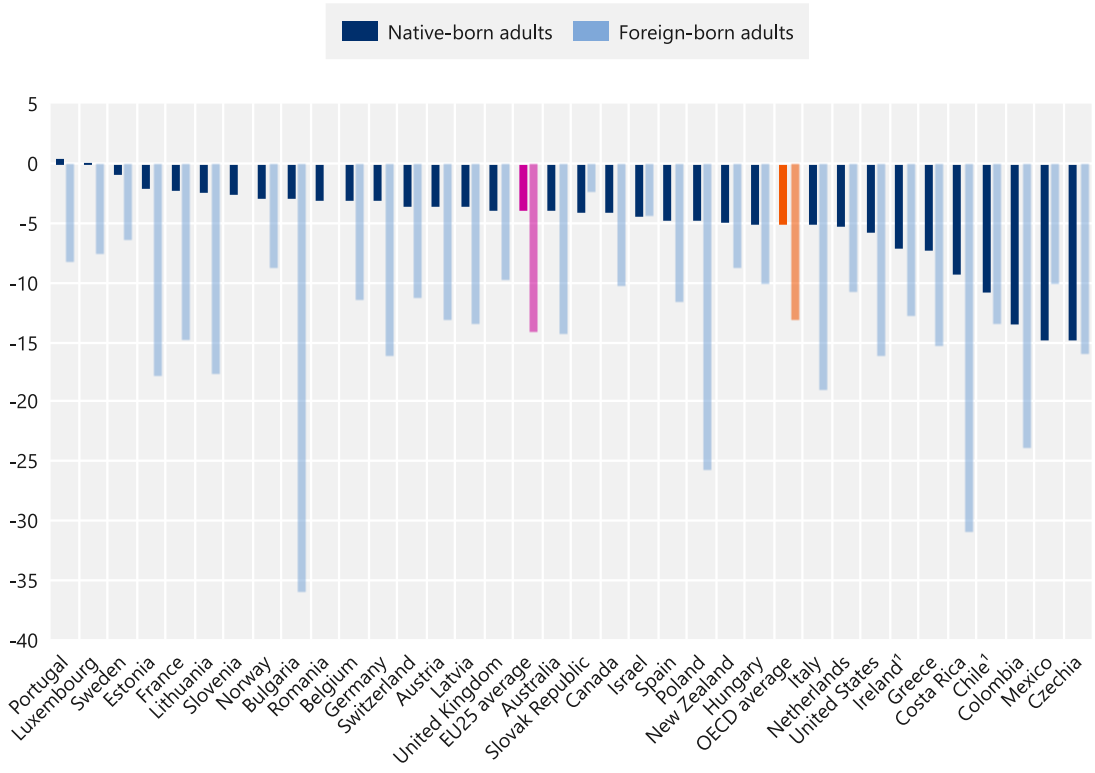
The differences in labour-market outcomes for foreign-born and native-born adults vary widely across OECD countries but in almost all of them, foreign-born adults with tertiary attainment tend to have lower employment rates than their native-born peers. The difference exceeds 10 percentage points in favour of native-born adults in Austria, Bulgaria, France, Germany, Italy, Latvia and the Netherlands. In contrast, the difference in employment rates is no more than 2 percentage points in Czechia, Luxembourg and the Slovak Republic. Chile stands out as the only country where foreign-born adults with tertiary attainment enjoy slightly higher employment rates than their native-born peers (Table A3.4).

In contrast, the patterns in employment rates between native- and foreign-born adults with below upper secondary attainment vary widely. These differences are largely driven by differences in the composition of migration by category (OECD/European Commission, 2023[15])). In 14 out of 34 OECD, partner and/or accession countries with available data, native-born adults with below upper secondary attainment have higher employment rates than their foreign-born peers. The most striking difference is observed in Estonia, where it is above 20 percentage points. On the other hand, in Hungary, Israel and the U, the likelihood of being employed is more than 20 percentage points higher for foreign-born adults with below upper secondary attainment than for native-born adults with the same level of educational attainment (Table A3.4).

While the overall labour market presents challenges for women, the situation is particularly daunting for foreign-born women who face a dual challenge as immigrants and women. This issue persists regardless of their level of educational attainment (Table A3.4). For instance, among tertiary-educated adults, the gender gap in employment rates among native-born adults averages 5 percentage points in favour of men on average across OECD countries, but more than doubles among foreign-born adults, reaching 13 percentage points. However, Czechia and Israel stand out as having similar gender gaps in employment rates for both foreign-born and native-born adults with tertiary attainment, and the gender gaps in Mexico and the Slovak Republic are narrower for foreign-born tertiary-educated adults than for their native-born counterparts (Figure A3.2).

Figure A3.2. Gender difference in employment rates among tertiary-educated adults, by country of birth (2023)

25-64 year-olds; employment rates of women minus employment rates of men; in percentage points



1. Year of reference differs from 2023. Refer to the source table for more details.
Countries are ranked in descending order of the difference in employment rates between native-born tertiary-educated men and women.
See Table A3.4 for data and under Chapter A3 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Higher educational attainment does not just increase employment rates but also safeguards workers against involuntary part-time and temporary employment. Box A3.1 illustrates how adults with lower educational attainment are more susceptible to non-standard employment arrangements.

Box A3.1. Non-standard forms of employment and educational attainment

Although employment rates are a crucial indicator of labour-market outcomes, they do not fully capture the quality and stability of jobs. It is essential to consider the nature of employment, as many workers may be in non-standard forms of employment, such as involuntary part-time or temporary positions, which often lack the benefits and security of full-time, permanent jobs.

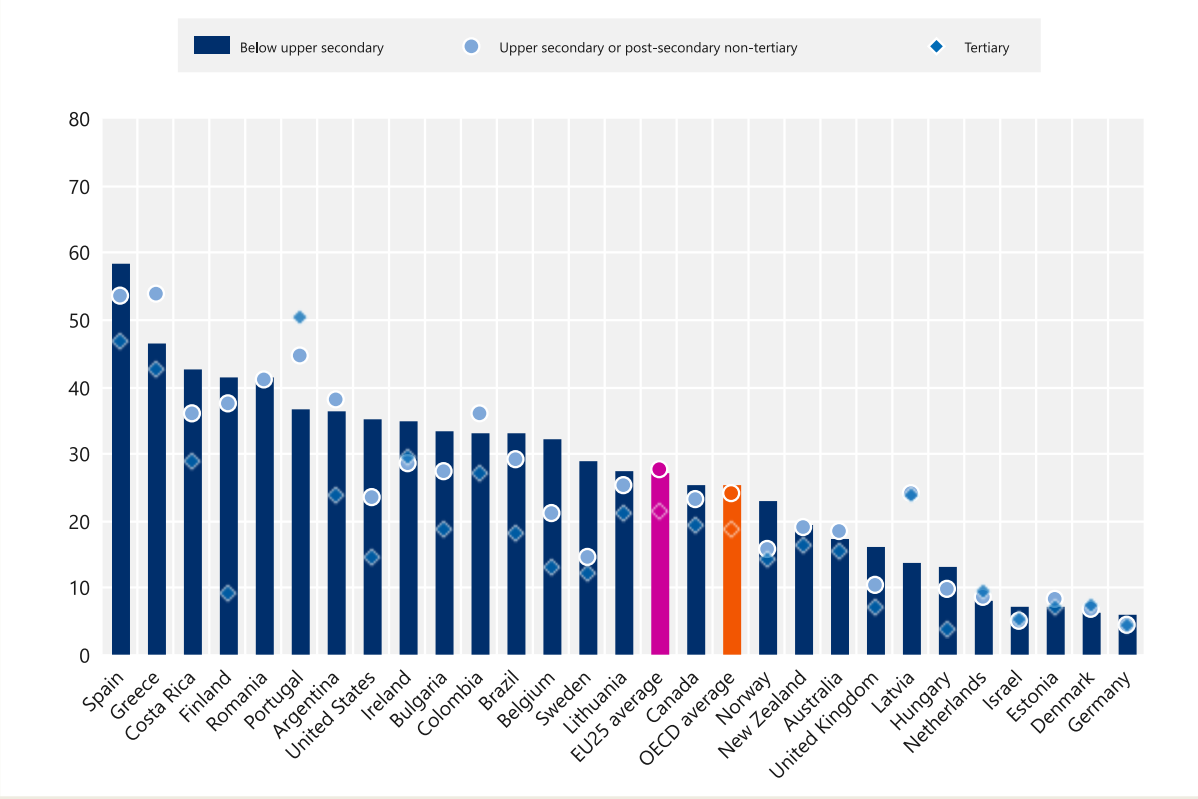
Part-time and involuntary part-time employment

On average across OECD countries, part-time employment accounts for 20% of all employment among 25-64 year-olds with below upper secondary attainment. This share falls to 16% among those with upper secondary or post-secondary non-tertiary attainment and 13% among tertiary-educated adults (Table A3.5, available on line). Part-time employment is often associated with wage penalties, job insecurity and fewer opportunities for career progression (OECD, 2020[16]), but in most countries, part-time workers are likely

to be working shorter hours by choice, especially among tertiary-educated workers. On average, around 25% of part-time workers without a tertiary degree are in involuntary part-time employment, compared to 19% among their peers with tertiary attainment. This difference is above 20 percentage points in Finland, where around 40% of part-time workers without tertiary attainment are in involuntary part-time employment compared to less than 10% among tertiary-educated ones. Denmark, Latvia, the Netherlands and Portugal are the only exceptions where 25-64 year-old workers with tertiary attainment are more likely to be in involuntary part-time employment than those with below upper secondary attainment (Figure A3.3).

Figure A3.3. Involuntary part-time workers as a share of all part-time workers, by educational attainment (2022)

25-64 year-olds; in per cent



Countries are ranked in descending order of the share of involuntary part-time workers among all part-time workers with below upper secondary attainment.

See Table A3.5, available on line for data and under Chapter A3 Tables for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Women are more likely to opt for part-time work as a primary means to achieve work-life balance or fulfil family responsibilities (OECD, 2023[17]). For instance, recent studies in the Netherlands show that women who work part time do not extend their working hours, even when childcare needs have decreased. Factors determining the decision to work more hours include income and decreasing childcare needs. But type of work, (lack of) encouragement in the work environment, or from employer or partner, informal care and personal health play an almost equal role. Taken together, these factors do not always appear to make increased labour participation necessary or attractive' (Portegijs, 2022[18]).

In most countries with available data, the share of part-time workers is higher among women than men, and women are more likely to be working part time by choice compared to men. Higher educational attainment tends to reduce the gender gap in the incidence of involuntary part-time employment in most countries. For example, in the United States, the share of men with below upper secondary education working part time involuntarily relative to all part-time workers is 24 percentage points higher than the share among women with the same level of education. Among men and women with upper secondary or post-secondary non-tertiary attainment, the difference is 19 percentage points in favour of men. Among those with tertiary attainment, the difference is 15 percentage points in favour of men. Lithuania is a notable exception where women are at more risk of working part time involuntarily than men, with the gender gap increasing among tertiary-educated adults (Table A3.5, available on line).

Temporary employment

About one in ten employees are on temporary contracts across OECD countries with available data. Adults lacking upper secondary attainment are more likely to work on temporary contracts. On average across OECD countries with available data, 12% of 25-64 year-old employees without upper secondary education work in jobs with temporary contracts, compared to 8% for those with higher levels of attainment. The difference is particularly striking in Argentina and Hungary, where the likelihood of working in temporary jobs is 20 percentage points higher for those with below upper secondary attainment than for tertiary-educated employees. Portugal is the exception, where the probability of working on a temporary contract increases with educational attainment (Table A3.6, available on line).

Adults engaged in temporary or part-time employment are at increased risk of falling into income poverty and often lack support from unemployment benefits (OECD, 2020[16]). This risk is particularly pronounced among workers with lower levels of educational attainment, who are more likely to be in these unstable forms of employment.

Educational attainment and unemployment rates

In the large majority of countries, unemployment rates fall as educational attainment rises. In many OECD and partner countries, unemployment rates (i.e., the share of adults who are 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 formal education or training (NEET) in Chapter A2 in addition to the analysis of unemployment rates that follows.

On average across OECD countries, the unemployment rate among 25-34 year-olds lacking upper secondary education is 13.2%, almost twice as high as for those with upper secondary or post-secondary non-tertiary attainment (7.0%). The rate falls further among those with tertiary attainment, to 4.7%. The situation is especially severe for younger adults without upper secondary education in South Africa, where almost half of this group are unemployed. Similarly, in the Slovak Republic, more than one in three younger adults without upper secondary education face unemployment (Table A3.3).

Younger women have a higher risk of being unemployed than their male counterparts but tertiary attainment reduces the gender gap considerably. On average across OECD countries, 11.8% of younger men with below upper secondary attainment are unemployed compared with 16.4% of their female peers. The unemployment rate falls to 6.3% among younger men with upper secondary or post-secondary non-tertiary attainment and 8.3% for their female counterparts. Among tertiary-educated younger adults, the unemployment rates are roughly equal, at around 4.5% for both men and women. In fact, in about half of

OECD, partner and/or accession countries with available data, the gender gap in unemployment is reversed in favour of women among younger adults with tertiary attainment (Table A3.3).

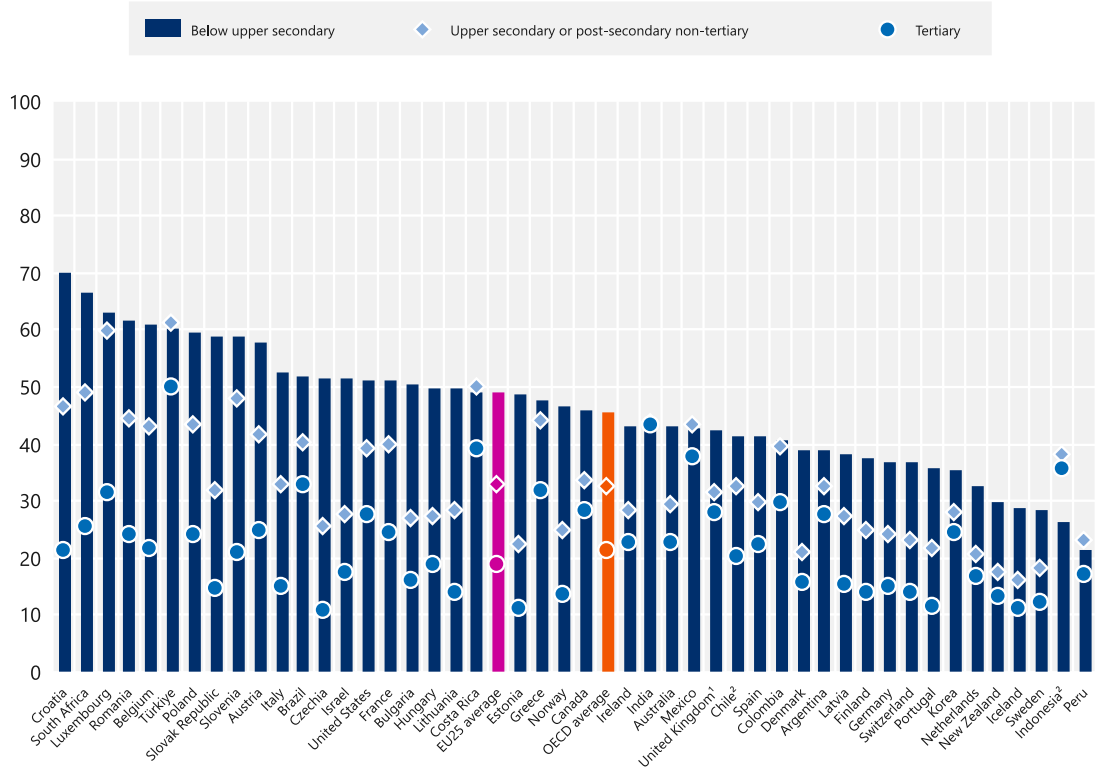
Educational attainment and labour-market inactivity rates

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. There are large differences among countries in the inactivity rates of tertiary-educated younger adults across OECD countries. On average, 9% of 25-34 year olds with tertiary attainment are not in the labour force, but in Hungary, Lithuania and the Netherlands the share is 5%, while in Czechia the share is 21% (Table A3.3).

Retaining older adults in the workforce is receiving increasing policy attention, as populations in OECD countries are set to become older over the coming decades. Numerous OECD countries are presently undertaking pension and labour-market reforms with the aim of postponing retirement and prolonging careers, thereby ensuring the sustainability of public pensions (OECD, 2019[2]). However, these efforts to extend working lives may carry the risk of widening pension disparities, as workers lacking upper secondary education are more prone to leave the labour market prematurely (Venti and Wise, 2015[19]). On average across OECD countries, 46% of 55-64 year-olds with below upper secondary attainment are inactive, compared to 32% of those with upper secondary or post-secondary non-tertiary and 21% of those with tertiary attainment (Figure A3.4).

Figure A3.4. Inactivity rates of 55-64 year-olds, by educational attainment (2023)

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 (11% of adults aged 25-64 are in this group).
2. Year of reference differs from 2023. Refer to the OECD Data Explorer (http://data-explorer.oecd.org/s/4s) for more details.

Countries are ranked in descending order of the inactivity rates of 55-64 year-olds with below upper secondary attainment.
See the OECD Data Explorer (http://data-explorer.oecd.org/s/4s) for data and under Chapter A3 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Governments and policy makers across the OECD have taken steps to promote employment among older adults. For example, the United Kingdom has launched the "returnership", targeting adults over the age of 50 who are returning to work or seeking a career change (Government, UK, 2023[20]).

Inactivity rates among older age adults have fallen across OECD countries in recent years. Between 2016 and 2023, the inactivity rates among 55-64 year-olds have decreased by an average of about 5 percentage points across OECD countries with comparable data, regardless of educational attainment. Czechia, Hungary and Slovenia have seen the most substantial falls in the inactivity rates among 55-64 year-olds with below upper secondary attainment, with drops of at least 15 percentage points (OECD, 2024[3]).

Definitions

Age Groups: Adults refer to 25-64 year-olds. **Younger adults** refer to 25-34 year-olds. **Older adults** refer to 55-64 year-olds.

Country of birth: Native-born individuals are those who were born in the country where they answered the survey, and **foreign-born individuals** are those who were born outside the country where they answered the survey.

Educational attainment refers to the highest level of education successfully completed by an individual. See the *Reader's Guide* at the beginning of this publication for a presentation of all ISCED 2011 levels.

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.

Workers in **part-time employment** refer to those whose usual hours of work in their main job are less than those of comparable full-time workers. The usual hours worked in the main job are based on national definitions. Workers in **involuntary part-time employment** refer to those working part-time who wish to work additional hours (but not necessarily full time). For more details on national definition, refer to *Education at a Glance 2024 Sources, Methodologies and Technical Notes (*https://doi.org/10.1787/e7d20315-en*)*.

Employees in **temporary employment** refer to wage and salary workers/employees whose main job has limited duration contract.

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 Chapter 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 2024 Sources, Methodologies and Technical Notes (*https://doi.org/10.1787/e7d20315-en *).*

Source

For information on sources, see Chapter A1.

Data on subnational regions for selected indicators are available in the *OECD Education and Skills-Subnational education and indicators* (OECD, 2024[13]).

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Chapter A3 Tables

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

Table A3.1	Employment rates of 25–64-year-olds, by educational attainment (2023)
Table A3.2	Trends in employment rates of 25–34-year-olds, by educational attainment and gender (2016 and 2023)
Table A3.3	Unemployment and inactivity rates of 25–34-year-olds, by educational attainment and gender (2023)
Table A3.4	Employment rates of native- and foreign-born adults, by age at arrival in the country, educational attainment and gender (2023)
WEB Table A3.5	*Part-time employment and involuntary part-time employment, by educational attainment and gender (2022)*
WEB Table A3.6	*Temporary employment, by educational attainment and gender (2022)*

StatLink https://stat.link/ijfh6t

Cut-off date for the data: 14 June 2024. Any updates on data can be found on line at. Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

Table A3.1. Employment rates of 25-64 year-olds, by educational attainment (2023)

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

		Upper secondary or post-secondary non-tertiary			Tertiary					
	Below upper secondary	Upper secondary	Post-secondary non-tertiary	Total	Short-cycle tertiary	Bachelor's or equivalent	Master's or equivalent	Doctoral or equivalent	Total	All levels of education
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	62	80	85	81	84	88	90	94	87	81
Austria	55	77	83	78	87	82	88	95	87	78
Belgium	48	73	89	73	85	87	90	91	88	75
Canada	58	73	82	76	82	85	87 d	x(7)	84	80
Chile[1]	61	71	a	71	80	88	93	95	86	73
Colombia	65	70 d	x(2)	70	x(6)	80 d	x(6)	x(6)	80	71
Costa Rica	61	68	c	68	72	83	87	c	80	67
Czechia	61	86 d	x(2)	86	89	84	89	95	88	85
Denmark	62	82	96	82	86	87	91	95	89	81
Estonia	69	82	81	81	85	91	90	96	90	84
Finland	57	77	94	78	83	88	91	c	89	80
France	55	74	69	74	85	85	89	93	87	76
Germany	66	82	87	83	89	88	89	92	89	82
Greece	58	66	73	68	55	78	87	95	80	70
Hungary	61	84	91	84	91	90	94	95	92	84
Iceland	77	86	91	86	87	88	94	97	91	86
Ireland	55	75	80	77	85	87	90	91	88	81
Israel	55	74	a	74	86	89	91	92	89	79
Italy	54	73	78	73	73	79	86	92	84	69
Japan[2]	m	82 d	x(5)	m	84 d	90 d	x(6)	x(6)	87 d	85
Korea	62	72	a	72	78	80	86 d	x(7)	80	76
Latvia	65	75	77	75	85	88	88	93	88	79
Lithuania	57	73	76	75	a	89	91	96	90	80
Luxembourg	64	72	79	73	83	83	89	90	87	78
Mexico	66	72	a	72	75	81	87	86	82	71
Netherlands	69	84	93	85	88	88	92	96	90	84
New Zealand	72	83	88	84	89	90	91	93	90	85
Norway	61	82	95	82	84	90	92	93	89	82
Poland	50	75	77	75	71 r	89	92	96	91	80
Portugal	72	85	88	85	89	88	92	97	91	81
Slovak Republic	36	81	80	81	c	84	92	95	91	81
Slovenia	54	78	a	78	89	91	95	c	93	80
Spain	61	73	68	73	82	82	86	91	84	73
Sweden	66	84	83	84	84	91	93	95	91	85
Switzerland	68	84 d	x(2)	84	x(6,7,8)	89	90	93	90	84
Türkiye	52	62	a	62	66	76	85	91	74	60
United Kingdom[3]	62	80	a	79	81	87	88	91	87	80
United States	58	70 d	x(2)	70	78	83	86	91	83	76
OECD average	60	77	83	77	82	86	90	93	87	79
Partner and/or accession countries										
Argentina	70	77	a	77	x(6)	88 d	x(6)	m	88	77
Brazil	59	x(4)	x(4)	74	x(6)	85 d	88	93	86	71
Bulgaria	51	81	83	81	a	88	92	93	91	79
China	m	m	m	m	m	m	m	m	m	m
Croatia	39	73	a	73	80	84	92	m	89	74
India	67	67	79	68	x(6)	65 d	x(6)	m	65	67
Indonesia[1]	75	73	a	73	75	82	90	95	81	75
Peru	80	81	a	81	78	82	93 d	x(7)	82	81
Romania	48	75	85	76	x(9)	x(9)	x(9)	x(9)	91	72
Saudi Arabia	m	m	m	m	m	m	m	m	m	m
South Africa	40	54	70	56	58	80	86 d	x(7)	78	50
EU25 average	57	78	82	78	83	86	90	94	89	79
G20 average	60	73	m	73	m	83	m	m	83	74

Note: See under Chapter A3 Tables for StatLink and Box A3.6 for the notes related to this Table.
Source: OECD (2024). See *Source* section for more information and Education at a Glance 2024 Sources Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Table A3.2. Trends in employment rates of 25-34 year-olds, by educational attainment and gender (2016 and 2023)

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

	Below upper secondary				Upper secondary or post-secondary non-tertiary				Tertiary			
	2016		2023		2016		2023		2016		2023	
	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)
Australia	70	39	74	53	87	69	91	75	92	79	92	87
Austria	65	52	62	54	87	81	87	82	89	87	90	87
Belgium	62	40	62	39	83	70	82	71	88	86	90	88
Canada	67	41	70	41	81	68	83	71	88	83	89	86
Chile[1,2]	79	43	77	46	80	57	79	56	89	83	91	81
Colombia	90	49	85	43	88	61	84	56	87	76	89	76
Costa Rica	86	41	84	43	91	58	84	52	88	76	83	75
Czechia	62	35	75	44	93	66	96	64	92	68	94	66
Denmark	68	44	64	43	84	70	84	71	85	79	89	86
Estonia	74	50	80	71	89	63	88	75	94	72	95	85
Finland	61	33	53	39	80	67	79	73	88	77	90	87
France	63	33	64	41	81	65	84	71	89	83	90	86
Germany	66	43	74	49	86	78	89	82	90	84	92	86
Greece	63	33	72	30	68	47	75	53	73	61	76	77
Hungary	69	40	74	47	90	68	90	81	94	75	95	92
Iceland	89	62	86	68	87	75	87	78	96	86	91	88
Ireland	51	36	55	29	77	60	83	68	85	83	92	88
Israel	67	33	66	41	75	64	71	67	89	85	90	88
Italy	64	34	72	36	72	53	79	57	68	62	75	73
Japan[3]	m	m	m	m	x(13)	x(14)	x(16)	x(17)	93[d]	78[d]	93[d]	86[d]
Korea	68	52	67	44	73	55	72	63	83	68	83	76
Latvia	76	51	72	53	82	67	83	67	91	85	91	85
Lithuania	64	39	60	41	81	68	85	68	95	92	94	89
Luxembourg	80	63	85	72[r]	85	74	88	83	91	88	89	89
Mexico	92	43	91	47	89	53	90	58	87	74	89	78
Netherlands	79	54	78	56	89	77	90	81	92	88	93	91
New Zealand	77	55	75	57	91	67	91	72	91	82	94	90
Norway	65	52	73	61	86	76	89	81	86	87	91	89
Poland	57	26	68	33	87	61	92	70	93	84	96	89
Portugal	76	71	79	61	78	77	87	83	83	82	87	89
Slovak Republic	48	26	53	17	89	63	88	74	88	70	91	83
Slovenia	66	41	67	43	85	73	93	80	84	80	94	85
Spain	67	49	71	51	73	63	74	67	78	75	85	81
Sweden	74	55	72	53	87	80	84	79	87	86	91	87
Switzerland	77	59	74	52	89	82	89	85	91	86	94	90
Türkiye	84	26	82	25	86	35	85	37	85	62	87	62
United Kingdom[4]	78	47	67	56	89	73	89	75	92	83	94	88
United States	75	41	73	42	77	63	80	67	89	80	89	84
OECD average	71	44	72	47	84	66	85	70	88	79	90	84
OECD average for countries with available data and comparable data for both years	71	45	72	47	84	66	85	70	88	79	90	84
Partner and/or accession countries												
Argentina[1]	86	41	88	52	86	58	85	65	94	85	95	88
Brazil	80	45	80	44	84	64	87	64	90	82	92	85
Bulgaria	46	26	63	31	80	64	85	71	86	80	92	88
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	41	c	c	c	76	65	84	69	82	76	89	83
India	m	m	95	39	m	m	93	28	m	m	83	30
Indonesia[2]	90	45	90	48	90	50	90	48	90	79	91	74
Peru	92	65	86	66	94	67	92	65	86	74	86	73
Romania[1]	74[b]	46[b]	65	30	84[b]	67[b]	90	66	90[b]	85[b]	93	86
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
South Africa	53	32	43	27	63	48	54	43	76	70	72	64
EU25 average	65	43	68	44	83	68	86	72	87	79	90	85
G20 average	m	m	75	43	m	m	83	60	m	m	88	77

Note: See under Chapter A3 Tables for StatLink and Box A3.6 for the notes related to this Table.
Source: OECD (2024). See *Source* section for more information and Education at a Glance 2024 Sources Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Table A3.3. Unemployment and inactivity rates of 25-34 year-olds, by educational attainment and gender (2023)

Unemployment rates measured as a percentage of 25-34 year-olds in the labour force; inactivity rates as a percentage of all 25-34 year-olds

	Unemployment rate						Inactivity rate					
	Below upper secondary		Upper secondary or post-secondary non-tertiary		Tertiary		Below upper secondary		Upper secondary or post-secondary non-tertiary		Tertiary	
	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)
Australia	7.6	14.1	3.1	3.9	2.5	2.2	19	38	6	22	6	11
Austria	16.1	16.0	6.1	4.7	3.8	4.2	26	35	7	14	6	10
Belgium	19.0	18.1	8.7	8.7	4.3	3.3	24	53	10	22	6	9
Canada	8.7	16.7	7.4	7.7	4.8	4.6	23	51	10	23	7	10
Chile[1]	9.7	15.4	8.9	13.0	5.8	7.0	15	45	13	35	4	12
Colombia	7.4	16.3	9.1	16.8	8.9	12.7	8	49	7	33	3	13
Costa Rica	10.3	16.2	9.8	16.6	7.5	8.0	7	49	7	37	10	18
Czechia	11.8	18.2	1.8	4.9	1.2	2.3	14	46	2	33	5	33
Denmark	9.2	16.6	4.6	7.3	6.5	6.1	30	48	12	23	4	8
Estonia	6.5	14.5	6.8	9.5	2.4	5.0	14	17	5	17	2	11
Finland	19.2	c	8.9	8.0	4.4	3.5	35	55	13	21	6	10
France	18.4	21.5	9.0	10.6	5.8	6.3	22	48	8	20	5	8
Germany	8.8	8.5	3.1	2.7	2.5	3.3	19	46	8	16	5	12
Greece	18.6	37.3	13.1	27.1	14.5	13.0	12	52	14	28	11	12
Hungary	12.3	18.3	3.8	4.6	2.0	1.8	15	42	6	15	3	7
Iceland	6.1	6.4	3.9	5.2	2.4	2.5	8	28	9	17	6	10
Ireland	16.2	12.8	8.2	5.4	3.7	3.4	34	67	10	28	4	9
Israel	6.3	5.4	5.0	4.3	3.0	3.8	29	56	25	30	8	8
Italy	14.2	21.8	8.4	12.8	7.5	7.2	16	54	14	35	19	21
Japan[2]	m	m	x(7)	x(8)	3.1[d]	2.9[d]	m	m	x(16)	x(17)	4[d]	12[d]
Korea	5.5	3.7	4.6	3.7	4.7	4.1	29	54	25	35	13	21
Latvia	16.0	14.0	10.5	6.6	2.9	5.2	14	39	7	28	6	11
Lithuania	19.2	24.7	7.2	12.5	3.4	3.7	25	45	8	22	2	8
Luxembourg	c	c	c	c	c	c	c	c	c	c	c	c
Mexico	2.7	3.3	3.4	3.3	4.7	4.1	6	52	7	40	6	19
Netherlands	6.1	7.0	3.4	3.1	2.7	3.3	17	40	6	16	4	6
New Zealand	7.5	8.1	2.9	5.4	2.1	1.8	19	38	7	24	4	9
Norway	7.5	6.9	2.4	3.3	3.6	2.6	21	34	9	16	6	8
Poland	c	c	2.7	6.0	1.7	2.2	28	63	6	26	3	9
Portugal	10.2	18.7	7.0	9.1	6.4	5.0	12	25	7	9	7	6
Slovak Republic	29.8	49.0[r]	6.7	7.9	c	3.9	24	66	5	20	7	14
Slovenia	14.3	25.0	2.9	5.7	2.9	4.1	22	43	4	15	3	11
Spain	18.7	28.4	14.8	17.3	7.9	10.2	12	29	13	19	8	10
Sweden	16.5	28.2	5.9	6.4	3.3	5.1	13	26	11	15	6	8
Switzerland	8.9	13.8	4.0	4.5	2.4	3.6	19	39	7	11	4	7
Türkiye	10.1	14.5	8.4	19.5	8.0	15.0	8	71	7	54	6	27
United Kingdom[3]	6.3	6.0	3.3	5.1	2.8	3.0	28	41	8	21	4	9
United States	8.0	10.8	6.0	5.2	3.2	2.7	21	53	14	29	8	14
OECD average	11.8	16.4	6.3	8.3	4.4	4.9	19	45	9	24	6	12
Partner and/or accession countries												
Argentina	6.5	10.3	6.4	8.2	2.8	5.1	6	42	9	29	3	8
Brazil	7.3	16.6	6.5	10.7	3.5	5.6	14	48	7	28	4	10
Bulgaria	11.4	20.7	5.8	6.0	3.2	2.2	29	61	10	25	5	10
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	c	m	7.1	10.3	c	7.6	c	86[r]	10	23	c	11
India	2.2	1.7	4.6	7.3	11.8	21.8	3	61	3	70	6	62
Indonesia[1]	3.0	1.9	4.2	3.7	5.0	4.2	7	51	6	50	4	23
Peru	c	3.9	2.6	5.3	5.3	8.6	12	31	5	31	10	20
Romania	18.2	14.0	4.0	6.4	c	c	20	65	6	30	5	12
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
South Africa	41.6	54.0	34.5	41.9	18.9	23.9	27	42	17	26	11	15
EU25 average	15.0	20.6	6.7	8.5	4.4	4.9	21	48	8	22	6	11
G20 average	10.0	13.7	7.5	9.7	5.7	7.2	17	50	10	33	7	18

Note: See under Chapter A3 Tables for StatLink and Box A3.6 for the notes related to this Table.

Source: OECD (2024). See *Source* section for more information and Education at a Glance 2024 Sources Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Table A3.4. Employment rates of native- and foreign-born adults, by age at arrival in the country, educational attainment and gender (2023)

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

	Below upper secondary					Upper secondary or post-secondary non-tertiary					Tertiary				
		Foreign-born					Foreign-born					Foreign-born			
	Native-born	Arrived in the country by the age of 15	Arrived in the country at 16 or older	Total	Total	Native-born	Arrived in the country by the age of 15	Arrived in the country at 16 or older	Total	Total	Native-born	Arrived in the country by the age of 15	Arrived in the country at 16 or older	Total	Total
OECD countries	(3)	(6)	(9)	(12)	(15)	(18)	(21)	(24)	(27)	(30)	(33)	(36)	(39)	(42)	(45)
Australia	64	57	56	56	62	81	79	79	79	80	87	87	84	85	86
Austria	54	57	57	57	55	78	81	74	76	78	90	87	78	79	87
Belgium	48	34	50	48	48	75	61	67	66	73	90	86	80	81	88
Canada	58	66	59	59	58	76	76	74	74	76	85	85	83	82	84
Chile[1]	59	74	74	74	61	69	68	81	80	71	85	90	88	88	86
Colombia	65	x(12)	x(12)	71	65	70	x(27)	x(27)	76	70	81	x(42)	x(42)	78	80
Costa Rica	60	x(12)	x(12)	67	61	67	x(27)	x(27)	73	68	81	x(42)	x(42)	76	80
Czechia	80	84	79	82	81	87	80	87	83	87	88	84	93	87	88
Denmark	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Estonia	70	50	c	46	69	82	76	74	75	81	92	87	79	81	90
Finland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
France	55	51	55	54	55	75	65	65	65	74	88	82	75	77	87
Germany	69	64	63	63	66	84	84	76	78	83	92	90	75	78	89
Greece	57	58	63	62	58	68	66	60	62	68	81	89	64	73	80
Hungary	61	c	83	82	61	85	89	82	82	84	92	97	87	89	92
Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Ireland[1]	51	49	48	48	51	72	63	71	70	72	87	84	80	80	85
Israel	52	62	77	75	58	74	81	80	80	75	89	90	85	87	88
Italy	52	61	63	63	54	74	75	68	70	73	86	80	69	71	84
Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Korea	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Latvia	66	52	57[r]	53	65	76	70	70	70	75	89	80	74	76	88
Lithuania	57	c	43	50	56	75	69	70	70	74	90	73	83	80	90
Luxembourg	52	61	71	69	64	72	81	73	74	73	87	77	87	86	87
Mexico	66	x(12)	x(12)	66	66	72	x(27)	x(27)	63	72	82	x(42)	x(42)	75	82
Netherlands	68	59	60	60	66	84	78	72	74	82	91	88	77	79	89
New Zealand	72	70	71	70	72	84	84	85	85	84	91	92	89	89	90
Norway	63	62	56	57	61	83	84	75	76	82	91	95	80	82	89
Poland	50	x(12)	x(12)	c	50	75	x(27)	x(27)	81	75	92	x(42)	x(42)	83	91
Portugal	71	76	73	75	72	86	85	79	81	85	92	92	79	84	91
Slovak Republic	36	c	c	c	36	81	75	79	77	81	91	89	c	89	91
Slovenia	53	c	c	58	54	77	c	c	85	79	91	c	c	88	91
Spain	61	65	63	63	61	74	74	70	71	73	85	81	75	76	84
Sweden	73	72	60	61	66	85	83	75	78	84	92	94	83	85	91
Switzerland	63	68	69	69	68	85	82	80	81	84	92	90	85	85	90
Türkiye	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
United Kingdom[2]	62	58	61	61	62	79	74	81	79	79	87	87	85	85	87
United States	46	67	68	68	58	70	78	72	73	70	83	87	80	81	83
OECD average	60	62	63	63	61	77	76	75	75	77	88	87	81	82	87
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	51	x(12)	x(12)	c	51	81	x(27)	x(27)	69[r]	81	91	x(42)	x(42)	75	91
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	46	x(12)	x(12)	c	46	74	x(27)	x(27)	69	74	91	x(42)	x(42)	87[r]	91
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	58	59	62	61	58	78	75	73	74	78	89	86	79	81	88
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter A3 Tables for StatLink and Box A3.6 for the notes related to this Table.
Source: OECD (2024). See *Source* section for more information and Education at a Glance 2024 Sources Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Box A3.6. Notes for Chapter A3 Tables

Table A3.1. Employment rates of 25–64-year-olds, by educational attainment (2023)

Note: In most countries data refer to ISCED 2011. For Argentina and India data refer to ISCED-97. See Definitions and Methodology sections for more information.

1. Year of reference differs from 2023: 2022 for Chile and Indonesia.

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 (11% of adults aged 25-64 are in this group).

Table A3.2. Trends in employment rates of 25–34-year-olds, by educational attainment and gender (2016 and 2023)

Note: In most countries data refer to ISCED 2011. For Argentina and India data refer to ISCED-97. See Definitions and Methodology sections for more information. Columns showing the total for both men and women are available for consultation on line.

1. Year of reference differs from 2016: 2015 for Chile and Romania; and 2014 for Argentina.

2. Year of reference differs from 2023: 2022 for Chile and Indonesia.

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

4. Data for upper secondary attainment include completion of a sufficient volume and standard of programmes that would be classified individually as completion of intermediate upper secondary programmes (11% of adults aged 25-64 are in this group).

Table A3.3. Unemployment and inactivity rates of 25–34-year-olds, by educational attainment and gender (2023)

Note: In most countries data refer to ISCED 2011. For Argentina and India data refer to ISCED-97. See Definitions and Methodology sections for more information. Columns showing the total for both men and women are available for consultation on line.

1. Year of reference differs from 2023: 2022 for Chile and Indonesia.

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 (11% of adults aged 25-64 are in this group).

Table A3.4. Employment rates of native- and foreign-born adults, by age at arrival in the country, educational attainment and gender (2023)

Note: See Definitions and Methodology sections for more information. Columns showing the breakdown by gender are available for consultation on line.

1. Year of reference differs from 2023: 2022 for Chile; and 2017 for Ireland.

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).

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

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

Chapter A4. What are the earnings advantages to education?

Highlights

- In OECD countries, workers who have not attained upper secondary education earn, on average, 18% less than those who have attained this level of education. Meanwhile, workers with a tertiary education earn, on average, 56% more than those with only an upper secondary education.
- Between 2013 and 2022, the gender pay gap for women has generally narrowed across OECD countries. However, the amount of improvement varies by country and educational attainment level. In most countries, the gender pay gap narrowed the most for those without upper secondary education.
- Earnings disparities based on educational attainment tend to increase with age. On average across OECD countries, 25-34 year-olds with tertiary attainment earn 39% more than those with upper secondary education, with the difference rising to 68% among 45-54 year-olds.

Context

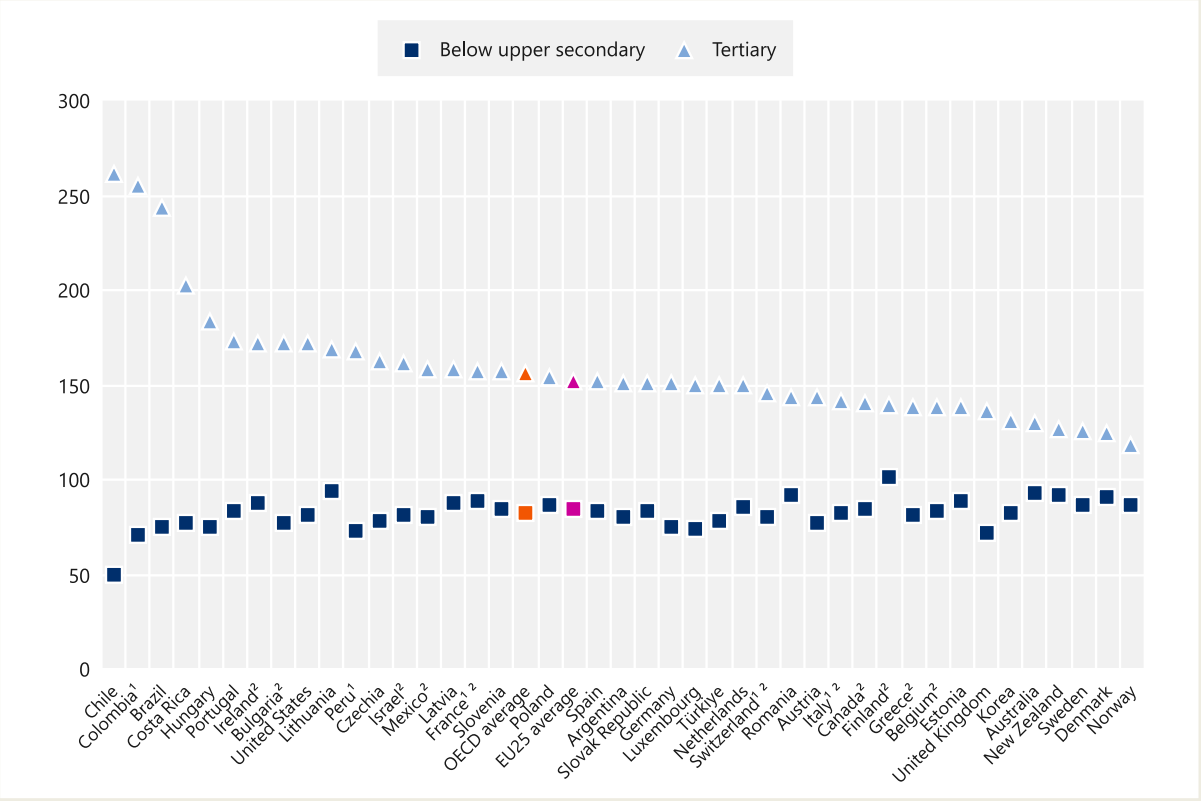
Higher education levels typically lead to better job opportunities (see Chapter A3) and higher earnings. Along with other social benefits, the prospect of earning more and seeing those earnings grow over time encourages individuals to seek education and training.

The earnings advantage from higher educational attainment can vary based on age, gender, programme type and field of study. The intensity of the participation in the labour market, such as the number of hours worked, also affects earnings: part-time workers generally earn less both overall and in their hourly rates. Similarly, workers with more labour-market experience tend to have higher incomes. Gender wage gaps persist globally, regardless of age, education level or programme type.

Additional factors influencing earnings and their distribution include labour-market demand for skills, the supply of workers and skills, minimum wage laws, and labour-market regulations. Country-specific factors such as the strength of labour unions, the extent of collective bargaining agreements and the quality of working environments also play a significant role. Additionally, the presence of foreign-born workers can impact earnings distribution, as they may face different labour-market conditions to native-born workers, including potential barriers to employment, wage disparities and varying levels of skill recognition. The integration policies and support systems available to foreign-born workers also influence their economic outcomes and, consequently, a country's overall earnings distribution.

Figure A4.1. Relative earnings of workers compared to those with upper secondary attainment, by educational attainment (2022)

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

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

3. Earnings net of income tax for the Republic of Türkiye and a combination of gross (self-employed) and net (employees) earnings for Argentina.

Countries are ranked in descending order of the relative earnings of 25-64 year-olds who attained tertiary education.

See Table A4.1 for data and under Chapter A4 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Other findings

- 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 25-34 year-old workers, women earn between 83 and 85% of men's earnings, depending on the level of educational attainment; while 45-54 year-old women earn between 76 and 79% of men's earnings.
- The internal rate of return on tertiary education averages 15% for men across OECD countries and 18% for women. The highest internal rate of return is observed in Ireland with 26% for men and 41% for women.
- Emergency savings are an important protection from financial hardships in case of unexpected expenses or shortfalls in income. Even when comparing only households with similar incomes,

individuals with lower educational attainment are much more likely to lack basic emergency savings than individuals with higher educational attainment.

- Higher educational qualifications are generally associated with a smaller earnings gap between foreign-born and native-born workers, although significant variations exist. In countries like Latvia and the United States, foreign-born adults with tertiary education earn slightly more than native-born adults, on average. However, in Austria and Spain, tertiary-educated foreign-born workers earn substantially less, potentially indicating barriers to economic opportunities despite high education levels.
- On average, across OECD countries, adults with a short-cycle tertiary degree earn 20% more than those with only an upper secondary education. This earnings advantage increases to 42% for individuals with a bachelor's or equivalent degree and to 90% for those who have attained a master's, doctoral or equivalent degree.

Note

The analysis presents three types of relative earnings: 1) using the earnings of workers with upper secondary education as the baseline, 2) using male workers' earnings as the baseline, and 3) using native-born adults' earnings as the baseline. In all cases, given the focus on relative earnings, any increase or decrease in the results could reflect a change in the interest group (numerator) or in the baseline group (denominator). Readers are advised to consider actual earnings in Tables X3.A4.4 and X3.A4.5 from *Education at a Glance 2024 Sources, Methodologies and Technical Notes* when interpreting relative earnings (https://doi.org/10.1787/e7d20315-en).

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 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en) for more information on the survey methods. Data on relative earnings for all workers (full- and part-time) are available for consultation on line (http://data-explorer.oecd.org/s/4s).

Analysis

Relative earnings compared to workers with upper secondary attainment

Higher levels of educational attainment in general lead to higher earnings. The foundational skills, knowledge and competencies provided by upper secondary education are essential in the labour market and ensure that individuals have achieved a minimum level of literacy and numeracy, which are fundamental for most jobs. Without these basic skills, individuals are often limited to low-paying jobs.

Tertiary education is key in achieving upward economic and social mobility, enabling individuals to improve their socio-economic status through higher earnings. The in-depth knowledge and specialised skills provided by tertiary programmes make individuals more competitive in the job market. A tertiary degree also opens up a wider range of job opportunities, including those in professional and managerial roles, which typically offer higher salaries. Universities and colleges also provide opportunities for students to network with their peers, professors and industry professionals, which can lead to better job prospects and higher earnings.

In OECD countries, 25-64 year-old full-time full-year workers without upper secondary education earn on average 18% less than their peers who have attained upper secondary education. The difference is over 50% in Chile and only 7% in Australia and Lithuania, while in Finland, the earnings of workers with and without upper secondary attainment are similar (Table A4.1 and Figure A4.1).

The average earnings of tertiary-educated full-time full-year workers are substantially higher than those of workers with only upper secondary attainment. The earnings premium for completing a tertiary degree is 56% on average across OECD countries. Country differences are also greater for this measure. The earnings advantage for tertiary-educated workers is 25% or less in Denmark, Norway and Sweden, but over 100% in Chile, Colombia and Costa Rica (Figure A4.1).

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 20% more than those with upper secondary attainment. The average earnings advantage is 42% for those with a bachelor's or equivalent degree and increases to 90% for those with a master's or doctoral or equivalent degree (Table A4.1).

Earnings differences by educational attainment tend to widen among older workers. On average across OECD countries, 25-34 year-olds without upper secondary education earn 15% less than their peers with upper secondary attainment while 45-54 year-olds earn 20% less. Among tertiary-educated adults, 25-34 year-olds earn 39% more than those with upper secondary attainment and the average earnings advantage reaches 68% among 45-54 year-olds (Table A4.1).

Gender disparities in earnings, by educational attainment and age group, and over time

Although increasing educational attainment narrows gender differences in employment rates (see Chapter A3), the gender gap in earnings does not vary much across educational attainment levels. On average across OECD countries, tertiary-educated women working full-time and for the full year earn 77% of the earnings of their male peers, compared to 81% among those with upper secondary or post-secondary non-tertiary attainment and 79% 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[1]).

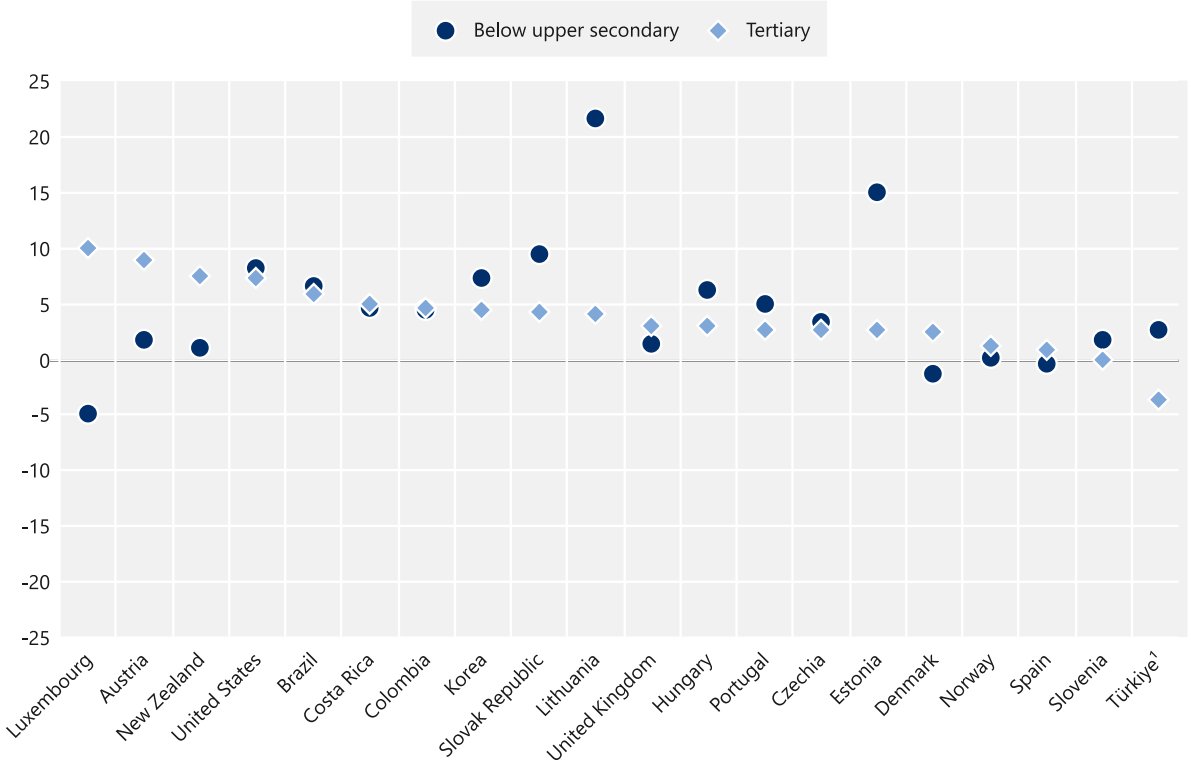
For all education levels, the gender gap widens with age up until age 54. Among full-time full-year 25-34 year-old workers, women earn between 83 and 85% of men's earnings, depending on the level of educational attainment; while 45-54 year-old women earn between 76 and 79% of men's earnings. On average, the gender gap is at least 5 percentage points wider for 45-54 year-old women than for 25-34 year-old ones. However, this is not true for all countries and all educational attainment levels. For example, in Italy, the gender pay gap among tertiary-educated 45-54 year-olds is over 10 percentage points lower than among 25-34 year-olds with the same level of educational attainment. Moreover, the earnings gap between men and women narrows on average across OECD countries for 55-64 year-olds without tertiary education and does not widen for their tertiary-educated peers compared to the average for all age groups (Table A4.3).

There is no single explanation for why the gender pay gap persists. Despite women outpacing men in educational attainment (see Chapter A1), the gender pay gap reflects various complex factors including occupational segregation, biased hiring practices, and unequal opportunities for career advancement (World Economic Forum, 2023[2]). Women are less likely than men to be promoted or to get considerable wage increases when they change employers. Moreover, career breaks for women around the age of childbirth remain an important contributor to wage differences between men and women in many OECD countries (OECD, 2022[3]). Women are more likely to seek less competitive paths and greater flexibility at work in order to deal with their family commitments. This leads to lower earnings than men with the same educational attainment and, while there have been improvements in gender pay equality, significant disparities still exist globally, with women often earning less than men for similar work due to ongoing discrimination and structural biases (International Labour Organization, 2022[4]).

Many countries have introduced national policies to reduce disparities in earnings between men and women, including concrete measures such as pay transparency (OECD, 2017[5]). Figure A4.2 highlights the general improvement in the gender pay gap for women between 2013 and 2022. However, the extent to which the gender gap has changed varies across countries and educational attainment levels. In the majority of countries, the gender pay gap has narrowed more for adults without an upper secondary qualification. Notably, in Estonia and Lithuania the gender pay gap for adults with below upper secondary attainment has fallen by at least 15 percentage points between 2013 and 2022. In contrast, Denmark and Luxembourg are exceptions where the gender pay gap among adults with below upper secondary attainment has widened over the period, by 1 and 5 percentage points respectively. Among tertiary-educated adults, the gender pay gap improved by no more than 10 percentage points in all countries with available and comparable data. It should be noted that the analysis focuses solely on adults working full-time full-year for better comparability. The findings cannot be generalised to the whole working population, where women are more likely than men to work part time.

Figure A4.2. Change in women's earnings relative to men's earnings between 2013 and 2022

Full-time full-year workers aged 25-64 years; in percentage points



How to read this figure: In Luxembourg, the gender gap was narrower in 2022 than in 2013 for 25-64 year-old women with tertiary education and wider for women with below upper secondary education. In this period, tertiary-educated women's relative earnings increased by 10 percentage points from 76% of men's earnings in 2013 to 86% in 2022. By contrast, the relative earnings of women with below upper secondary education decreased by 5 percentage points from 83% of men's earnings in 2013 to 78% in 2022.

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

1. Earnings net of income tax.

Countries are ranked in descending order of the percentage-point change in tertiary-educated women's relative earnings between 2022 and 2013.

See Table A4.3 and the OECD Data Explorer (http://data-explorer.oecd.org/s/4s) for data and under Chapter A4 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Investing in education significantly impacts earning potentials and employment outcomes (see Chapter A3), particularly highlighting disparities between genders. This is a crucial consideration amidst ongoing efforts to address the gender pay gap, which persists due to multifaceted factors. Despite improvements in gender pay equality in some countries, substantial disparities remain overall. Understanding these dynamics is pivotal as countries implement policies aimed at reducing earnings disparities. Box A4.1 explores the financial implications of investing in education and highlights how the decision to attain tertiary education affects individuals' economic outcomes.

Box A4.1. Financial returns to education

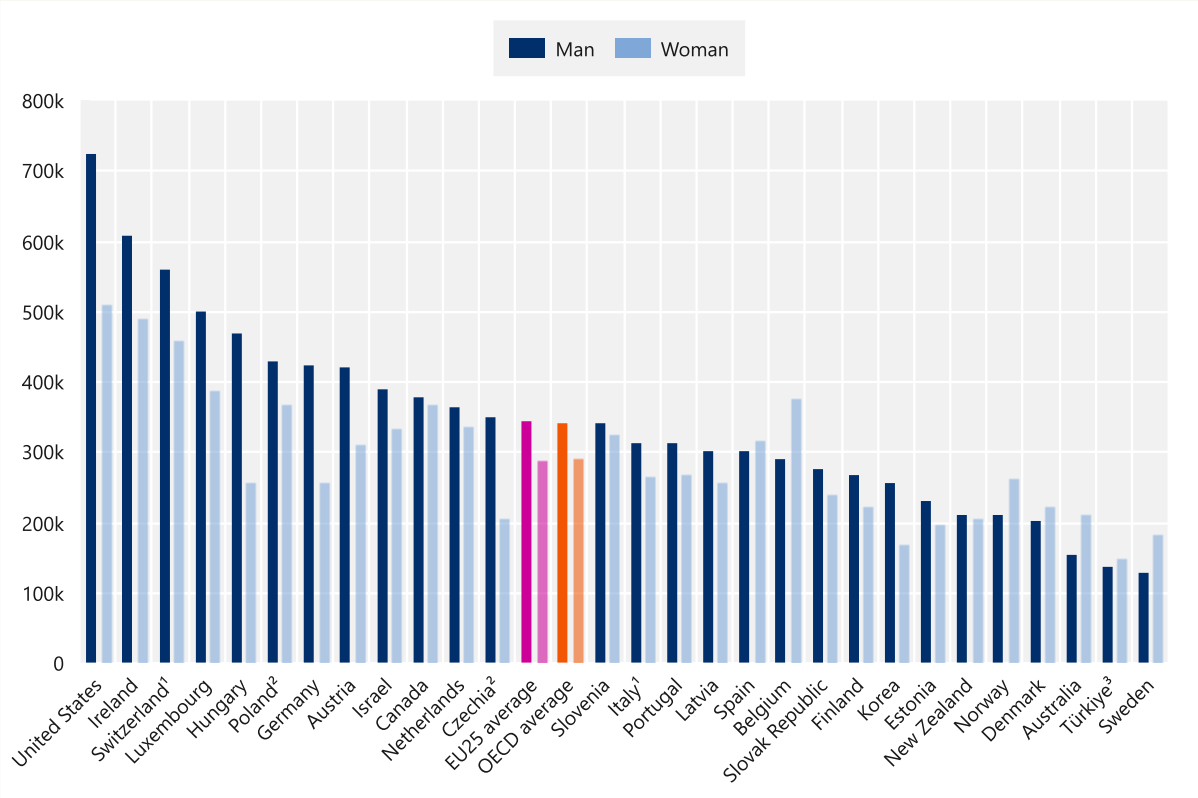
Investing time and money in education is an investment in human capital. Better employment prospects (see Chapter A3) and higher earnings are strong incentives for adults to pursue education and postpone employment.

This box provides information on the incentives for an individual to invest in education by considering three measures: private net financial returns, internal rates of return and the benefit-cost ratio. It examines the financial consequences for individuals from investing in tertiary education rather than entering the labour market with an upper secondary qualification. Specifically, benefits to tertiary education are the difference in tertiary-educated workers' estimated lifetime earnings from employment after paying income taxes and social contributions relative to those of individuals who enter the labour force at the typical age of upper secondary completion. This analysis also accounts for the costs of tertiary education as well as the forgone earnings while completing tertiary education (see *Definitions* section). It estimates the financial returns on investment in education only up to a theoretical retirement age of 64 and therefore does not take pensions into account (OECD, 2021[6]). Nor does it take into account either student loans or part-time or part-year employment, which may be an over simplification of some countries' reality. In order to account for the fact that money tomorrow is worth less than money today, this analysis computes the net present value (NPV) of estimated future financial flows. In the results presented below, future financial flows are "discounted" at 2%.

Adults completing a higher level of education benefit from positive financial returns over their working-age life. The gains that individuals can expect to receive over their career exceed the costs they bear during their studies. Investing in tertiary education pays off in the long run for both men and women. On average across the OECD, the private financial returns to tertiary education from a full-time full-year job are USD 343 000 for a man and USD 292 700 for a woman. The private net financial returns to tertiary education are higher for men than for women in most OECD countries: the only countries where women have higher private financial returns than men are Australia, Belgium, Denmark, Norway, Spain, Sweden and the Republic of Türkiye. (Figure A4.3). Despite these lower returns, young women are more likely than young men to complete tertiary education (see Chapter A1). This is partially related to the fact that the differences in earnings and employment between upper secondary and tertiary educational attainment are higher for women than they are for men.

Figure A4.3. Private net financial returns for a man or a woman attaining tertiary education (2021)

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



Note: Future costs and benefits are discounted at a rate of 2%.
1. Financial returns to tertiary education compared to upper secondary and post-secondary education combined.
2. Year of reference differs from 2021. Refer to the source table for more details.
3. Only net earnings are available and the calculations use these values as if they were gross earnings.
Countries are ranked in descending order of the private net financial returns of tertiary education for a man.
See Table A4.5 for data and under Chapter A4 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

The total costs and benefits of attaining tertiary education vary across countries, and there are considerable gender differences. Türkiye has the lowest total costs and benefits for both men and women, while Luxembourg and Switzerland have relatively high costs and benefits for both men and women. Note that figures have been adjusted for purchasing power parity (PPP) and therefore provide a comparable measure of the financial effort that individuals in different countries must make to finance their education, relative to their ordinary cost of living.

Calculating the financial returns of education implies the choice of a specific discount rate to find the current worth of future financial flows. The choice of the discount rate is challenging, and it makes a considerable difference when analysing the returns to long-term investments, as is the case with investment in education.

Table A4.a shows how the private financial returns for men and women attaining tertiary education change when three different discount rates are used. Changing from a discount rate of 2% (assumed in the analysis above) to a rate of 3.75% reduces the NPV by at least 32% in all countries with available data. If a discount

rate of 8% is used, the NPV falls by over 65% in all countries. These comparisons highlight the sensitivity of the NPV results to changes in the discount rate.

Another way to analyse returns to education is through the internal rate of return, which reflects the real interest rate that would equalise the costs and benefits, leading to the investment breaking even. It can be interpreted as the interest rate on the investment made on a higher level of education that an individual can expect to receive every year during their working-age life. It needs to be compared to the cost of money, which corresponds to the discount rate used in the net present value calculations (set to 2% in this analysis). The benefit-cost ratio reflects the financial incentive to invest in education as total benefits relative to total costs, expressed as the financial benefit of attaining an additional level of education for each USD invested in it. Depending on which measure is used, the relative incentives to invest in additional educational attainment differ between men and women. The internal rate of return on tertiary education averages 15% for men across OECD countries and 18% for women. The highest internal rate of return is observed in Ireland with 26% for men and 41% for women (Table A4.5).

Table A4.a. Net financial returns for a man and a woman attaining tertiary education, by discount rate (2021)

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

	Man			Woman		
OECD countries	2%	3.75%	8%	2%	3.75%	8%
Australia	155 200	62 600	- 31 200	212 000	110 200	- 700
Austria	423 000	235 900	47 700	311 900	188 100	55 100
Belgium	291 400	176 100	56 400	377 000	250 900	107 100
Canada	379 500	234 700	75 000	369 700	243 300	96 600
Czechia[1]	352 300	212 000	58 900	208 400	120 800	30 300
Denmark	204 400	99 600	- 11 700	224 900	132 600	25 800
Estonia	231 500	146 700	45 900	199 100	125 900	40 600
Finland	269 500	153 600	29 100	224 500	133 900	32 200
Germany	426 300	253 500	67 700	259 300	152 900	37 700
Hungary	470 700	305 500	118 500	258 000	165 700	60 300
Ireland	608 900	385 600	146 300	491 200	334 600	151 600
Israel	390 600	259 900	105 200	335 700	228 400	98 900
Italy[2]	315 200	184 900	49 800	266 500	166 200	58 500
Korea	258 700	162 800	56 500	171 300	112 500	42 200
Latvia	304 700	204 200	84 900	259 000	168 500	65 600
Luxembourg	502 000	294 300	79 100	389 600	242 500	81 500
Netherlands	366 100	202 900	32 900	338 900	196 100	41 100
New Zealand	212 400	115 500	12 600	206 200	114 800	16 500
Norway	212 200	96 800	- 18 700	265 000	154 000	33 300
Poland[1]	432 600	272 900	94 200	368 600	241 900	96 500
Portugal	314 000	190 100	61 000	268 600	168 600	60 600
Slovak Republic	279 100	165 500	41 000	240 400	150 000	50 800
Slovenia	343 000	205 300	61 800	326 600	202 700	70 400
Spain	303 700	187 600	63 000	316 900	197 600	68 900
Sweden	129 500	50 300	- 29 200	184 700	100 400	10 000
Switzerland[2]	563 100	336 900	91 400	458 400	277 700	77 200
Türkiye[3]	139 100	85 600	27 400	151 000	101 500	42 900
United States	726 100	460 500	167 100	511 400	334 100	129 000
OECD average	343 000	205 100	56 500	292 700	182 700	60 000
EU average	345 700	206 700	57 800	290 200	181 000	60 200

See under Chapter A4 Tables for StatLink and Box A4.3 for the notes related to this Table.
Source: OECD/ILO/UIS (2024). See *Source* section for more information and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

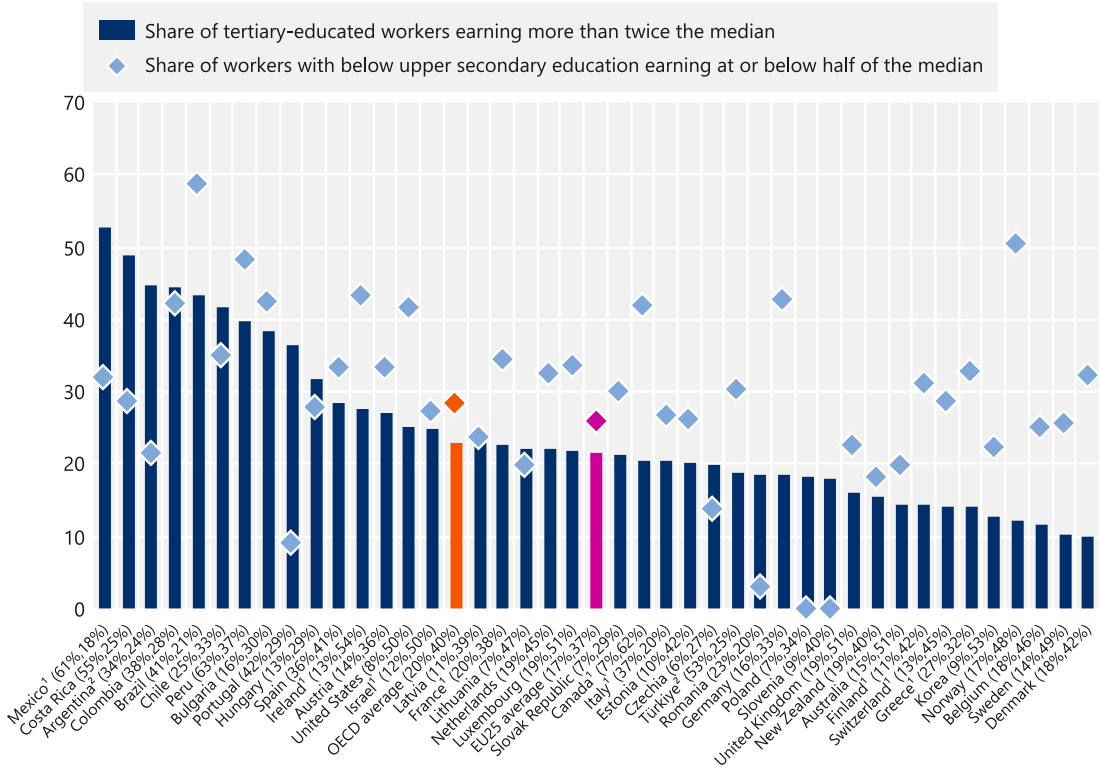
Distribution of earnings among workers, by educational attainment

A key indicator of education-related labour-market inequalities is the proportion of individuals at each attainment level who earn significantly more or less than the median. On average across OECD countries, 28% of workers with below upper secondary attainment earn at or below half the median, compared to 17% of workers with upper secondary or post-secondary non-tertiary and 10% of tertiary-educated workers. Conversely, just 26% of workers with below upper secondary attainment earn more than the median, while the share reaches 42% of those with upper secondary or post-secondary non-tertiary educational attainment and 69% among workers with a tertiary degree (Table A4.2).

The differences are even greater when looking at the share of workers earning more than twice the median. Across OECD countries, an average of 23% of tertiary-educated workers earn more than twice the median, compared to only 6% of those with upper secondary or post-secondary non-tertiary attainment and 3% of those with below upper secondary attainment (Table A4.2).

Figure A4.4. Share of workers earning significantly more or less than the median, by educational attainment (2022)

All 25-64 year-old earners with below upper secondary education or with a tertiary qualification, in per cent



Note: There are cross-country differences in the inclusion/exclusion of zero and negative earners. The percentages in parentheses represent the share of 25-64 year-olds with below upper secondary education and with tertiary education respectively. See Definitions and Methodology sections for more information.

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

2. Earnings net of income tax for Türkiye and a combination of gross (self-employed) and net (employees) earnings for Argentina.

Countries are ranked in descending order of the share of tertiary-educated 25-64 year-olds earning more than twice the median.

See Table A4.2 for data and under Chapter A4 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

It is important to consider these figures in light of the attainment levels within the overall population. Countries like Brazil, Costa Rica and Mexico have a relatively small proportion of tertiary-educated adults, but a high share of them earn more than twice the median income, suggesting that higher education in these countries is strongly associated with high earnings. Conversely, the same countries also have a large share of workers with lower educational attainment, and a large share of them earn at or below half the median, indicating significant income inequality based on education. On the other hand, countries like Australia, New Zealand, Poland, Romania and Slovenia, show a lower proportion of both tertiary-educated high earners and lower-educated low earners, below 20% in both cases. This suggests these countries have a more equitable income distribution, with the economic benefits of education more evenly spread across the population (Figure A4.4).

The financial benefits associated with greater educational attainment go beyond income from work. Box A4.2 shows a positive correlation between educational attainment and financial security.

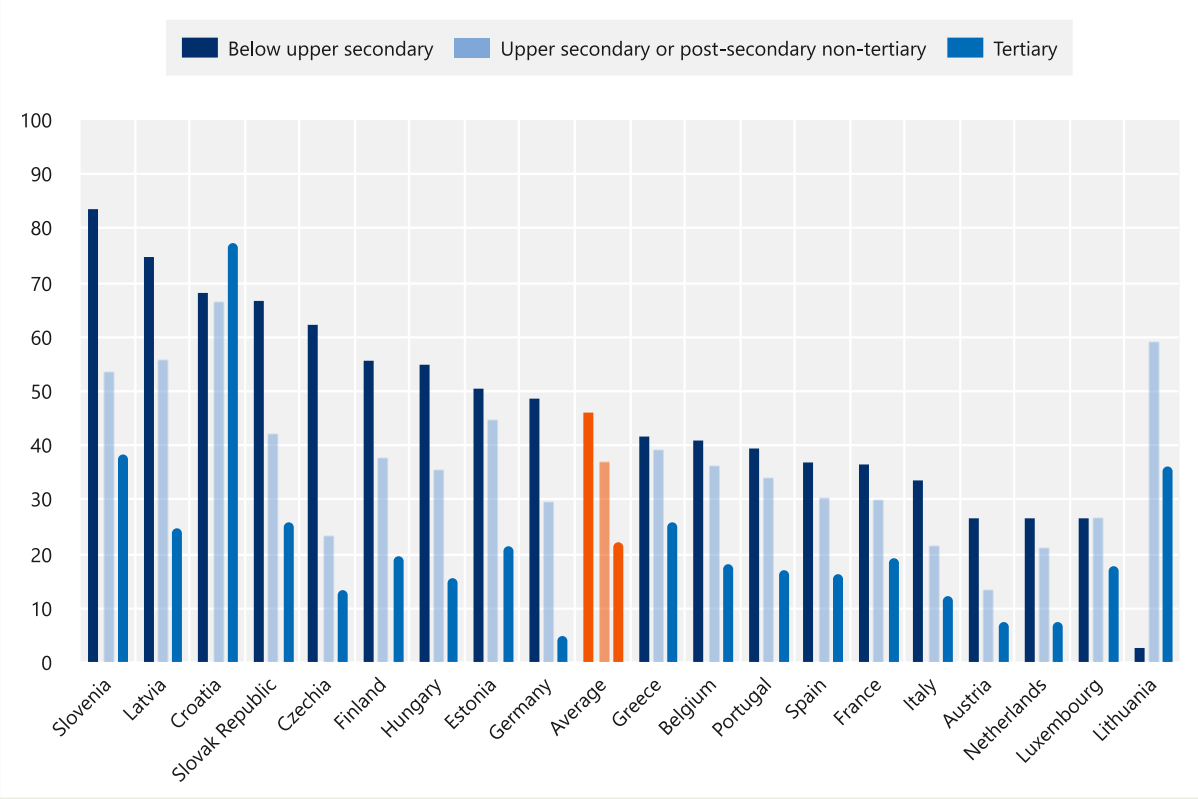
Box A4.2. Educational attainment and emergency savings

Liquid financial assets are important for preventing financial hardship in the event of unexpected emergencies. Figure A4.5 examines the share of adults living in households without sufficient emergency savings, categorised by their educational attainment. Households without sufficient emergency savings are defined as those whose liquid financial assets cannot cover three weeks' loss of income. Because individuals with higher educational attainment typically earn more than their less-educated peers (as discussed above), this figure focuses only on households in the middle quintile of gross income. However, this approach cannot fully rule out the skewing effects of attainment on income, as past income also influences savings, so those with lower attainment are more likely to have had lower incomes in the past, and vice versa.

On average across OECD countries taking part in EU-Household Finance and Consumption Survey (EU-HFCS) 2021, 46% of adults with below upper secondary attainment in middle-income households lack enough savings to cover their living expenses for three weeks. The share falls to 37% among those with upper secondary or post-secondary non-tertiary attainment and to 22% among tertiary-educated adults. Lithuania is the only country where the likelihood of lacking emergency savings is much more pronounced among those with at least an upper secondary qualification (Figure A4.5).

Figure A4.5. Share of adults without sufficient emergency savings to cope with a three weeks' income loss, by educational attainment (2021)

25-64 year-olds belonging to households in the middle quintile of gross income; in per cent



Note: Emergency savings refer to the liquid financial assets, including deposits, mutual funds, bonds, value of non-self-employment private business, publicly traded shares and managed accounts. Three weeks' income refers to each household's income. The average is the unweighted value for all countries taking part in HFCS 2021.
Countries are ranked in descending order of the share of adults with below upper secondary attainment lacking sufficient emergency savings to cope with a three weeks' income loss.
See under Chapter A4 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

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

Foreign-born individuals can face systemic barriers that hinder their economic integration and ability to benefit from their educational qualifications. Foreign-born adults may struggle more than their native-born peers to find employment due to issues such as unrecognised foreign credentials, insufficient skills, language barriers or discrimination. As a result, they are more likely to accept any available job, often leading to lower earnings than their native-born counterparts (OECD, 2023[7]).

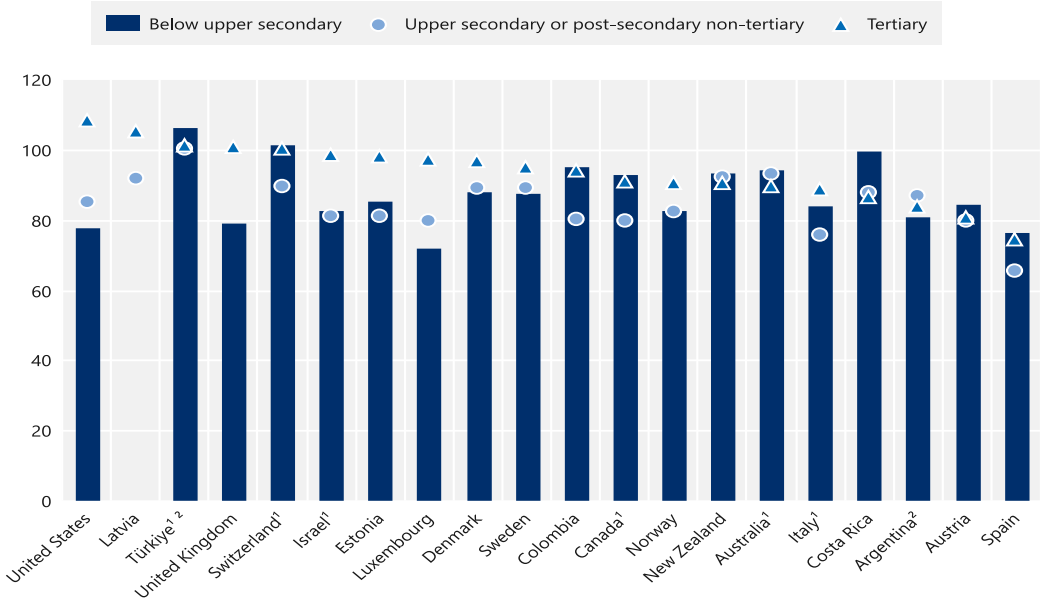
There is significant variation but no clear pattern to the differences in earnings between native- and foreign-born adults by educational attainment across countries. Figure A4.6 looks at relative earnings of the foreign-born population by educational level as well as relative earnings for tertiary-educated adults (the most commonly attained level among foreign-born adults, on average), by age of arrival in the host country.

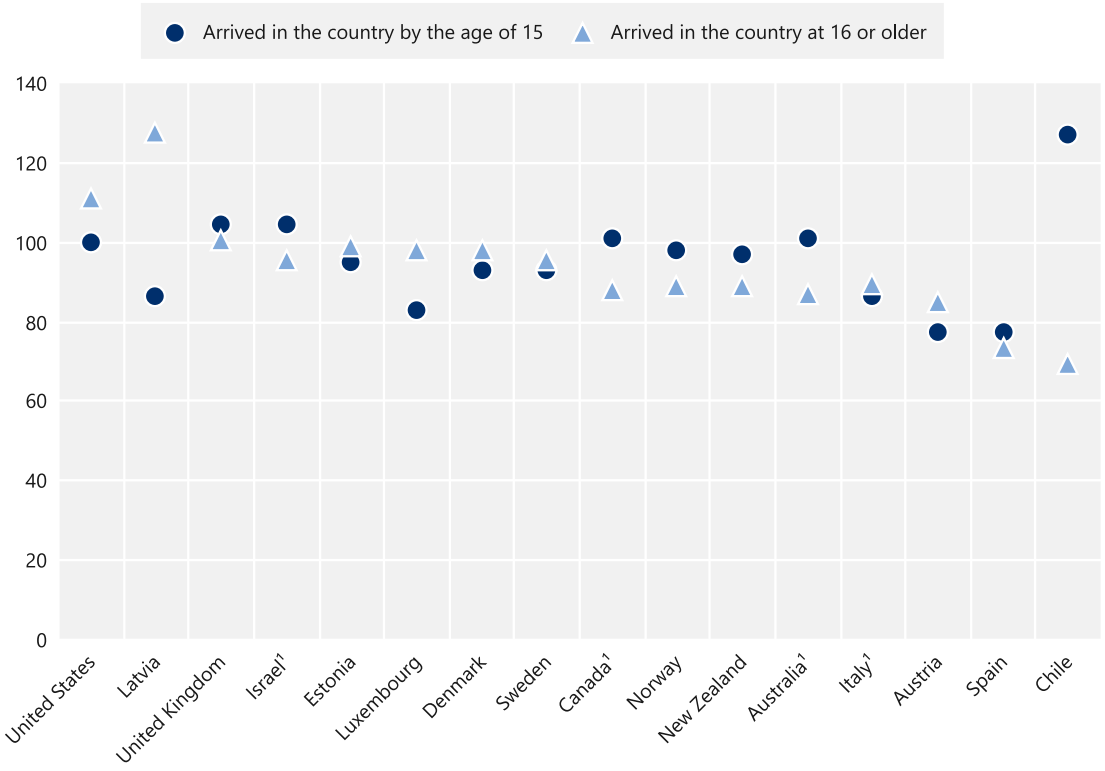
In countries such as Latvia and the United States, foreign-born workers with a tertiary education earn slightly more than their native-born counterparts, potentially indicating more successful integration of foreign-born workers in the tertiary labour market and increased recognition of foreign credentials. In countries with a relatively high share of both foreign-born population and tertiary educational attainment among foreign-born adults (see Chapter A1), foreign-born adults with a tertiary education earn up to 10% less than their native-born peers. Finally, in countries like Austria and Spain tertiary-educated foreign-born individuals earn substantially less (at least 15% less) than native-born individuals, highlighting potential barriers to equitable economic opportunities for immigrants despite their high education levels (Figure A4.6).

Relative earnings also differ by the age when foreign-born workers arrived in the host country. This trend is evident for tertiary-educated adults in countries like Canada, New Zealand and Norway, where early arrivals earn close to or more than the earnings of their native-born peers. This pattern underscores the importance of early social and educational integration for economic success, especially regarding the origin of the qualification. (Figure A4.6).

Figure A4.6. Relative earnings of foreign-born workers, by educational attainment and age at migration (2022)

25-64 year-old full-time full-year workers; native-born adults = 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 2022. Refer to the source table for more details.
2. Earnings net of income tax for Türkiye and a combination of gross (self-employed) and net (employees) earnings for Argentina.
Countries are ranked in descending order of the relative earnings of tertiary-educated foreign-born adults.
See Table A4.4 for data and under Chapter A4 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Definitions

Adults refer to 25-64 year-olds; young adults refer to 25-34 year-olds. The analysis on financial returns to education considers the net present value of earnings over the lifetime of an individual limited to ages 16-64.

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

Country of Birth: Native-born individuals are those who were born in the country where they answered the survey, and **foreign-born individuals** are those who were born outside the country where they answered the survey.

Direct costs are the direct expenditure on education per student during the time spent in school. Direct costs of education do not include student loans. **Private direct costs** are the total expenditure by households on education. They include net payments to educational institutions as well as payments for educational goods and services outside of educational institutions (school supplies, tutoring, etc.). **Forgone earnings** are the net earnings an individual not in education can expect.

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

Emergency savings refer to the liquid financial assets, including deposits, mutual funds, bonds, value of non-self-employment private business, publicly traded shares and managed accounts.

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.

Gross earnings benefits are the discounted sum of earnings premiums over the course of a working-age life associated with a higher level of education. The **income tax effect** is the discounted sum of additional levels of income tax paid by the private individual over the course of a working-age life associated with a higher level of education. The **social contribution effect** is the discounted sum of additional employee social contributions paid by the private individual over the course of a working-age life and associated with a higher level of education.

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

Levels of education: See the *Reader's Guide* at the beginning of this publication for a presentation of all International Standard Classification of Education (ISCED) 2011 levels.

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

Methodology

The 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 chapter presents annual data, and earnings data with a reference period shorter than a year are adjusted. Please refer to Table X3.A4.1 in *Education at a Glance 2024 Sources, Methodologies and Technical Notes*, for more information on the adjustment methods (https://doi.org/10.1787/e7d20315-en). 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 chapter 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 considered 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, 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[8]) and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

In calculating the returns to education in Box A4.1, the approach taken here is the net present value (NPV) of the investment. To allow direct comparisons of costs and benefits, the NPV expresses the present value for cash transfers happening at different times. In this framework, costs and benefits during a working-age life are transferred back to the start of the investment. This is done by discounting all cash flows back to the beginning of the investment with a fixed interest rate (discount rate). The model assumes that tax rates and social contribution rates remain at today's values. Similarly, earnings and employment rates by age and educational attainment are assumed to remain at most recent observed values.

Source

This chapter 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. See *Education at a Glance 2024 Sources, Methodologies and Technical Notes*, for country-specific notes on national sources (https://doi.org/10.1787/e7d20315-en). Various sources have been used for Box A4.1 on financial returns to education:

- The source for the direct costs of education is the joint data collection by UNESCO, the OECD and Eurostat (UOE) on finance (year of reference 2021 unless otherwise specified in the tables). The data on gross earnings are based on the earnings data collection by the OECD Network on Labour market, economic and social outcomes of learning (LSO Network), which compiles data from national Labour Force Surveys (LFS), the EU Statistics on income and living conditions (EU-SILC), Structure of Earnings Surveys, and other national registers and surveys. Earnings are age-, gender- and attainment-level specific.
- Income tax data are computed using the OECD Taxing Wages model, which determines the level of taxes based on a given level of income. This model computes the level of the tax wedge on income for several household composition scenarios. For this indicator, a single worker with no children is used. For country-specific details on income tax in this model, see Taxing Wages 2024 (OECD, 2024[9]).
- Employee social contributions are computed using the OECD Taxing Wages model's scenario of a single worker aged 40 with no children. For country-specific details on employee social contributions in this model, see Taxing Wages 2024 (OECD, 2024[9]).

The source for Box A4.2 on educational attainment and emergency savings is EU-Household Finance and Consumption Survey (EU-HFCS), fourth wave (2021).

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Chapter A4 Tables

Tables Chapter A4. What are the earnings advantages to education?

StatLink https://stat.link/x58bcy

Cut-off date for the data: 14 June 2024. Any updates on data and more breakdowns can be found on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

Table A4.1. Relative earnings of workers compared to those with upper secondary attainment, by educational attainment and age group (2022)

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

	Below upper secondary			Post-secondary non-tertiary			Tertiary											
							Short-cycle tertiary			Bachelor's or equivalent			Master's, doctoral or equivalent			Total		
	25-34 year-olds	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	99	93	93	104	101	99	98	117	111	121	135	129	117	167	145	116	137	129
Austria	86	72	77	116	115	114	114	136	127	115	143	109	143	182	168	125	158	143
Belgium[1]	c	81	83	c	c	c	c	c	c	112	131	122	133	176	154	124	152	138
Canada[1]	92	76	84	126	123	117	110	121	117	139	162	149	140	189	169	129	150	140
Chile	53	43	49	a	a	a	134	142	140	259	307	282	369	570	562	228	273	261
Colombia[2]	72	70	70	m	m	m	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	209	291	255
Costa Rica	84	68	76	c	c	c	131	121	126	187	186	200	c	322	332	175	199	202
Czechia	84	76	78	m	m	m	97	116	110	122	142	132	143	186	171	136	178	162
Denmark	92	89	90	c	120	124	102	115	109	109	116	113	128	161	144	116	131	124
Estonia	85	86	88	88	95	91	m	100	90	123	127	131	140	166	153	131	144	138
Finland[1]	101	100	101	114	114	116	104	116	122	112	130	122	139	171	163	123	143	139
France[1,2]	78	95	89	m	m	m	102	133	129	112	185	151	149	229	189	127	177	157
Germany	79	87	75	103	115	110	114	123	121	127	160	142	147	203	180	130	170	150
Greece[1]	80	76	81	100	106	102	c	167	162	113	133	132	186	169	170	123	139	138
Hungary	76	75	75	127	130	129	133	136	136	145	165	159	177	236	219	161	190	183
Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Ireland[1]	c	79	87	107[r]	95	97	c	159	150	151	175	161	206	240	199	170	192	172
Israel[1]	83	70	81	a	a	a	122	119	121	144	175	155	146	201	199	140	171	161
Italy[1,2]	95	79	83	m	m	m	x(13)	x(14)	x(15)	112	97	99	147	143	153	135	135	141
Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Korea	88	86	82	a	a	a	105	119	109	117	153	132	161	195	176	m	m	130
Latvia	78	99	87	90	103	98	99	c	111	133	177	155	155	191	170	133	181	158
Lithuania	88	93	93	100	112	104	a	a	a	145	141	149	171	201	187	152	175	169
Luxembourg	81	66	74	c	c	108	c	129	127	129	184	143	145	173	155	139	171	150
Mexico[1]	86	75	80	a	a	a	109	116	117	139	180	153	209	323	308	139	185	158
Netherlands	88	82	86	103	108	105	128	129	131	118	142	132	139	210	177	127	167	149
New Zealand	98	89	92	105	105	102	105	107	110	117	132	124	128	153	145	117	133	126
Norway	85	87	86	106	94	99	104	123	119	99	114	106	115	148	133	106	127	118
Poland	89	85	86	98	105	103	a	a	a	133	157	142	139	171	158	137	168	154
Portugal	87	77	84	116	121	115	118	c	109	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	158	191	173
Slovak Republic	86	82	83	m	m	m	101	123	119	118	129	126	127	166	154	125	162	150
Slovenia	87	83	84	a	a	a	110	133	128	125	153	138	140	192	176	129	172	157
Spain	93	78	83	c	c	99[r]	117	112	111	137	151	140	168	189	180	145	158	151
Sweden	92	83	86	96	119	114	105	112	108	107	121	116	124	152	144	113	132	125
Switzerland[1,2]	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]	83	71	78	a	a	a	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	139	166	149
United Kingdom	60	70	71	a	a	a	98	109	108	126	136	135	134	156	151	125	137	136
United States	85	81	81	m	m	m	120	107	114	159	169	165	199	212	217	163	172	172
OECD average	85	80	82	m	m	m	111	124	120	131	153	142	156	204	190	139	168	156
Partner and/or accession countries																		
Argentina[3]	91	79	81	a	a	a	117	117	118	129	156	157	c	356	305	126	157	151
Brazil	75	72	75	a	a	a	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	205	264	243
Bulgaria[1]	82	74	77	c	c	119[r]	a	a	a	117	140	146	146	177	182	132	170	172
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[2]	76	71	73	m	m	m	m	m	m	m	m	m	m	m	m	146	188	167
Romania	94	88	92	125	129	125	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	x(19)	x(20)	x(21)	141	147	143
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	87	83	84	m	113	110	m	127	122	123	145	134	150	186	170	135	163	152
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter A4 Tables for StatLink and Box A4.3 for the notes related to this Table.
Source: OECD (2024). See *Source* section for more information and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Table A4.2. Distribution of workers by educational attainment and level of earnings relative to the median (2022)

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)	(4)	(7)	(10)	(13)	(16)	(19)	(22)	(25)	(28)	(31)	(34)	(37)	(40)	(43)
Australia	20	47	19	8	6	15	43	24	9	8	11	30	28	16	15
Austria	33	44	17	4	2	17	34	30	13	7	13	19	22	19	27
Belgium	25	56	16	2	1	15	50	27	6	2	7	26	38	17	12
Canada[1]	42	29	17	7	6	30	27	22	11	10	24	21	20	15	21
Chile	35	45	14	4	2	19	41	23	9	9	7	17	19	15	42
Colombia	42	35	18	3	2	22	29	35	8	6	7	12	22	14	45
Costa Rica	29	41	24	4	2	16	31	34	8	10	6	12	20	14	49
Czechia	14	66	18	2	1	5	52	32	8	3	2	21	39	18	20
Denmark	32	39	23	4	2	17	38	33	8	4	14	25	38	13	10
Estonia	26	40	20	7	7	21	38	23	10	8	12	25	27	16	20
Finland[1]	31	37	23	6	4	22	40	28	7	3	12	23	33	17	15
France[1]	34	41	19	4	2	22	40	27	7	4	11	19	30	17	23
Germany	43	40	16	1	0	19	44	25	8	4	9	21	32	20	19
Greece[1]	33	38	21	5	3	18	34	34	10	5	10	21	35	19	14
Hungary	28	57	12	3	1	8	48	28	10	6	3	19	29	17	32
Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Ireland[1]	43	29	18	5	4	26	34	24	10	6	15	20	17	20	28
Israel[1]	27	48	18	5	3	21	44	20	8	7	13	25	23	14	25
Italy[1]	27	36	26	7	4	21	30	27	12	10	14	20	28	17	21
Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Korea	22	58	17	2	1	12	51	28	6	3	6	33	34	14	13
Latvia	24	52	14	c	c	15	47	24	7	6	4	28	31	14	23
Lithuania	20	51	21	6	2	17	48	23	8	4	12	22	25	18	22
Luxembourg	34	53	9	c	c	18	45	24	9	c	5	23	28	23	22
Mexico[1]	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	18	46	22	8	5	18	38	26	10	8	13	25	31	15	16
Norway	50	27	16	4	2	23	30	32	10	5	15	19	38	15	12
Poland	0	74	19	4	2	0	61	26	8	4	0	30	35	16	19
Portugal	9	57	24	6	3	6	46	30	9	9	3	15	26	19	37
Slovak Republic	30	45	18	5	1	16	38	30	11	5	12	18	29	19	22
Slovenia	0	83	16	2	0	0	64	28	6	2	0	25	34	22	18
Spain	33	35	21	6	4	26	31	24	10	10	15	20	19	17	29
Sweden	26	46	24	4	1	16	37	34	9	4	14	25	37	15	10
Switzerland[1]	29	53	16	1	1	20	42	30	6	2	10	23	34	19	14
Türkiye[2]	30	48	17	4	1	18	38	28	11	5	12	17	23	29	19
United Kingdom	23	53	18	4	2	15	49	25	8	4	7	30	31	16	16
United States	42	41	11	3	3	25	41	19	9	6	12	23	22	17	25
OECD average	28	46	19	5	3	17	40	27	9	6	10	22	28	17	23
Partner and/or accession countries															
Argentina[2]	22	30	22	14	13	16	21	22	18	23	7	12	16	19	45
Brazil	59	24	10	4	3	37	28	18	8	10	19	11	14	12	44
Bulgaria[1]	42	36	15	3	4	17	38	21	12	12	8	20	17	16	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	48	18	16	9	9	34	14	20	14	18	26	8	14	12	40
Romania	3	74	18	c	4	1	62	29	4	4	c	18	44	19	19
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	26	48	19	4	3	15	43	27	9	6	9	22	30	18	22
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter A4 Tables for StatLink and Box A4.3 for the notes related to this Table.
Source: OECD (2024). See *Source* section for more information and *Education at a Glance 2024 Sources Methodologies and Technical Notes*(https://doi.org/10.1787/e7d20315-en).

Table A4.3. Women's earnings as a percentage of men's earnings, by educational attainment and age group (2022)

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

	Below upper secondary			Upper secondary or post-secondary non-tertiary			Tertiary		
	25-64 year-olds	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
OECD countries	(1)	(2)	(4)	(6)	(7)	(9)	(11)	(12)	(14)
Australia	84	102	74	84	84	84	83	95	79
Austria	81	78	77	84	84	83	78	85	82
Belgium[1]	81[r]	c	c	82	88[r]	79	88	97	94
Canada[1]	69	73	60	75	73	79	79	80	84
Chile	m	m	m	m	m	m	m	m	m
Colombia	83	81	84	86	91	83	79	85	84
Costa Rica	86	87	84	91	95	71	93	88	95
Czechia	83	88	80	84	86	81	74	79	70
Denmark	81	79	80	80	80	78	77	86	73
Estonia	74	82[r]	62	72	73	71	72	79	73
Finland[1]	81	88	78	78	82	75	76	85	72
France[1]	72	90	68	76	69	76	74	82	75
Germany	69	c	c	83	86	83	75	90	69
Greece[1]	72	c	72	83	87	81	78	81	80
Hungary	88	94	88	85	83	85	67	75	62
Iceland	m	m	m	m	m	m	m	m	m
Ireland[1]	81	c	c	84	c	88	71	71	73
Israel[1]	71	c	79	67	73	58	68	69	64
Italy[1]	77	66	69	82	85	81	67	58	69
Japan	m	m	m	m	m	m	m	m	m
Korea	74	c	79	72	83	66	73	88	65
Latvia	62	c	c	68	67	73	71	70	75
Lithuania	84	81	79	83	80	81	80	82	79
Luxembourg	78	c	73	82	83	94	86	94	94
Mexico[1]	66	66	64	72	73	68	75	81	73
Netherlands	84	85	81	84	86	86	78	90	83
New Zealand	80	86	79	81	82	81	85	90	80
Norway	82	82	80	79	77	78	76	85	75
Poland	76	77	74	78	77	76	72	76	70
Portugal	81	88	77	78	83	74	73	80	72
Slovak Republic	81	88	88	79	80	78	75	81	72
Slovenia	86	88	85	86	83	84	82	80	81
Spain	74	78	69	76	82	76	83	91	79
Sweden	86	91	84	84	84	82	80	86	76
Switzerland[1]	82	88	79	84	92	83	82	93	82
Türkiye[2]	71	76	70	81	87	78	78	84	72
United Kingdom	80	86	72	89	126	76	80	81	78
United States	80	74	94	77	81	73	74	82	70
OECD average	79	85	77	81	84	79	77	83	76
Partner and/or accession countries									
Argentina[2]	60	61	58	72	75	68	84	84	86
Brazil	73	83	70	69	74	62	68	75	66
Bulgaria[1]	99	c	74	83	107	76	83	78	92
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	66	58	69	73	71	65	78	82	78
Romania	90	84	88	92	90	92	91	88	92
Saudi Arabia	m	m	m	m	m	m	m	m	m
South Africa	m	m	m	m	m	m	m	m	m
EU25 average	80	79	77	81	83	81	77	82	77
G20 average	m	m	m	m	m	m	m	m	m

Note: See under Chapter A4 Tables for StatLink and Box A4.3for the notes related to this Table.
Source: OECD (2024). See *Source* section for more information and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Table A4.4. Foreign-born workers' earnings as a percentage of native-born workers' earnings, by educational attainment, age at migration and current age group (2022)

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

	Below upper secondary			Upper secondary or post-secondary non-tertiary			Tertiary		
	Total	Arrived in the country by the age of 15	Arrived in the country at age 16-64	Total	Arrived in the country by the age of 15	Arrived in the country at age 16-64	Total	Arrived in the country by the age of 15	Arrived in the country at age 16-64
	25-64 year-olds	25-64 year-olds	25-64 year-olds	25-64 year-olds	25-64 year-olds	25-64 year-olds	25-64 year-olds	25-64 year-olds	25-64 year-olds
OECD countries	(1)	(6)	(11)	(16)	(21)	(26)	(31)	(36)	(41)
Australia[1]	95	100	92	93	96	92	90	101	87
Austria	85	79	89	80	73	84	81	77	85
Belgium	m	m	m	m	m	m	m	m	m
Canada[1]	93	99	89	80	85	78	91	101	88
Chile	m	m	m	m	m	m	m	m	m
Colombia	96	x(1)	x(1)	80	x(16)	x(16)	94	x(31)	x(31)
Costa Rica	100	x(1)	x(1)	88	x(16)	x(16)	86	x(31)	x(31)
Czechia	m	m	m	m	m	m	m	m	m
Denmark	89	93	87	89	92	88	97	93	98
Estonia	86[r]	c	76[r]	81	81	80	98	95	99
Finland	m	m	m	m	m	m	m	m	m
France	m	m	m	m	m	m	m	m	m
Germany	m	m	m	m	m	m	m	m	m
Greece	m	m	m	m	m	m	m	m	m
Hungary	m	m	m	m	m	m	m	m	m
Iceland	m	m	m	m	m	m	m	m	m
Ireland	m	m	m	m	m	m	m	m	m
Israel[1]	83	c	74	81	87	76	99	104	95
Italy[1]	84	96	82	76	89	73	89	86	89
Japan	m	m	m	m	m	m	m	m	m
Korea	m	m	m	m	m	m	m	m	m
Latvia	c	c	c	92	86	96	105	86	128
Lithuania	m	m	m	m	m	m	m	m	m
Luxembourg	72	c	70	80	79	80	97	83	98
Mexico	m	m	m	m	m	m	m	m	m
Netherlands	m	m	m	m	m	m	m	m	m
New Zealand	94	105	90	92	90	93	91	97	89
Norway	83	90	81	83	91	81	91	98	89
Poland	m	m	m	m	m	m	m	m	m
Portugal	m	m	m	m	m	m	m	m	m
Slovak Republic	m	m	m	m	m	m	m	m	m
Slovenia	m	m	m	m	m	m	m	m	m
Spain	77	86	72	66	73	63	74	77	73
Sweden	88	95	86	89	94	86	95	93	95
Switzerland[1]	102	x(1)	x(1)	90	x(16)	x(16)	101	x(31)	x(31)
Türkiye[1]	107	x(1)	x(1)	101	x(16)	x(16)	101	x(31)	x(31)
United Kingdom	80	103	74	m	m	m	101	104	100
United States	78	76	79	85	94	81	108	100	111
OECD average	m	m	m	m	m	m	m	m	m
Partner and/or accession countries									
Argentina[2]	81	x(1)	x(1)	87	x(16)	x(16)	84	x(31)	x(31)
Brazil	m	m	m	m	m	m	m	m	m
Bulgaria[1]	m	m	m	c	c	c	c	m	c
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	c	m	m	c	m	m	c	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	m	m	m	m	m	m	m	m	m
G20 average	m	m	m	m	m	m	m	m	m

Note: See under Chapter A4 Tables for StatLink and Box A4.3for the notes related to this Table.
Source: OECD (2024). See *Source* section for more information and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Table A4.5. Private costs and benefits for a man and a woman attaining tertiary education (2021)

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

	Man					Woman				
OECD countries	Total costs (3)	Total benefits (7)	Net financial returns (8)=(7)+(3)	Internal rate of return (9)	Benefit-cost ratio (10)=(7)/(3)	Total costs (13)	Total benefits (17)	Net financial returns (18)=(17)+(13)	Internal rate of return (19)	Benefit-cost ratio (20)=(17)/(13)
Australia	- 120 800	276 000	**155 200**	6%	2.3	- 121 800	333 800	**212 000**	8%	2.7
Austria	- 82 400	505 400	**423 000**	11%	6.1	- 60 600	372 500	**311 900**	14%	6.1
Belgium	- 32 200	323 600	**291 400**	17%	10.0	- 23 800	400 800	**377 000**	32%	16.8
Canada	- 64 300	443 800	**379 500**	15%	6.9	- 53 000	422 700	**369 700**	21%	8.0
Czechia[1]	- 65 200	417 500	**352 300**	13%	6.4	- 39 100	247 500	**208 400**	13%	6.3
Denmark	- 119 900	324 300	**204 400**	7%	2.7	- 97 500	322 400	**224 900**	10%	3.3
Estonia	- 66 000	297 500	**231 500**	14%	4.5	- 56 500	255 600	**199 100**	14%	4.5
Finland	- 84 900	354 400	**269 500**	10%	4.2	- 72 800	297 300	**224 500**	11%	4.1
Germany	- 88 700	515 000	**426 300**	13%	5.8	- 69 500	328 800	**259 300**	12%	4.7
Hungary	- 48 900	519 600	**470 700**	22%	10.6	- 39 700	297 700	**258 000**	18%	7.5
Ireland	- 42 600	651 500	**608 900**	26%	15.3	- 27 300	518 500	**491 200**	41%	19.0
Israel	- 53 700	444 300	**390 600**	21%	8.3	- 39 600	375 300	**335 700**	25%	9.5
Italy[2]	- 38 500	353 700	**315 200**	14%	9.2	- 23 300	289 800	**266 500**	20%	12.4
Korea	- 41 000	299 700	**258 700**	17%	7.3	- 42 700	214 000	**171 300**	17%	5.0
Latvia	- 42 200	346 900	**304 700**	23%	8.2	- 34 000	293 000	**259 000**	21%	8.6
Luxembourg	- 61 700	563 700	**502 000**	14%	9.1	- 55 100	444 700	**389 600**	17%	8.1
Netherlands	- 104 700	470 800	**366 100**	10%	4.5	- 105 100	444 000	**338 900**	11%	4.2
New Zealand	- 91 400	303 800	**212 400**	9%	3.3	- 88 000	294 200	**206 200**	10%	3.3
Norway	- 100 900	313 100	**212 200**	7%	3.1	- 77 500	342 500	**265 000**	11%	4.4
Poland[1]	- 63 900	496 500	**432 600**	17%	7.8	- 38 200	406 800	**368 600**	23%	10.6
Portugal	- 25 700	339 700	**314 000**	21%	13.2	- 20 400	289 000	**268 600**	28%	14.2
Slovak Republic	- 56 100	335 200	**279 100**	12%	6.0	- 30 800	271 200	**240 400**	17%	8.8
Slovenia	- 42 300	385 300	**343 000**	16%	9.1	- 32 100	358 700	**326 600**	20%	11.2
Spain	- 36 100	339 800	**303 700**	18%	9.4	- 31 800	348 700	**316 900**	20%	11.0
Sweden	- 91 000	220 500	**129 500**	6%	2.4	- 72 600	257 300	**184 700**	9%	3.5
Switzerland[2]	- 127 100	690 200	**563 100**	13%	5.4	- 122 300	580 700	**458 400**	13%	4.7
Türkiye[3]	- 19 900	159 000	**139 100**	16%	8.0	- 11 000	162 000	**151 000**	28%	14.7
United States	- 90 400	816 500	**726 100**	19%	9.0	- 82 500	593 900	**511 400**	19%	7.2
OECD average	- 67 900	411 000	**343 000**	15%	7.1	- 56 000	348 700	**292 700**	18%	8.0
EU average	- 62 800	408 500	**345 700**	15%	7.6	- 49 000	339 200	**290 200**	19%	8.7

Note: See under Chapter A4 Tables for StatLink Box A4.3for the notes related to this Table.
Source: OECD/ILO/UIS (2024). See *Source* section for more information and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Box A4.3. Notes for Chapter A4 Tables

Table A4.1. Relative earnings of workers compared to those with upper secondary attainment, by educational attainment and age group (2022)

Note: There are cross-country differences in the inclusion/exclusion of zero and negative earners. Data on relative earnings for workers with upper secondary attainment are available for consultation on line (see StatLink below). See Definitions and Methodology sections for more information.

1. Year of reference differs from 2022: 2021 for Belgium, Bulgaria, Canada, Finland, Ireland, Israel, Italy, Spain and Switzerland; 2019 for France; and 2018 for Greece and Mexico.

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.

3. Earnings net of income tax for Türkiye and a combination of gross (self-employed) and net (employees) earnings for Argentina.

Table A4.2. Distribution of workers by educational attainment and level of earnings relative to the median (2022)

Note: 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. Data broken down by gender are available for consultation on line (see StatLink). See Definitions and Methodology sections for more information.

1. Year of reference differs from 2022: 2021 for Bulgaria, Canada, Finland, Ireland, Israel, Italy, Spain and Switzerland; 2019 for France; and 2018 for Greece and Mexico.

2. Earnings net of income tax for Türkiye and a combination of gross (self-employed) and net (employees) earnings for Argentina.

Table A4.3. Women's earnings as a percentage of men's earnings, by educational attainment and age group (2022)

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 2022: 2021 for Belgium, Bulgaria, Canada, Finland, Ireland, Israel, Italy, Spain and Switzerland; 2019 for France; and 2018 for Greece and Mexico.

2. Earnings net of income tax for Türkiye and a combination of gross (self-employed) and net (employees) earnings for Argentina.

Table A4.4. Foreign-born workers' earnings as a percentage of native-born workers' earnings, by educational attainment, age at migration and current age group (2022)

Note: There are cross-country differences in the inclusion/exclusion of zero and negative earners. Data on other age groups are available for consultation on line (see StatLink). See Definitions and Methodology sections for more information.

1. Year of reference differs from 2022: 2021 for Bulgaria, Canada, Israel and Italy; 2019 for Australia, Switzerland and Türkiye.

2. Earnings net of income tax for Türkiye and a combination of gross (self-employed) and net (employees) earnings for Argentina.

Table A4.5. Private costs and benefits for a man and a woman attaining tertiary education (2021)

Note: Values are based on the difference between men who attained tertiary education and those who attained upper secondary education. Values have been rounded up to the nearest hundred. Direct costs to education do not include student loans. Costs and benefits are earned over a working-age life and are transferred back to the start of the investment. Data on direct costs, forgone earnings, gross benefits, income tax and social contributions are available for consultation on line (see StatLink). See Definitions and Methodology sections for more information.

1. Year of reference 2020.

2. Financial returns to tertiary education compared to upper secondary and post-secondary education combined.

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

Table A4.a. Net financial returns for a man and a woman attaining tertiary education, by discount rate (2021)

1. Year of reference 2020.

2. Financial returns to tertiary education compared to upper secondary and post-secondary education combined.

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

Chapter A5. To what extent do adults participate in education and training?

Highlights

- Participation in formal and/or non-formal education and training remained almost unchanged between 2016 and 2022 on average across countries with comparable data from the EU-Adult Education Survey (EU-AES). However, individual countries experienced diverging trends. Many countries with already high participation rates in 2016 increased their participation rates further, whereas many countries with low participation rates in 2016 saw decreases in participation.
- There are multiple barriers that may prevent higher participation rates in adult learning. Among barriers surveyed by EU-AES, scheduling conflicts are the most cited barrier among adults who would like to participate in adult learning but did not in over two thirds of countries. Costs and family commitments are also frequently cited as factors preventing adult learning engagement in most countries.
- A lack of perceived need for education and training is another major reason holding back adult learning participation. On average across the OECD and accession countries taking part in EU-AES, 70% of 25-64 year-olds who did not participate in education and training reported they had no need to do so. This share varies considerably across countries, ranging from 41% in the Netherlands to over 90% in Bulgaria and Lithuania.

Context

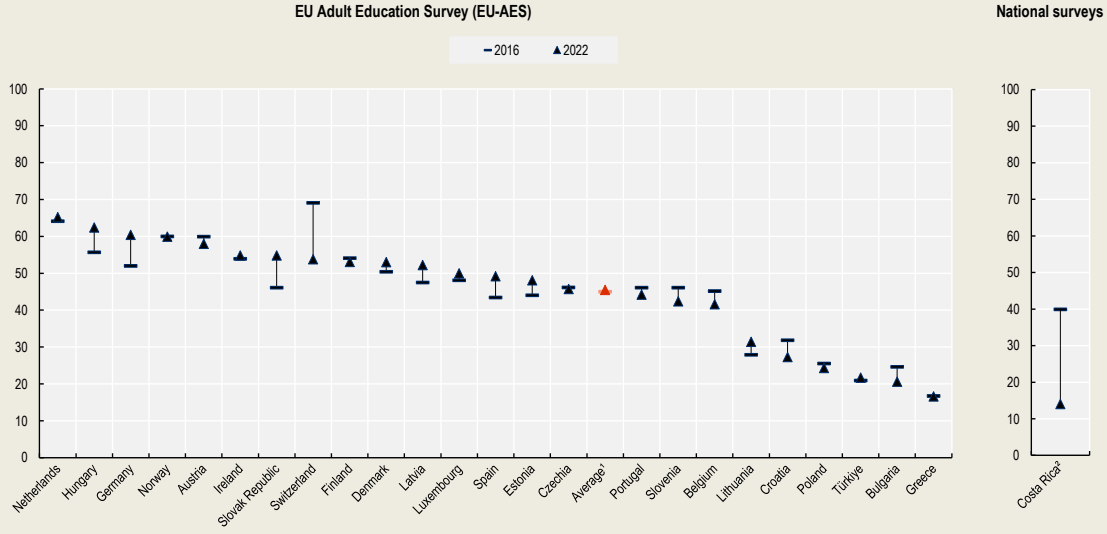
The skills required in the labour market are constantly evolving. Although initial education is crucial for equipping young people with the skills they need for successful entry into the labour market, adult learning remains essential for providing opportunities for upskilling and reskilling. Investments in skills will also be vital as societies adapt to the growing capabilities of artificial intelligence (AI) and in order to build a resilient green economy.

Capturing the state of adult learning through indicators poses several challenges. To address them, the OECD has recently released a working paper that presents a comprehensive framework for adult learning. This framework aims to improve the identification of statistical data on adult learning systems and facilitate the selection of relevant indicators for monitoring purposes across countries. It also outlines national policies and practices within this domain (Sekmokas et al., 2024[1]).

This chapter focuses on key elements from the adult learning framework such as: the drivers of adult learning and barriers to participation. Despite different priorities and targets in adult learning systems across countries, one common issue is that those with the greatest needs are often unaware of the benefits of taking up training.

Figure A5.1. Trends in participation in education and training (2016 and 2022)

25-64 year-olds; in per cent



Note: Education and training refers to formal and/or non-formal education and training.
1. The average is derived from the unweighted mean of all countries with available and comparable data for both years.
2. The data refer to the average of four quarters of a given year.
Countries are ranked in descending order of the percentage of 25-64 year-olds participating in formal and/or non-formal education and training in 2022.
See Table A5.1 for data and under Chapter A5 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Other findings

- Women are generally more likely to participate in education and training than men, and the gender gap has widened slightly in recent years. On average across countries taking part in EU-AES, the gender gap in favour of women increased from 1 percentage point in 2016 to 3 percentage points in 2022. However, the presence of young children in the household, together with other family obligations, have a disproportionate effect on women's ability to participate in adult learning opportunities.
- The share of adults who did not participate in education and training because they report they have no need to do so does not vary much by educational attainment level. However, men and 55-64 year-olds are generally more inclined to believe they have no need for education and training.
- Adults engage in formal education and training for various reasons, including the extended duration of tertiary education among 25-29 year-olds, the availability of second-chance education programmes at the upper secondary level and the popularity of vocational upper secondary programmes in mid-career.

Note

Different sources are used in this chapter. The EU-Adult Education Survey (EU-AES) is used for all countries participating in this survey and national sources are used for the other countries. Refer to the *Source* section for more detail.

Analysis

Traditionally, education took place in a period during childhood and youth during which most skills were acquired and specialisation was achieved. Following this period, people might marginally improve their skills in the workplace through formal, non-formal and/or informal learning. This model is increasingly untenable in a world of rapid technological, economic and societal changes where individuals are required to re-learn tasks with new technologies, and adjust to an ever-changing work landscape. In 2022, 46% of 25-64 year-olds participated in formal or non-formal education and training, on average across the OECD and accession countries participating in EU-Adult Education Survey (EU-AES). The share varies from 17% in Greece to 74% in Sweden (Table A5.1).

Adult learning often takes the form of non-formal education and training, rather than formal education, the latter of which dominates initial education and is more common among young people. The prevalence of non-formal education and training in adult learning activities holds true in all countries with available data. On average, 42% of 25-64 year-olds reported participating in non-formal education and training while the share is only 7% for formal education and training among countries taking part in EU-AES (Table A5.1).

Adults participate in formal education and training for various reasons. In some cases, it is because the extended duration of tertiary education means some 25-29 year-olds are still taking part in their initial formal education. On average across OECD countries, 12% of individuals in this age group were enrolled in formal tertiary education in 2020, compared to 4% of 30-39 year-olds and less than 1% of 40-64 year-olds (OECD, 2022[2]). Meanwhile second-chance education programmes, often at upper secondary level, appear to play a pivotal role in explaining above-average adult participation in formal education and training in some countries. For example, Sweden offers two general programmes tailored to adults seeking to complete their compulsory or upper secondary education. Additionally, in some countries such as New Zealand, enrolment in vocational upper secondary programmes is dominated by those aged over 24 (see Chapter B3).

Participation in education and training over time

The adoption of artificial intelligence and the transition to a low-carbon economy are having a profound impact on the skills the labour market requires. Workers from brown occupations (e.g. tire builders) or highly automatable jobs (e.g. cashiers) do not have, in general, sufficient skills to transition to green jobs (Tyros, Andrews and de Serres, 2023[3]). Adult learning systems need to adapt in response to the emergence of new job profiles and skill requirements. However, there is no evidence yet to support any massive increase in adult learning participation. On average across the OECD and accession countries participating in EU-AES in both 2016 and 2022, participation rates in formal and/or non-formal education and training remained almost unchanged, at 45% in 2016 and 2022. However, there is a diverging trend across countries. Several countries with high participation rates in 2016 saw an upward trend in 2022. Germany, Hungary, the Slovak Republic and Spain all witnessed participation rate increases of more than 5 percentage points over this period. On the other hand, adults became less likely to engage in education and training in some countries without a strong adult learning culture. For example, in Bulgaria, Croatia

and Poland, participation rates were more than 10 percentage points below the average in 2016, and have fallen further in 2022 (Figure A5.1).

The overall trend in participation hides some differences between formal and non-formal education and training. For example, the rise in adult learning participation in Luxembourg and the Netherlands has been driven solely by increased formal participation, while in Croatia, Latvia and Spain, changes have been entirely due to changes in participation in non-formal education and training. Notably, only nine countries with comparable trend data experienced increased participation rates in both formal and non-formal education and training (Table A5.1).

Women are slightly more likely than men to participate in adult education and training. The gender gap in women's favour widened from 1 percentage point in 2016 to 3 percentage points in 2022 on average across OECD and accession countries with comparable data for both years (Table A5.1). Interestingly, while women with young children in the household were less likely than men in the same situation to participate in adult learning, the gender gap for this measure has narrowed. Between 2016 and 2022, the difference in participation rates between men and women with young children in the household closed completely. On average across OECD countries, 50% of men and 48% of women with young children in the household participated in adult education and training in 2016, while in 2022 these percentages were 49% of men and of women, thus rendering their participation rates the same. However, considerable disparities remain in some countries: for instance, in Hungary and the Slovak Republic, among adults with young children, participation among men exceeded that of women by more than 15 percentage points in 2022 (Table A5.4, available on line).

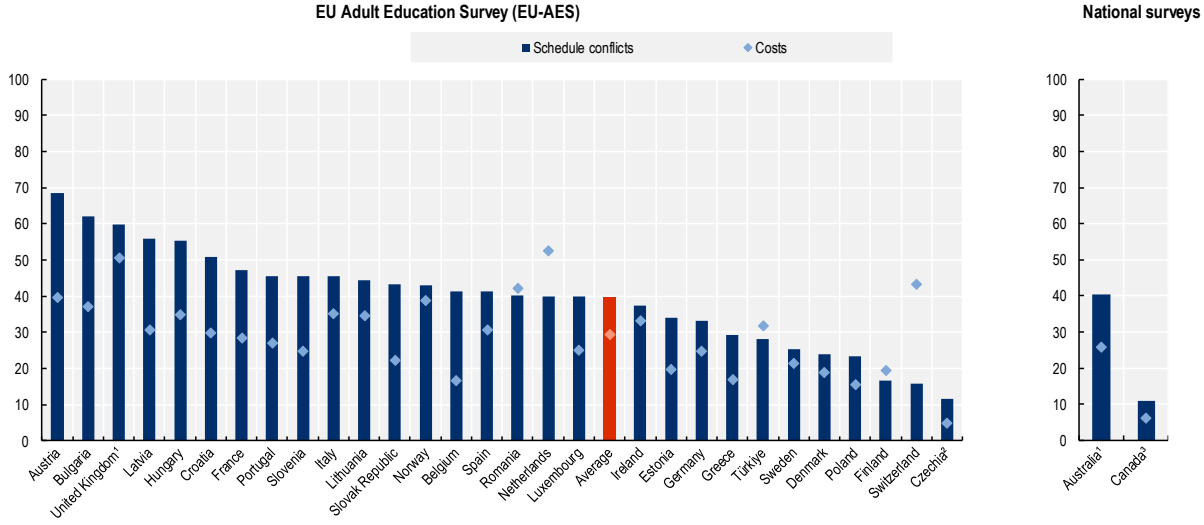
Reasons preventing adults from participating in education and training

Many adults face barriers to accessing adult learning opportunities. Schedule conflicts are by far the most common barrier among adults who would like to participate in adult learning but did not. In Austria, Bulgaria, Hungary and Latvia, more than half of 25-64 year-old non-participants cited schedule conflicts as preventing them from taking part in education and training, at least 20 percentage points more than the next most frequently cited barrier (which is family commitments for Austria, and costs for Bulgaria, Hungary and Latvia (Figure A5.2 and Table A5.2).

Costs are another significant barrier to adult learning participation. On average across OECD and accession countries taking part in EU-AES, around one-third of 25-64 year-olds who had wanted to access education and training identified cost as a reason they did not. This is the most-cited barrier in Finland, the Netherlands, Romania, and Switzerland (Figure A5.2).

Figure A5.2. Share of adults who reported schedule conflicts and costs as barriers to participating in education and training, by type of barrier (2022)

25-64 year-olds; in per cent



1. Year of reference differs from 2022. Refer to the source table for more details.
2. Definition differs. Refer to the source table for more details.
3. Data represent only adults wanting to participate in non-formal education and training but did not.

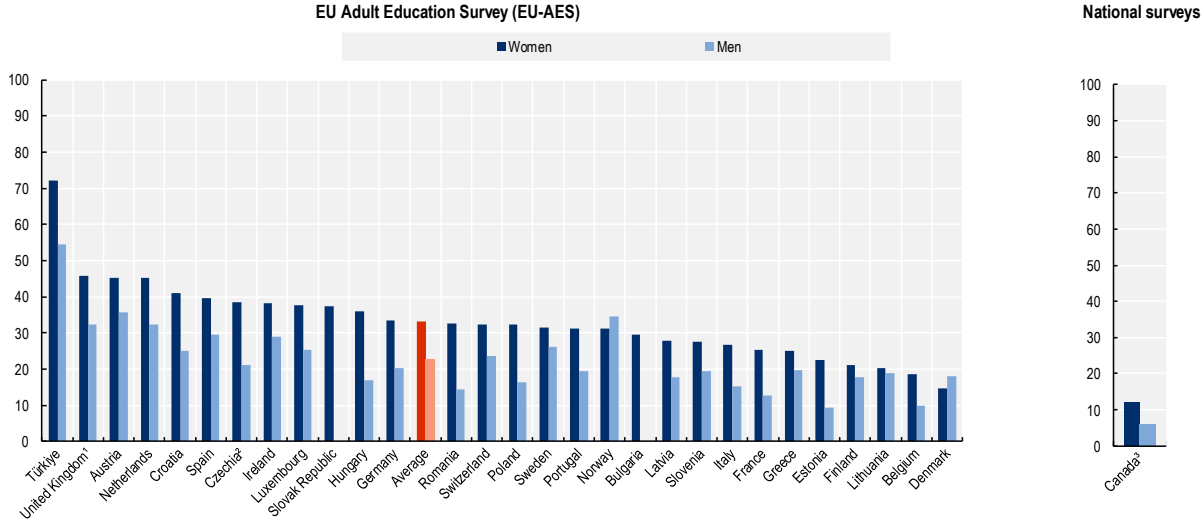
Countries are ranked in descending order of the share of 25-64 year-olds who wanted to participate in education and training but could not due to schedule conflicts.

See Table A5.2 for data and under Chapter A5 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

In all countries except Canada, over 10% of 25-64 year-olds who had wanted to participate but did not reported family commitments as an obstacle. This is the most common barrier in Czechia, Poland and Sweden. Family obligations disproportionately affect women's access to adult learning. On average across OECD and accession countries taking part in EU-AES, around 30% of women cited family commitments as an obstacle to participating in adult learning, compared to around 20% of men. In most countries, the gender difference in the share of adults who cite family commitments as a barrier is far wider than for other barriers. Indeed, in Bulgaria and the Slovak Republic, the share of men reporting family commitments as the reason why they did not participate is statistically too small to consider. Denmark and Norway are the only countries where men are more inclined than women to identify family commitments as a barrier to participation in education and training (Figure A5.3)

Figure A5.3. Share of adults who reported family reasons as a barrier to participating in education and training, by gender (2022)

25-64 year-olds; in per cent of those wanting to take up education and training



1. Year of reference differs from 2022. Refer to the source table for more details.
2. Definition differs. Refer to the source table for more details.
3. Data represent only adults wanting to participate in non-formal education and training but did not.

Countries are ranked in descending order of the share of 25-64 year-old women who wanted to participate in education and training but could not due to family reasons.

See Table A5.2 for data and under Chapter A5 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

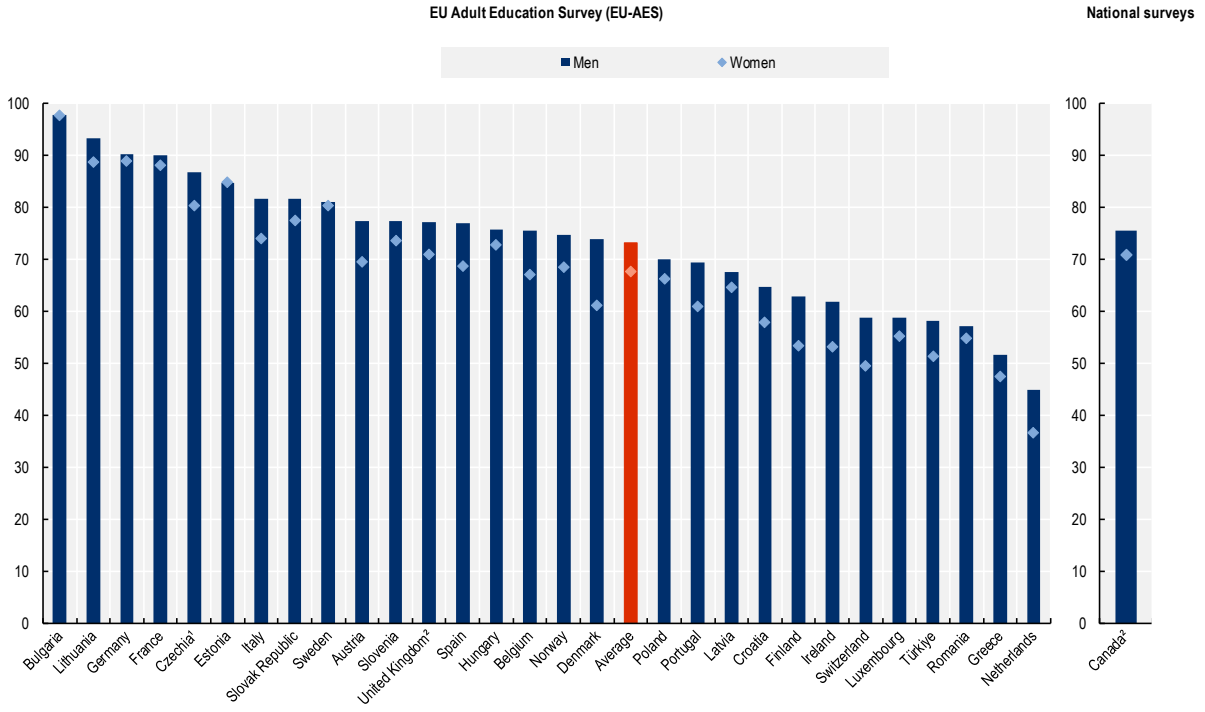
The lack of suitable education and training on offer is another obstacle to accessing learning opportunities, cited by 15% of adults on average (Table A5.2). Taken together, these barriers highlight the importance of providing flexible options which allow adults to move easily between education, training and employment throughout their lives. For instance, many countries have started offering modular learning programmes such as micro-credentials, which are intended to improve access to higher education, including for learners from underserved groups (OECD, 2022[2]). At the other end of the education spectrum, entry requirements often hinder adults with low educational attainment from pursuing education and training. To address this, many countries have implemented initiatives broadening the recognition of prior informal learning. For example, in Portugal, the New Opportunities Initiative (*Iniciativa Novas Oportunidades*) followed by the Qualifica Program (*Programa Qualifica*) have created opportunities for workers with low educational attainment to use the skills developed during their working lives to obtain a secondary education diploma (UNEVOC, 2016[4]).

Profile of adults who see no need for education and training

Raising awareness of the benefits of adult learning would be a major way to engage the 54% of adults who are currently not participating in any formal and/or non-formal education (Table A5.1). In many countries, adults refrain from accessing education and training simply because they perceive no need to do so: on average, 70% of 25-64 year-olds who did not participate in adult learning activities reported it was because they did not need any further education or training. This share varies considerably across countries, ranging from 41% in the Netherlands to over 90% in Bulgaria and Lithuania.

Figure A5.4. Adults reporting they had no need for education and training as a share of those not participating, by gender (2022)

25-64 year-olds; in per cent



1. Definition differs. Refer to the source table for more details.
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 male non-participant reporting they have no need for education and training.
See Table A5.3for data and under Chapter A5 Tables for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

There is a diverse pattern by educational attainment across countries in this area. In several countries, including Estonia, Italy and Slovenia, the proportion of adults reporting they had no need for education and training declines with higher levels of educational attainment. In about half of the countries with available data, it is individuals with upper secondary or post-secondary non-tertiary attainment who are most likely to cite a lack of need as the reason not to participate in adult learning. This trend is notably evident in Czechia, where the share of non-participating adults stating they had no need for further education and training is 13 percentage points higher among those with upper secondary or post-secondary non-tertiary attainment than among those with a tertiary education (Table A5.3).

The perceived need for education and training among non-participants also differs by gender. On average across OECD and accession countries taking part in EU-AES, 73% of men who did not participate reported it was because they had no need to, compared to 68% of women. There are no countries with available data where men are less likely to give this reason than women are. The gender difference exceeds 10 percentage points in Denmark, where 74% of non-participating men cited a lack of need, compared to 61% of non-participating women (Figure A5.4).

People are less inclined to believe they need education and training as they age. On average, 68% of 25-34 year-olds who were not participating in adult learning did not recognise any need to do so, rising to 71% among 45-54 year-olds and 74% among 55-64 year-olds. Luxembourg is the only country where the share

of non-participants reporting they had no need for education and training is highest among 25-34 year-olds.

Definitions

Adults refer to 25-64 year-olds.

Adult learning means the participation of adults in lifelong learning. In this chapter, the term "adult learning" is used interchangeably with the term "education and training". Adult learning usually refers to learning activities after the end of initial education. The participation in education and training covers participation in both formal and non-formal education and training, defined in the Classification of Learning Activities (CLA) (Eurostat, 2016[5]) as:

- **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".
- **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".

Methodology

Calculations for data based EU-Adult Education Survey (EU-AES) can be found at: https://circabc.europa.eu/ui/group/d14c857a-601d-438a-b878-4b4cebd0e10f/library/c28a2e5b-ecdf-4b07-ac2f-f3811d032295/details.

For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Source

All tables are based on EU-AES for European OECD and accession countries and the United Kingdom. National sources are used for Australia (Work-Related Training and Adult Learning), Canada (Labour Force Survey, November 2022 LFS Supplement on Labour Market Indicators), Costa Rica (Continuous Employment Survey), Israel (Labour Force Survey). For New Zealand, data from the Survey of Adult Skills (PIAAC) Cycle 1 have been used in this chapter.

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Chapter A5 Tables

Tables Chapter A5. To what extent do adults participate in education and training?

Table A5.1	Share of adults participating in education and training, by gender and type of education and training (2016 and 2022)
Table A5.2	Reasons for not participating in education and training among adults who wanted to, by gender (2022)
Table A5.3	Adults reporting they had no need for education and training as a share of those not participating, by gender, age group and educational attainment (2022)
WEB Table A5.4	*Share of adults participating in education and training, by gender and presence of young children in the household (2016 and 2022)*

StatLink https://stat.link/4ry5c8

Cut-off date for the data: 14 June 2024. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en.

Table A5.1. Share of adults participating in education and training, by gender and type of education and training (2016 and 2022)

25-64 year-olds; EU Adult Education Survey (EU-AES) or national surveys

	EU Adult Education Survey (EU-AES)								
	Formal and/or non-formal education and training			Non-formal education and training			Formal education and training		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
	2022								
OECD countries	(2)	(4)	(6)	(8)	(10)	(12)	(14)	(16)	(18)
Austria	58	59	58	55	56	56	6	8	7
Belgium	38	45	42	35	41	38	5	9	7
Czechia	47	44	46	47	43	45	2 r	2	2
Denmark	53	53	53	48	47	47	12	13	13
Estonia	41	56	48	38	52	45	5	10	7
Finland	48	59	53	43	53	48	12	16	14
France	50 b	52 b	51 b	49 b	50 b	50 b	3 b	4 b	4 b
Germany	60	61	60	58	58	58	7	8	7
Greece	16	18	17	14	16	15	3 r	3	3
Hungary	66	59	62	63	55	59	9	10	10
Ireland	53	56	55	50	51	50	8	13	11
Italy	37 b	35 b	36 b	35 b	33 b	34 b	4 b	4 b	4 b
Latvia	47	57	52	46	55	51	3	5	4
Lithuania	25	37	31	24	35	29	2 r	5	3
Luxembourg	49	51	50	45	46	46	11	12	11
Netherlands	64	67	65	61	62	62	10	13	11
Norway	58	62	60	54	57	56	10	15	13
Poland	22	27	24	20	23	22	3	5	4
Portugal	46	43	44	43	41	42	6	6	6
Slovak Republic	56	54	55	54	52	53	3 r	4	3
Slovenia	39	46	42	38	45	41	2	3	2
Spain	48	50	49	45	46	45	8	11	10
Sweden	71	77	74	64	65	65	17	25	21
Switzerland	54	54	54	49	50	50	10	10	10
Türkiye	25	19	22	20	14	17	7	7	7
United Kingdom	m	m	m	m	m	m	m	m	m
Accession countries									
Bulgaria	19	22	21	18	20	19	c	3 r	2 r
Croatia	23	32	27	21	29	25	2 r	5 r	4
Romania	26 b	26 b	26 b	25 b	25 b	25 b	1 b	2 b	1 b
Average	44	47	46	41	44	42	6	8	7
Average for countries with available and comparable data for both years	44	47	45	41	44	42	6	8	7

	National surveys								
	Formal and/or non-formal education and training			Non-formal education and training			Formal education and training		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
	2022								
OECD countries	(2)	(4)	(6)	(8)	(10)	(12)	(14)	(16)	(18)
Australia[1]	37	42	39	30	33	32	11	15	13
Canada	28	31	29	26	28	27	3	4	4
Costa Rica[2]	12	16	14	7	7	7	6	10	8
Israel	m	m	m	m	m	m	10	6	8
New Zealand[3]	m	m	m	m	m	m	m	m	m

Note: See under Chapter A5 Tables for StatLink and Box A5.1 for the notes related to this Table.
Source: OECD (2024). See *Source* section for more information and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Table A5.2. Reasons for not participating in education and training among adults who wanted to, by gender (2022)

In per cent of those who gave a reason for not participating; 25-64 year-olds; EU Adult Education Survey (EU-AES) or national surveys

	EU Adult Education Survey (EU-AES)														
	Costs			Family reasons			No suitable education or training offered			Lack of support from employer or public services			Schedule conflicts		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Austria	32	46	40	36	45	41	31	33	32	28	27	27	68	69	68
Belgium	12	21	17	10	19	14	9	8	9	12	10	11	44	39	41
Czechia[1]	c	7 r	5 r	21 r	38	32	19 r	10	13	13 r	8 r	10	15 r	9 r	12
Denmark	16 r	22	19	18 r	15 r	16	22	16 r	19	21	21	21	27	21	24
Estonia	14	25	20	9	22	17	22	15	18	6 r	7	6	35	33	34
Finland	17 r	22	20	18	21	19	15 r	16	15	18	15	16	11 r	22	17
France	24	32	29	13	25	20	14	11	13	24	26	26	51	45	47
Germany	22	28	25	20	34	27	17	15	16	25	20	22	37	29	33
Greece	14 r	20	17	20	25	23	23	21	22	c	c	4 r	33	26	29
Hungary	33	37	35	17	36	27	17	16	16	16	15	16	58	53	55
Ireland	29	37	33	29	38	34	8 r	8 r	8	11 r	11 r	11	38	37	37
Italy	32	38	35	15	27	22	12	11	11	15	8	11	51	41	45
Latvia	26	34	31	18 r	28	24	17 r	19	18	10 r	10 r	10	61	53	56
Lithuania	30	37	35	19 r	20	20	c	8 r	9 r	20 r	17	18	50	41	44
Luxembourg	26	25	25	25	38	32	10	10	10	20	17	18	42	38	40
Netherlands	46	59	53	32	45	39	28	20	24	29	27	28	33	47	40
Norway	32	45	39	35	31	33	37	33	35	40	40	40	42	44	43
Poland	10 r	19	16	16	32	26	9 r	8	9	13 r	8	10	28	20	23
Portugal	24	29	27	19	31	26	18	16	17	20	18	19	47	44	46
Slovak Republic	20 r	24 r	23	c	37	28	c	c	9 r	c	c	c	47	41	43
Slovenia	19	30	25	19	28	24	19	14	16	12 r	8 r	10	44	47	46
Spain	29	32	31	30	40	36	15	11	12	23	20	21	43	40	41
Sweden	16	26	22	26	32	29	24	25	25	18	21	20	27	24	25
Switzerland	39	47	44	24	32	28	22	17	19	23	15	19	14	17	16
Türkiye	35	30	32	54	72	65	14	9	11	18	10	13	34	24	28
United Kingdom[2]	46	56	51	32	46	39	9	9	9	41	31	36	65	55	60
Accession countries															
Bulgaria	35 r	38	37	c	29 r	28	c	13 r	12 r	c	c	c	68 r	58	62
Croatia	28	31	30	25 r	41	35	c	9 r	9 r	17 r	23	21	47	53	51
Romania	39	45	42	14	33	24	6	4	5	11	8	10	46	35	40
Average	27	32	29	23	33	28	18	14	15	19	17	18	42	38	40

	National surveys														
	Costs			Family reasons			No suitable education or training offered			Lack of support from employer or public services			Schedule conflicts		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Australia[2]	23	26	26	m	m	m	12	13	12	3	1	2	44	37	40
Canada[3]	6	6	6	6	12	9	3	3	3	m	m	m	11	11	11

Note: See under Chapter A5 Tables for StatLink and Box A5.1 for the notes related to this Table.
Source: OECD (2024). See *Source* section for more information and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Table A5.3. Adults reporting they had no need for education and training as a share of those not participating, by gender, age group and educational attainment (2022)

EU Adult Education Survey (EU-AES) or national surveys

	EU Adult Education Survey (EU-AES)											
	By gender		By age group				By educational attainment and programme orientation					
							Below upper secondary	Upper secondary or post-secondary non-tertiary			Tertiary	Total
	Men	Women	25-34 year-olds	35-44 year-olds	45-54 year-olds	55-64 year-olds		General	Vocational	Total		
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Austria	77	70	69	66	77	80	74	71	77	77	69	74
Belgium	76	67	67	69	70	78	61	72	80	77	72	71
Czechia[1]	87	80	80	79	87	88	82	82	87	87	74	84
Denmark	74	61	64	68	69	70	65	76	70	71	65	68
Estonia	85	85	84	82	84	88	88	83	88	86	82	85
Finland	63	53	58	55	58	61	57	63	58	58	59	58
France	90	88	87	87	89	92	89	91	89	90	89	89
Germany	90	89	88	87	90	92	83	85	92	91	90	90
Greece	52	48	38	49	53	54	48	48	51	49	51	50
Hungary	76	73	69	72	78	77	73	71	76	76	72	74
Ireland	62	53	58	56	56	60	52	61	56	59	59	58
Italy	82	74	75	74	78	82	81	76	78	78	72	78
Latvia	68	65	63	66	67	68	67	65	66	65	67	66
Lithuania	93	89	87	92	92	92	90	90	91	91	91	91
Luxembourg	59	55	61	56	55	57	49	64	58	59	60	57
Netherlands	45	37	38	38	40	45	38	47	42	43	41	41
Norway	75	68	67	65	73	79	70	75	77	77	68	72
Poland	70	66	66	69	68	69	68	63	71	70	66	68
Portugal	69	61	64	62	65	68	63	69	62	66	69	65
Slovak Republic	82	77	74	79	82	83	66	76	83	82	79	80
Slovenia	77	74	74	70	79	79	80	70	78	77	70	76
Spain	77	69	75	71	72	75	71	72	72	72	76	73
Sweden	81	80	79	78	82	85	78	82	82	82	81	81
Switzerland	59	50	53	50	54	60	47	51	56	55	56	54
Türkiye	58	51	51	53	57	59	54	53	61	55	57	55
United Kingdom[2]	77	71	70	72	75	78	73	x(10)	x(10)	75	74	74
Accession countries												
Bulgaria	98	98	94	98	98	100	94	98	99	98	98	98
Croatia	65	58	62	61	57	66	64	60[r]	61	61	63	61
Romania	57	55	54	54	57	59	58	48	55	54	59	56
Average	73	68	68	68	71	74	68	70	72	72	70	70

	National surveys											
	By gender		By age group				By educational attainment and programme orientation					
							Below upper secondary	Upper secondary or post-secondary non-tertiary			Tertiary	Total
	Men	Women	25-34 year-olds	35-44 year-olds	45-54 year-olds	55-64 year-olds		General	Vocational	Total		
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Canada[3]	75	71	69	73	75	78	75	75	78	76	72	73

Note: See under Chapter A5 Tables for StatLink and Box A5.1 for the notes related to this Table.
Source: OECD (2024). See *Source* section for more information and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Box A5.1. Notes for Chapter A5 Tables

Table A5.1. Share of adults participating in education and training, by gender and type of education and training (2016 and 2022)|

Note: Education and training refers to formal and/or non-formal education and training. The reference period for participation in education and training is during the 12 months prior to the survey. 2016 data are available for consultation online (see under Chapter A5 Tables for StatLink). See *Definitions* and *Methodology* sections for more information.

1. Year of reference differs from 2022: 2020-2021 for Australia.

2. The data refer to the average of four quarters of a given year.

3. Year of reference differs from 2016: 2015 for New Zealand.

Table A5.2. Reasons for not participating in education and training among adults who wanted to, by gender (2022)

Note: Education and training refers to formal and/or non-formal education and training. The reference period for participation or not in education and training is during the 12 months prior to the survey. Data on barriers due to distance and health or age reasons are available for consultation on line (see under Chapter A5 Tables for StatLink). See *Definitions* and *Methodology* sections for more information.

1. Definition differs. Refer to https://ec.europa.eu/eurostat/cache/metadata/EN/trng_aes_12m0_sims_cz.htm for more information.

2. Year of reference differs from 2022: 2020-2021 for Australia, 2016 for the United Kingdom.

3. Data represent only adults wanting to participate in non-formal education and training but did not.

Table A5.3. Adults reporting they had no need for education and training as a share of those not participating, by gender, age group and educational attainment (2022)

Note: Education and training refers to formal and/or non-formal education and training. The reference period for non-participation in adult learning is during the 12 months prior to the survey. See *Definitions* and *Methodology* sections for more information.

1. Definition differs. Refer to https://ec.europa.eu/eurostat/cache/metadata/EN/trng_aes_12m0_sims_cz.htm for more information.

2. Year of reference differs from 2022: 2016 for the United Kingdom.

3. Data represent only adults reporting no need for non-formal education and training as a share of those not participating.

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

Chapter A6. How are social outcomes related to education?

Highlights

- Environmental awareness is widespread among 15-year-old students, but only a minority report taking positive actions to protect the environment. Both awareness and actions are related to socio-economic status: 88% of students in the most advantaged quartile and 68% of students in the least advantaged quartile report being aware of climate change, while only 40% of advantaged and 33% of disadvantaged students report taking at least one pro-environmental action.
- Individuals with a tertiary qualification are more likely to report a strong sense of responsibility to contribute to efforts to reduce climate change than those with lower educational attainment.
- In nearly all OECD countries, 18-24 year-olds are more likely to acknowledge that human activity causes climate change than 25-64 year-olds. The exceptions are Czechia, Israel and Hungary.

Context

Addressing climate change is one of the paramount and immediate global challenges of the 21st century. As explored in previous OECD work, education can equip individuals and their communities with the tools to critically analyse the challenges associated with climate change, encourage innovative solutions and foster a mindset that drives not just individual actions but also collective efforts toward a greener and more resilient future (Nusche, Fuster Rabella and Lauterbach, 2024[1]). It is the conduit through which informed decisions and meaningful actions can be orchestrated to address the complex web of environmental issues stemming from climate change (Rodrigues et al., 2019[2]).

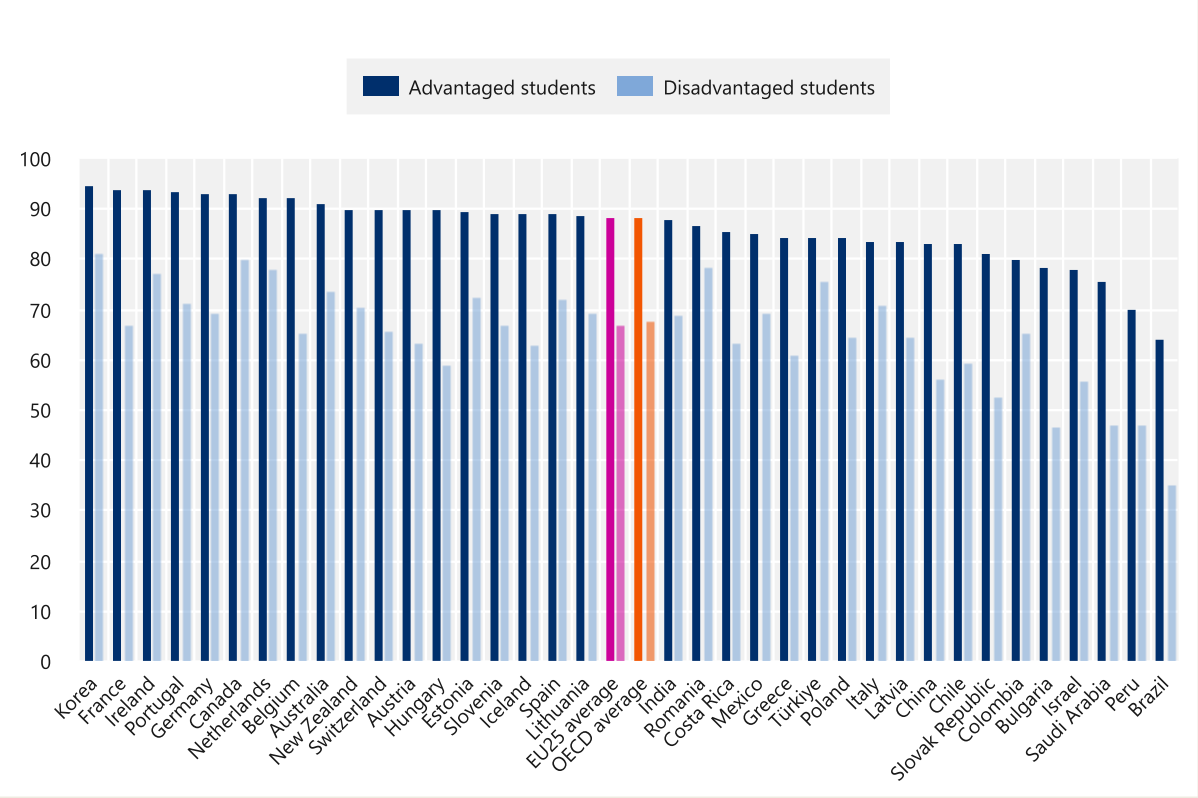
Understanding students' perspectives about climate change proves valuable in gauging their preparedness to engage in action. Their attitudes toward climate change serve as a reference for their ability to contemplate and conscientiously respond to environmental concerns. Pro-environmental attitudes are both a good predictor of students' adoption of environmental actions and also a motivation for these actions in Table A6.1 in the *Methodology* section of this Chapter (OECD, 2022[3]).

The environmental outcomes of education are challenging to measure for several reasons. First, surveys typically focus on individuals' intentions rather than their actual behaviour, so it is important to be mindful of the potential values-action gap between reported environmental behaviours and the actual ecological consequences of an individual's actions (Hadler et al., 2022[4]). Second, there may be misconceptions about the impact of different behavioural choices in reducing individual greenhouse gas emissions, with even pro-environmentally minded individuals mostly engaging in low-impact changes that are easy to implement rather than high-impact ones that might take more effort or be more costly. Finally, it is important to note that individuals are constrained in their behaviour by broader financial and

infrastructural factors, which may explain why emissions-related actions are often related to socio-demographic characteristics.

Figure A6.1. Awareness of climate change and global warming, by students' socio-economic status (2018)

15-year-old students; Programme for International Student Assessment (PISA 2018); in per cent



Note: Advantaged students refer to the top quartile and disadvantaged students to the bottom quartile.
Countries are ranked in descending order of the share of advantaged students who know about or are very familiar with climate change and global warming.
See Table A6.1for data and under Chapter A6 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Other findings

- Among OECD and partner countries participating in the 2018 Programme for International Student Assessment (PISA), the share of 15-year-olds from advantaged socio-economic backgrounds who are aware of climate change is on average 20 percentage points higher than the share of those from disadvantaged backgrounds. In around one-quarter of countries, the gap is 27 percentage points or more.
- The proportion of individuals who personally consider climate change and other environmental issues to be important is generally higher among those with higher levels of educational attainment.

Note

Caution is needed when interpreting results from different survey sources. When the data were collected is an important factor in measuring environmental awareness and action. The PISA data were gathered in 2018 and thus predate important factors influencing how youth perceive and react to the world and climate change such as the Fridays for Future movement.

In addition, caution must also be used when comparing the results on environmental awareness or action across countries, since each country (and even regions within countries) have different reactions to and priorities related to climate.

Analysis

The 4As Framework

Academic research by Meyer (2015[5]) and Grandin et al. (2022[6]) highlights a strong correlation between environmental awareness, acknowledgement, attitudes and actions and both educational attainment and socio-economic background. Individuals with higher educational attainment and from more advantaged socio-economic backgrounds tend to be more pro-environmental in each of these four areas. This is further supported by the work of Casaló and Escario (2018[7]).

The 4As framework provides a comprehensive lens through which to assess the cognitive and behavioural dimensions that shape an individual's interaction with the environment:

- Awareness of environmental issues refers to an individual's grasp and perception of environmental situations, as well as their anticipation of future developments.
- Acknowledgement of environmental issues refers to the societal norm or acknowledgment of environmental issues that shapes individual perspectives.
- Attitudes towards environmental issues encompass the emotions and beliefs moderated by an individual's value system that influence their attitude towards environmental issues.
- Action on environmental issues is the outward expression of an individual's attitudes through their actions and behaviours in addressing environmental challenges.

Using this comprehensive framework, this chapter aims to explore individuals' orientation towards environmental issues and how this manifests across these four dimensions, based on two main surveys. It uses data from the PISA 2018 survey to analyse awareness and actions, covering 15-year-old students, while the analysis of attitudes and acknowledgement draws on adults' responses to Round 8 of the European Social Survey (ESS), the International Social Survey Programme (ISSP) and national surveys.

Box A6.1 provides more recent insights into the 4As from the perspective of household behaviour, based on data from the OECD Environmental Policies and Individual Behaviour Change (EPIC) Survey 2022. In interpreting these results, it is worth noting that people who participate in surveys may tend to minimise their poor environmental behaviours and attitudes (Aydin and Kalburan, 2019[8]).

Environmental awareness

Gauging environmental awareness requires evaluating an individual's level of knowledge about the evidence on climate or environmental issues, and how they perceive it. Students who are familiar with climate change and global warming tend to be aware of these issues, which marks the initial stage in fostering pro-environmentalism.

Research indicates that students from more affluent socio-economic backgrounds exhibit greater awareness of environmental challenges than their counterparts from lower socio-economic strata (Grandin et al., 2022[6]). PISA 2018 evaluated this awareness through a module asking students about their knowledge of climate change challenges and global warming. Across all the countries that participated in this module, the analysis aligned with current literature, finding that advantaged students exhibited greater awareness of environmental challenges compared to disadvantaged students (Figure A6.1).

Figure A6.1 shows that, on average 88% of students from advantaged backgrounds, based on the PISA index of economic, social and cultural status (ESCS), are aware of climate change compared to only 68% of disadvantaged students. While there is variation across OECD countries for both socio-economic levels, the clear and consistent gap in all countries may highlight disparities in educational resources and lack of equitable support in integrating environmental education into curricula at a national level. In around half of the OECD and partner countries participating in PISA 2018, the gap between advantaged and disadvantaged students is 21 percentage points or more (Figure A6.1).

Although there is a significant gap in environmental awareness by socio-economic status, there is no clear gender gap. On average among OECD member and partner countries, 79% of boys and 78% of girls report a level of awareness of climate change challenges (Table A6.1).

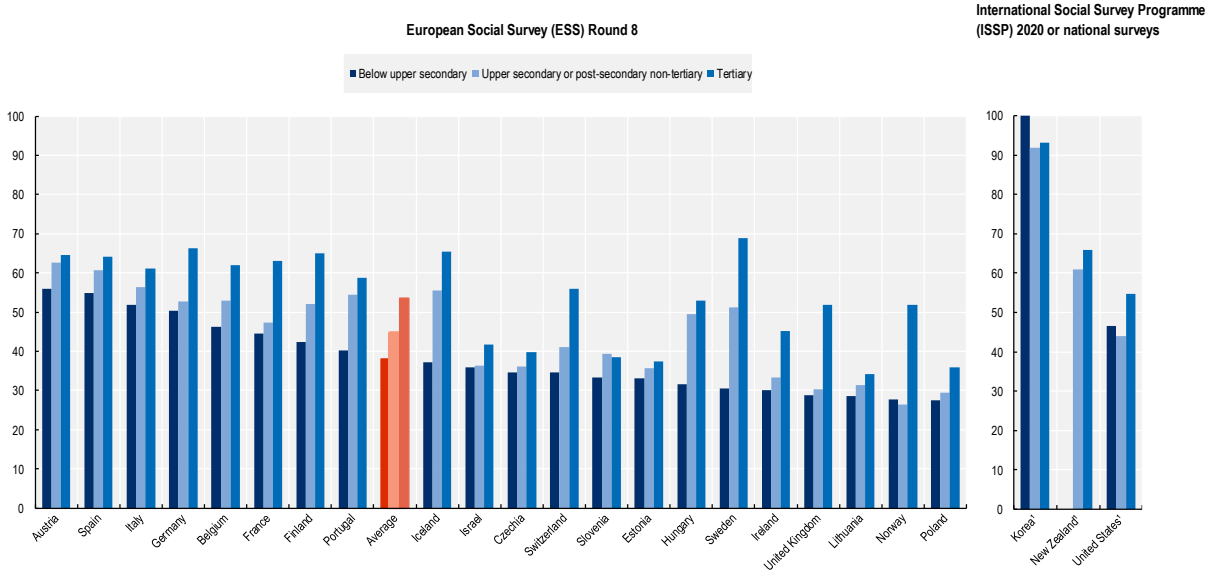
Environmental acknowledgment

Acknowledgement moves beyond awareness by integrating perceived knowledge about climate change and the environment into an individual’s unique perspective. Acknowledgement can be assessed by looking at individuals' perceptions of environmental challenges and the actions that would lead to environmental protection.

On average, among the OECD countries participating in the ESS Round 8 in 2016, 38% of those with below upper secondary attainment acknowledge that climate change is mainly or entirely caused by human activity, compared to 45% for those with upper secondary or post-secondary non-tertiary attainment and 54% for tertiary attainment. In almost all the participating countries, individuals with below upper secondary attainment are less likely to acknowledge the fact that climate change is caused mainly or entirely by human activity than those with greater educational attainment. In all of these countries except Slovenia, tertiary-educated individuals are more likely to acknowledge this fact than those with upper secondary or post-secondary non-tertiary attainment. Of the countries using data from national surveys or the ISSP, tertiary-educated adults are the most likely to acknowledge that climate change is mainly or entirely caused by human activity in New Zealand and the United States, but the opposite is the case in Korea, although the difference by educational attainment is relatively small (Figure A6.2).

Figure A6.2. Share of adults acknowledging human activity causes climate change, by educational attainment (2016)

25-64 year-olds; in per cent



1. Year of reference differs from 2016. Survey question also differs from that used in ESS. Refer to the source table for more details.
Countries are ranked in descending order of the share for adults with below upper secondary attainment acknowledging human activity causes climate change.
See Table A6.2 for data and under Chapter A6 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

On average, among the OECD countries participating in the ESS Round 8, 53% of 18-24 year-olds acknowledge that climate change is mainly or entirely caused by human activity, compared to 46% of 25-64 year-olds. The shares are higher for the younger age group than the older in nearly all OECD countries except Czechia, Hungary and Israel. The difference between age groups is most pronounced in Norway where 57% of 18-24 year-olds acknowledge that climate change is caused mainly or entirely by human activity, compared to only 37% of 25-64 year-olds (Table A6.2).

Environmental attitudes

Measuring individuals' attitudes towards the environment is important because attitudes provide insight into the emotions and beliefs that make up an individual's value system. Building upon awareness and acknowledgement, pro-environmental attitudes imply that environmental issues have been integrated into individuals' value systems, in turn suggesting they would be more likely to take action to protect the environment and lead a sustainable life.

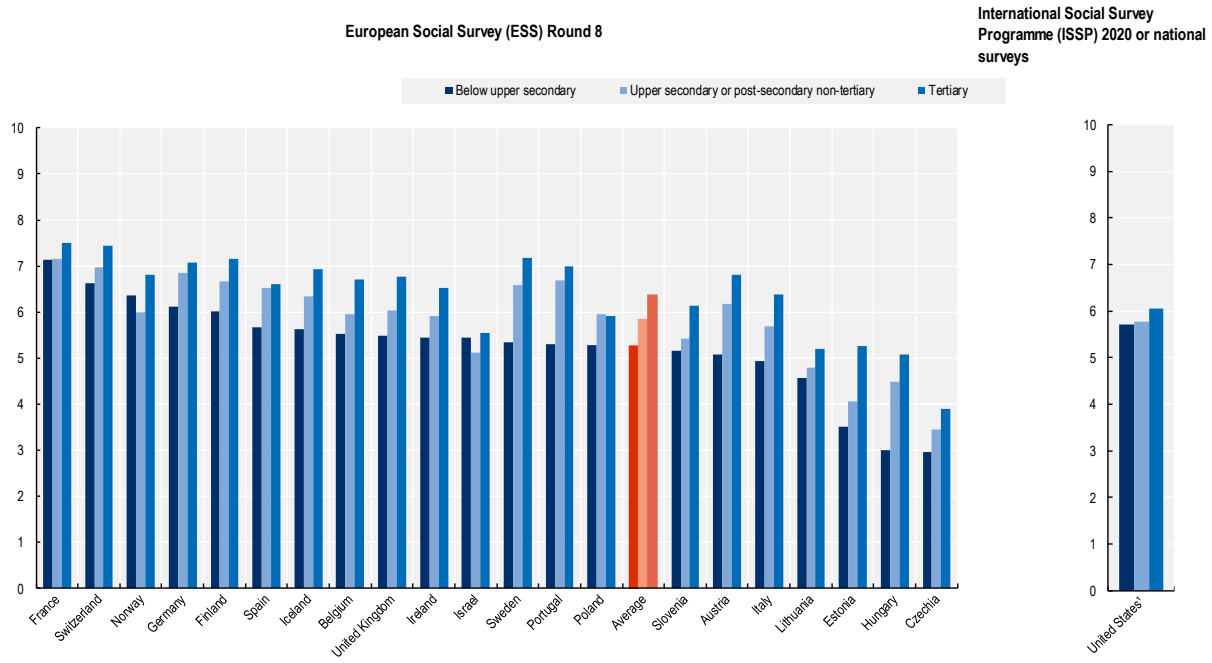
Figure A6.3shows the degree to which adults are motivated to mitigate climate change based on their self-reported responsibility score in the countries participating in the ESS Round 8 or, in the case of the United States, the ISSP. A score of 0 indicates no sense of responsibility towards mitigating climate change, while a score of 10 indicates the strongest sense of responsibility. Adults in France and Switzerland report the highest scores, while those in Czechia, Estonia and Hungary report the lowest (Table A6.3).

The higher the educational attainment of individuals, the greater their motivation towards climate change mitigation efforts. However, the differences are small: less than 2 points between individuals with below upper secondary education and those with tertiary education. Notably, Czechia is the only country where tertiary-educated adults give a score lower than 4 regarding their sense of responsibility; in most countries, the score among those with tertiary attainment is over 6 (Figure A6.3).

The average score for 25-64 year-olds across OECD countries is 5.9, while the average score for 18-24 year-olds is slightly lower at 5.7. This contrasts with the common belief that younger individuals tend to be more pro-environmentally oriented. Although, on average, younger individuals have a stronger understanding of the human causes of climate change, they report less motivation to contribute to solutions. However, in some countries like Estonia, 18-24 year-olds surpass their older compatriots, with an average score of 5, compared to 4.4 for 25-64 year-olds (Table A6.1).

Figure A6.3. Mean scores for adults' motivation to reduce climate change, by educational attainment (2016)

25–64-year-olds; in per cent



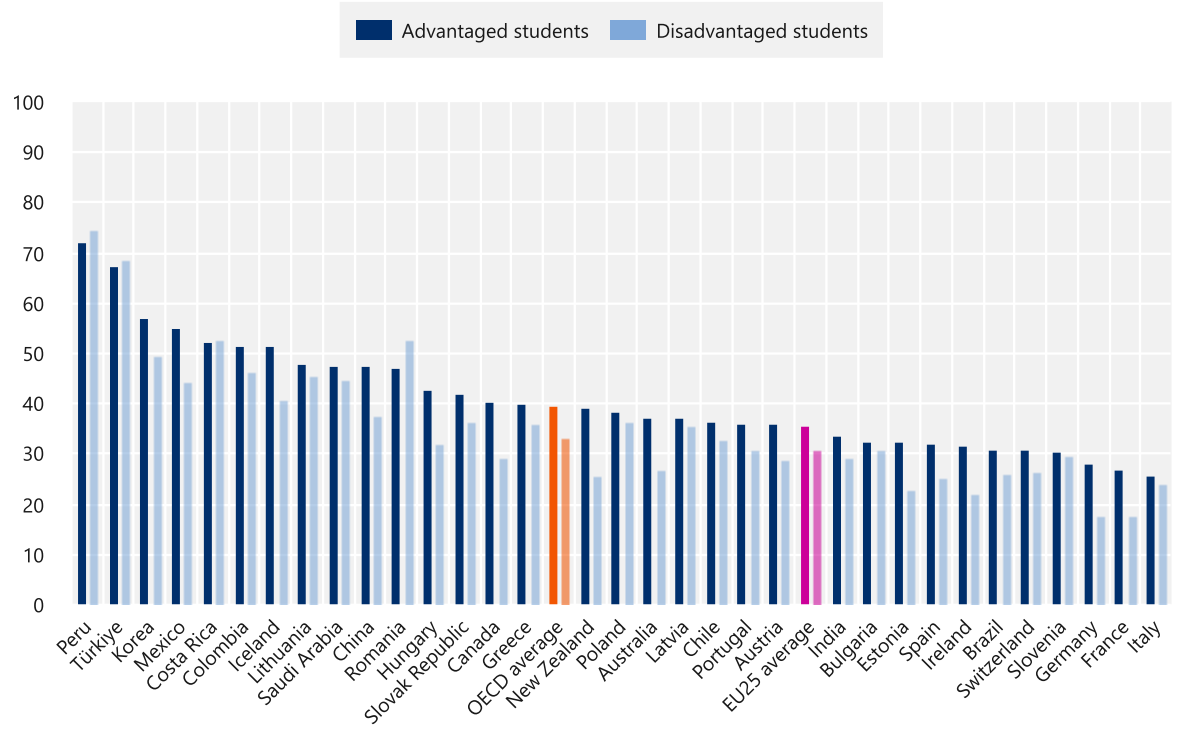
Note: Scores range from 0 to 10, with 0 indicating a complete lack of responsibility towards reducing climate change.
1. Year of reference differs from 2016. Survey question also differs from that used in ESS. Refer to the source table for more details.
Countries are ranked in descending order of the mean score among adults with below upper secondary educational attainment.
See Table A6.3 for data and under Chapter A6 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Environmental actions

When individuals take a conscious step to protect the environment, that means they are also aware of the challenges posed by climate change and global warming, they acknowledge these challenges and they have the attitude to want to change them.

Figure A6.4. Engagement in pro-environmental actions, by student's socio-economic status (2018)

15-year-old students; Programme for International Student Assessment (PISA 2018); in per cent



Note: Advantaged students refer to the top quartile and disadvantaged students to the bottom quartile.
Countries are ranked in descending order of the share of advantaged students who reported engaging in activities that are beneficial to the environment.
See Table A6.1 for data and under Chapter A6 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

On average across the OECD countries that participated in the PISA module on climate change, 40% of advantaged and 33% of disadvantaged students had taken at least one action to fight against climate change (Figure A6.4). This 7 percentage-point difference between socio-economic groups is much smaller than the 20 percentage-point difference in awareness and suggests that engagement in environmental action is fairly low across all socio-economic backgrounds. Taking action to tackle an issue means overcoming more obstacles and making more efforts than being aware of it, making it harder to transform awareness into action. As Hadler and colleagues (2022[4]) claim, there are gaps between environmental attitudes and behaviour, and between environmental behaviour and the actual ecological impact of the actions concerned (see Box A6.1). Understanding the potential obstacles and their implications for turning awareness into action and action into impact could have a transformative effect in reducing the mismatch between people's intentions and their impact on the environment through education ((OECD, 2022[3])

Box A6.1. Analysis of the OECD Environmental Policies and Individual Behaviour Change (EPIC) survey 2022 household data

Household consumption can have a significant impact on the environment. The OECD Survey on Environmental Policies and Individual Behaviour Change (EPIC), conducted in nine countries (Belgium, Canada, France, Israel, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States), explores the factors influencing household decisions and the self-reported effects of policies on these decisions (OECD, 2023[9]). The survey includes data on energy use, transportation, waste management and food consumption. The key findings of a descriptive analysis of the data include:

- Energy: Adoption of renewable energy and low-emission technologies is relatively low, with fewer than one-third of households for whom installation is possible installing heat pumps (30%), solar panels (29%) or battery storage (27%).
- Transport: On average 75% of households report that at least one household member uses a conventional car on a regular basis while 54% of respondents indicate that better public transport would encourage them to use cars less.
- Food consumption: Households' main reported priorities when buying food are affordability (64%), taste (61%), freshness (60%) and nutritional value (54%). Less than 25% indicate that environmental impacts are a top priority.
- Waste practices: Although 83% use reusable shopping bags, fewer engage in buying items second-hand (37%) or renting instead of purchasing (22%). Households with recycling services produce 26-42% less non-recyclable waste, and those charged for waste disposal compost 55% of their food waste compared to 35% among those who are not charged.

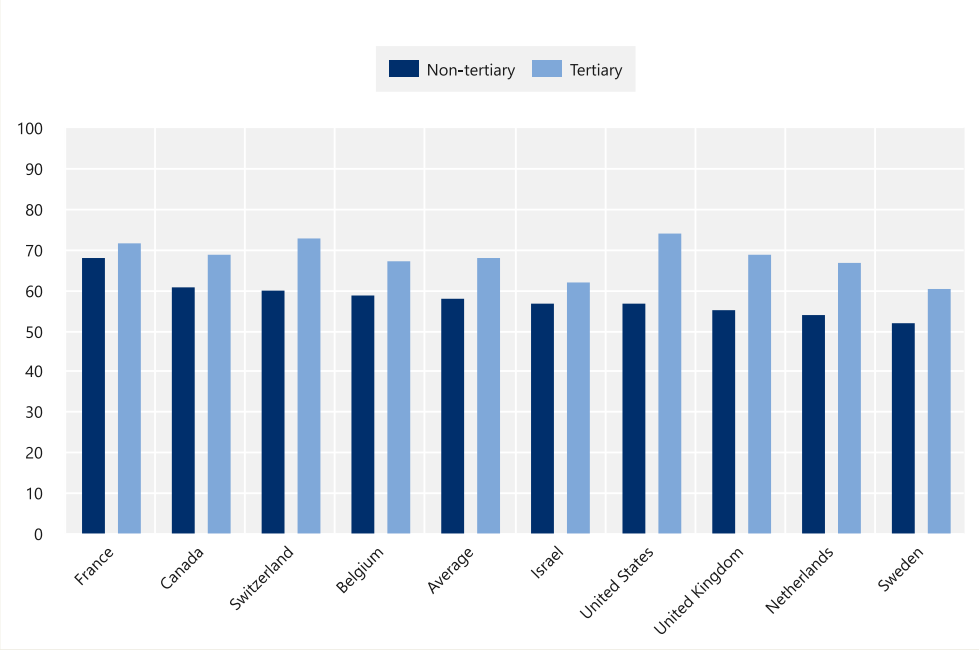
The EPIC dataset covers over 17 000 respondents and provides insights into households' socio-economic characteristics, as well as their environmental knowledge, actions and the barriers they face in making more sustainable choices. Disaggregating responses to these questions by level of educational attainment provides an indication of the impact of education on people's knowledge about and beliefs surrounding environmental issues, as well as their environmentally related behaviours.[1]

Figure A6.5 shows that the share of individuals who consider climate change or other environmental issues to be personally important to them is generally higher among those with tertiary educational attainment. This observation holds for all the countries surveyed although differences between those with tertiary education and lower educational attainment vary by country. These differences by attainment level appear most pronounced in the United States, where the difference in the share reporting environmental concern between those with and without tertiary attainment is 18 percentage points, followed by the United Kingdom, where it is 14 percentage points. In general, however, higher levels of educational attainment are associated with greater awareness and acknowledgement of climate change and other environmental issues.

As well as environmental concern, a number of other attitudes toward the environment can be considered important for fostering sustainable behaviour. Figure A6.5 shows responses to three additional questions about environmental attitudes: whether individuals are willing to make compromises in their lifestyle to benefit the environment, whether they agree that environmental action can have economic benefits and whether they disagree with leaving it to future generations to address environmental issues. Consistent with the findings presented elsewhere in this chapter, Figure A6.6 indicates that tertiary educational attainment tends to correlate with more pro-environmental attitudes.

There is a clear difference between individuals with and without tertiary education with respect to their stated willingness to make lifestyle compromises across all the countries surveyed, although it is important to note that this difference may also stem from differences in other factors such as income levels (Panel a). Tertiary attainment also appears to be associated with the belief that environmental action can generate economic benefits (Panel b). However, when it comes to inter-generational responsibility for addressing environmental issues the pattern is more complex (Panel c). In the majority of countries surveyed, a larger proportion of individuals with tertiary educational attainment believe that these issues should not be left for future generations to deal with. This pattern is reversed in the United States, while there is no significant difference by educational attainment in France and the United Kingdom (Panel c). In general, shares in Panel c are relatively lower than in Panels a and b, indicating less positive attitudes overall to not leaving environmental issues for future generations to tackle, regardless of attainment levels. Given the pressing nature of climate change and environmental challenges, these views highlight the need for individuals of all ages to continue learning about sustainability to support intergenerational approaches to climate action.

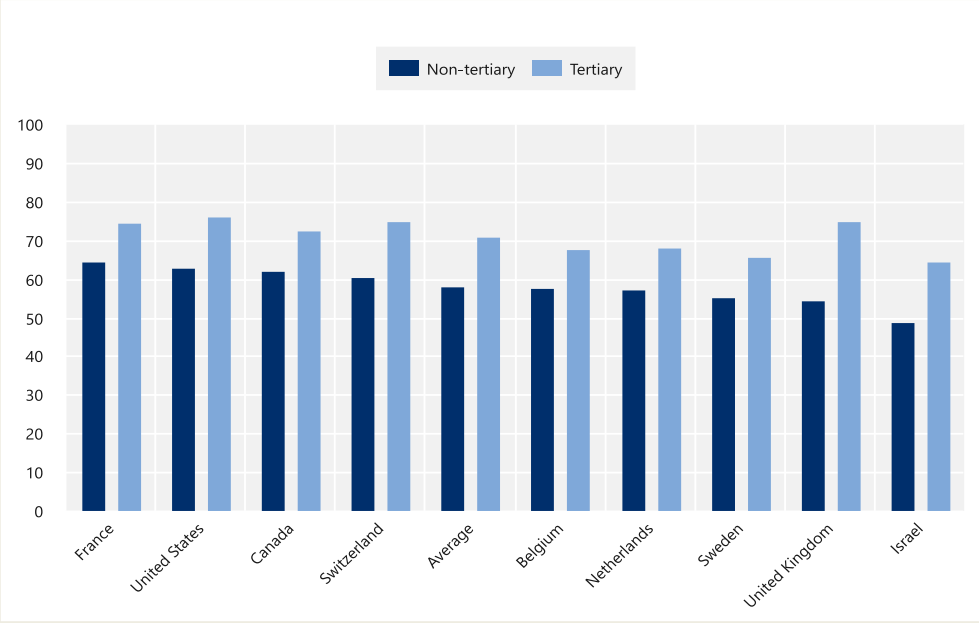
Figure A6.5. Share of adults who regard climate change and other environmental issues to be important to them, by educational attainment (2022)



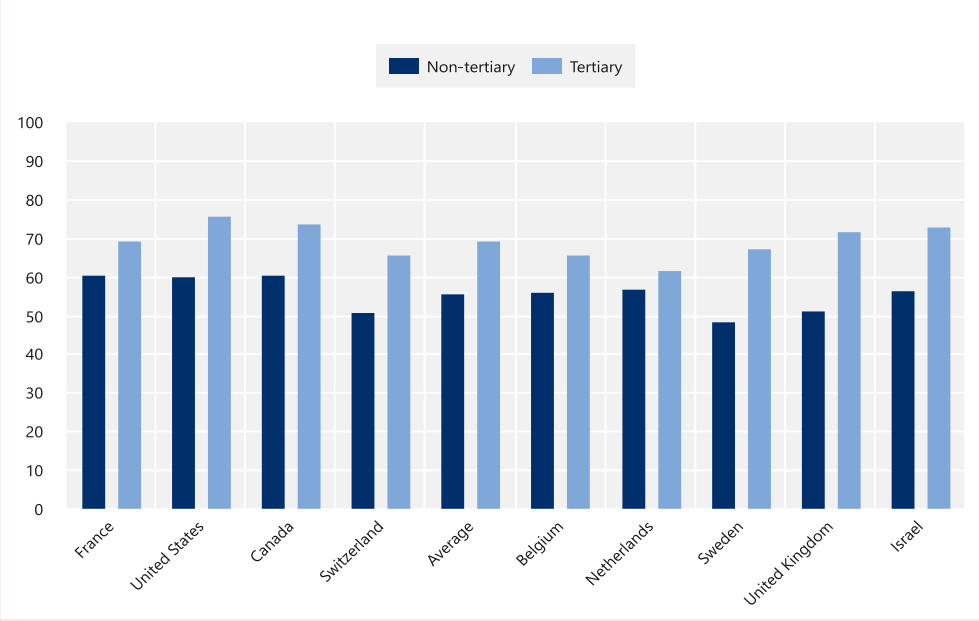
Countries are ranked in descending order of the share of 25-54 year-olds without tertiary educational attainment who responded "important" or "very important" to the statement. See Table A6.4, available online for data and under Chapter A6 Tables for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Figure A6.6. Responses to environmental statements among 25-54 year-olds, by educational attainment (2022)

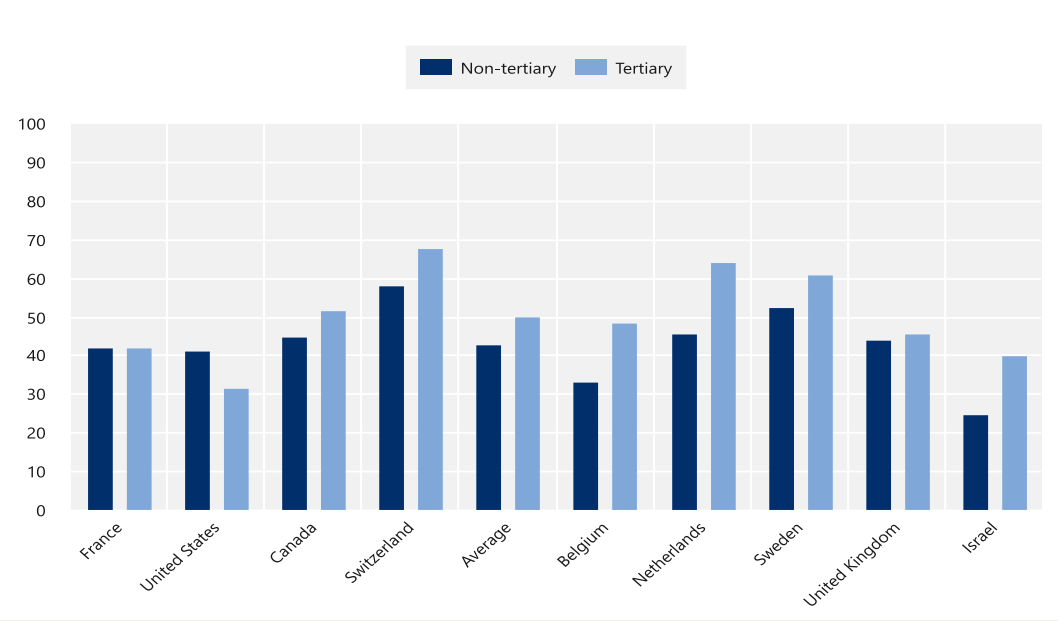
Panel a: Share of those responding “agree” or “strongly agree” to the statement "I am willing to make compromises in my current lifestyle for the benefit of the environment"; in per cent



Panel b: Share of those responding “agree” or “strongly agree” to the statement "Protecting the environment can boost the economy"; in per cent



Panel c. Share of those responding “disagree” or “strongly disagree” to the statement "Environmental issues should be dealt with primarily by future generations"; in per cent



Countries are ranked in descending order of the share of adults without tertiary educational attainment who agree or strongly agree with the statement in Panel a.
See Table A6.4, available on line for data and under Chapter A6 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Note: The figures in this report are not directly comparable with those in the original EPIC report as the category labelled “tertiary education” in this report is not the same as to the “higher education” category in the original EPIC report and the age groups analysed are different: this analysis focuses on the 25-54 age group, while EPIC includes individuals aged 18 and older. For more information see *Definitions*, *Methodology* and *Source* sections and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Definitions

Age group: Although there is explicit reference to 18-24 year-olds throughout this chapter, the term **adult** is used only in reference to 25-64 year-olds, or to 25-54 year-olds when referring to EPIC data.

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.

Student socio-economic status: The PISA index of economic, social and cultural status (ESCS) is a composite measure that combines the financial, social, cultural, and human capital resources available to students into a single score. It is derived from three variables related to family background: parents’ highest level of education, parents’ highest occupational status and home possessions, which includes items like books in the home.

Methodology

Table A6.1: Environmental awareness refers to the percentage of students who reported knowing about or being very familiar with climate change and global warming; pro-environmental actions refer to the percentage of students who reported having engaged in activities that are beneficial to the environment; and students' socio-economic status is measured by the PISA index of economic, social and cultural status (ESCS).

The five actions included in PISA are the following:

- Action 1: I reduce the energy I use at home (e.g. by turning the heating down or turning the air conditioning down or by turning off the lights when leaving a room) to protect the environment.
- Action 2: I choose certain products for ethical or environmental reasons, even if they are a bit more expensive.
- Action 3: I sign environmental or social petitions on line.
- Action 4: I boycott products or companies for political, ethical or environmental reasons.
- Action 5: I participate in activities in favour of environmental protection.

While Actions 1 and 5 reference direct pro-environmental behaviours, Actions 2-4 may be more broadly described as actions related to pro-environmental advocacy. Distinguishing between the nature of these actions is integral to understanding the gaps between attitudes, action and impact.

Table A6.2: Data from the European Social Survey (ESS) Round 8 on individuals who attributed climate change mainly or entirely to human activities in response to the question: “Do you believe that climate change is a result of natural processes, human activity, or a combination of both?” The answer options were:

- Entirely by natural processes.
- Mainly by natural processes.
- About equally by natural processes and human activity.
- Mainly by human activity.
- Entirely by human activity.
- I don’t think climate change is happening.
- Refusal.
- Don’t know.

Note that the reported levels of acknowledgement are lower than in other recent OECD surveys exploring climate change (Dechezleprêtre et al., 2022[10]). This discrepancy may be partly due to changes in public opinion since 2016, as well as the fact that acknowledgement in this case only includes respondents who believe climate change is “entirely” or “mainly” caused by human activity, and not those who believe it has both human and natural causes.

Table A6.3: Average scores of adults who answered the question in the European Social Survey (ESS) Round 8: "To what extent do you feel a personal responsibility to try to reduce climate change?" Respondents could give a rating from 0 (no felt responsibility) to 10 (great felt responsibility) reflecting their felt personal responsibility. The data in the table show the mean score provided by individuals.

Table A6.4 (available on line): Data from the EPIC survey on:

- Importance of environmental issues: Data are based on Question 23 “How important are each of the following issues to you personally?” The selected answer for Table A6.4 (available on line) is the following: “Climate change or other environmental issues”.

- Responses to environmental statements: Data are based on Question 29 “To what extent do you agree with each of the following statements?” The following answers were selected and analysed for Table A6.4 (available on line):
  - I am willing to make compromises in my current lifestyle for the benefit of the environment.
  - Protecting the environment can boost the economy.
  - Environmental issues should be dealt with primarily by future generations.

For more information see *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Source

Data from PISA are from the special module in the 2018 round. Data from the ESS are from Round 8. Data from the International Social Survey Programme (ISSP) are from 2020. Data for New Zealand come from their 2023 national Environmental Issues, Awareness and Action survey. Data from the Environmental Policies and Individual Behaviour Change (EPIC) survey are from the third round. For more information see *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

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Chapter A6 Tables

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

Table A6.1	Share of students reporting awareness and actions of climate change and global warming, by students' socio-economic status and gender (2018)
Table A6.2	Share of adults acknowledging human activity causes climate change, by educational attainment, gender, country of birth and age group (2016)
Table A6.3	Mean scores for adults' motivation to mitigate climate change, by educational attainment, gender, country of birth and age group (2016)
WEB Table A6.4	*Importance of environmental issues and responses to environmental statements, by educational attainment (2022)*

StatLink https://stat.link/39852j

Cut-off date for the data: 14 June 2024. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en.

Table A6.1. Share of students reporting awareness and actions of climate change and global warming, by students' socio-economic status and gender (2018)

Programme for International Student Assessment (PISA) 2018; 15-year-old students

	Environmental awareness				Environmental actions			
	Socio-economic status		Gender		Socio-economic status		Gender	
OECD countries	Bottom quartile (disadvantaged)	Top quartile (advantaged)	Boys	Girls	Bottom quartile (disadvantaged)	Top quartile (advantaged)	Boys	Girls
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Australia	74	91	83	82	27	37	28	33
Austria	63	90	80	76	29	36	34	31
Belgium	66	92	82	80	m	m	m	m
Canada	80	93	87	88	29	41	30	38
Chile	59	83	74	70	33	37	33	37
Colombia	66	80	72	71	46	52	49	50
Costa Rica	63	86	75	72	53	52	51	57
Czechia	m	m	m	m	m	m	m	m
Denmark	m	m	m	m	m	m	m	m
Estonia	73	90	82	80	23	33	27	30
Finland	m	m	m	m	m	m	m	m
France	67	94	83	79	18	27	23	20
Germany	70	93	84	81	18	28	21	22
Greece	61	85	72	73	36	40	38	39
Hungary	59	90	78	74	32	43	38	37
Iceland	63	89	78	75	41	52	42	52
Ireland	77	94	86	87	22	32	24	30
Israel	56	78	69	67	m	m	m	m
Italy	71	84	77	78	24	26	26	22
Japan	m	m	m	m	m	m	m	m
Korea	81	95	88	88	50	57	52	52
Latvia	65	84	74	77	36	37	33	40
Lithuania	70	89	78	83	46	48	42	51
Luxembourg	m	m	m	m	m	m	m	m
Mexico	69	85	76	78	44	55	48	52
Netherlands	78	93	88	82	m	m	m	m
New Zealand	70	90	82	79	26	39	27	35
Norway	m	m	m	m	m	m	m	m
Poland	65	85	77	74	36	39	35	41
Portugal	71	94	85	82	31	36	33	35
Slovak Republic	53	82	68	71	37	42	39	45
Slovenia	67	89	78	78	30	31	34	28
Spain	72	89	81	81	25	32	29	28
Sweden	m	m	m	m	m	m	m	m
Switzerland	66	90	79	78	27	31	28	27
Türkiye	76	85	75	83	69	68	64	72
United Kingdom	m	m	m	m	m	m	m	m
United States	m	m	m	m	m	m	m	m
Other participants								
Scotland (UK)	65	92	81	76	16	26	18	21
OECD average	68	88	79	78	33	40	35	38
Partner and/or accession countries								
Argentina	m	m	m	m	m	m	m	m
Brazil	35	64	51	49	26	31	27	29
Bulgaria	47	78	61	61	31	33	30	31
China	56	83	66	73	38	48	40	44
Croatia	m	m	m	m	m	m	m	m
India	69	88	77	78	29	34	33	31
Indonesia	m	m	m	m	m	m	m	m
Peru	47	70	55	58	75	72	74	72
Romania	79	87	82	82	53	47	47	50
Saudi Arabia	47	76	60	62	45	48	44	52
South Africa	m	m	m	m	m	m	m	m
EU25 average	67	88	79	78	31	36	33	34
G20 average	66	86	76	77	33	40	35	38

Note: See under Chapter A6 Tables for StatLink and Box A6.2. for the notes related to this table.
Source: OECD/ILO/UIS (2024). See *Source* section for more information and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Table A6.2. Share of adults acknowledging human activity causes climate change, by educational attainment, gender, country of birth and age group (2016)

European Social Survey (ESS) Round 8, International Social Survey Programme (ISSP) 2020 or national surveys; 25-64 year-olds

	European Social Survey (ESS)														
	By educational attainment														
	Below upper secondary					Upper secondary or post-secondary non-tertiary					Tertiary				
	Gender		Country of birth			Gender		Country of birth			Gender		Country of birth		
OECD countries	Men	Women	Born in the country	Born abroad	Total	Men	Women	Born in the country	Born abroad	Total	Men	Women	Born in the country	Born abroad	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Austria	66	51	57	53	56	61	65	64	54	63	71	59	63	71	64
Belgium	46	46	47	44	46	53	53	53	54	53	64	60	62	64	62
Czechia	37	33	35	28	35	36	37	36	58	36	39	40	40	31	40
Estonia	33	34	31	55	33	35	37	36	33	36	32	40	37	41	37
France	52	39	44	46	44	53	42	47	55	47	60	66	63	66	63
Finland	39	48	44	25	42	51	53	53	38	52	63	66	67	41	65
Germany	51	50	49	54	50	52	54	54	45	53	67	65	67	59	66
Hungary	43	23	31	100	32	48	52	49	86	50	53	53	54	28	53
Iceland	39	36	37	46	37	53	59	56	49	56	68	64	65	66	65
Ireland	33	27	30	27	30	37	30	32	37	33	46	44	43	51	45
Israel	39	33	37	29	36	42	30	36	38	36	41	42	44	35	42
Italy	56	48	53	49	52	59	54	57	55	56	61	61	61	62	61
Lithuania	31	25	27	71	28	30	33	32	7	31	37	33	34	26	34
Norway	25	34	28	28	28	24	29	25	36	26	51	52	52	52	52
Poland	29	26	27	c	27	26	32	30	0	29	29	40	36	c	36
Portugal	48	33	38	75	40	55	54	52	68	54	70	52	57	71	59
Slovenia	44	24	35	29	33	41	37	40	38	39	32	42	39	33	38
Spain	58	51	56	42	55	67	54	61	61	61	63	65	65	59	64
Sweden	31	30	28	37	30	48	55	53	40	51	66	71	69	72	69
Switzerland	39	32	37	33	35	40	42	41	40	41	58	53	59	51	56
United Kingdom	35	23	28	35	29	28	33	30	36	30	53	51	58	36	52
Average	42	35	38	45	38	45	44	44	44	45	54	53	54	51	54

	International Social Survey Programme (ISSP) or national surveys														
	By educational attainment														
	Below upper secondary					Upper secondary or post-secondary non-tertiary					Tertiary				
	Gender		Country of birth			Gender		Country of birth			Gender		Country of birth		
OECD countries	Men	Women	Born in the country	Born abroad	Total	Men	Women	Born in the country	Born abroad	Total	Men	Women	Born in the country	Born abroad	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Korea[1]	100	100	m	m	100	96	89	m	m	92	92	95	m	m	93
New Zealand[1,2]	m	m	m	m	x(10)	m	m	m	m	61[d]	m	m	m	m	66
United States[1]	47	47	m	m	47	38	50	m	m	44	53	56	m	m	55

Note: See under Chapter A6 Tables for StatLink and Box A6.2. for the notes related to this table.
Source: OECD/ILO/UIS (2024). See *Source* section for more information and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Table A6.3. Mean scores for adults' motivation to mitigate climate change, by educational attainment, gender, country of birth and age group (2016)

European Social Survey (ESS) Round 8, International Social Survey Programme (ISSP) 2020 or national surveys; 25-64 year-olds

	European Social Survey (ESS)														
	By educational attainment														
	Below upper secondary					Upper secondary or post-secondary non-tertiary					Tertiary				
	Gender		Country of birth			Gender		Country of birth			Gender		Country of birth		
OECD countries	Men	Women	Born in the country	Born abroad	Total	Men	Women	Born in the country	Born abroad	Total	Men	Women	Born in the country	Born abroad	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Austria	5.2	5.0	5.3	4.4	5.1	6.2	6.2	6.2	5.6	6.2	7.1	6.6	6.9	6.6	6.8
Belgium	5.5	5.6	5.5	5.5	5.5	5.8	6.1	6.0	5.9	5.9	6.5	6.9	6.7	6.6	6.7
Czechia	3.3	2.8	3.0	1.7	3.0	3.3	3.6	3.4	3.8	3.4	3.7	4.1	3.9	2.9	3.9
Estonia	3.3	3.9	3.4	4.2	3.5	3.8	4.4	4.2	3.2	4.1	5.2	5.3	5.3	5.2	5.3
France	7.6	6.8	7.0	7.7	7.1	7.1	7.2	7.1	7.4	7.2	7.6	7.4	7.5	7.5	7.5
Finland	5.5	6.9	6.1	5.4	6.0	6.3	7.1	6.6	7.5	6.7	6.7	7.5	7.2	7.2	7.2
Germany	6.4	5.9	6.3	5.7	6.1	6.6	7.1	6.9	6.6	6.8	7.1	7.0	7.2	6.3	7.1
Hungary	3.1	2.9	3.0	1.0	3.0	4.3	4.6	4.5	5.2	4.5	4.6	5.4	5.1	4.6	5.1
Iceland	4.9	6.6	5.6	6.0	5.6	6.0	6.8	6.3	6.2	6.3	6.4	7.3	6.9	7.4	6.9
Ireland	5.6	5.3	5.5	5.0	5.4	6.0	5.8	5.9	5.9	5.9	6.4	6.6	6.4	6.8	6.5
Israel	5.6	5.2	5.5	4.9	5.4	5.2	5.0	5.2	4.8	5.1	5.3	5.7	5.7	5.1	5.5
Italy	4.9	4.9	5.0	4.6	4.9	5.8	5.6	5.7	5.2	5.7	6.3	6.4	6.4	6.7	6.4
Lithuania	4.5	4.6	4.6	4.1	4.6	4.7	4.9	4.8	6.2	4.8	5.1	5.3	5.2	4.6	5.2
Norway	5.9	7.3	6.4	6.1	6.4	5.5	6.5	5.9	6.9	6.0	6.5	7.0	6.8	6.9	6.8
Poland	5.3	5.2	5.3	c	5.3	5.8	6.1	6.0	3.5	6.0	5.6	6.1	5.9	4.5	5.9
Portugal	5.4	5.2	5.2	6.7	5.3	7.0	6.4	6.6	7.2	6.7	7.3	6.8	6.9	7.6	7.0
Slovenia	5.6	4.8	5.6	3.7	5.2	5.4	5.5	5.5	4.8	5.4	5.7	6.5	3.7	3.7	6.1
Spain	5.6	5.7	5.7	5.7	5.7	6.4	6.7	6.4	7.0	6.5	6.6	6.6	6.5	7.2	6.6
Sweden	4.5	6.5	5.4	5.3	5.3	6.2	7.0	6.6	6.3	6.6	6.9	7.3	7.2	6.8	7.2
Switzerland	6.6	6.6	7.3	6.2	6.6	6.7	7.2	7.0	6.7	7.0	7.4	7.5	7.6	7.2	7.4
United Kingdom	5.4	5.6	5.6	5.1	5.5	5.8	6.2	5.9	6.8	6.0	6.6	6.9	6.8	6.5	6.8
Average	5.2	5.4	5.3	4.9	5.3	5.7	6.0	5.8	5.8	5.8	6.2	6.5	6.3	6.1	6.4

	International Social Survey Programme (ISSP) or national surveys														
	By educational attainment														
	Below upper secondary					Upper secondary or post-secondary non-tertiary					Tertiary				
	Gender		Country of birth			Gender		Country of birth			Gender		Country of birth		
OECD countries	Men	Women	Born in the country	Born abroad	Total	Men	Women	Born in the country	Born abroad	Total	Men	Women	Born in the country	Born abroad	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
United States[1]	5.7	5.7	m	m	5.7	5.6	5.9	m	m	5.8	6.0	6.1	m	m	6.1

Note: See under Chapter A6 Tables for StatLink and Box A6.2 for the notes related to this table.
Source: OECD/ILO/UIS (2024). See *Source* section for more information and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Box A6.2. Notes for Chapter A6 Tables

Table A6.1 Share of students reporting awareness and actions of climate change and global warming, by students' socio-economic status and gender (2018)

Note: Environmental awareness refers to knowing about or being very familiar with climate change and global warming. Environmental actions refer to having engaged in activities that are beneficial to the environment. Students' socio-economic status is measured by the PISA index of economic, social and cultural status (ESCS). Standard errors and a breakdown of students by international ESCS decile are available for consultation on line. Countries with missing data are those which did not participate in the corresponding PISA module. See *Definitions* and *Methodology* sections for more information.

Table A6.2 Share of adults acknowledging human activity causes climate change, by educational attainment, gender, country of birth and age group (2016)

Note: See the *Methodology* section for information on the questions asked in the different surveys. Caution should be used when comparing data from different data sources and different survey years. Columns showing data by age group are available for consultation on line (see Chapter A6 Tables under for StatLink).

1. Year of reference differs from 2016: 2023 for New Zealand; 2020 for Korea and the United States.

2. New Zealand lacks comparable data for the given questions but has survey-based information for related questions. Specifically, it has data on the share of adults who consider climate change important and motivations for reducing environmental impact, which differ from the exact measures in the European Social Survey (see *Education at a Glance 2024 Sources, Methodologies and Technical Notes*, https://doi.org/10.1787/e7d20315-en). Additionally, New Zealand's data cannot be fully mapped to the ISCED categories, with totals only provided.

Table A6.3 Mean scores for adults' motivation to mitigate climate change, by educational attainment, gender, country of birth and age group (2016)

Note: See the *Methodology* section for information on the questions asked in the different surveys. Scores range from 0 to 10, with 0 indicating a complete lack of responsibility towards reducing climate change. Columns showing data by age group are available for consultation on line (see under Chapter A6 Tables for StatLink).

1. Year of reference differs from 2016: 2020 for the United States.

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

Part B. Access to education, participation and progression

Chapter B1. How does participation in early childhood education and care differ among countries?

Highlights

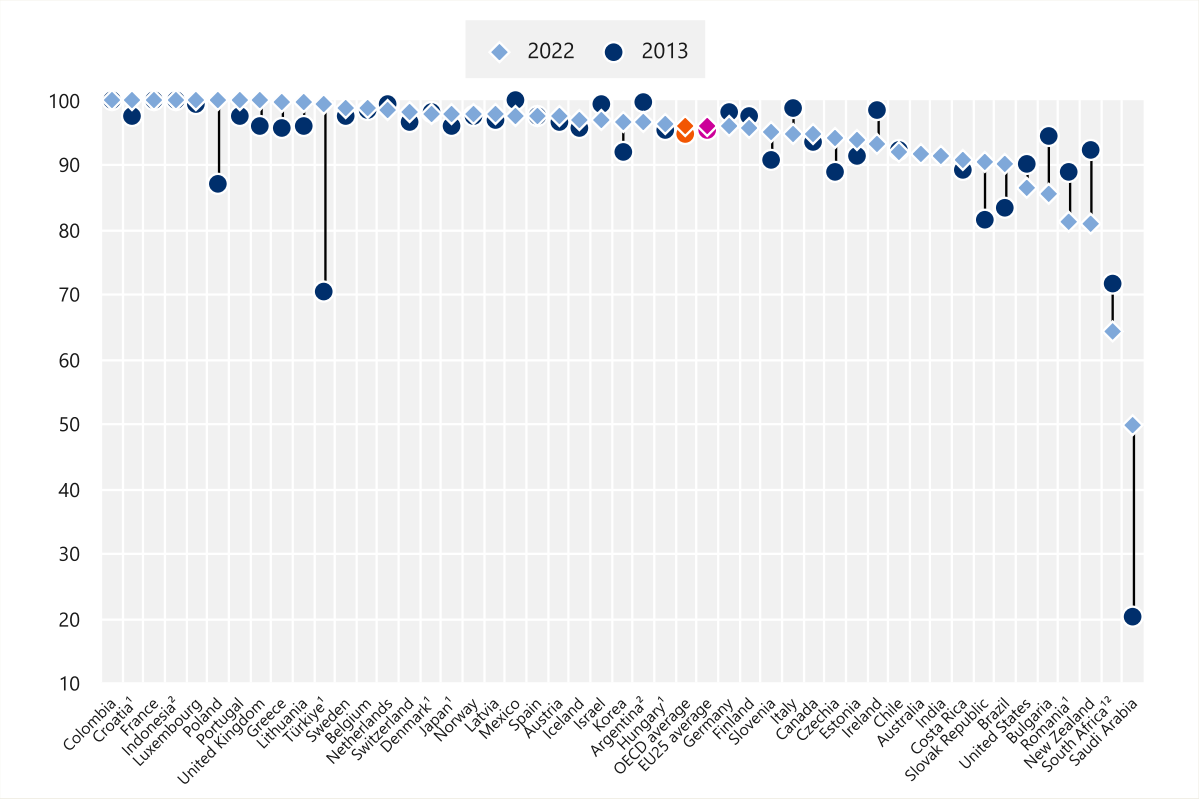
- Most children aged 3 to 5 (84%) attend early childhood education (ECE) programmes across the OECD, yet only 32% of those aged 0 to 2 are enrolled in early childhood educational development programmes (ISCED 01) on average. Younger children from low-income families are least likely to attend these programmes, despite being likely to benefit the most.
- Almost all OECD countries provide at least one year of free early childhood education before primary school. By 2022, enrolment rates among children the year before they reach primary school age averaged 95% across OECD countries, a 1-percentage point increase since 2013.
- Public provision of early childhood educational development services (ISCED 01) is lower in many OECD countries than public pre-primary provision (ISCED 02). On average across OECD countries, one-third of children in pre-primary education are enrolled in private institutions, whereas half of those in early childhood educational development are enrolled in private institutions.

Context

Education in the early years has a crucial role in children's development and well-being. An expanding body of scientific research indicates that early childhood education and care (ECEC) substantially improves children's language, cognitive, social and emotional skills while fostering the self-regulation and confidence they need for a smooth transition into primary school in the short term (Yoshikawa, Weiland and Brooks-Gunn, 2016[1]; Shuey and Kankaraš, 2018[2]; OECD, 2020[3]; OECD, 2021[4]). Furthermore, the progress that children make in their first years can have a lasting impact on their educational attainment, academic performance, well-being and earnings in later life (García et al., 2020[5]; Heckman and Karapakula, 2019[6]). Beyond these individual benefits, well-designed and high-quality ECEC programmes are likely to benefit children from less advantaged socio-economic backgrounds and help reduce social inequalities by promoting equitable opportunities among children in the longer term (Duncan et al., 2023[7]; OECD, 2024[8]). Consequently, these programmes can help to reduce the disparities in academic performance across socio-economic classes, genders, and rural and urban populations and strengthen social cohesion among children (UNICEF, 2019[9]). Families and society also benefit from ECEC in both the short and long term, through the increased engagement of parents, especially women, in the labour market (OECD, 2021[4]).

Figure B1.1. Trends in enrolment rates of young children one year before the typical primary entry age (2013 and 2022)

SDG Indicator 4.2.2.



1. Year of reference differs from 2013. Refer to the source table for more details.
2. Year of reference differs from 2022. Refer to the source table for more details.

Countries are ranked in descending order of the enrolment rate of young children one year before the typical primary entry age in 2022.

See Table B1.2 for data and under Chapter B1 Tables for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Other findings

- Over the last decade, Saudi Arabia and Türkiye stand out for the remarkable increase in enrolment – by about 30 percentage points – among children in the year before they reach the official age for starting primary education.
- Children in capital cities are less likely to participate in formal education in a number of countries. For example, in Chile, the Santiago metropolitan area has among the lowest enrolment rates for 3-5 year-olds in the country. Even in countries where the enrolment of 3-5 year-olds exceeds 90% nationally, capital cities tend to have some of the lowest share of children participating in formal education.
- In Korea, Lithuania and Portugal children benefit from the guaranteed provision of free ECEC for a minimum of five years, spanning from the end of paid maternity, parental or home care leave to the start of compulsory education. In contrast, there are 17 OECD countries which still have a “childcare gap” of at least a year, where children lack access to free ECEC services.

Note

This chapter 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 *Definitions* section for more details). In some countries, children under the age of 3 are also likely to be enrolled in other registered ECEC services which do not meet ISCED 2011 criteria. The enrolment rates of those children should be interpreted with caution, given the limited availability of data for these services. As a result, the analysis of this chapter concentrates on the children at the age of 3 and above at pre-primary level where data are more available and comparable.

Analysis

In light of the numerous benefits associated with participation in early childhood education and care (ECEC), it has been a growing priority in education policies of many OECD countries. The objective of expanding participation in ECEC aligns with global targets set by the Sustainable Development Goals (SDGs). Specifically, SDG Indicator 4.2 aims to ensure that by 2030, all girls and boys have access to quality early childhood development, care and pre-primary education, thereby preparing them for primary education (UNESCO, 2024[10]). Specifically, SDG Indicator 4.2.2 monitors enrolment rates among children one year before the official primary entry age. This indicator serves as a critical measure to assess the extent to which children are exposed to organised learning activities before they start primary education.

Enrolment of children the year before they start primary education

Enrolment of children in the year before they reach the official primary education entry age has become near-universal, reaching 100% in 8 countries and surpassing 90% in almost all other OECD countries. On average, enrolment among children in this category has seen a 1 percentage-point increase since 2013, to reach 95% across OECD countries in 2022. Although the theoretical age for starting primary education varies between 5 and 7, the majority of countries set it at 6. Enrolment rates in these countries are therefore based on the share of children enrolled at the age of 5 (Table B1.2).

Several countries have experienced large rises in enrolment one year before the official primary education entry age, of 10 percentage points or more since 2013 (Figure B1.1). Saudi Arabia and Türkiye stand out as especially remarkable, with increases of about 30 percentage points, indicating a substantial surge in participation in pre-primary education. These notable rises may be partly attributed to the implementation of effective ECEC policies, combined with the comparatively low participation rates in these countries in 2013. In some countries, the increase in enrolment can be partly explained by the expansion of compulsory education. In the Slovak Republic, for instance, pre-primary education became compulsory in 2021 and the enrolment of children one year before primary school has increased by 9 percentage points since 2013 and by 5 percentage points since 2021.

Some countries offer distinct one-year programmes specifically for children in the year before starting primary school. These programmes are often designed to help children with the transition from ECE to primary education. For example, Finland's *Esiopetus* programme for 6-year-olds is the only type of ECE that can be offered in school-based settings. It follows a different curriculum framework, which is explicitly aligned with the one for primary education (OECD, 2017[11]). It is also the only ECE service in Finland that has mandatory attendance, at an average of 4 hours per day, 700 hours per school year. The right to complementary ECE continues until the start of school to ensure a full-day service. In other countries, the

organisation of ECE programmes for children is similar for all years of pre-primary education. France and Italy, for example, have a single curriculum framework for all children enrolled in pre-primary education, and children start attending programmes in school-based settings from the age of 3. Meanwhile, in Estonia, there is a single ECE programme for children aged from 1.5 to 7, which is offered in centre-based settings, and is also regulated by a single curriculum framework.

Differences in the structure of ECEC systems

While all countries acknowledge the need to develop high-quality ECEC programmes, there is considerable variation in how they are organised, and the design of the supporting social and family policies aimed at expanding participation. The range of ECEC services offered in OECD countries varies significantly. There are differences in the age at which children enter ECEC, the amount of time they spend in ECEC, how ECEC centres are governed, how services are funded, whether children attend full-day or part-day, and where the provision is located, whether in centres or schools, or in homes (OECD, 2017[12]). The programmes offered by ECEC services can also vary significantly in terms of their content. In order to distinguish between ECEC services that primarily offer an intentional education component and those that aim to offer only 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 other words, ECE programmes are those that meet ISCED 2011 criteria while ECEC programmes consist of both ECE programmes and other registered ECEC services which do not meet the criteria (Box B1.2).

One key difference in the way countries organise their ECEC systems is which administrative authorities are ultimately in charge and whether the system is split or integrated at the national level according to the target age. More than half of the OECD countries with available data have integrated ECEC services for children from the ages of 0 or 1 until they begin primary school. In these countries, a single authority is in charge of managing the whole ECEC system and establishing appropriate educational programmes to ensure a smooth transition to primary education. In such cases, it is usually the education ministry that is in charge of regulating ECEC programmes and any division between ECEC programmes based on target age groups has been made for the purpose of facilitating international comparisons. In the remaining countries with available data, different authorities are responsible for ECEC provision for different age groups. In these countries, ECEC services for older children (generally 3-5 year-olds) are mostly regulated by the education ministry, while those designed for younger children (generally aged 0 to 2) are often governed by another authority.

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[13]; OECD, 2018[14]). On average, less than half of 2-year-olds and 18% of those under 2 were enrolled in formal ECE programmes in OECD countries in 2022 (Figure B1.2). This average hides a great deal of variation across countries. While there are no formal ECE programmes for 2-year-olds in Greece, India, the Netherlands, Portugal, Saudi Arabia, South Africa and Switzerland, more than 90% of 2-year-olds are enrolled in such programmes in Iceland, Korea, Norway and Sweden (Table B1.1).

Some countries have registered ECEC services which are an integral part of ECEC provision, but do not comply with the criteria for ECE, e.g. crèches in France (Box B1.2). In the Netherlands, for example, 87% of 2-year-olds and 66% of children under the age of 2 attend such services. Although 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 B1.1.).

Even when considering all ECEC programmes, regardless of whether they meet the ISCED standards or not, the enrolment of young children differs across OECD countries. In Australia, Korea, Luxembourg and the Netherlands, enrolment is high among the youngest children, with more than 40% of children under 2 enrolled in ECEC programmes. In contrast, Costa Rica, Greece, Switzerland and Türkiye have low enrolment rates among children aged 3 and under, but they rise as children become older (Table B1.1.). Enrolment rates among the youngest children, and the age at which they start to attend ECEC, can be influenced by a range of factors including the number of places available, the amount of free provision, the cost of ECEC services, parental employment and leave, as well as regulations regarding the minimum starting age for ECEC.

Although almost all OECD countries already provide free access to at least one year of ECEC before children start primary education (see Table B1.1 and Table B2.1 in Chapter B2), ECEC services for children under the age of 3 are typically not funded by the government. This reflects the fact that within constrained public budgets for ECEC, often priority is given to pre-primary education (OECD, 2017[12]; OECD, 2024[8]). As a consequence, out-of-pocket costs for ECEC can be an important barrier to enrolment in many OECD countries, particularly for lower income households (Box B1.3). On the other hand, in the 11 countries where free ECEC services are available to children under the age of 3 (see Table B2.1 in Chapter B2), enrolment rates are notably high for this age group. For instance, children are entitled to some free ECEC services from birth in Korea, where the enrolment rate is 96% for children aged 2-year-olds (Table B1.1). Box B1.1 considers the issue of childcare "gaps" – the period of time between the end of paid maternity, parental or home care leave and the start of free provision of ECEC.

Other factors such as availability and length of parental leave, maternal employment and cultural perspectives on the role of women either in the workplace or as primary caregivers, are also likely have an impact on enrolment rates among of young children. For instance, in Hungary and the Slovak Republic, where parental paid leave lasts over three years, the enrolment rate among children aged under 3 was just 4% in 2022. The traditional role of women as principal caregiver can be a determining factor in the use of childcare services. Relatively few young children are enrolled in ECEC in countries where maternal employment rates are low. In some countries, the employment rate of all women is generally low: for instance, women's labour-market participation rates were 50% in Mexico and just 39% in Türkiye in 2022 (ILOSTAT, 2022[15]). In contrast, in the Netherlands, 81% of mothers with at least one child under 3 are employed, compared to the OECD average of 64% (OECD, 2022[16]). Even though parental leave is relatively short in countries such as Costa Rica, Mexico, Türkiye and Switzerland, the participation of children in ECE is also low. For example, the enrolment rates among 2-year-olds are 11% in Czechia and 2% in Türkiye where the employment rates of mothers whose youngest child is under 3 are below 22% (OECD, 2022[16]). Lastly, childcare can be informal and provided by family members, neighbours or friends. In some countries, a low participation in formal ECEC may reflect a high prevalence of informal care mechanisms (Table B1.1).

Policy approaches to increasing enrolment

Policies to offer at least some free hours of ECEC services, often targeting disadvantaged population groups, have become widespread in recent years, particularly in European countries. Children aged 1 to 4 in Luxembourg, and from birth to primary education in Lithuania, benefit from 20 hours of free ECEC per week, with parents or guardians paying for additional hours. In Romania, ECEC is free of charge for both the normal (10 hours per day) and the short programme (5 hours per day) (European Commission/EACEA/Eurydice, 2023[17]). The Norwegian government has recently implemented a policy granting lower-income parents entitlement to 20 hours of free childcare (Rastrigina and Pearsall, 2023[18]). In Sweden, municipalities are obliged to provide a place in ECEC to children who have lived in the country for a short time, regardless of whether their parents or guardians have formally requested it. The European Social Fund Plus (ESF+) in the Slovak Republic provides targeted assistance to increase the involvement of children from disadvantaged backgrounds, such as Roma children, or children with disabilities

(European Commission, 2023[19]). Roma parents in Croatia are also exempted from kindergarten expenses (Toy Project, 2019[20]; OECD, 2022[21]). In addition, there is a widespread effort to expand capacity aimed at increasing enrolment rates for children aged 3 and below. For example, Spain is using the funds from the European Recovery and Resilience Facility (RRF) to create over 60,000 places by 2025. This initiative is intended to meet all demands for early education for children under the age of 3 and to reduce regional disparities in participation.

Some countries with integrated ECEC systems have developed policies intended to increase the affordability and accessibility of services for children under the age of 3 by providing substantial financial assistance to parents for childcare services. For instance, in Sweden, where municipal budgets provide the majority of the funding for 1-6 year-olds, parents are required to contribute a small percentage of out-of-pocket expenses that are contingent on their income but are capped at a maximum amount (OECD, 2024[22]). In Denmark, municipalities provide a place in an ECEC facility for all children older than 26 weeks. (Hofman et al., 2020[23]; OECD, 2022[21]). By the age of 2, the enrolment rate for children in these two Nordic countries surpasses 85% (Table B1.1).

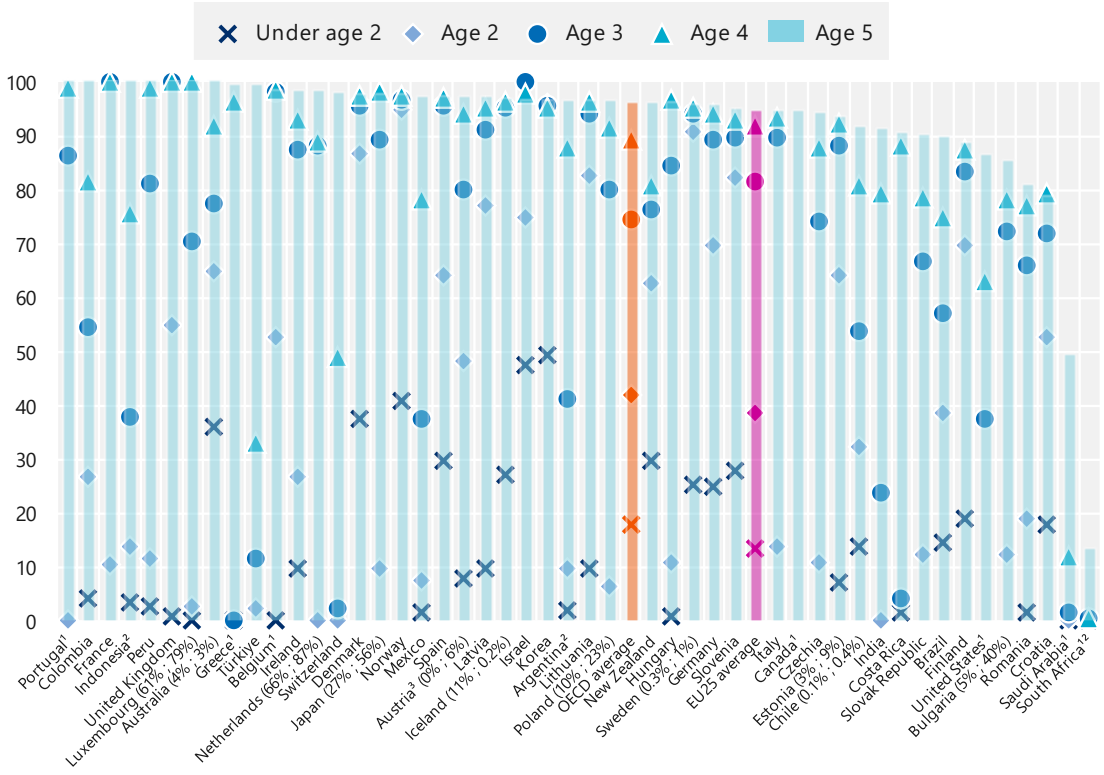
Trends in enrolment of children under the age of 3

Enrolment rates for children under the age of 3 in early childhood educational development programmes (ISCED level 01) have expanded on average across OECD countries, rising from 28% in 2013 to 32% in 2022. The increases have been particularly pronounced in some countries, such as Israel, Korea and Lithuania, which have seen rises of at least 14 percentage points. Germany has also experienced a 6 percentage-point increase in enrolment among children under 3 since 2013. This increase may be due to the implementation of a law in 2013 that legally guaranteed a place in formal childcare to all children aged 1 and over (Table B1.2).

In many European countries, such increases in enrolment may be attributed to the further impetus provided by the European Union (EU) after the original targets set at the Barcelona 2002 meeting. The EU initially aimed for enrolment rates of at least 33% of children under the age of 3 by 2010. These objectives were revised as part of the wider European Care Strategy in 2022 to ensure more enrolment in ECEC, enhance the social and cognitive development of disadvantaged children, and encourage parents' involvement in the labour market. The revised Barcelona targets for 2030 are for a minimum of 45% of children under the age of 3 to be enrolled in formal childcare (European Commission, 2023[19]). The EU 2030 objectives also highlighted the issue of low enrolment rates among children with disabilities, those with a migrant background and Roma children.

Figure B1.2. Enrolment rates of young children, by age (2022)

Including only education programmes meeting ISCED criteria; in per cent



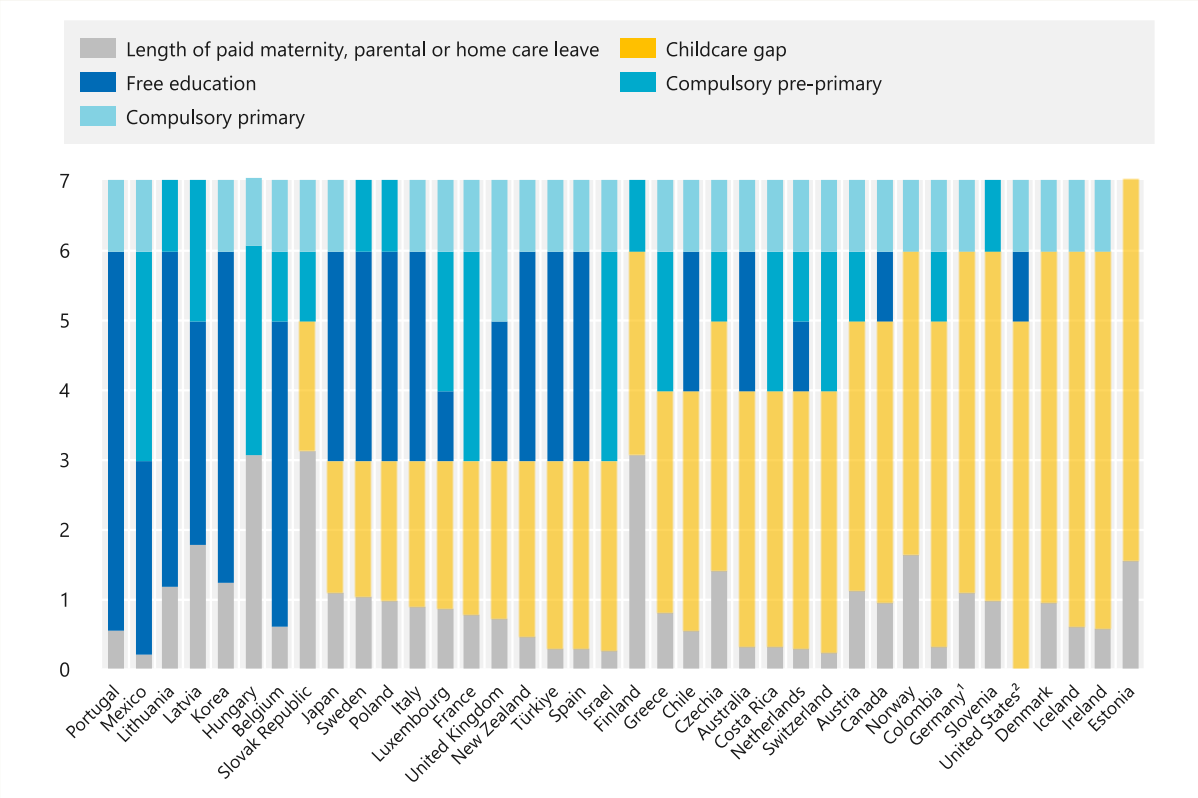
Note: Enrolment rates of children in non-ISCED programmes are indicated in the bracket as (a;b) where 'a' refers to the enrolment rates of children under age 2 and 'b' refers to the enrolment rates of children at the age of 2.
1. Early childhood education excludes early childhood educational development programmes (ISCED 01).
2. In other registered ECEC services, 2-year-olds includes children under the age of 2, and 3-year-olds includes children aged 3 to 5.
3. Year of reference differs from 2022. Refer to the source table for more details.
Countries are ranked in descending order of the enrolment rates of 5-year-olds in 2022.
See Table B1.1 for data and under Chapter B1 Tables for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en)

Box B1.1. Childcare gaps and the use of childcare services

The term “childcare gap” was introduced by Eurydice (2023[19]) to describe the period between the end of paid maternity, parental or home care leave and the start of legal entitlement to a guaranteed place in ECEC services across EU countries. However, the OECD analysis replaces the duration of legal entitlement with the duration of free provision (Figure B1.3). This indicator is highly significant as it directly affects the choices available to parents. In the absence of government assistance, parents may find their options for childcare limited, leaving them the choice of either private care, if financially feasible, or informal care where available. Those lacking access to these alternatives may face the difficult decision of leaving their jobs. Women are disproportionately affected by this scenario and are more likely to either exit the workforce or reduce their working hours upon becoming parents (Nightingale and Janta, 2020[24]).

Figure B1.3. Childcare gap (2022)

In years



Note: The childcare gap is defined as the amount of time between the end of paid maternity, parental or home care leave and the start of free education.
1. Starting age and the extent of free ECEC vary by federal state.2. Starting ages of free and compulsory education vary by state. The starting age for compulsory education ranges from 5 to 7 and free education ranges from 4 to 6.
Countries are ranked in ascending order of the length of the childcare gap.
See under Chapter B1 Tables for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

In Korea, Lithuania, Portugal and Slovenia children are guaranteed free ECEC services for at least five years from the end of their parents' paid leave until the start of compulsory pre-primary or primary education. Free provision of ECEC may ensure continuous care without the need for parents to leave their job or pay for care. In contrast, the childcare gap in many countries can last for a number of years. In 17 countries, children are not entitled to any free provision of ECEC services between the end of paid maternity, parental or home care leave and the start of compulsory education, resulting in a theoretical gap of up to five years. Lacking free ECEC services, parents in these countries may face financial constraints that prevent them from enrolling their children in ECEC programmes, leading them to opt for at-home care.

On average, paid maternity, parental or home care leave across OECD countries lasts one year, with the duration varying widely. In Finland home care allowance and leave is available to children aged up to three years. The duration ranges from over three years in Hungary and the Slovak Republic to no legal entitlement to parental leave at the national level in the United States, and only three months in Mexico.

Actual childcare gaps may differ

Actual childcare gaps may differ from the theoretical gaps presented in Figure B1.3. In some countries children are not guaranteed free education until the start of compulsory education. However, several countries offer subsidies that allow parents to enrol their children in ECEC services without shouldering the full costs. For instance, in Denmark, municipalities subsidise public ECEC services, covering at least 75% of the costs for a guaranteed place (Eurydice, 2024[25]). Similarly, in Finland, municipalities are legally required to provide ECEC services based on local demand, and fees are moderate, varying with family size, income, and the child's participation hours. In 2022, 40% of children in municipal ECEC in Finland did not pay any fees and only less than a fifth paid the maximum fee (Education Statistics Finland, 2024[26]). Likewise, in Slovenia, kindergarten fees are reduced for all children in public kindergartens, private kindergartens with a concession, or private kindergartens funded by the municipal budget. The government covers 23% of ECEC service costs for all parents liable for income tax in the Republic of Slovenia. Lastly, depending on the socio-economic status of the family, ECEC services can be subsidized up to 100% in Slovenia (Eurydice, 2024[27]).

Conversely, even when free provision is mandated in the legal framework, it does not necessarily translate into full participation in ECEC services. Access and capacity issues can considerably reduce the use of these services in practice. Children may be required to travel long distances to access free ECEC centres, or parents may face lengthy waiting lists when attempting to enrol their children. Furthermore, free childcare programmes may only offer limited hours per day, posing challenges for parents who wish to work. These practical considerations illustrate the complexity of childcare provision and its implications for workforce participation. Additionally, at the subnational level, additional types of free childcare provision might be available.

Focusing on the other end of the gap, the actual use of parental leave may also differ from what is laid out in national legislation. For instance, the United States may be the only country without national mandated paid maternity and parental leave, but some US states have state-mandated paid leave plans, including California, New Jersey, New York, Rhode Island, Washington and the District of Columbia. According to the Bureau of Labor Statistics, only 23% of US workers had access to paid family leave benefits in 2021, mostly through employer-sponsored benefit plans, while 89% had access to unpaid family leave benefits (OECD, 2022[28]). Employers may provide longer parental leave than is guaranteed by national legislation. For instance, in Brazil, companies in the private sector may provide additional leave benefits above those required by the state. In contrast, some employees may feel pressure not to take the parental leave to which they are entitled. For instance, in Korea, women often do not use their full entitlement of parental leave due to concerns about their job security and poor wages (Kim, Hwang and Kim, 2021[29]; Lee, 2023[30]). This lack of access in practice to parental leave may be partly the reason for the high enrolment rates (66% in 2022) of children under the age of 3 in ECEC programmes in Korea.

Enrolment of children aged 3 to 5

Although participation is not compulsory in all countries, enrolment among children over 3 is still very common across OECD countries, with 89% 4-year-olds enrolled in ECE and primary education on average. Rates reach 96% of children by the age of 5 (Table B1.1). In more than half of OECD countries with available data, the enrolment of children between the ages of 3 and 5 is nearly universal, i.e. at least 90% (Table B1.2). The highest enrolment rates of 4-year-olds in ECE and primary education are found in Belgium, France, Luxembourg, Peru, Portugal and the United Kingdom, where they equal or exceed 99%. In contrast, 50% or less are enrolled in education in Saudi Arabia, South Africa, Switzerland and Türkiye (Table B1.1). Lower enrolment rates are likely to stem from subnational differences in the starting age of compulsory education in some countries, such as Switzerland.

Expansion of compulsory education to include pre-primary education

The positive impact of ECEC on children's development, skills and well-being, smoothing the transition to primary education, have recently convinced some policy makers to lower the compulsory starting age. Over the last decade, France has lowered its compulsory starting age by three years, Costa Rica and Hungary by two years, while eight other OECD and accession countries lowered the starting age for compulsory pre-primary education by one year. Some years of pre-primary education is now compulsory in 24 countries. In 11 countries, compulsory education starts one year before entry into primary education. Compulsory education starts even earlier in some countries: at the age of 3 in France, Hungary, Israel and Mexico; 4 in Argentina, Brazil, Bulgaria, Costa Rica, Greece and Luxembourg; and 4-5 in Switzerland. Even in countries where compulsory education does not start until the first year of primary education, around the age of 5 or 6, many OECD countries offer free provision of early childhood and education services for at least one or two years before the start of compulsory schooling (see Chapter 2, Table B2.1).

Policies to expand compulsory education often lead to higher enrolment rates. For instance, Costa Rica made two years of pre-primary education compulsory in 2018, as did Greece in 2020. Consequently, between 2013 and 2022, the enrolment 3-5 year-olds in pre-primary education increased by 11 percentage points in Costa Rica and 17 percentage points in Greece (Table B1.2). This shows how compulsory education reforms can effectively drive enrolment growth, ensuring more children have access to foundational education experiences.

Box B1.2. Classification of early childhood education and care programmes

The ISCED 2011 classification was adopted by the UNESCO General Conference at its 36th session in November 2011. In this session, some main and subsidiary criteria were established for classifying early childhood education and care programmes. In order to comply with the ISCED 2011 classification, ISCED level 0 programmes must:

- have adequate intentional educational properties
- have an intensity of at least 2 hours per day of educational activities and a duration of at least 100 days per year
- be institutionalised usually as school-based or otherwise institutionalised for a group of children. In other words, there should be a clear dividing line between family-based arrangements or "babysitting"
- have a regulatory framework that is defined as legislation, guidelines, standards or instructions and that is recognised by the relevant national authorities
- have trained and accredited staff (e.g. requirement of pedagogical qualifications for educators) (OECD/Eurostat/UNESCO Institute for Statistics, 2015[31]).

For the purpose of international comparability, the ISCED 2011 classification also splits ISCED level 0 programmes into two categories which are classified depending on age and the level of complexity of the educational content:

- ISCED level 01 refers to early childhood educational development programmes, typically aimed at children under age 3. In these programmes, 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 level 02 refers to pre-primary education programmes, aimed at children in the years immediately prior to starting compulsory schooling, typically aged between age 3 and age 5. In these programmes, 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.

However, there are other registered ECEC services that are considered to be an integral part of countries' ECEC provision but do not comply with all the ISCED level 0 criteria to qualify as educational programmes. For instance, crèches in France and Luxembourg are designed to deliver some recommended educational properties, as centre-based institutions and regulated by a relevant ministry. Classroom teachers in these programmes are required to have at least a bachelor's degree qualification. However, there are no specific requirements regarding the minimum number of educational activities that must be conducted on a daily or yearly basis.

Regional variations in the enrolment of 3 to 5 year-olds

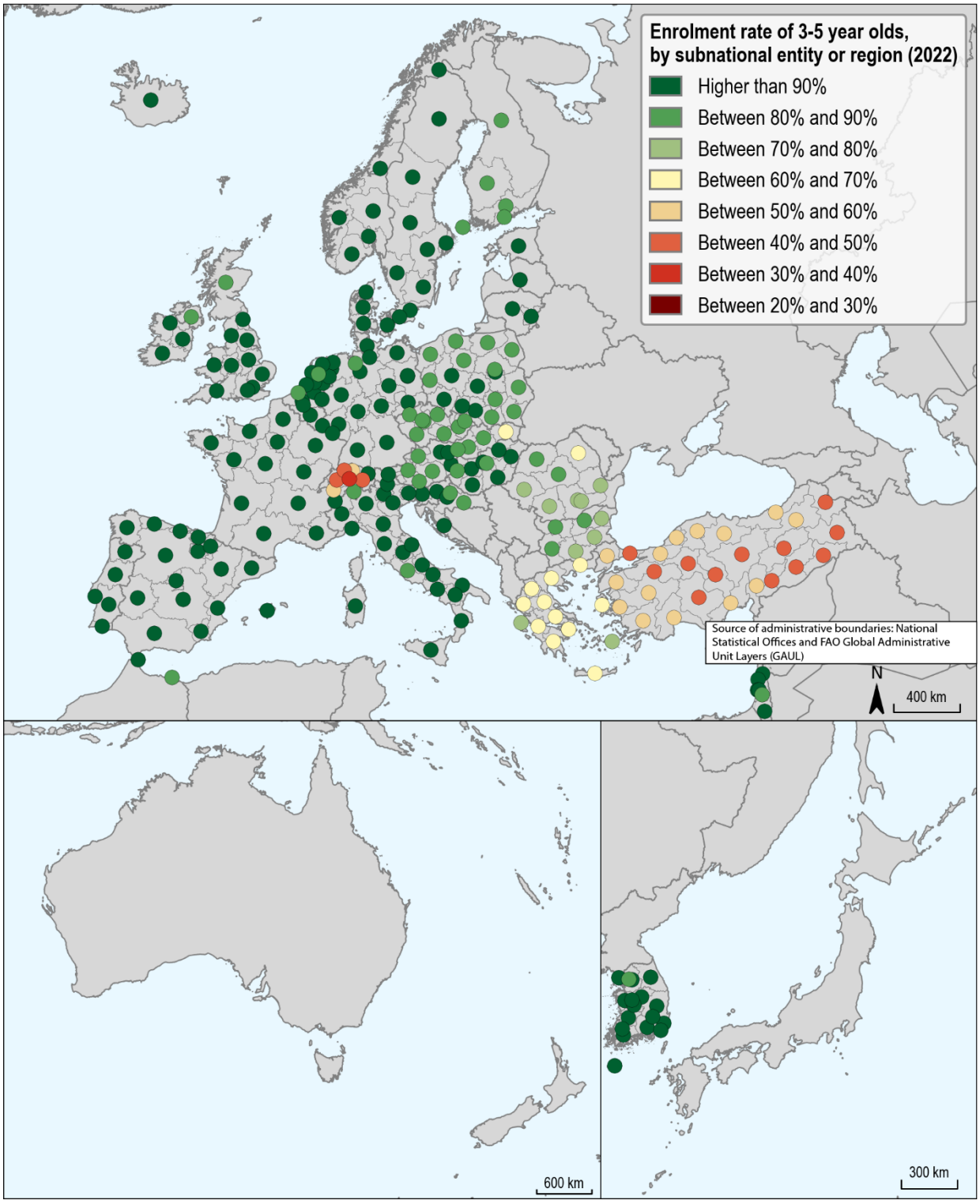
Geographical location may impede access to high-quality ECEC. There is substantial regional variation in enrolment rates of 3-5 year-olds across OECD countries, which may be attributed to different population dynamics, socio-economic factors, regulatory frameworks and cultural norms (Figure B1.4.). Understanding these geographical disparities is crucial for recognising effective approaches and tailoring strategies to the specific requirements of each situation, eventually working towards universal access to high-quality early childhood education.

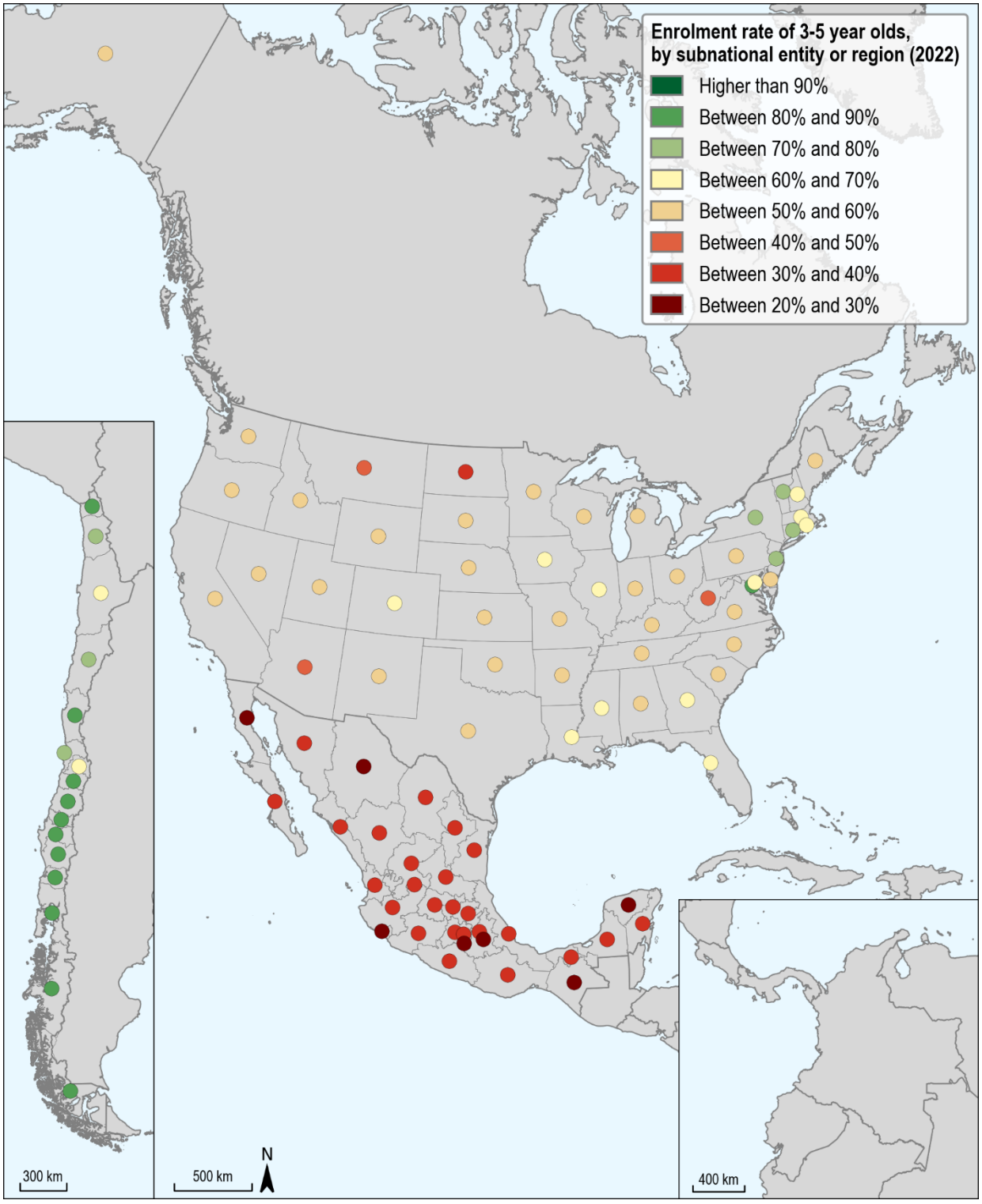
Among OECD countries with available data, higher levels of participation in formal education for 3-5 year-olds at the national level are correlated with smaller disparities across regions. Most countries where enrolment rates were over 90% also had low regional variation. For instance, there is relatively uniform and equitable enrolment of children aged 3 to 5, exceeding 90%, across regions in Belgium, Denmark, Ireland, Norway, Slovenia and Sweden. Conversely, the countries with the lowest levels of participation of 3 to 5 year-olds in formal education often had the greatest disparities across regions, with wide regional variations in enrolment rates in Chile, the Slovak Republic, Switzerland and the United States. The difference between the regions with the highest and lowest enrolment rates of 3-5 year-olds is over 40 percentage points in both Switzerland and the United States. Both countries are federal and their subnational entities have a great degree of autonomy over the organisation of ECEC. Low levels of enrolment may be due to regional differences in regulations on starting ages and/or lower provision of ECEC.

Children in capital cities are less likely to participate in formal education in a number of countries. For example, in Chile, enrolment rates among of 3-5 year-olds in the Santiago metropolitan region are among the lowest in the country. Even in countries, where the enrolment of 3-5 year-olds exceeds 90% nationally, capital regions tend to have some of the lowest shares of young children participating in formal education. This might be explained by insufficient provision of public ECEC to meet demand, or the greater prevalence of privately managed settings in capital cities. Publicly managed centres are significantly more likely to be located in more rural areas, underlining the role of the public sector in ensuring equal access to ECEC settings across the national territory (OECD, 2019[32]).

Figure B1.4. Enrolment rate of 3-5 year olds, by subnational region (2022)

Enrolment in all levels of education combined





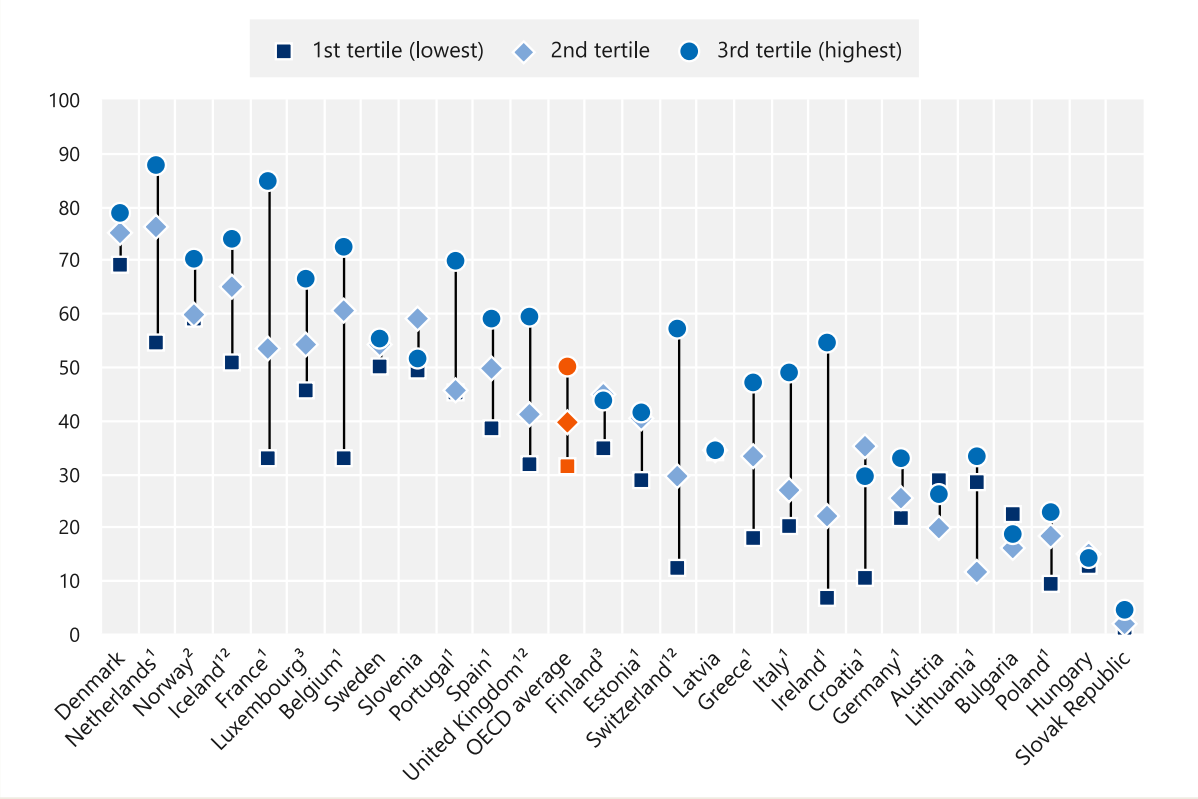
Note: Three years old breakdown by regions unavailable in the Netherlands, hence the enrolment rates 3-5 year-olds by regions are estimated. See under Chapter B1 Tables for StatLink.

Source: (OECD, 2024[33]), *Education and Skills-Subnational education and indicators*, OECD Data Explorer (http://data-explorer.oecd.org/s/3q). For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Box B1.3. Equitable access to childcare services

Disparities in the use of childcare between low- and high-income families present a significant challenge in many countries, reflecting systemic inequities in access and differences in the propensity to use ECEC. This enrolment gap underlines how socio-economic status and use of childcare intersect, highlighting the need for comprehensive strategies to address barriers faced by disadvantaged households. Exploring the underlying factors behind this divergence can provide valuable insights to help design inclusive policies that promote equal opportunities for children from all backgrounds.

Figure B1.5. Participation in early childhood education and care among 0-2 year-olds, by disposable income (2020)



Note: Data are OECD estimates based on information from EU-SILC. Data refer to children using centre-based services (e.g. nurseries or day care centres and pre-schools, both public and private), organised family day care, and care services provided by (paid) professional childminders, regardless of whether or not the service is registered or ISCED-recognised.
1. The difference in the enrolment rate between at least one pair of tertiles is statistically significant at 5% significance level.
2. Year of reference differs from 2022: 2018 for Iceland and United Kingdom, 2020 for Norway and 2021 for Switzerland.
3. The difference in the enrolment rate between at least one pair of tertiles is statistically significant at 10% significance level.
Countries are ranked in descending order of the enrolment rates of 0-2 year-olds regardless of income level.
See under Chapter B1 Tables for StatLink.
Source: (OECD, 2024[34]), *Indicator PF3.2*, OECD Family Database (https://www.oecd.org/els/soc/PF3_2_Enrolment_childcare_preschool.pdf). For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

There is a notable and consistent income gap in childcare use in most OECD countries, particularly among children under 3. On average, across OECD countries with available data, 32% of children aged 0 to 2 years

old from lower-income households attend childcare compared to 50% of those from higher-income households (Figure B1.5). This enrolment gap across income levels is more pronounced in Ireland, Switzerland and the United Kingdom, where the cost of childcare is relatively high for parents. According to the OECD Tax-Benefit model, which calculates childcare costs and benefits across OECD countries, net childcare costs for a dual-income couple on low earnings with two children aged 2 and 3 would be at least 24% of their average wage in these countries, compared to an average of 11% across OECD countries with available data (OECD, 2024[35]).

Despite relatively low net childcare costs in Belgium and France (amounting to 12% of average income for the same family profile (OECD, 2024[35])), the enrolment gaps in childcare services across income levels are particularly pronounced. One of the challenges in these countries is attributed to the limited accessibility to ECEC services due to a shortage of available places in public care facilities (OECD, 2020[36]). In France, ECEC services in higher-income neighbourhoods are more likely to have places available, resulting in considerable differences in participation rates in ECEC programmes across different income levels (Gaudron et al., 2021[37]; OECD, 2023[38]). Similarly in the Flemish Community of Belgium, municipalities and neighbourhoods with a higher average family income had more childcare places per 100 children than municipalities and neighbourhoods with lower income families (León et al., 2023[39]). Considering the well-established benefits of ECEC, including the positive outcomes for children and their families, such as cognitive development, well-being, and reducing poverty, this pattern could potentially exacerbate socio-economic disparities in countries with sizeable enrolment rate gaps (OECD, 2023[38]).

Conversely, in some countries where the out-of-pocket costs of childcare are below the OECD average (amounting to 6% of average income for the same family profile), the enrolment gap is notably narrow, as in Estonia, Finland and Germany (OECD, 2024[35]). Estonia caps childcare fees at 20% of the monthly minimum wage, while Germany exempts low-income and other vulnerable households from paying ECEC fees (OECD, 2023[38]). In Finland, parents' monthly fees depend on family size, number of care hours, and gross income, and in March 2023, the income threshold for these fees was increased by 33% to encourage greater use of formal childcare services by low- and middle-income families (Eurydice, 2023[40]).

Combining well-targeted tax credits with childcare subsidies can greatly enhance the accessibility, affordability, and coverage of ECEC services. For example, the childcare system in Sweden employs a progressive fee structure that is supplemented by free provision for children below the national poverty line. The maximum fees that parents have to pay are 3% of the household’s combined income for the first child, 2% for the second and 1% for the third. This practice is also prevalent in Estonia, Finland and some regions of Germany (Dougherty and Morabito, 2023[41]).

Enrolment of children by type of institution

Private institutions can be classified into two categories: independent and government dependent. Independent private institutions are controlled by a non-governmental organisation or by a governing board not selected by a government agency and receive less than 50% of their core funding from government agencies. Government-dependent private institutions have similar governance structures but rely on government agencies for more than 50% of their core funding (OECD, 2018[42]).

In most countries, the share of children enrolled in private institutions is considerably higher in early childhood education than at primary and secondary levels. Private institutions are also more prevalent in early childhood educational development than at pre-primary level. This is primarily due to the fact that public funding for ECE services for children under 3 is lower than for pre-primary services in many countries. Pre-primary education has increasingly become a part of compulsory education in many OECD countries. There are 24 OECD countries where at least some years of pre-primary are included in compulsory education, with all pre-primary years compulsory in 8 of them (see Table B2.1 in Chapter B2). That means the majority of OECD countries guarantee children a place in public or publicly funded or

subsidised institutions. Yet, differences in funding across ECE levels may have implications for any legal entitlements, the intensity of participation and overall enrolment rates, particularly among children from disadvantaged socio-economic backgrounds (Cadima et al., 2020[43]) (Box B1.3).

Some governments have made the deliberate choice to provide ECEC services through private institutions. Governments may opt to outsource services to private providers, particularly in countries which are heavily reliant on government-dependent private institutions. From a parent's perspective, whether ECE services are provided by public or government-funded private institutions may not significantly affect either their cost or the quality. Parents may select a provider based on factors such as proximity, without necessarily being aware of the institutional differences. Considerations of accessibility, cost, programme offerings, staff quality and accountability may lead parents to choose independent private institutions.

On average across OECD countries, one-third of children in pre-primary education are enrolled in private institutions (Figure B1.6). However, there is notable cross-country variation. In Bulgaria, Czechia, Estonia, Slovenia and Switzerland, 5% or less of the children in pre-primary education attend private institutions, while in Australia, Indonesia, Ireland, Japan and New Zealand, around 80% or more are enrolled in private institutions (Table B1.3). Yet, even in countries where pre-primary enrolment in private institutions is high, private institutions predominantly rely on substantial funding from government agencies.

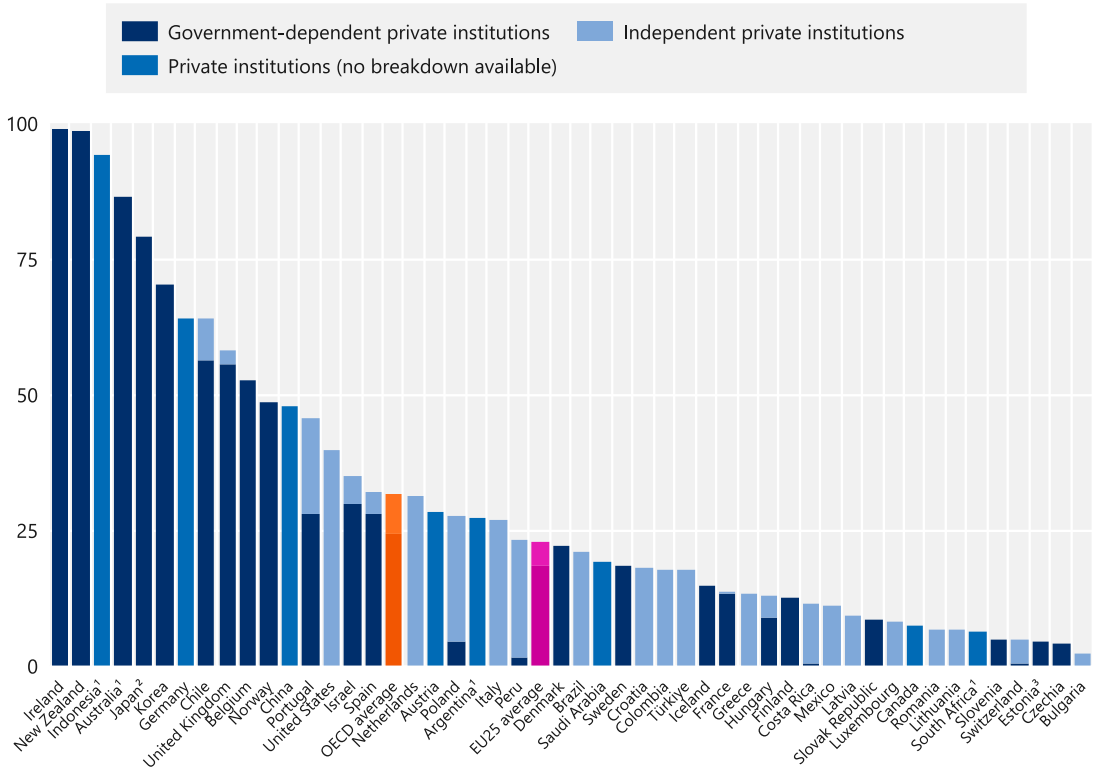
Over the last decade, in most OECD countries, the share of pre-primary children enrolled in private institutions has increased. This privatisation of pre-primary education has been most significant in Poland, where it rose by 10 percentage points. On the other hand, the share of pre-primary enrolments accounted for by public institutions increased in Korea by 11 percentage points and in Saudi Arabia by 33 percentage points (Table B1.3). The distribution of children between different kinds of private institutions has not changed much, however, except in Japan, where an ECE reform in 2019 meant all private institutions in ECE became government dependent (Children and Families Agency of Japan, 2023[44]).

The public provision of early childhood educational development services is lower than it is at pre-primary level in all OECD countries except Chile, Denmark, Peru and Romania. Almost half of children attending these services are enrolled in private institutions, although the shares vary across countries. While all children enrolled in early childhood educational development services are in private institutions in Indonesia, Ireland, Israel and Türkiye, only 7% or less are in private institutions in Slovenia and Romania. In contrast to the trend of increasing enrolment in private institutions at pre-primary level, the share of children in public early childhood educational development services has expanded since 2013 in several countries including Chile, Costa Rica and Korea, with the most remarkable increases exceeding 21 percentage points (Table B1.3).

Given that funding mechanisms and childcare benefits differ more in early childhood education than at higher levels, the classification of institutions into public, government-dependent private and independent private may not be helpful for understanding the exact cost of services for parents. Some subsidies and assistance may be available at central and local level, particularly for children from disadvantaged households. For instance, in Latvia, if a child cannot find a place in an institution run by the local government, and instead attends a private educational institution, the costs must be partly covered by the local government, up to the average amount of cost to enrol a child in a local government educational institution (European Commission/EACEA/Eurydice, 2023[17]).

Figure B1.6. Share of children enrolled in private pre-primary education (ISCED 02), by type of institution (2022)

In per cent of all children enrolled in pre-primary education



1. Year of reference differs from 2022. Refer to the source table for more details.
2. Japan's early childhood education and care reforms mean all private ECE institutions became government-dependent in 2021.3. Pre-primary education includes early childhood educational development programmes.
Countries are ranked in descending order of the share of children enrolled in all private institutions in 2022.
See Table B1.3 for data and under Chapter B1 Tables for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en)

Definitions

Early childhood education (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 chapter. Others are considered an integral part of countries' ECEC provision but are not in adherence with all the ISCED criteria (Box B1.2) Therefore, the term of ECE excludes the programmes that do not meet the ISCED 2011 criteria.

ISCED 01 refers to **early childhood educational development services** and **ISCED 02** refers to **pre-primary education** (see Box B1.2 for further information).

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 (see Education at a Glance 2024 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).

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.

Paid maternity, parental and home care leave available to mothers: covers all weeks of employment protected parental and home care leave that can be used by the mother. This includes any weeks that are an individual entitlement or that are reserved for the mother, and those that are a sharable or family entitlement. It excludes any weeks of parental leave that are reserved for the exclusive use of the father.

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. Therefore, population data is adjusted in the calculation of enrolment rates by age. This adjustment method ensures that if the cumulative enrolment data across all ISCED levels exceeds the population data for a particular age, the population data for that age is adjusted to match the total enrolment for the corresponding age.

Source

Data refer to the reference year 2022 (school year 2021/22) and are based on the UNESCO-UIS/OECD/Eurostat data collection on education statistics administered by the OECD in 2024 (for details, see (OECD, 2024[45]) Education at a Glance 2024 Sources, Methodologies and Technical Notes.

Data from Argentina, the People's Republic of China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

Data on length of paid maternity, parental or home care leave are available in *Indicator PF2.1* at the OECD's Family database (OECD, 2024[46]).

Data on subnational regions for selected indicators are available in the OECD *Education and Skills-Subnational education and indicators* (OECD, 2024[34]).

Data on enrolment by income levels are available in *Indicator PF3.2* at the OECD's Family database (OECD, 2024[34]).

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Chapter B1 Tables

Tables Chapter B1. How does the participation in Early Childhood Education and Care differ among countries?

Table B1.1	Enrolment rates in early childhood education and care (ECEC) and primary education, by age (2022)
Table B1.2	Trends in enrolment rates of children in early childhood educational development (ISCED 01) and pre-primary education (ISCED 02), by age group (2013 and 2022)
Table B1.3	Trends in the distribution of children enrolled in early childhood education and care (ISCED 0), by ISCED 0 programme and type of institution (2013 and 2022)

StatLink 2 https://stat.link/26yd3x

Cut-off date for the data: 14 June 2024. Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

Table B1.1. Enrolment rates in early childhood education and care (ECEC) and primary education, by age (2022)

Public and private institutions

	Under age 2		Age 2		Age 3		Age 4		Age 5	
	Early childhood education (ISCED 0)	Other registered ECEC services	Early childhood education (ISCED 0)	Other registered ECEC services	Early childhood education (ISCED 0)	Other registered ECEC services	Early childhood education (ISCED 0)	Primary education	Early childhood education (ISCED 0)	Primary education
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	36	4	65	3	77	3	91	1	24	76
Austria[1]	8	x(4)	48	6[d]	80	1[d]	94	0	97	0
Belgium[2]	0	m	53	m	98	m	99	0	97	1
Canada[2]	m	m	m	m	m	m	m	m	95	0
Chile	14	m	32	0	54	0	81	0	92	0
Colombia	4	m	27	m	55	m	81	0	87	13
Costa Rica	1	m	4	m	4	m	88	0	90	0
Czechia	a	m	11	m	74	m	88	0	94	0
Denmark	37	m	87	m	96	m	98	0	97	1
Estonia	7	3	64	9	88	3	92	0	94	0
Finland	19	m	70	m	83	m	87	0	89	0
France	a	m	10	m	100	m	100	0	99	1
Germany	25	m	69	m	89	m	94	0	96	0
Greece[2]	0	m	0	m	0	m	96	0	100	0
Hungary	1	m	11	m	85	m	97	0	96	0
Iceland	27	m	95	m	95	m	96	0	97	0
Ireland	10	m	27	m	88	m	76	18	1	98
Israel	47	m	75	m	100	m	98	0	96	0
Italy	a	m	14	m	90	m	93	0	88	7
Japan	a	27	10	56	89	0	98	0	98	0
Korea	49	a	96	a	96	a	95	0	97	0
Latvia	10	m	77	m	91	m	95	0	97	0
Lithuania	10	a	83	a	94	a	96	0	97	0
Luxembourg	0	61	3	79	70	m	100	0	95	5
Mexico	1	m	8	m	37	m	78	0	73	24
Netherlands	a	66	0	87	88	5	89	0	99	0
New Zealand	30	4	63	5	76	4	81	0	8	88
Norway	41	m	95	m	97	m	98	0	98	0
Poland	a	10	6	23	80	3	91	0	97	0
Portugal[2]	a	m	0	m	86	m	99	0	100	0
Slovak Republic	a	m	12	m	67	m	79	0	90	0
Slovenia	28	m	82	m	90	m	93	0	95	0
Spain	30	m	64	m	95	m	97	0	97	0
Sweden	25	0	91	1	94	1	95	0	96	0
Switzerland	a	m	0	m	2	m	49	0	98	1
Türkiye	a	m	2	m	11	m	33	0	98	2
United Kingdom	1	m	55	m	100	m	98	2	0	100
United States[2]	m	m	m	m	38	m	63	0	82	4
OECD average	18	m	42	m	75	m	89	1	85	11
Partner and/or accession countries										
Argentina[3]	2	m	10	m	41	m	88	0	96	0
Brazil	14	a	38	a	57	a	75	0	88	2
Bulgaria	a	m	12	m	72	m	78	0	85	0
China	m	m	m	m	m	m	m	m	m	m
Croatia	18	m	53	m	72	m	79	0	79	0
India	a	m	0	m	24	m	47	32	46	45
Indonesia[3]	3	m	14	m	38	m	76	0	97	3
Peru	3	m	12	m	81	m	99	0	100	0
Romania	1	m	19	m	66	m	77	0	81	0
Saudi Arabia[2]	0	m	0	m	1	m	12	0	45	5
South Africa[2,3]	0	m	0	m	0	m	0	0	14	0
EU25 average	13	m	39	m	81	m	91	1	90	5
G20 average	13	m	26	m	56	m	71	2	73	16

Note: See under Chapter B1 Tables for StatLink and Box B1.4 for the notes related to this Table.

Table B1.2. Trends in enrolment rates of children in early childhood educational development (ISCED 01) and pre-primary education (ISCED 02), by age group (2013 and 2022)

Public and private institutions

	Starting age of compulsory education	Typical starting age of primary education	Enrolment rate									
			One year before the typical primary entry age		Under age 3				Age 3 to 5			
					Early childhood educational development (ISCED 01)		Pre-primary (ISCED 02)		Early childhood educational development (ISCED 01)		Pre-primary (ISCED 02)	
	2022		2013	2022	2013	2022	2013	2022	2013	2022	2013	2022
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Australia[1]	6	5	m	92	m	46	m	0	m	1	m	63
Austria	5	6	97	97	12	19	2	2	3	5	83	86
Belgium	5	6	98	99	m	m	17	18	m	m	98	98
Canada	6	6	94	95	m	m	m	m	m	m	m	m
Chile	6	6	92	92	17	20	1	0	2	2	73	73
Colombia[2]	5	6	100	100	33	12	0	0	0	0	80	75
Costa Rica	4	6	89	91	1	2	0	0	2	1	49	60
Czechia	5	6	89	94	a	a	6	4	a	a	77	85
Denmark[2]	6	6	98	98	57	54	1	0	1	1	96	96
Estonia	7	7	91	94	x(7)	x(8)	30[d]	27[d]	x(11)	x(12)	89[d]	91[d]
Finland	6	7	98	96	28	35	0	0	0	0	74	87
France	3	6	100	100	a	a	4	4	a	a	99	100
Germany	6	6	98	96	33	40	0	0	0	0	96	93
Greece	4	6	96	100	m	m	0	0	m	m	49	66
Hungary[2]	3	6	95	96	5	4	0	0	1	1	90	92
Iceland	6	6	96	97	44	49	0	0	0	0	96	96
Ireland[1]	6	5	98	93	m	16	0	0	m	0	37	54
Israel	3	6	99	97	31	56	0	0	0	0	100	98
Italy	6	6	99	95	a	a	5	5	a	a	94	90
Japan[2]	6	6	96	98	a	a	0	3	a	a	92	95
Korea	6	6	92	97	52	66	0	0	0	0	93	96
Latvia	5	7	97	98	24	33	0	0	0	0	90	95
Lithuania	6	7	96	100	21	35	0	0	0	0	79	96
Luxembourg	4	6	99	100	a	a	2	1	a	a	88	88
Mexico	3	6	100	98	2	2	0	1	1	1	68	62
Netherlands	5	6	99	99	a	a	0	0	a	a	94	92
New Zealand[1]	6	5	92	81	39	41	0	0	0	0	61	55
Norway	6	6	98	98	55	59	0	0	0	0	97	97
Poland	6	7	87	100	a	a	2	2	a	a	70	90
Portugal	6	6	98	100	m	m	0	0	m	m	87	95
Slovak Republic	5	6	81	91	a	a	4	4	a	a	72	79
Slovenia	6	6	91	95	37	47	0	0	0	0	88	93
Spain	6	6	97	97	32	42	0	0	0	0	97	97
Sweden	6	7	97	99	46	47	0	0	0	0	94	95
Switzerland	4-5	6	97	98	a	a	0	0	a	a	47	50
Türkiye[2]	6	6	71	99	0	1	0	0	0	0	28	48
United Kingdom	4-5	5	96	100	11	19	0	0	0	0	53	67
United States	5-7	6	90	87	m	m	0	0	m	m	64	61
OECD average	5	6	95	96	28	32	2	2	0	1	79	83
Partner and/or accession countries												
Argentina[3]	4	6	100	97	4	4	0	0	1	0	73	75
Brazil	4	6	84	90	16	23	0	0	16	22	50	51
Bulgaria	4	7	94	86	a	a	3	4	a	a	80	79
China	6	6	m	m	a	a	m	m	a	a	m	m
Croatia[2]	5-6	7	98	100	17	27	2	3	1	2	57	74
India	6	6	m	91	a	a	m	0	a	a	m	39
Indonesia[3]	7	7	100	100	2	7	0	0	14	41	18	30
Peru	m	m	m	m	3	6	0	0	0	0	82	94
Romania[2]	5	6	89	81	3	3	4	4	0	0	84	74
Saudi Arabia	6	6	20	50	m	m	0	0	m	m	9	19
South Africa[2,3]	7	7	72	64	m	m	0	0	m	m	10	5
EU25 average	5	6	95	96	26	31	3	3	1	1	83	87
G20 average	5	6	m	91	m	m	m	1	m	m	m	64

Note: See under Chapter B1 Tables for StatLink and Box B1.4 for the notes related to this Table.

Table B1.3. Trends in the distribution of children enrolled in early childhood education and care (ISCED 0), by ISCED 0 programme and type of institution (2013 and 2022)

	Early childhood educational development programmes (ISCED 01)						Pre-primary education (ISCED 02)					
			Private						Private			
	Public		Government-dependent		Independent		Public		Government-dependent		Independent	
	2013	2022	2013	2022	2013	2022	2013	2022	2013	2022	2013	2022
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Australia[1]	m	m	m	m	a	a	m	13	m	87	a	a
Austria	34	41	m	m	m	m	72	71	m	m	m	m
Belgium	m	m	m	m	m	m	47	47	53	53	m	0
Canada	m	m	m	m	m	m	93	92	m	m	m	m
Chile	70	91	28	8	2	1	33	36	60	57	6	8
Colombia[2]	m	m	a	a	m	m	82	82	m	a	m	18
Costa Rica	25	37	0	1	75	62	88	88	0	1	12	11
Czechia	a	a	a	a	a	a	98	96	2	4	a	a
Denmark[2]	85	85	15	15	0	0	79	78	21	22	0	0
Estonia	x(7)	x(8)	a	x(10)	x(11)	a	96[d]	95[d]	a	5[d]	4[d]	a
Finland	87	78	13	22	a	a	91	87	9	13	a	a
France	a	a	a	a	a	a	87	86	12	13	0	0
Germany	27	27	m	m	m	m	35	36	m	m	m	m
Greece	m	m	a	a	m	m	93	86	a	a	7	14
Hungary	m	79	m	11	m	10	91	87	9	9	a	4
Iceland	81	80	19	20	0	0	87	85	13	15	0	0
Ireland	m	0	m	100	m	0	2	1	98	99	0	0
Israel	a	a	73	34	27	66	58	65	29	30	12	5
Italy	a	a	a	a	a	a	70	73	a	a	30	27
Japan[3]	a	a	a	a	a	a	28	21	a	79	72	a
Korea	7	24	93	76	a	a	19	29	81	71	a	a
Latvia	88	82	a	a	12	18	95	90	a	a	5	10
Lithuania	96	85	a	a	4	15	98	93	a	a	2	7
Luxembourg	a	a	a	a	a	a	90	91	0	0	10	9
Mexico	37	43	a	a	63	57	86	89	a	a	14	11
Netherlands	a	a	a	a	a	a	70	68	a	a	30	32
New Zealand	2	1	98	99	0	0	2	1	98	99	0	0
Norway	50	49	50	51	a	a	54	51	46	49	a	a
Poland	a	a	a	a	a	a	82	72	2	5	17	23
Portugal	m	m	m	m	m	m	54	54	30	28	16	17
Slovak Republic	a	a	a	a	a	a	95	91	5	9	a	a
Slovenia	96	93	3	7	0	0	97	95	3	5	0	0
Spain	52	54	16	18	32	29	69	68	27	28	4	4
Sweden	81	79	19	21	a	a	83	81	17	19	a	a
Switzerland	a	a	a	a	a	a	95	95	1	1	5	4
Türkiye	a	a	a	a	100	100	88	82	a	a	12	18
United Kingdom	28	16	42	81	30	3	47	42	44	56	9	3
United States	m	m	a	a	m	m	59	60	a	a	41	40
OECD average	49	50	30	30	21	21	71	68	20	25	9	8
Partner and/or accession countries												
Argentina[1]	44	54	m	m	m	m	68	73	m	m	m	m
Brazil	63	66	a	a	37	34	75	79	a	a	25	21
Bulgaria	a	a	a	a	a	a	99	97	a	a	1	3
China	a	a	a	a	a	a	50	52	m	m	m	m
Croatia[2]	84	81	a	a	16	19	85	82	a	a	15	18
India	a	a	a	a	a	a	m	m	m	m	m	m
Indonesia[1]	0	0	m	m	m	m	m	5	m	m	m	m
Peru	99	90	m	1	m	9	69	76	m	2	m	22
Romania[2]	96	97	0	a	4	3	97	93	0	a	3	7
Saudi Arabia	m	m	m	m	m	m	48	80	m	m	m	m
South Africa[1, 2]	m	m	m	m	m	m	93	93	m	m	m	m
EU25 average	70	68	20	21	10	11	79	77	14	19	7	5
G20 average	m	m	m	m	m	m	62	60	m	m	m	m

Note: See under Chapter B1 Tables for StatLink and Box B1.4 for the notes related to this Table.

Box B1.4. Notes for Chapter B1 Tables

Table B1.1. Enrolment rates in early childhood education and care (ECEC) and primary education, by age (2022)

Note: 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). See *Definitions* and *Methodology* sections for more information.

1. In other registered ECEC services, 2-year-olds includes children under the age of 2, and 3-year-olds includes children aged 3 to 5.

2. Early childhood education excludes early childhood educational development programmes (ISCED 01).

3. Year of reference differs from 2022: 2018 for Indonesia; and 2021 for Argentina and South Africa.

Table B1.2 Trends in enrolment rates of children in early childhood educational development (ISCED 01) and pre-primary education (ISCED 02), by age group (2013 and 2022)

Note: 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). See Definitions and Methodology sections for more information.

1. The legal age at which school becomes compulsory is 6, but children are allowed in legislation to attend school from age 5, and most do.

2. Year of reference differs from 2013: 2014 for Croatia and Türkiye; 2015 for Colombia, Hungary, Romania and South Africa; and 2016 for Denmark and Japan.

3. Year of reference differs from 2022: 2018 for Indonesia; and 2021 for Argentina and South Africa.

Table B1.3 Trends in the distribution of children enrolled in early childhood education and care (ISCED 0), by ISCED 0 programme and type of institution (2013 and 2022)

Note: See *Definitions* and *Methodology* sections for more information.

1. Year of reference differs from 2022: 2018 for Indonesia; and 2021 for Argentina, Australia and South Africa.

2. Year of reference differs from 2013: 2014 for Croatia; 2015 for Colombia, Romania and South Africa; and 2016 for Denmark.

3. Japan's early childhood education and care reforms mean all private ECEC institutions became government-dependent in 2021.

See Definitions and Methodology sections and *Education at a Glance 2024 Sources Methodologies and Technical Notes* https://doi.org/10.1787/e7d20315-en) for more information.

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s). Please refer to the Reader's Guide for information concerning symbols for missing data and abbreviations.

Chapter B2. What are the main characteristics of primary and lower secondary education?

Highlights

- Since 2013, 12 countries have extended the length of compulsory education at either pre-primary or upper secondary level. As enrolment rates in the years before and after compulsory education are already generally high, these measures often aim to increase enrolment among disadvantaged groups, where rates are lower.
- The vast majority of primary students are enrolled in public institutions, averaging 85% across OECD countries. In some countries, government-dependent private institutions are prevalent, which often function in similar ways to public institutions.
- Grade repetition is relatively uncommon before upper secondary education. On average across the OECD, 1.5% of students in primary education and 2.2% of students in lower secondary education were repeating their current grade in 2022. In all school systems, boys are more likely to repeat a grade than girls both at primary and lower secondary level.

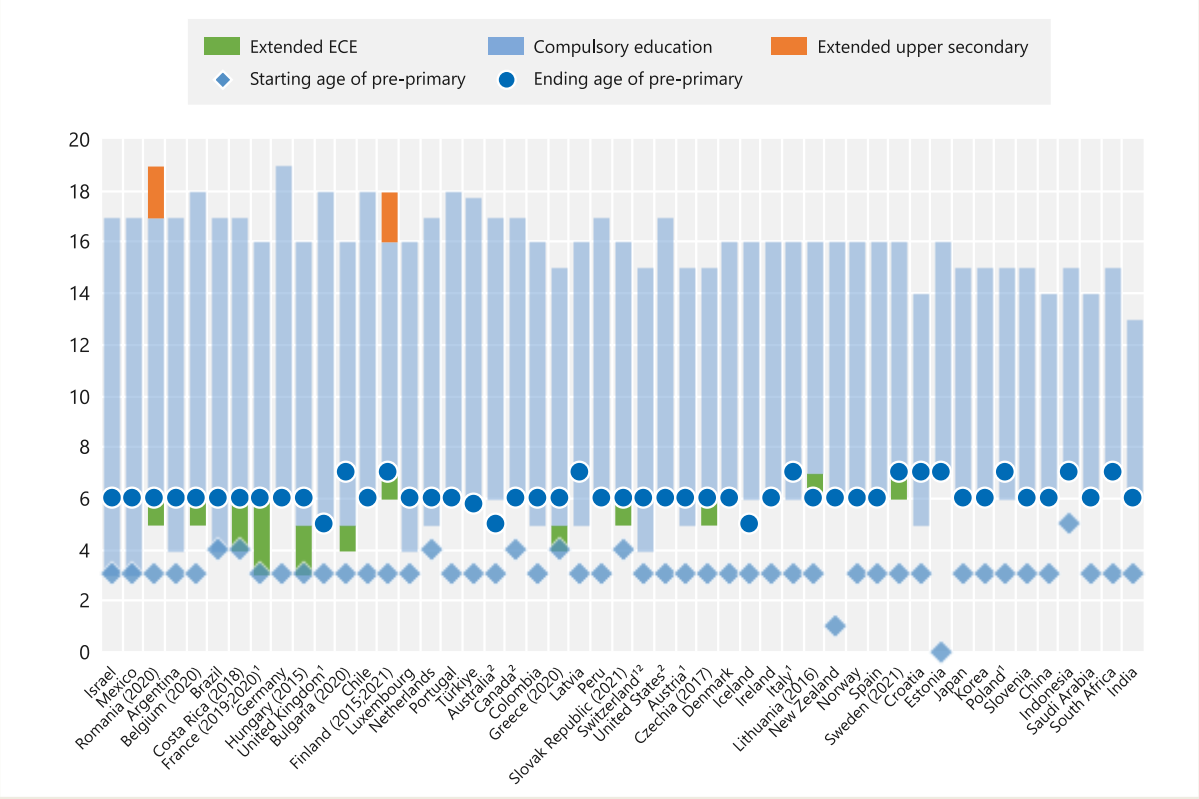
Context

Compulsory education is a foundational element of modern societies, requiring children and adolescents to attend school for a specified number of years. This is intended to ensure that all individuals acquire the essential knowledge and skills they need for personal development and civic participation. Although some characteristics of compulsory education, such as the starting age and duration, vary widely across countries, the programmes within compulsory education are usually relatively homogeneous compared to other levels of education. Generally, compulsory education spans primary and lower secondary levels, covering children aged approximately 6 to 14 years. This period is crucial as it lays the groundwork for lifelong learning and development, equipping students with basic literacy, numeracy and critical thinking skills.

The global commitment to compulsory education is reflected in international frameworks and agreements, such as the United Nations Convention on the Rights of the Child and the Sustainable Development Goals (SDGs), particularly SDG 4, which aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all." (UNESCO, 2024[1]). These frameworks emphasise the importance of providing free and compulsory primary and secondary education to all children, regardless of their socio-economic background, gender or geographical location.

Figure B2.1. Duration of compulsory education (2023)

In years



Note: The year in parentheses indicates when policy changes were made to the duration of compulsory education. In addition, extended ECEC/extended upper secondary refers to the extension in the duration of the relevant level since 2013.

1. There are other compulsory activities to complete by the end of compulsory education (see Table B2.1).
2. Starting age, ending age, and duration of compulsory education may vary at sub-national level.

Countries are ranked in descending order of the duration of compulsory education.

See Table B2.1 for data and under Chapter B2 Tables for StatLink. For more information see Source section and Education at a Glance 2004 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en)

Other findings

- Enrolment of students aged 6 to 14 is universal in OECD countries, with an enrolment rate of 98%. Around two-thirds of students in this age group are enrolled in primary education.
- On average, the population of children aged 6 to 14 has grown by 0.5% per year since 2013 across countries. Notably, two-thirds of countries have experienced positive annual growth rates. Of these, Slovenia, South Africa and Sweden stand out, with annual growth of 2% or more in this age group.
- At lower secondary level, overall academic achievements and attendance records are the main factors used to decide whether a student progresses to the next grade. Typically, the decision is made by school leaders and teachers, sometimes in consultation with parents, within guidelines or regulations coming from national or other levels of government.

Note

In this edition of *Education at a Glance*, Chapter B2 analyses the data on primary and lower secondary education as well as compulsory education characteristics across countries.

Analysis

Compulsory education

Compulsory education refers to a mandated period during which children are legally required to attend school. The vast majority of OECD countries guarantee free schooling during the years of compulsory education. The duration of compulsory education varies widely across OECD countries. For example, in Israel, Mexico and Romania, compulsory education spans 14 years, whereas in India, it lasts only 7 years. Generally, compulsory education covers the entirety of primary and lower secondary levels. However, an increasing number of countries are extending it to include pre-primary and upper secondary levels as well. Notably, 8 countries, including Brazil and Switzerland, have made all pre-primary years compulsory, while 16, including Austria and the Netherlands, require attendance for some years of pre-primary education. More than half of the OECD countries also incorporate some years of upper secondary education into compulsory schooling. In 12 countries, including Belgium and Chile, all years of upper secondary education are compulsory (Figure B2.1 and Annex Table X1.5).

The duration of compulsory education is typically defined in terms of grades or an age range, or both. It usually begins for children who have reached a certain age on a certain date, at the start of the school year or within a set period. Countries have various criteria for when students can be said to have completed their compulsory education. In about half of them, reaching the ending age is sufficient but in nearly one-third of the countries, students need to have completed a particular level of education. Other common criteria include completing a certain number of grades or obtaining a diploma or certificate. For instance, in Belgium, Finland, the Netherlands and Portugal, compulsory education ends either upon completing upper secondary education or reaching the ending age. Similarly, in Australia, students fulfil the compulsory education requirements by either obtaining a Year 10 certificate or its equivalent, or by reaching the ending age (Table B2.1).

The impact of compulsory education policies on educational equity

Compulsory education is a common policy instrument for increasing participation in education, particularly among marginalised groups (Harmon, 2017[2]). By mandating school attendance, these policies ensure that students remain in the educational system for longer, thereby increasing overall enrolment rates and reducing dropout rates. For instance, in the Netherlands, a one-year increase in the ending age for compulsory education has reduced the dropout rate by 2.5 percentage points (Cabus and De Witte, 2011[3]). In Italy, following the introduction of a one-year extension to compulsory education, a larger proportion of 16-year-olds remained in school, particularly those at greater risk of dropping out due to having less educated parents or parents with low occupational status (Raimondi and Vergolini, 2019[4]).

Similarly, an analysis of compulsory schooling reforms across 12 European countries which had raised the minimum school leaving age found that these reforms significantly improved educational attainment. The impact was most notable among individuals in the lowest quartiles of the ability distribution (Brunello, Fort and Weber, 2009[5]). There is also evidence that additional education also contributes to reduced wage inequality (Brunello, Fort and Weber, 2009[5]). In the Republic of Türkiye, the extension of compulsory education has significantly narrowed the educational attainment gap between urban and rural children. The reform reduced the urban-rural disparity in completed years of schooling at age 17 by 0.5 years for

men and by 0.7-0.8 years for women (Kirdar, Dayioglu and Koç, 2016[6]). Compulsory education policies therefore play a critical role in promoting educational equity and ensuring that all children, regardless of their socio-economic background, have access to sustained educational opportunities.

Extension policies in compulsory education

Extending the scope of compulsory education to pre-primary/pre-school education as well as to upper secondary education and training involves different motivations and strategies. The inclusion of at least one year of pre-primary education in the scope of compulsory education in 11 OECD countries over the last decade reflects the growing recognition of the importance of early childhood education. By making three years of pre-primary education compulsory in 2019, France underscored the pedagogical significance of nursery schools in its educational system and their crucial role in reducing early childhood inequalities, particularly those related to language development (European Agency for Special Needs and Inclusive Education, 2020[7]). Countries with already high enrolment rates at the national level may strategically target subpopulations with less favourable backgrounds when implementing such policies. For instance, Lithuania targets young children living in households at socio-economic risk and mandates compulsory pre-school education for them (Eurydice, 2023[8]). Similarly, Belgium aims to increase regular attendance among children born outside the country or with low-educated parents in large cities through the inclusion of pre-primary education in compulsory education (European Commission, 2020[9]).

Some countries extend compulsory activities beyond education until the age of 18 to reduce the population neither in employment, nor in formal education or training (NEET). For instance, training became mandatory for students aged between 16 and 18 in France in September 2020. Young people can fulfil this requirement through various means including schooling, apprenticeships, training courses, civic service or social and professional integration measures. Similarly, Austria, Italy and Poland have made it obligatory to pursue either formal education or training for those up to the age of 18 (Table B2.1). Finland extended compulsory education to the age of 18 in 2021 aiming to promote equity within its education system, as jobseekers in the labour market are usually expected to hold at least an upper secondary qualification (Ministry of Education and Culture of Finland, 2024[10])

The implementation of such compulsory activities can also vary within countries. In Switzerland, for example, compulsory formal education or training is mandated until the age of 18 only in the cantons of Geneva and Ticino. In the United Kingdom, students in England are obliged to engage in one of formal education, training, volunteering, or part-time employment until they reach 18, whereas those in Scotland, Wales and Northern Ireland have no such requirements (Table B2.1).

In addition to these recently implemented policies, there are changes in the pipeline in some countries. For instance, Romania intends to make all years of pre-primary education compulsory by 2030 (International Trade Administration, 2023[11]). Additionally, Luxembourg plans to extend compulsory education from 16 to 18 by 2026. Under this reform, individuals over 16 who wish to enter the workforce before they turn 18 will have to apply for an exemption for the specified duration (Antar, 2023[12]).

Enrolment of students aged 6 to 14

Enrolment among 6-14 year-olds is virtually universal in OECD countries, with enrolment rates of 98% on average. The majority of these students are in primary or lower secondary education, with the specific distribution depending on the duration of these education levels in each country. Typically, primary education lasts six years in OECD countries, but it ranges from four years in several countries (e.g. Austria and Hungary) to eight years in Ireland. Lower secondary education generally lasts three years, with a range from two years in Belgium and Chile to six years in Germany and Lithuania. As a result, around two-thirds of students aged 6 to 14 are enrolled in primary education on average across OECD countries. Countries where primary education starts later, or upper secondary education starts earlier, may see greater shares

of 6-14 year-olds enrolled at pre-primary or upper secondary levels. For example, in all countries where primary education begins at the age of 7, over 10% of students aged 6 to 14 are enrolled in pre-primary education (Table B2.2 and Annex Table X1.5).

On average, the population of children aged 6 to 14 has grown by 0.5% per year since 2013 across OECD and partner and/or accession countries. During this period, two-thirds of countries have experienced positive annual growth rates while one-third saw this age group shrink. Slovenia, South Africa and Sweden stand out, with annual growth of 2% or more in their populations of 6-14 year-olds. In contrast, Croatia, Korea and Portugal have seen annual falls of at least 1% in this age group since 2013 (Figure B2.2).

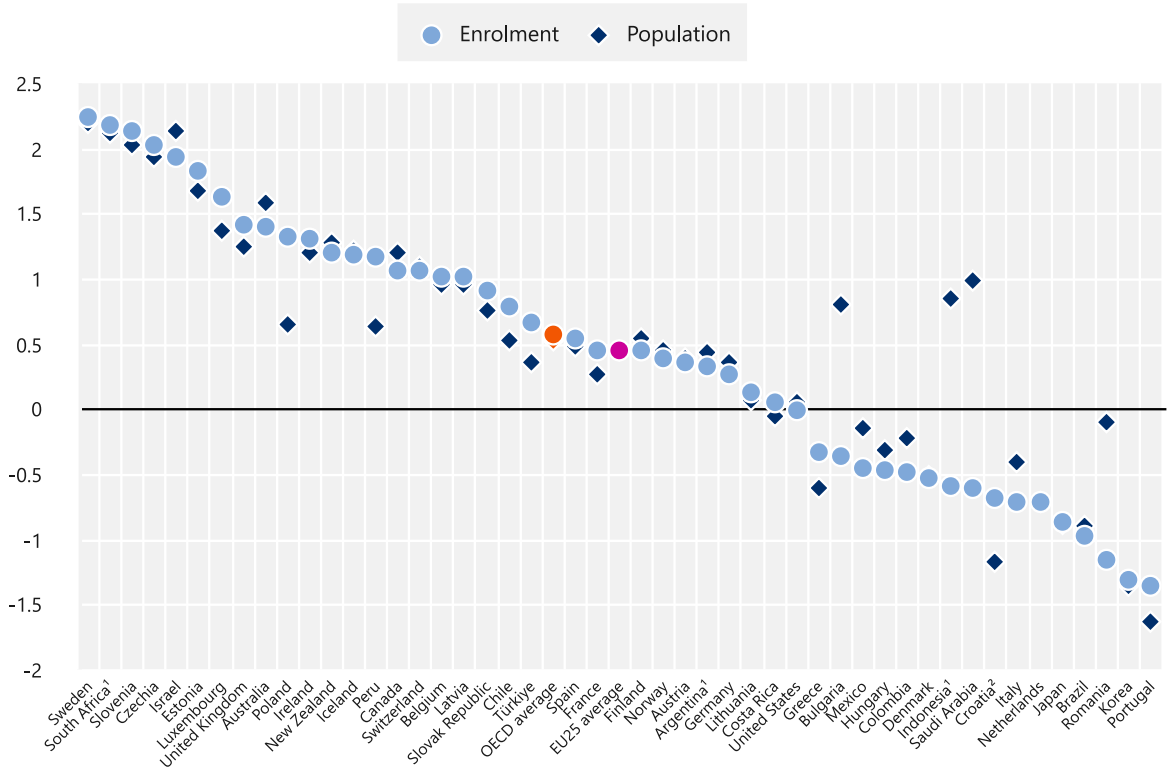
Education systems need to be prepared to handle both shrinking and growing school-age populations by ensuring they have sufficient infrastructure, learning spaces, trained teachers, resources and viable schools to maintain or improve access to quality education (see Chapter D2, Box D2.3). Proactive planning and investment are crucial to accommodate demographic changes and prevent potential overcrowding and resource shortages in schools.

These challenges become even more pressing when external shocks, such as migration, occur. For instance, the displacement of millions of Ukrainians due to Russia's war of aggression against Ukraine has led to significant challenges. Ukrainian households have encountered several structural and familial barriers, including a lack of learning spaces and resources in their host countries, which have made difficult to enrol their children in school (OECD, 2023[13]). Other significant drivers of non-enrolment include the availability of remote learning and burden of following both host country and the Ukrainian curriculum (UNHCR, 2024[14]). However, host countries also implemented measures to increase enrolment as 16 out of 23 European Union Member States reported that enrolment in local schools is compulsory for Ukrainian children (European Commission, 2024[15]).

In most countries, a change in population drives a proportional change in the number of enrolled students so it does not lead a substantial change in enrolment rates for that age group. Exceptionally, the numbers of enrolled 6-14 year-olds in Peru and Poland, have increased faster than the population of that age group, possibly due to their relatively lower enrolment rates in 2013. However, there are also exceptions in the opposite direction. Bulgaria, Indonesia and Romania have experienced sizeable annual decreases in the number of enrolled students since 2013, even as the relevant school-age population has remained stable or increased, resulting in falling enrolment rates (Table B2.2).

Figure B2.2. Annual change in the number of students and the number of children aged 6 to 14 (2013 and 2022)

Average annual change in per cent



1. Year of reference differs from 2022. Refer to the source table for more details.
2. Year of reference differs from 2013. Refer to the source table for more details.
Countries are ranked in descending order of the average annual change in the number of students between 2013 and 2022.
See OECD Data Explorer for data (http://data-explorer.oecd.org/s/4s) and under Chapter B2 Tables for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Regional variations in the enrolment of 6 to 14 year-olds

Because the ages between 6 and 14 typically correspond to compulsory education in many countries, regional enrolment rates within countries tend to be uniformly high. In most OECD countries, enrolment rates of 6-14 year-olds across all subnational regions vary by less than 5 percentage points (Figure B2.3). This shows that participation in education is highly standardised among these children, resulting in smaller subnational differences than for other age groups (see Figure B1.4 and Chapter B3.2).

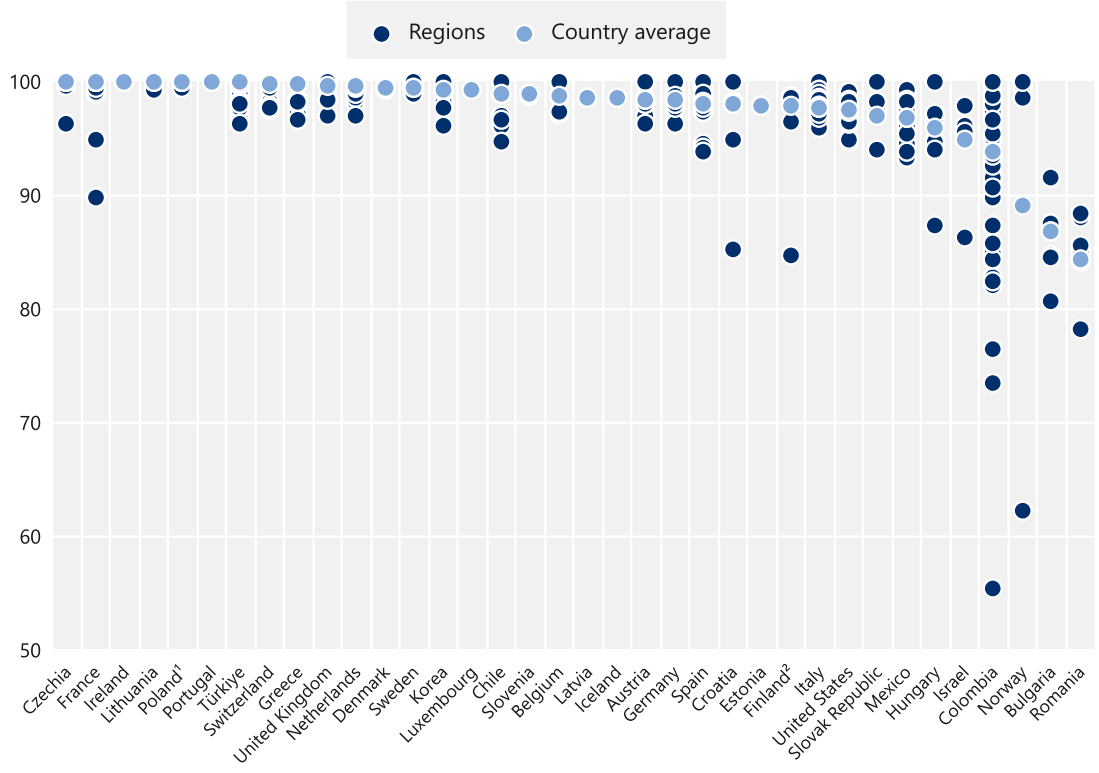
Despite the general pattern of high enrolment rates, there are a few significant disparities in some countries. Colombia stands out with the greatest regional variation in enrolment rates, showing a 45 percentage-point difference between the regions with the highest and lowest rates. The capital region has a much higher enrolment rates than less inhabited rural regions near the Amazon, such as Vichada and Vaupés. he rural nature of these regions in Colombia, and disparities in the allocation of public resources, may be the reason for the regional disparities in the enrolment rates of students aged 6 to 14. Bogotá allocates 1.7 times more resources to education than Vichada, highlighting the significant disparities in public spending for education throughout Colombia's regions (Radinger et al., 2018[16]).

Although, the rurality of a region does not substantially affect enrolment rates in this age group across the OECD, it may partly explain lower enrolment rates in specific regions.

Other countries with notable disparities include Bulgaria, Croatia, Finland, France, Norway and Romania, where the gap between the highest and lowest values exceeds 10 percentage points. However, these countries typically have only one or two region(s) whose enrolment rate for students aged 6 to 14 diverges notably from the rates in other regions within the country. For example, in France, the island, Mayotte faces challenges related to both school dropout and non-enrolment of children who have never attended school. Structural obstacles in monitoring and identifying out-of-school children on the island contribute to lower enrolment rates compared to the country average (Cécillon and Séraphin, 2023[17]).

Figure B2.3. Enrolment rate of 6-14 year olds, by subnational region (2022)

Enrolment rates in all levels of education combined



1. Data are estimated.
2. Data for 6-year-olds in ECEC programmes are excluded in Åland.
Countries are ranked in descending order of the weighted average enrolment rate of 6-14 year-olds.
See under Chapter B2 Tables for StatLink.
Source: (OECD, 2024[18]), *Education and Skills-Subnational education and indicators*, OECD Data Explorer (http://data-explorer.oecd.org/s/3q). For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Enrolment in primary and lower secondary education by type of institution

The vast majority of primary students are enrolled in public institutions, with an average of 85% across OECD countries. However, some countries have relatively high shares of primary students in private institutions, with over 54% attending private schools in Belgium and Chile (Figure B2.4). Although greater

enrolment in private schools is often associated with high private expenditure on education, this is not necessarily the case, particularly in primary education. In education systems with larger shares of students in private schools, private institutions often receive substantial government funding. Such government-dependent private institutions often function in similar ways as public ones and there may be little distinction between them from the parents' or students' perspective. For example, in Belgium, government-dependent private institutions receive almost equivalent funding to public schools and cannot charge tuition fees or select students (Musset, 2012[19]).

In contrast, independent private institutions receive less than half their funding from the government. Consequently, private contributions, often in the form of tuition fees, play a much larger role for their funding. Across the OECD, 4% of primary students are enrolled in independent private institutions. Colombia has by far the highest share of primary students enrolled in independent primary institutions at 19% (Figure B2.4 and Table B2.3).

Enrolment patterns at lower secondary level show a similar trend, with public institutions remaining predominant. However, enrolment in private institutions increases in some countries at this level, including Australia, Denmark, Korea, Indonesia and the United Kingdom. The United Kingdom, in particular, shows the most substantial difference between primary and lower secondary levels, with the share of students enrolled in private institutions nearly doubling from 37% at primary level to 72% at lower secondary level. The large majority of those students are enrolled in government-dependent private institutions, with only 5% of lower secondary students in the United Kingdom enrolled in independent private institutions (Table B2.3).

Overall, the distribution of enrolment by institution type in primary and lower secondary education has remained stable since 2013. One exception is the United Kingdom, where enrolment in private institutions has increased by 26 percentage points at primary level and by 20 percentage points at lower secondary level (Table B2.3).

School choice in primary and lower secondary education

Parents' decisions regarding school choice are primarily influenced by the type of institutions available, the school choice policies in place and the costs associated with private schools. In many education systems, students are assigned to their schools based on where they live, with some flexibility for parents to choose among other schools. In 27 out of 33 OECD countries, residential proximity is the primary criterion for school assignment at both primary and lower secondary levels. In 23 countries, parents can still choose another public school if a place is available (OECD, 2010[20]). School assignment based on geographical location is traditionally considered effective for ensuring access to nearby public schools. However, this approach can perpetuate residential segregation patterns, mirroring the socio-economic and demographic divides within neighbourhoods. In a few countries, parents have unrestricted autonomy to choose a school from a range of public institutions. Students in Belgium, Chile, Italy and the Netherlands are not assigned to public schools based on their geographical location (Musset, 2012[19]).

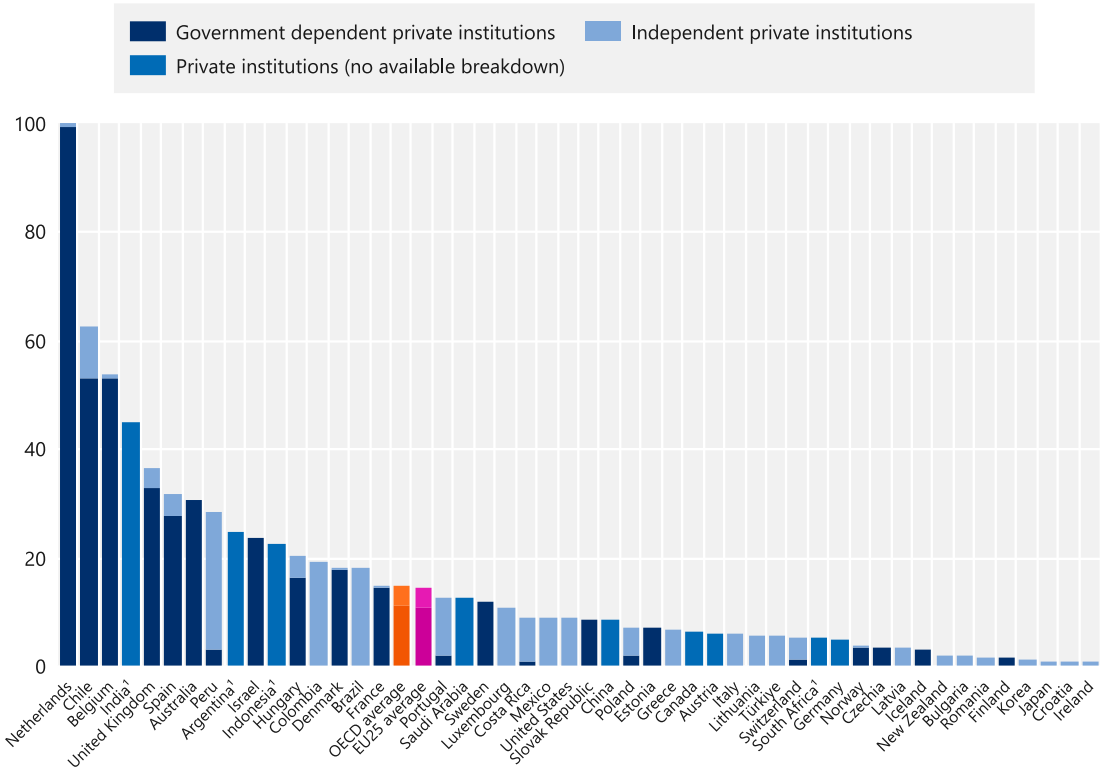
Countries also employ some mechanisms to govern parents' choice of school to ensure equity, which may limit their choices (Musset, 2012[19]). These mechanisms aim to reduce segregation and provide equal opportunities for disadvantaged students. For example, in Nijmegen in the Netherlands, a central subscription system aims to ensure 30% of students in each school are from disadvantaged backgrounds. In Chile, private providers must ensure at least 15% of their students come from disadvantaged backgrounds if they are to receive public funding (OECD, 2017[21]).

The cost of private schooling is another significant factor influencing parental choice. Some countries extend school choice through financial mechanisms offer incentives for disadvantaged students to enrol in private schools. Voucher systems are a common tool in this area. In Chile, the Flemish Community of Belgium and the Netherlands, schools receive funding based on their students' socio-economic status and

educational needs. In Sweden, public funding for independent schools is also provided through a voucher system determined by municipalities, although it is not dependent on student characteristics (OECD, 2017[21]).

Figure B2.4. Share of students enrolled in private institutions in primary education, by type of institution (2022)

In per cent of all children enrolled in primary education



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 students enrolled in private institutions in primary education.
See Table B2.3. for data and under Chapter B2 Tables for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Grade repetition in primary and lower secondary level

Grade repetition, the practice of retaining students in the same grade to give more time to master grade-appropriate content, is intended to help struggling students before they move on to the next grade. Yet, the effectiveness of grade repetition is disputed and may depend on the level of education being repeated (see Chapter B3). Research indicates that, below upper secondary level, grade repetition mostly results in negative student outcomes. For instance, students who repeat a grade in their current level of education tend to perform worse academically, have more negative attitudes towards school at age 15, and are more likely to drop out of high school, even when accounting for socio-economic background and individual characteristics (Ikeda and García, 2014[22]; OECD, 2023[23]).

The share of repeaters varies widely by country and by educational level. Grade repetition is relatively uncommon before upper secondary education (see Chapter B3). On average across OECD countries, 1.5% of students in primary education and 2.2% of students in lower secondary education repeated their

current grade in 2022. In Austria, Hungary, the Slovak Republic and Türkiye, the pattern is reversed, and the share of repeaters is higher in primary education than in lower secondary education. In all school systems, boys are more likely to repeat a grade than girls in both primary and lower secondary level (Table B2.2).

In primary education, Colombia, South Africa and Türkiye have notably high shares of repeaters, with more than 4% of students repeating a grade. Although the share of repeaters has remained stable at primary level across the OECD, Colombia and Türkiye have experienced an increase of 2.3 or more percentage points since 2015. This rise can be partly attributed to post-pandemic outcomes. Due to distance learning, an increased number of parents whose children could not reach the desired proficiency level, particularly in the first year of primary education, have requested grade repetition (Figure B2.5).

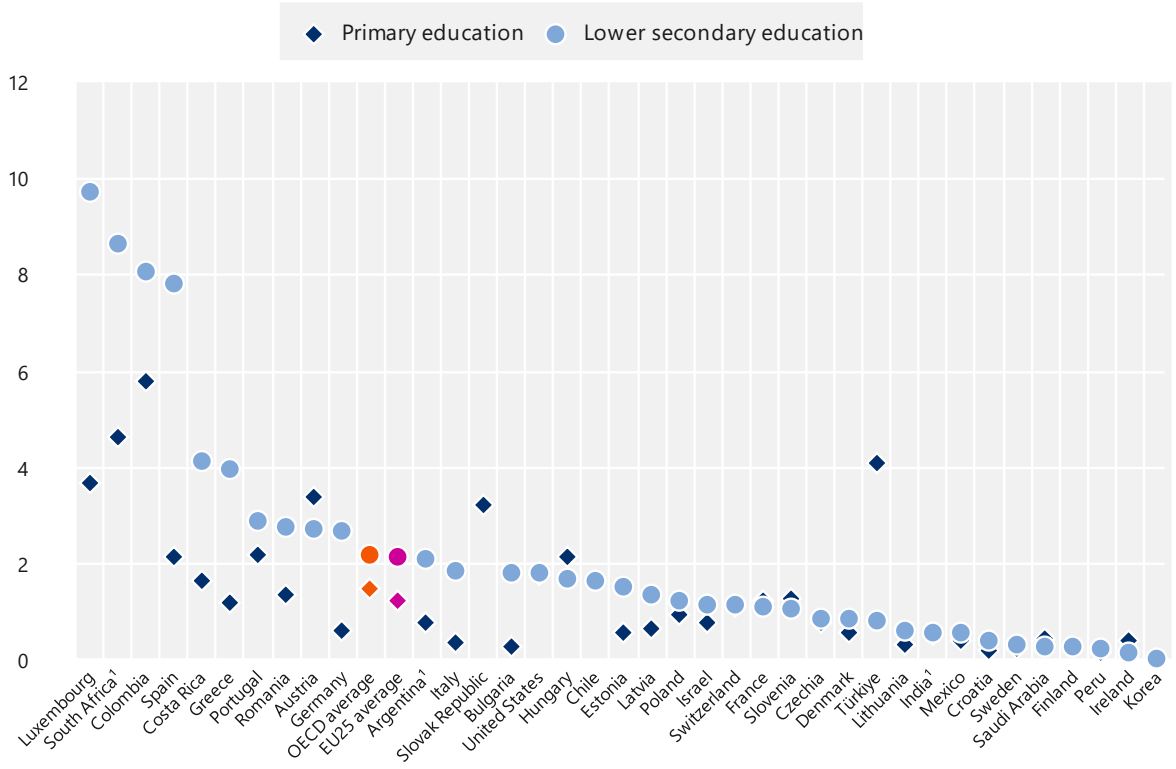
In lower secondary education, grade repetition is more widespread across OECD and partner and accession countries. Colombia, Luxembourg, South Africa and Spain record the highest share of repeaters at this level, of around 8% or more (Figure B2.5). Since 2015, there has been a declining trend in the share of students repeating grades at lower secondary level. Some countries, such as Argentina, Costa Rica and South Africa, have experienced drops in the share of repeaters by at least 8 percentage points between 2015 and 2022 (Table B2.2Table B2.2.).

In some countries, the concept of repeating a grade does not exist. For instance, school systems in Iceland, Japan, Norway and the United Kingdom allow all students progress automatically to the next grade at the end of the school year at both primary and lower secondary levels (OECD, 2023[23]). Among those which do use grade repetition, 17 countries with available information have restrictions on the practice. These restrictions may apply only in certain grades, specific types of programmes or schools, or limit the number of times a student can repeat a grade in their current level of education (see Table B3.4.2 in (OECD, 2023[24])).

Who is involved in decisions about grade repetition also varies greatly across countries. In a majority of countries with available information, the decision is made by school leaders and classroom teachers, sometimes in consultation with parents, within guidelines or regulations coming from national or other levels of government in lower secondary level. In some countries, other teachers in the school and/or the school head may also be involved, and in one-third of countries parents or legal guardians can also be a part of the decision to repeat. In Denmark, Slovenia and Sweden, students are involved in the decision process if this is in their interest (see Table B3.4.2 in (OECD, 2023[24])).

At lower secondary level, various factors can determine a student's progression to the next grade, including attendance records, behaviour assessments, overall academic achievements and performance in specific subjects. The criteria for grade repetition vary widely between countries. In about half of the countries and other participants with available information, overall academic achievement is the most common criterion for deciding grade repetition. About one-third of these countries also require students to have sufficient attendance in a minimum number of courses in order to progress. Behavioural issues can also be a factor in grade repetition, as seen in the Flemish Community of Belgium, Costa Rica, Italy, Indonesia and Romania (see Table B3.4.2 in (OECD, 2023[24])). For instance in Romania, legislation stipulates that students who receive an unsatisfactory final grade for behaviour cannot progress to the next grade, even if they pass all other subjects (Eurydice, 2011[25]).

Figure B2.5. Share of repeaters in primary and lower secondary, by level of education (2022)



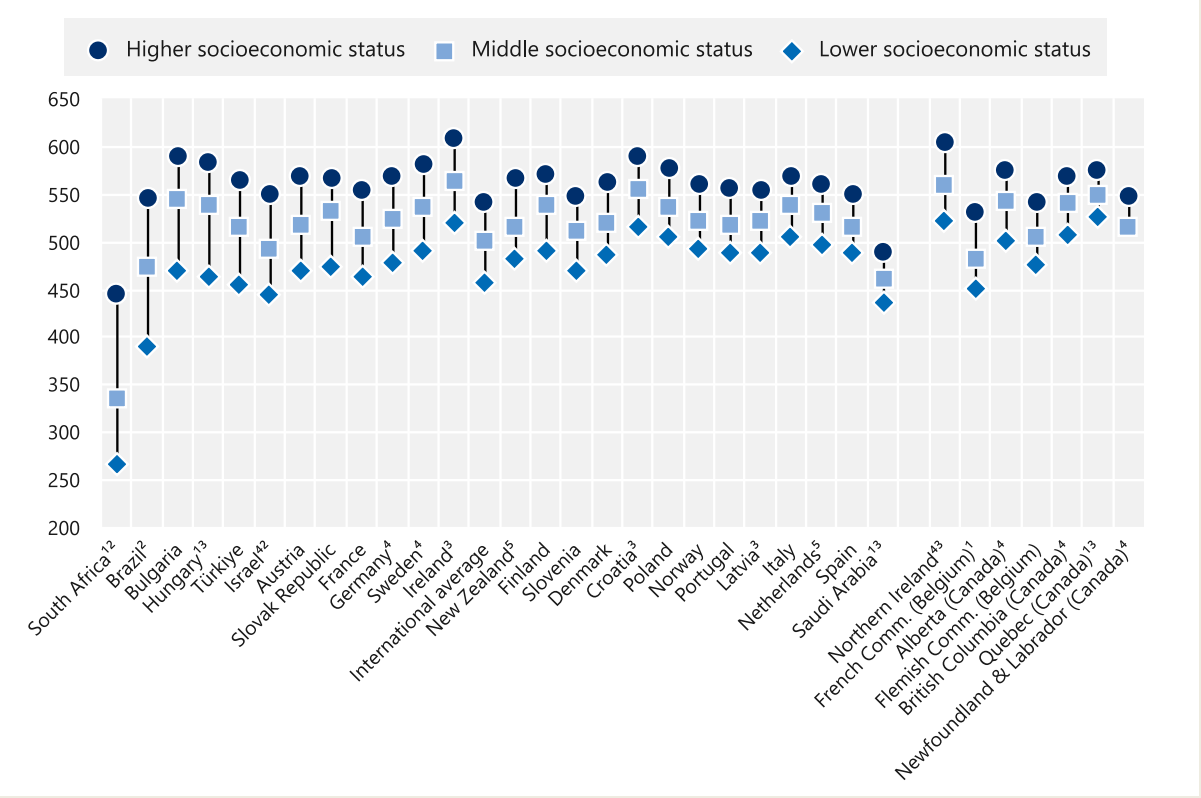
1. Year of reference differs from 2022. Refer to the source table for more details.
Countries are ranked in descending order of the share of repeaters in lower secondary education.
See Table B2.2 for data and under Chapter B2 Tables for StatLink. For more information see Source section and (OECD, 2024[26]) Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Box B2.1. The impact of socio-economic status on literacy

In an equitable education system, students' learning outcomes would be independent of factors such as their family's socio-economic status, immigrant background or gender. Students' backgrounds can create privileges or obstacles that impact their performance. They also shape students' aspirations, motivation and effort, all of which also play a significant role in determining their learning outcomes (OECD, 2023[27]).

Figure B2.6. Average achievement of students in PIRLS 2021 survey by socio-economic status (2021)

Students in their fourth grade of schooling



Note: The PIRLS 2021 study divided students into higher, middle or lower socio-economic status based on the Home Socio-economic Status scale.
1. Data are available for at least 70% but less than 85% of the students.
2. Assessed one year later than originally scheduled.
3. Delayed assessment of fourth grade cohort at the beginning of fifth grade.
4. Data are available for at least 50% but less than 70% of the students.
5. Data are available for at least 40% but less than 50% of the students - interpret with caution.
Countries and other participants are ranked in descending order of the difference in achievement between the higher and lower socio-economic status groups.
See under Chapter B2 Tables for StatLink.
Source: (IEA, 2021[28]), IEA's Progress in International Reading Literacy Study - PIRLS 2021, https://www.iea.nl/studies/iea/pirls/2021

The Progress in International Reading Literacy Study (PIRLS) evaluates the reading comprehension and literacy skills of fourth-grade students at 9–10-year-olds. It finds that the socio-economic status

(SES) of students' households consistently affects their performance in literacy across countries and other participants, with students from higher SES backgrounds outperforming their peers from lower ones. The resulting disparities are more pronounced in Brazil, Bulgaria, Hungary and South Africa, where the gaps in performance are over 120 points. In contrast, the gaps are relatively modest in the Netherlands, Quebec (Canada), Saudi Arabia and Spain, where they are 62 points or less (Figure B2.6)

Household SES can affect primary students' performance in literacy through various channels. First, at an individual level, children's initial reading ability is correlated with the home literacy environment and parental involvement, which includes the resources and opportunities in families that support the development of children's reading skills at home (Tarelli and Stubbe, 2019[29]; Dong et al., 2020[30]). There is a strong correlation between students' achievement in literacy and the likelihood of their parents enjoying reading. As parents' interest in reading increases, students tend to achieve higher literacy scores. However, low-SES households are less likely to provide such a home literacy environment. Children from low-SES households are less likely to have experiences that encourage the development of fundamental reading acquisition skills, including phonological awareness, vocabulary and oral language (Buckingham, Wheldall and Beaman-Wheldall, 2013[31]; Li et al., 2022[32]).

Second, at the school level, characteristics such as practices, the learning environment and teacher quality are correlated with students' achievement in literacy. Household SES can influence school choice, and differences in school conditions can in turn affect students' literacy (Buckingham, Wheldall and Beaman-Wheldall, 2013[31]). School characteristics can also mediate and potentially reduce the differences in literacy performance across students from different SES groups (Tarelli and Stubbe, 2019[29]; Dong et al., 2020[30]). .

Definitions

Repeater refers to a student who is not promoted to the next grade or does not complete an educational programme and who remains in the same grade the following school year.

Private institutions are those controlled and managed by a non-governmental organisation (e.g. a church, a trade union or a business enterprise, foreign or international agency), or their governing board consists mostly of members not selected by a public agency. Private institutions are considered government-dependent if they receive more than 50% of their core funding from government agencies or if their teaching personnel are paid by a government agency. Independent private institutions receive less than 50% of their core funding from government agencies and their teaching personnel are not paid by a government agency.

Methodology

Enrolment rates

Net enrolment rates are calculated by dividing the number of children of a particular age / age group enrolled 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. Therefore, population data are adjusted in the calculation of enrolment rates by age. This adjustment method ensures that if the cumulative enrolment data across all ISCED levels exceed the population data for a particular age, the population data for that age are adjusted to match the total enrolment for the corresponding age.

Annual growth rate

Calculation of annual growth rate includes several steps as following:

- The value of variable of interest (i.e. population, the number of enrolled students) in the last reference year is divided by its value in the first reference year,
- This division is raised to an exponent of one divided by the number of years between two reference years,
- One is subtracted from the subsequent result,
- Lastly, final result is multiplied by 100 to convert it into a percentage.

Annual growth rate smoothens the impact of missing data or breaks within years, providing a more statistically reliable growth rate. It also allows the calculation of growth rates by countries on different year ranges instead of having a uniform year range.

For more information see the OECD Handbook for Internationally Comparative Education Statistics (OECD, 2018[33]) and Education at a Glance 2024 Sources, Methodologies and Technical Notes (OECD, 2024[26])

Source

Data refer to the reference year 2022 (school year 2021/22) and are based on the UNESCO-UIS/OECD/Eurostat data collection on education statistics administered by the OECD in 2024 (for detailed information, see ((OECD, 2024[26])) Education at a Glance 2024 Sources, Methodologies and Technical Notes (OECD, 2024[26]).

Data from Argentina, the People's Republic of China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

Data on subnational regions for selected indicators are available in the OECD Education and Skills-Subnational education and indicators (OECD, 2024[18]).

Data on achievements in literacy are available in PIRLS 2021 International Results in Readinghttps://pirls2021.org/results/context-home/socioeconomic-status/

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Chapter B2 Tables

Tables Chapter B2. What are the main characteristics of primary and lower secondary education?

Table B2.1	Characteristics of free and compulsory education (2022)
Table B2.2	Enrolment rates of 6-14 year-olds and share of repeaters, by level of education (2013, 2015 and 2022)
Table B2.3	Distribution of students in primary and lower secondary education, by type of institution (2013 and 2022)

StatLink https://stat.link/8vkxpq

Cut-off date for the data: 14 June 2024. Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

Table B2.1. Characteristics of free and compulsory education

	Free provision of education		Compulsory education							
OECD countries	Starting age (1)	Duration (2)	Starting age in the beginning of first compulsory school year (3)	Ending age by the end of final compulsory school year (4)	Duration (in years) (5)	Extension in the duration of ECE since 2013 (in years; date of extension) (6)	Extension in the duration of upper secondary education since 2013 (in years; date of extension) (7)	Reference date/period, upon reaching starting age (8)	Criteria for completing compulsory education (9)	Other compulsory activities to be completed by the end of compulsory education (10)
Australia[1]	4	14	6	17	11			m	Obtaining a Year 10 certificate or equivalent certificate or reaching the ending age	No
Austria	5	13	5	15	10			On September 1st	Completion of 1 year of compulsory pre-primary and afterwards 9 years of schooling	Formal or some forms of non-formal education or training until the age of 18
Belgium	0	15	5	18	13	1 (2020)	2 (2020)	On September 1 st	Completion of upper secondary level or reaching the ending age	No
Canada[1]	5	13	6	16	11			m	Obtaining upper secondary education diploma or reaching the ending age	No
Chile	4	14	6	18	12			On March 31st of the school year	Completion of upper secondary education	No
Colombia	5	12	5	16	11			m	m	m
Costa Rica	4	13	4	17	13	2 (2018)		On February 15th of the school year	Completion of upper secondary education	No
Czechia	5	14	5	15	10	1 (2017)		m	m	m
Denmark	6	13	6	16	10			On August 1st	Completion of 10 years of primary and lower secondary education	m
Estonia	7	12	7	16	9			On October 1st of the school year	Completion of 9th grade or reaching the ending age	No
Finland[2]	6	13	6	18	12	1 (2015)	2 (2021)	Compulsory pre-primary education: In the year preceding compulsory primary education; Compulsory primary education: At the beginning of the school year in the year when the child turns 7	Completion of upper secondary education or reaching the ending age	No
France	3	15	3	16	13	3 (2019, 2020)		At the beginning of the school year	Reaching the ending age	Since September 2020, training has become compulsory for students aged between 16 and 18. Young people will be able to fulfil this compulsory training by several means: schooling, apprenticeship, training courses, civic service, support system or social and professional integration measures.
Germany	6	13	6	18	13			m	9 or 10 years of full-time school plus 3 years of part-time school	m
Greece	4	13	4	15	11	1 (2020)		On December 31st of the school year	Completion of lower secondary education	No
Hungary	0	15	3	16	13	2 (2015)		On September 1 st	Reaching the ending age	m
Iceland	6	10	6	16	10			On December 31st of the school year	Completion of 10th grade	No
Ireland	6	14	6	16	10			m	Completion of lower secondary education or reaching the ending age	m
Israel	3	15	3	17	14			At the beginning of the school year	Reaching the ending age at the beginning of the final compulsory school year	No
Italy	3	13	6	16	10			On December 31st of the school year	Reaching the ending age	Formal education or training until the age of 18
Japan	3	12	6	15	9			At the beginning of the school year	Reaching the ending age	No

	Free provision of education		Compulsory education							
	Starting age	Duration	Starting age in the beginning of first compulsory school year	Ending age by the end of final compulsory school year	Duration (in years)	Extension in the duration of ECE since 2013 (in years; date of extension)	Extension in the duration of upper secondary education since 2013 (in years; date of extension)	Reference date/period, upon reaching starting age	Criteria for completing compulsory education	Other compulsory activities to be completed by the end of compulsory education
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Korea	0	18	6	14	9			On March 1st	Completion of lower secondary education	No
Latvia	2	15	5	16	11			m	Completion of lower secondary education	No
Lithuania	0	15	6	16	10	1 (2016)		At the beginning of the calendar year	Reaching the ending age	No
Luxembourg[3]	3	16	4	16	12			On September 1st	Obtaining a diploma at upper secondary level or an equivalent diploma or certificate	m
Mexico	0	18	3	17	14			m	Completion of a particular programme, or the attainment of a diploma	No
Netherlands	4	14	5	17	12			On the first day of the birth month when reaching starting age	Completion of upper secondary education or reaching the ending age	No
New Zealand	3	17	6	16	10			At the beginning of the school year	Reaching the ending age	No
Norway	6	13	6	16	10			On December 31st of the school year	Completion of compulsory years	No
Poland	3	17	6	15	9			At the beginning of the school year	Completion of lower secondary education	Formal education or training until the age of 18
Portugal	0	15	6	18	12			At the beginning of the school year	Completion of upper secondary education or reaching the ending age	No
Slovak Republic	5	13	5	16	11	1 (2021)		On September 1st	Completion of compulsory years	No
Slovenia	1	13	6	15	9			On December 31st of the school year	Completion of compulsory years	m
Spain	3	13	6	16	10			On December 31st of the school year	Completion of compulsory years	No
Sweden	3	16	6	16	10	1 (2021)		In the autumn term of the calendar year	Completion of 10th grade	No
Switzerland[1]	4	15	4	15	11			On July 31st	Completion of compulsory years	Training until the age of 18, in 2 cantons (Geneva and Ticino)
Türkiye	3	15	6	18	12			By the end of September of the school year	Completion of compulsory years	m
United Kingdom	3	15	5	18	13			On December 31st, March 31st or August 31st (whichever comes first)	Reaching the ending age by the end of school year	Formal education, training, volunteering or part-time employment until the age of 18 in England
United States[1]	5	m	6	16	11			m	Reaching the ending age (alternatively, completion of a certain grade level in some states)	No
Partner and/or accession countries										
Argentina	m	m	4	17	13			m	m	m
Brazil	4	14	4	17	13			m	Completion of upper secondary education	No
Bulgaria	3	16	4	16	12			By the beginning of the school year	Reaching the ending age	No
China	m	m	6	14	8			m	m	m
Croatia	m	13	5	14	9			m	Completion of the eighth grade	m
India	m	m	6	13	7			m	m	m
Indonesia	m	m	7	15	8			m	m	m
Peru	m	m	6	16	10			m	m	m
Romania[4]	0	19	5	19	14	1 (2020)	2 (2020)	Between August 31st and December 31st	Completion of upper secondary education	No
Saudi Arabia	m	m	6	14	8			m	m	m
South Africa	m	m	7	15	8			m	m	m

Note: See under Chapter B2 Tables for StatLink and Box B2.2 for the notes related to this Table.

Table B2.2. Enrolment rates of 6-14 year-olds and share of repeaters, by level of education (2013, 2015 and 2022)

	Enrolment rate of students aged 6 to 14						Repeaters in primary education			Repeaters in lower secondary general education		
	Early childhood education	Primary	Lower secondary	Upper secondary and above	All levels		Share of repeaters		Share of boys among all repeaters	Share of repeaters		Share of boys among all repeaters
	2022	2022	2022	2022	2013	2022	2015	2022	2022	2015	2022	2022
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Australia	0	68	30	0	100	99	m	m	m	m	m	m
Austria	5	45	43	5	99	98	2.7	3.4	56	2.2	2.7	58
Belgium[1,2]	0	67	23	9	98	99	m	m	m	6.3	m	m
Canada	0	63	35	0	100	97	m	m	m	m	m	m
Chile	3	66	22	8	97	99	3.6	1.6	57	4.2	1.6	54
Colombia[1]	1	55	36	1	96	94	2.0	5.8	58	3.0	8.1	57
Costa Rica	0	68	27	0	94	95	3.1	1.6	56	12.7	4.1	59
Czechia	6	54	40	0	99	100	0.6	0.7	55	0.9	0.9	59
Denmark	1	76	23	0	99	99	1.0	0.6	62	1.1	0.8	55
Estonia	12	66	20	0	97	98	0.5	0.5	65	2.2	1.5	59
Finland	10	66	22	0	99	98	0.3	0.2	62	0.4	0.2	52
France	0	55	44	0	99	100	m	1.2	57	2.3	1.1	60
Germany	5	45	49	0	99	98	0.4	0.6	53	2.4	2.6	59
Greece[2]	0	64	35	0	97	99	0.7	1.2	52	3.8	4.0	60
Hungary	6	45	42	3	97	96	1.7	2.1	60	2.1	1.7	60
Iceland	0	76	22	0	99	99	m	m	m	m	m	m
Ireland	0	74	26	0	100	100	0.4	0.4	53	0.1	0.1	46
Israel	1	66	29	0	98	96	1.0	0.8	68	1.4	1.1	69
Italy	0	51	34	12	100	98	0.4	0.3	58	3.2	1.8	63
Japan	0	66	34	0	100	100	m	m	m	m	m	m
Korea	0	65	33	0	98	99	0.0	0.0	64	0.0	0.0	65
Latvia	12	64	22	0	98	99	0.7	0.6	63	2.3	1.3	64
Lithuania	10	44	45	0	100	100	0.4	0.3	57	0.6	0.6	71
Luxembourg	1	66	30	2	97	99	4.0	3.6	52	9.9	9.7	61
Mexico	0	65	31	2	98	97	0.8	0.4	54	0.7	0.5	55
Netherlands	0	68	31	0	100	100	m	m	m	m	m	m
New Zealand	0	54	44	0	98	98	m	m	m	m	m	m
Norway	0	76	23	0	100	99	a	a	a	a	a	a
Poland	11	43	44	2	95	100	0.8	0.9	60	2.6	1.2	62
Portugal[2]	2	66	32	0	100	100	m	2.2	59	m	2.8	63
Slovak Republic	6	45	46	0	96	97	3.1	3.2	55	1.9	1.8	55
Slovenia	1	66	31	0	98	99	0.7	1.2	64	0.8	1.0	63
Spain	0	65	33	0	97	98	2.1	2.1	58	10.1	7.8	60
Sweden	11	67	22	0	99	99	0.0	0.2	58	0.0	0.3	53
Switzerland	6	68	25	0	100	100	1.1	1.1	55	1.5	1.1	56
Türkiye	0	45	42	12	99	99	1.8	4.1	55	2.0	0.8	41
United Kingdom	0	56	33	10	98	99	a	a	a	a	a	a
United States[1,2]	3	63	30	1	98	97	1.6	1.7	53	1.9	1.8	55
OECD average	3	61	32	2	98	98	1.3	1.5	58	2.8	2.2	58
Partner and/or accession countries												
Argentina[3]	0	71	29	0	100	100	2.0	0.7	48	11.0	2.1	55
Brazil	2	55	39	1	97	96	m	m	m	m	m	m
Bulgaria	9	38	31	10	96	87	0.1	0.2	56	3.3	1.8	61
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia[4]	8	41	48	2	99	100	0.2	0.2	56	0.4	0.4	31
India[3,4]	0	51	28	10	m	89	0.8	0.5	52	0.5	0.6	50
Indonesia[2,3]	7	70	17	0	100	93	1.6	1.3	65	m	m	m
Peru	0	69	29	1	96	99	3.2	0.1	56	4.1	0.2	54
Romania	2	45	36	1	93	84	0.9	1.3	60	3.7	2.7	58
Saudi Arabia	m	58	23	0	72	83	1.3	0.4	68	1.5	0.3	72
South Africa[3]	m	74	8	0	m	89	9.2	4.6	67	16.4	8.6	64
EU25 average	5	57	34	2	98	98	1.0	1.2	58	2.7	2.1	58
G20 average	1	60	32	3	m	96	1.7	1.3	58	3.7	1.9	58

Note: See under Chapter B2 Tables for StatLink and Box B2.2 for the notes related to this Table.

Table B2.3. Distribution of students in primary and lower secondary education, by type of institution (2013 and 2022)

	Primary education					Lower secondary education				
			Private institutions					Private institutions		
	Public institutions		Government-dependent	Independent	All private institutions	Public institutions		Government-dependent	Independent	All private institutions
	2013	2022	2022	2022	2022	2013	2022	2022	2022	2022
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	69	69	31	a	31	63	58	x(10)	x(10)	42
Austria	94	94	x(5)	x(5)	6	91	90	x(10)	x(10)	10
Belgium	46	46	53	1	54	42	41	58	1	59
Canada	94	93	x(5)	x(5)	7	91	91	x(10)	x(10)	9
Chile	39	37	53	10	63	44	40	52	8	60
Colombia	82	81	a	19	19	81	82	a	18	18
Costa Rica	91	91	1	8	9	91	91	3	6	9
Czechia	98	96	4	a	4	97	96	4	a	4
Denmark	85	82	18	0	18	73	69	30	1	31
Estonia	95	93	7	0	7	96	94	6	0	6
Finland	98	98	2	a	2	95	94	6	a	6
France	85	85	15	0	15	78	78	22	1	22
Germany	95	95	x(5)	x(5)	5	90	89	x(10)	x(10)	11
Greece	93	93	a	7	7	95	94	a	6	6
Hungary	86	80	17	4	20	85	78	17	4	22
Iceland	97	97	3	0	3	99	98	2	0	2
Ireland	99	99	0	1	1	100	100	0	0	0
Israel	77	76	24	a	24	84	82	18	a	18
Italy	93	94	a	6	6	96	96	a	4	4
Japan	99	99	a	1	1	93	92	a	8	8
Korea	98	98	a	2	2	82	84	16	a	16
Latvia	99	96	a	4	4	99	96	a	4	4
Lithuania	99	94	a	6	6	98	95	a	5	5
Luxembourg	90	89	0	11	11	81	80	7	13	20
Mexico	91	91	a	9	9	89	91	a	9	9
Netherlands[1]	0	0	100	0	100	0	0	98	2	100
New Zealand	98	98	0	2	2	95	95	0	5	5
Norway	97	96	4	0	4	97	94	6	0	6
Poland	96	93	2	5	7	94	93	2	5	7
Portugal	88	87	2	11	13	87	88	3	10	12
Slovak Republic	94	91	9	a	9	93	91	9	a	9
Slovenia	99	99	1	0	1	100	99	1	0	1
Spain	68	68	28	4	32	71	68	28	4	32
Sweden	90	88	12	a	12	85	81	19	a	19
Switzerland	94	94	1	4	6	92	91	3	6	9
Türkiye	97	94	a	6	6	97	93	a	7	7
United Kingdom	89	63	33	4	37	48	28	67	5	72
United States	92	91	a	9	9	92	92	a	8	8
OECD average	87	85	11	4	15	84	82	14	4	18
Partner and/or accession countries										
Argentina[2]	75	75	x(5)	x(5)	25	76	76	x(10)	x(10)	24
Brazil	84	82	a	18	18	88	85	a	15	15
Bulgaria	99	98	a	2	2	94	97	a	3	3
China	94	91	x(5)	x(5)	9	91	86	x(10)	x(10)	14
Croatia[1]	100	99	a	1	1	100	99	a	1	1
India[1, 2]	65	55	x(5)	x(5)	45	59	54	x(10)	x(10)	46
Indonesia[2]	82	77	x(5)	x(5)	23	65	61	x(10)	x(10)	39
Peru	74	71	3	26	29	69	71	5	25	29
Romania	99	98	a	2	2	100	99	a	1	1
Saudi Arabia	88	87	x(5)	x(5)	13	91	89	x(10)	x(10)	11
South Africa[2]	96	94	x(5)	x(5)	6	m	95	x(10)	x(10)	5
EU25 average	88	86	11	3	14	86	84	19	3	16
G20 average	88	85	m	m	15	82	80	m	m	20

Note: See under Chapter B2 Tables for StatLink and Box B2.2 for the notes related to this Table.

Box B2.2. Notes for Chapter B2 Tables

Table B2.1 Characteristics of free and compulsory education (2022)

Note: ECE refers to Early Childhood Education. See *Definitions* and *Methodology* sections for more information.

1. Starting age, ending age, and duration of compulsory education may vary at sub-national level.

2. 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.

3. An extension at the upper secondary level is set to increase the ending age from 16 to 18, with implementation scheduled for 2026.

4. An extension at pre-primary level is set to decrease the starting age from 5 to 3, with implementation scheduled for 2030.

Table B2.2 Enrolment rates of 6-14 year-olds and share of repeaters, by level of education (2013, 2015 and 2022)

Note: See Definitions and Methodology sections for more information.

1. Year of reference for repeaters differs from 2015: 2016 for Belgium and Colombia; and 2017 for the United States.

2. Early childhood education excludes early childhood educational development programmes (ISCED 01).

3. Year of reference for enrolment and repeaters differs from 2022: 2018 for Indonesia and 2021 for Argentina, India and South Africa.

4. Year of reference for enrolment differs from 2013: 2014 for Croatia and India.

Table B2.3 Distribution of students in primary and lower secondary education, by type of institution (2013 and 2022)

Note: See Definitions and Methodology sections for more information.

1. Year of reference differs from 2013: 2014 for Croatia and India; and 2015 for Netherlands.

2. Year of reference differs from 2022: 2018 for Indonesia; 2020 for India; and 2021 for Argentina and South Africa.

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

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

Chapter B3. What are the key features of general and vocational upper secondary education?

Highlights

- Gender disparities at the upper secondary level affect students' pathways in the labour market and higher education. On average, 51% of graduates from upper secondary general programmes are female, but in vocational programmes female only make up 46% of graduates.
- Enrolment rates between public and private institutions differ in countries due to factors such as parental choices or the funding of schools. At the upper secondary level, 23% of students were enrolled in private institutions in 2022, an increase of 5 percentage points since 2013.
- Family background strongly influences success in upper secondary education. In all countries with available data, students whose parents have lower educational attainment have substantially lower completion rates than students with a tertiary-educated parent. Completion rates for students with immigrant backgrounds are also lower than for non-immigrant students.

Context

An upper secondary qualification (ISCED level 3) is often considered the minimum credential for successful entry into the labour market and essential for pursuing higher education. Young people who leave school before completing upper secondary education tend to have worse employment prospects (see Chapters A3 and A4).

For many students, transitioning from lower to upper secondary education involves choosing between general education and vocational education and training (VET). The selection process and influencing factors, such as test results, academic performance and teacher recommendations, vary between countries. The transition to upper secondary education is also a time when many students have to make decisions about their fields of study that will influence their future career. Vocational programmes always require this choice and many general programmes also have specialisations that students can choose. Another critical decision may be the type of school: public or private, and, if private, the specific kind. While economic factors may play a role in this choice, it is increasingly based on the opportunities each institution offers in terms of pedagogy and student welfare. Some students and their parents also select a school based on its success in helping graduates gain admission to prestigious universities.

Upper secondary education is also the time when differences emerge in student outcomes and participation. Some students leave education before obtaining an upper secondary qualification and enrolment rates at the typical age for upper secondary education are well below 100% in most countries. Similarly, not all students who enrol in upper secondary education will complete it. Disparities by gender,

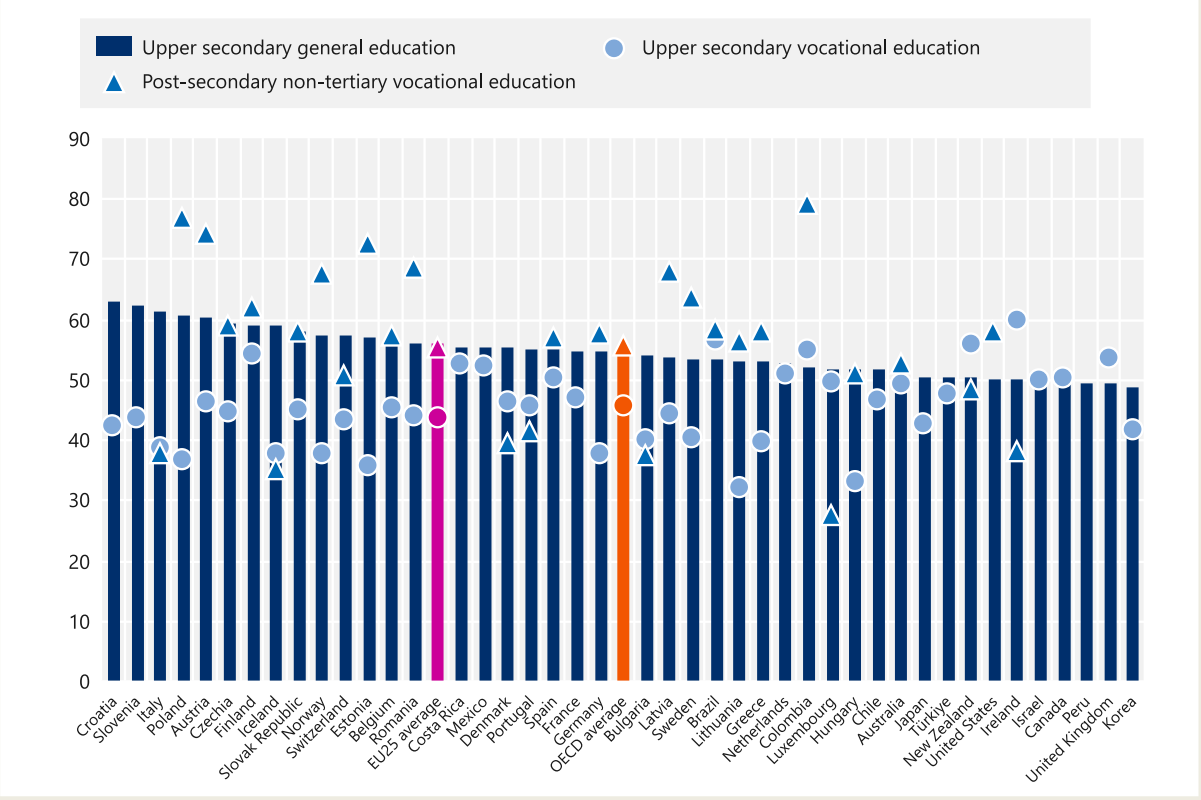
region or socio-economic background in these measures can highlight where countries are struggling to provide the best possible education to all students.

Policy makers often grapple with how best to support students to succeed in upper secondary education. One strategy involves obliging or asking weak students to repeat a year to consolidate their skills and ultimately increase their chances of successfully completing their programmes. However, the effectiveness of grade repetition is debated and repetition policies vary significantly from country to country.

Many countries offer upper secondary programmes to adults, providing a second chance to those who did not complete it during their initial education. Moreover, adults who obtained an upper secondary qualification during their initial education may enrol again in vocational upper secondary programmes to upskill or reskill. The nature of programmes targeted at adults varies considerably across different countries.

Figure B3.1. Share of women among upper secondary and post-secondary graduates, by level and programme orientation (2022)

In per cent



Countries are ranked in descending order of the share of women among graduates from upper secondary general programmes.
See Table B3.1. for data and under Chapter B3 Tables for StatLink. For more information see *Source* section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en

Other findings

- Grade repetition is one of the tools used to help students falling behind the school curriculum to complete their programmes without failing or dropping out, but the effectiveness of this is up for

debate. Among the total enrolled students at upper secondary level, 3% of students have repeated a grade in their current level of education, and 57% of them were boys.

- Adult education provides older population the opportunity to either gain educational qualifications or upskill in order to take an edge in the labour market. Students aged 25 and over participating in adult education make up 10% of the total enrolled students at upper secondary level. While only 5% of students at general programmes are aged over 24, 18% of students in vocational programmes participate in adult education.

Note

This chapter focuses primarily on the equity of upper secondary education, while also covering the main findings for post-secondary non-tertiary education.

Analysis

Upper secondary education differs from earlier levels of education, as it offers students more varied, specialised and in-depth instruction and content. It typically lasts three years, but the duration ranges from two years (as in Australia, Colombia, Costa Rica, Ireland, Lithuania and Peru) to five years (as in Bulgaria and Italy). The typical starting age is 15, but in some countries, students start earlier, at age 14 (as in Austria, Belgium, Bulgaria, Chile, Hungary, India, Italy and Türkiye), while in others, students start far later, at 17 (as in Lithuania). Although students complete upper secondary education at the age of 17 or 18 in most countries, they do so at 16 in Colombia, Costa Rica and Peru and at the age of 19 to 20 in Iceland (Table X1.5).

The full cycle of upper secondary education is compulsory in 12 education systems (Belgium, Brazil, Canada, Chile, Costa Rica, Israel, Mexico, the Netherlands, Portugal, Romania, and Türkiye). However, participation is partially compulsory (i.e. for the first years of upper secondary education) in 17 countries and not compulsory at all for 14 countries (see Chapter B2, Table B2.1). In countries where upper secondary education has been made fully compulsory, the goal is often to boost participation rates, as was the case in Portugal (2009) and Mexico (2012). However, the link between compulsory attendance and enrolment rates is unclear. Evidence suggests that the benefits mainly accrue to disadvantaged students and depend on a country's financial resources and ability to enforce compliance. Enrolment rates are also affected by various factors and policies, including the management of transitions into upper secondary education (Santos, 2023[1]).

Post-secondary non-tertiary education can prepare students for entry into the labour market or, less commonly, for tertiary education. The knowledge, skills and competencies offered tend to be less complex than is characteristic of tertiary education, and not significantly more complex than upper secondary programmes. Post-secondary non-tertiary education has a full-time equivalent duration of between six months and two years.

Participation of 15-19 year-olds in education

At national level

On average, about 84% of 15-19 year-olds participate in education, ranging from 58% in Mexico to 97% in Poland. The enrolment rate for this age group has not changed much since 2013, showing a slight increase of 1 percentage points. However, in Italy, enrolment rate increased by 9 percentage points from 78% in 2013 to 87% in 2022, after implementing the *Buona Scuola* (Good School) initiative (Republic of Italy, 2015[2]) and *Piano Nazionale di Contrasto alla Dispersione Scolastica* (National Plan to Combat

School Dropout) to improve teacher training, early interventions to prevent students dropping out and the provision of diverse pathways such as vocational training. Chile also saw a large increase in the enrolment rate, by 6 percentage points from 78% in 2013 to 84% in 2022, due to the *Ley de Inclusión Escolar* (School Inclusion Law) (Biblioteca del Congreso Nacional de Chile, 2015[3]) and *Ley de Educación Técnico-Profesiona*l (Technical and Vocational Education Law). These laws aimed to improve equity in education and expand access to vocational education programmes (Table B3.2).

Although most 15-19 year-olds are enrolled at upper secondary level, they may also be attending lower secondary or tertiary levels in some countries. Apart from six countries, more than half of all 15-19 year-olds who are in education are enrolled at upper secondary level. Overall upper secondary enrolment rates range from 30% in Colombia to 87% in Poland. On average, 37% of 15-19 year-olds are enrolled in upper secondary general programmes and 24% in vocational programmes, and the enrolment rate is higher for general pathways in all but 10 countries. In Lithuania, 42% of this age group are enrolled in lower secondary education, the same share as for upper secondary education, while more than 20% of 15-19 year-olds are enrolled in tertiary education in France, Greece and Korea (Table B3.2).

At subnational level

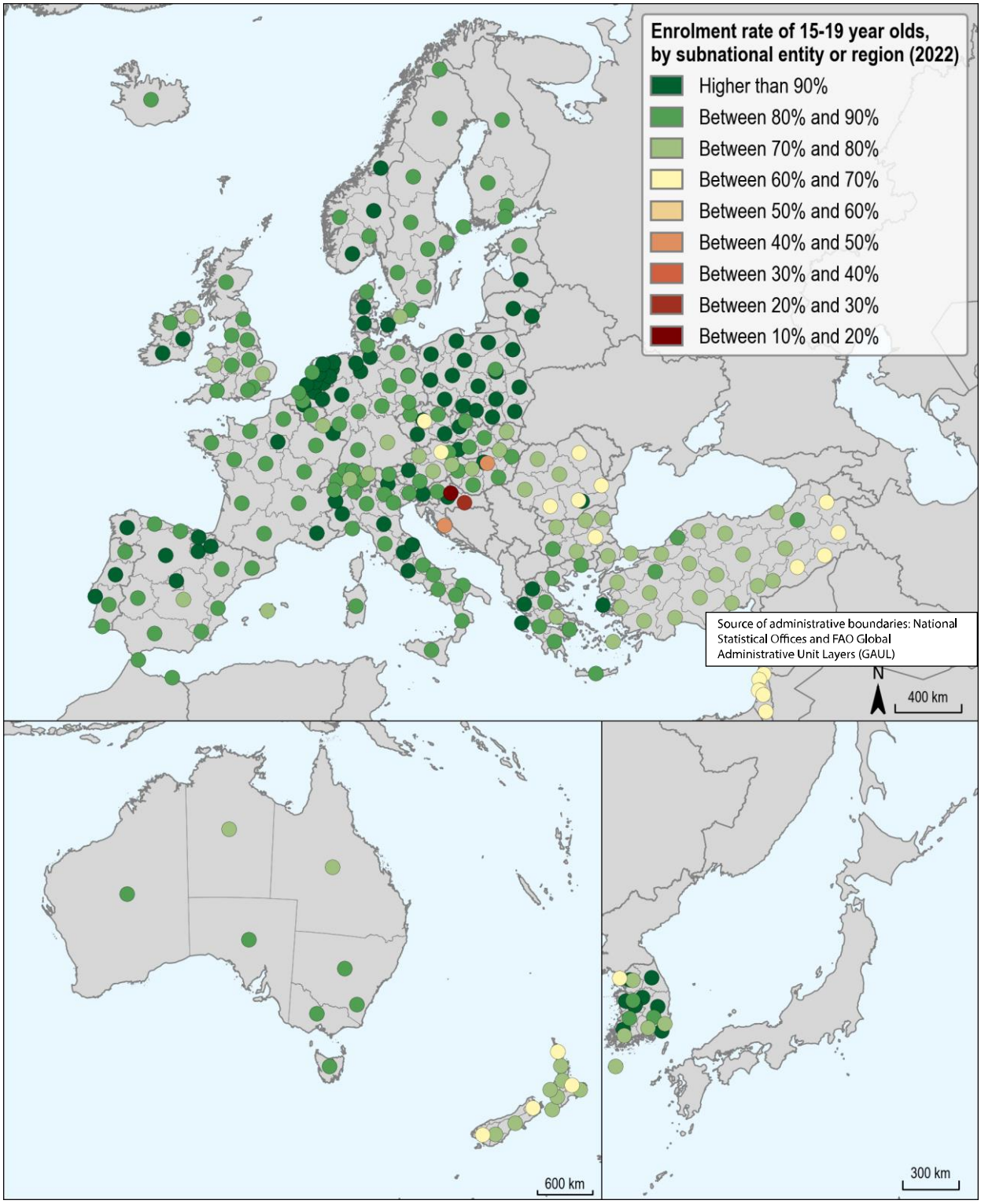
Enrolment at subnational level varies widely across regions within countries. It is influenced by multiple factors, including access to education within a region and labour-market opportunities.

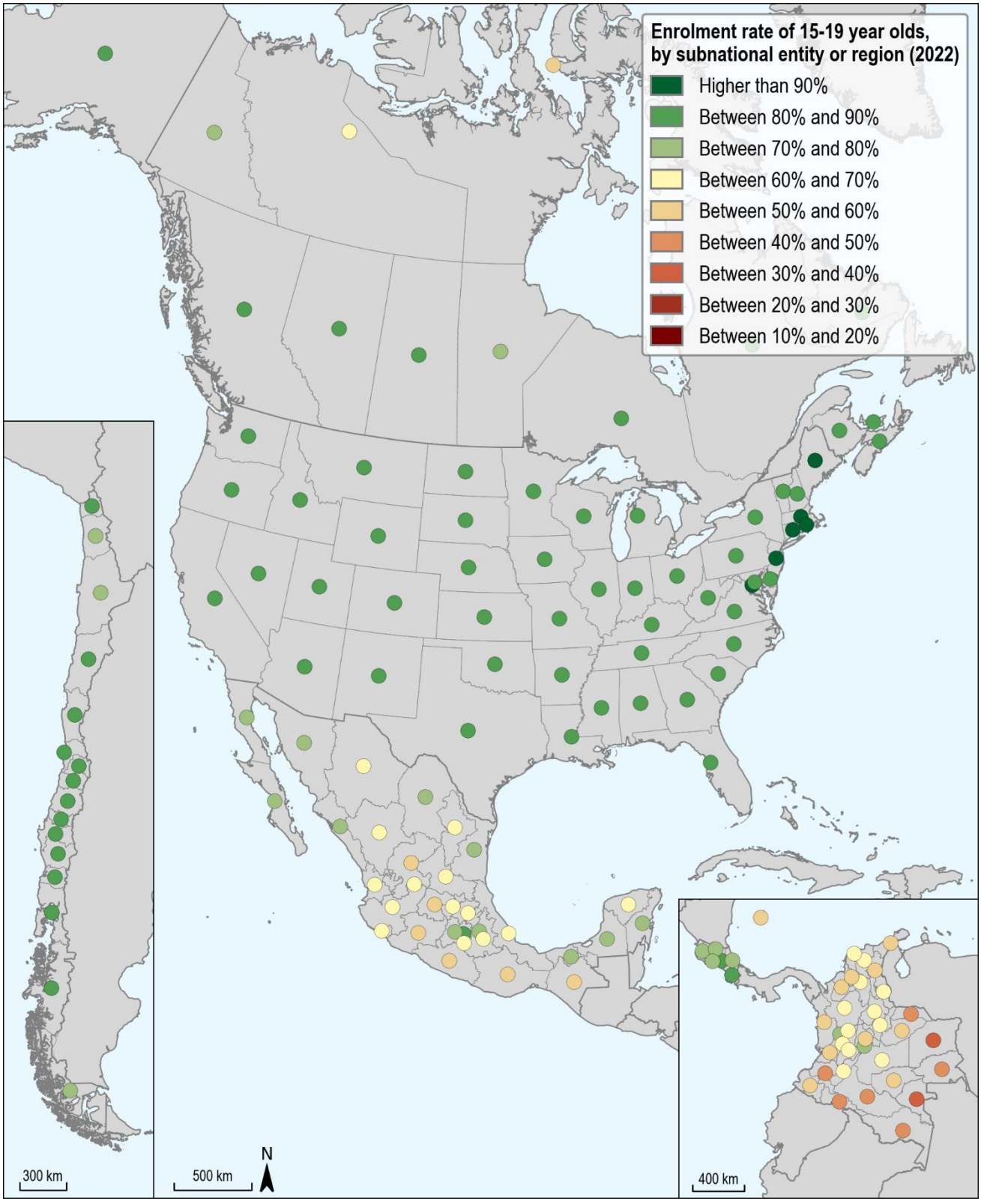
Regional variation in enrolment among 15-19 year-olds varies much more widely than among younger age groups. It exceeds 35 percentage points in Colombia, Croatia, Czechia, Hungary and Romania. On the contrary, Finland, where compulsory education lasts until the age of 18, has one of the smallest regional disparities (Figure B3.2).

Low enrolment rates in certain regions could be due to high dropout rates, the types of educational institutions, school funding, whether education is compulsory and how urban the region is. Variations in upper secondary enrolment rates significatively affect students' enrolment in higher education, how likely they are to be neither in employment nor in formal education or training (NEET) and youth employment rates. In Türkiye, for instance, regions with enrolment rates of 15-19 year-olds below the country average of 73% have lower employment rates among 25-34 year-olds. In the Middle and East Southeastern Anatolia region, where the enrolment rate is just around 61%, the employment rate among 25-34 year-olds is 48% or less. In contrast, in the Middle and East Western Black Sea region with an enrolment rate of 73%, 68% of 25-34 year-olds are employed (See Figure B3.2 and Chapter A1).

Figure B3.2. Enrolment rate of 15-19 year olds, by subnational region (2022)

Enrolment rates in all levels of education combined





Source: OECD (2024), Regional Education statistics. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en
See under Chapter B3 Tables for StatLink.

Participation by type of institution

The share of students enrolled in private institutions is higher for upper secondary education than for lower levels of education. On average, 23% of upper secondary students were enrolled in private institutions in 2022, compared to 15% in primary education and 18% in lower secondary education. The share of students enrolled in upper secondary education exceeds 50% in five countries: Australia, Belgium, Chile, the Netherlands and the United Kingdom. Notably, the difference in the share of students in private institutions between lower secondary and upper secondary education is more than 20 percentage points in Iceland, Japan and Korea (see Chapter B2, Table B2.3).

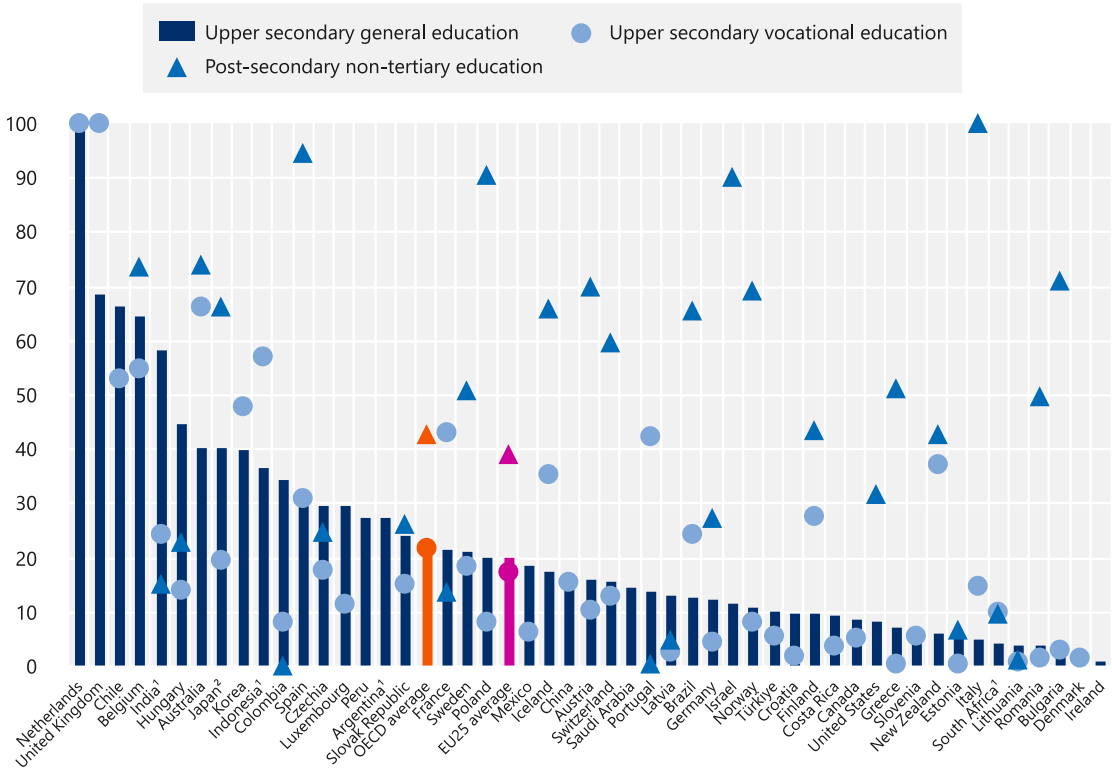
On average, the share of students enrolled in private institutions is similar between general programmes (24%) and vocational programmes (22%) at the upper secondary level but higher for post-secondary non-tertiary vocational programmes (43%). Belgium, Chile, the Netherlands and the United Kingdom stand out with over half of students in upper secondary general and vocational programmes enrolled in private institutions, while in Australia and Indonesia, this was only the case for upper secondary vocational programmes. Moreover, in countries where a large proportion of students are enrolled in private institutions at the upper secondary level, the majority attend government-dependent private institutions, with less than 10% enrolled in independent private institutions (See Data Explorer, enrolment data by institution). Among the countries with a significant share of over 3% of students enrolled in post-secondary non-tertiary vocational education, over half are enrolled in private institutions in Greece and the Netherlands, whereas less than one-third attend private institutions in Germany and Hungary (Figure B3.3).

Between 2013 and 2022, the average proportion of students enrolled in private institutions at the upper secondary level increased slightly on average by about 4 percentage points, rising from 18% to 23%. Notably, Australia experienced a larger increase by 17 percentage points, while the share of students in vocational programmes almost doubled from 37% to 66% (Table B3.2).

Comparisons of the share of students in private institutions should be made with caution, as the characteristics and funding of such institutions vary significantly between countries. Differences in school systems and funding mechanisms between public and private schools are key considerations for families when making choices for upper secondary education. For instance, in countries like Finland, where education from primary to tertiary levels is universally free, private institutions may also be free of charge lower tuition fees due to government funding (Eurydice, 2024[4]). Funding approaches differ across systems; some allocate public funds directly to schools based on student enrolment numbers, while others provide families with vouchers or scholarships to use at their chosen institutions. In Chile, where over 60% of upper secondary students are enrolled in private institutions, parents opting for the public education system can choose between municipal or private-voucher schools, where government-provided vouchers cover tuition fees for a year (Murnane et al., 2017[5]).

Figure B3.3. Share of students enrolled in private institutions among upper secondary and post-secondary students, by programme orientation (2022)

In per cent



1. Year of reference differs from 2022. Refer to the source table for more details.
2. Breakdown by age not available after 15 years old.
Countries are ranked in descending order of the share of students enrolled in private institutions at upper secondary general level.
See Table B3.2 for data and under Chapter B3 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en

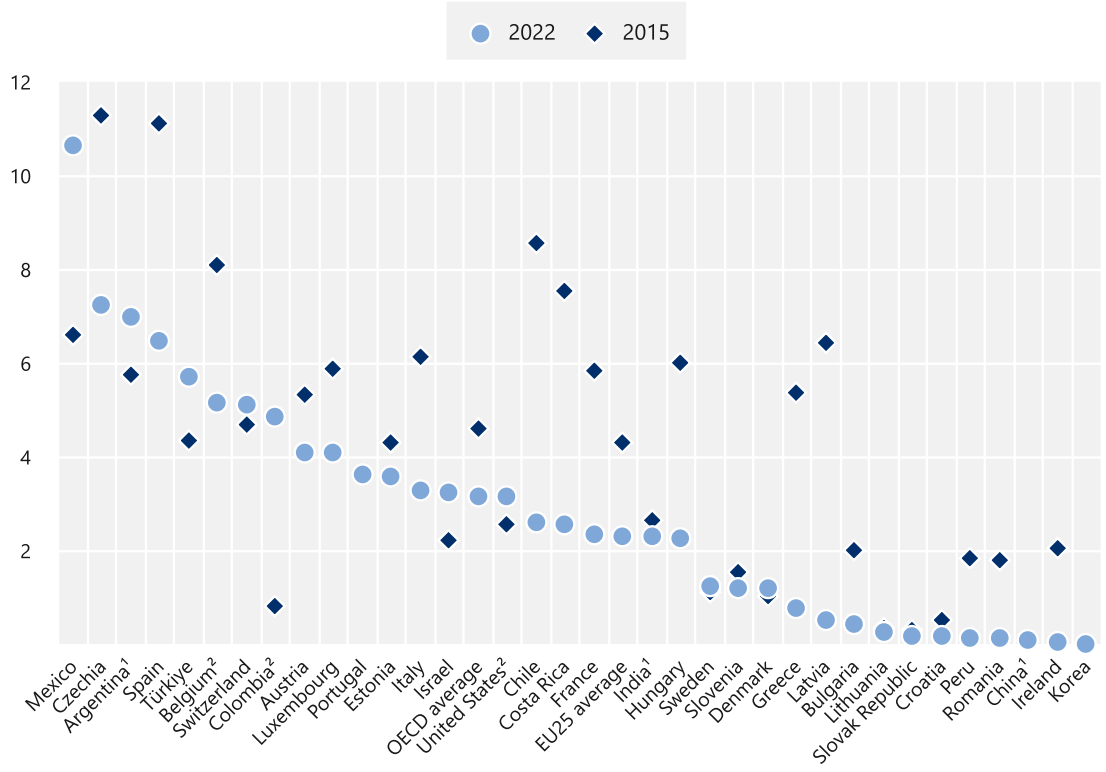
In many countries, a preference for private institutions also stems from parental choices driven by the prospects of admission to prestigious universities or to find better programmes to meet their demands. Although students are typically assigned to schools near their neighbourhood, some countries have implemented school-choice policies, especially involving private schools, to give students more choice and offer them a wider range of programmes tailored to the needs or preferences of families (Abdulkadiroğlu, Pathak and Walters, 2018[6]). School-choice policies have increased competition among schools to attract more students. Advocates argue that school choice provides incentives for institutions to better cater to diverse student interests. On the other hand, some studies raise the concern that disadvantaged families may not be able to access the private schools of their choice due to the time and money required to commute to distant schools and the financial burden of school fees (Bierbaum, Karner and Barajas, 2020[7]). Some also argue that school-choice practices may lead to greater disparities in the quality of education based on school resources and funding. However, PISA results show that share of students in private schools and the intensity of school competition are not negatively correlated with socio-economic fairness in education systems except for private schools with selective admissions processes (OECD, 2023[8]).

Share of repeaters

Equity in education often hinges on the policies schools implement for student sorting and selection. Grade repetition, where students are held back in the same grade, is one such policy aimed at providing struggling students with additional time to grasp grade-level content before progressing to the next level (and potentially preventing them from dropping out). Although research suggests that grade repetition is not always effective at boosting the achievement of low-performing students in the short-term, early grade repetition may prevent repetition in later grades (Goos, Pipa and Peixoto, 2021[9]).

Figure B3.4. Trends in the share of repeaters at upper secondary general education (2015 and 2022)

In per cent



1. Year of reference differs from 2022. Refer to the source table for more details
2. Year of reference differs from 2015. Refer to the source table for more details.

Countries and other participants are ranked in descending order of the share of repeaters enrolled in upper secondary education in 2022.

See Table B3.3 for data and under Chapter B3 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

On average, in 2022, 3% of students had to repeat a grade in upper secondary education, but the share is 5% and over in Belgium, Czechia, Mexico, Spain, Switzerland and Türkiye (Figure B3.4). Since 2015, there has been a slight decrease among OECD countries on average. Chile and Latvia saw the share of repeaters drop by almost 6 percentage points between 2015 and 2022, whereas it increased by 4 percentage points in Colombia and Mexico (Table B3.3). The impact of the COVID-19 pandemic can also be seen in fluctuations in the numbers, with most countries experiencing a substantial decrease in the share of repeaters in 2021 (see Data Explorer). For instance, Germany and Spain implemented policies during the pandemic to discourage grade repetition, resulting in a lower share of repeater students initially,

followed by a rebound after the pandemic's end (Statistisches Bundesamt, 2022[10]; Ministerio de Educación y Formación Profesional, 2024[11]).

As the effectiveness of grade repetition is up for debate, many countries have implemented policies to reduce grade repetition at all education levels from primary to upper secondary education. Some countries have made policy changes about where the final decision lies over grade repetition or the conditions under which students repeat a grade. The decision to repeat a grade is taken by classroom teachers in many countries (see Chapter B2).

In France, the policy on grade repetition has shifted in recent years. From 2013 to 2024, grade repetition was to be used only in exceptional circumstances. In elementary education, grade repetition could be proposed by the teachers' council, but the decision was taken only after the opinion of the national education inspector in primary education. From 2024 onwards, in elementary education, the decision to repeat a year may be taken by the teachers' council chaired by the school head, but parents still could contest the decision. Only one grade may be repeated during a student's primary or lower secondary schooling. In exceptional cases, a second repetition at primary or lower secondary level may be proposed. In the upper secondary education, the decision is still the responsibility of the school head (République française, 2024[12]). While Belgium has experienced a decline in repeater rates in recent years, there are potential changes on the horizon. In the Flemish community of Belgium, starting from the 2023/24 school year, all first graders of primary education will be required to either change their study programme (B-certificate) or repeat a year (C-certificate) if they fail the end-of-year exam. Normally, this process only started from the second year onward (Eurydice, 2023[13]).

Boys are over-represented among repeating students in 19 out of 27 OECD countries with available data, and boys make up about 57% of repeaters on average (Table B3.3). These gender differences may be due gender role conformity, gender biases among teachers, motivation to learn and having a growth mindset, or the belief in the malleability of ability and intelligence (OECD, 2021[14]). Boys are less likely to have a growth mindset than girls, which prevents them from challenging themselves to work harder in subjects they struggle with. Boys who adhered strongly to traditional gender norms and violence were especially likely to believe that they would be less likely to succeed and improve their academic performance in subjects preferred by girls, such as English, compared to those like mathematics which are preferred more by boys (Yu, McLellan and Winter, 2021[15]).

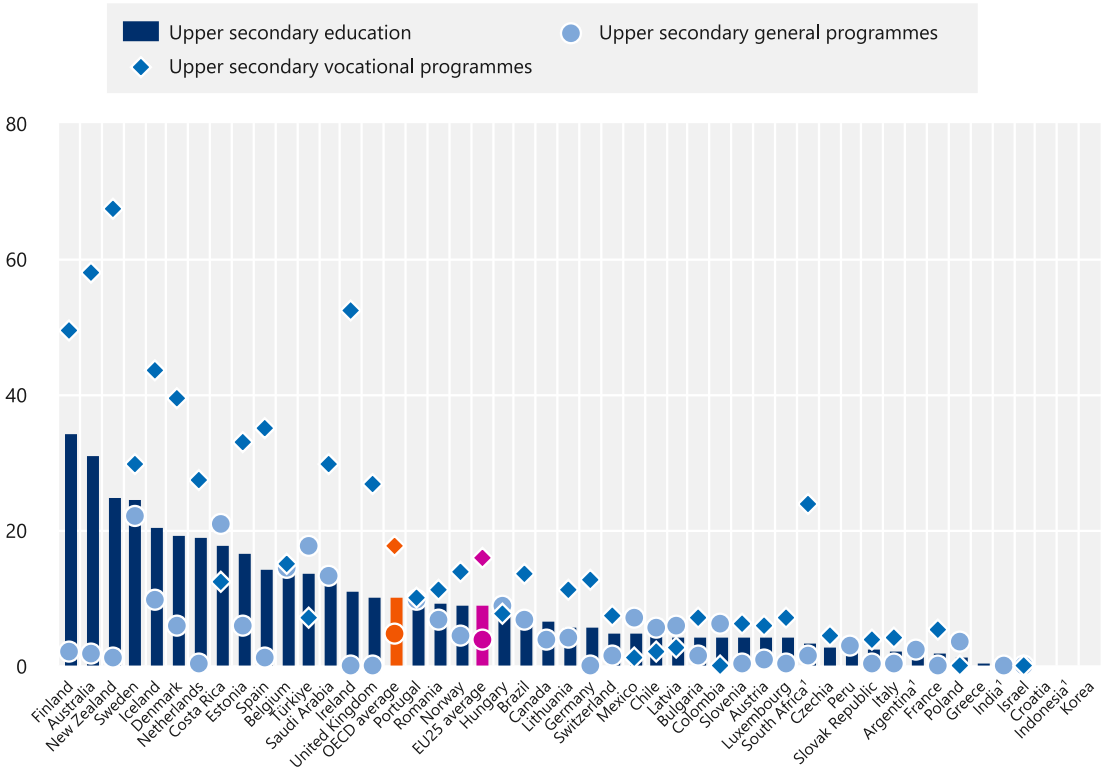
Socio-economically disadvantaged students with an immigrant background are more likely to repeat grades than advantaged students, and this could also lead to lower completion rate and furthermore persistent socio-economic inequalities (Box B3.1). According to PISA results, in 38 countries and economies, disadvantaged students were more likely than advantaged students to have repeated a grade in their current level of education, even when the two groups scored similarly in reading (OECD, 2019[16]).

Participation of adults in upper secondary education

Although enrolment in education is less common among the older population, many countries provide specific programmes that are either dedicated to formal adult education or include adults in existing education programmes. As completing upper secondary education is often essential for successful labour-market participation, upper secondary general adult education programmes provide important opportunities for adults who struggled in their initial education. However, even adults who have an upper secondary qualification may pursue vocational programmes to upskill or reskill in order to get an edge in the labour market.

Figure B3.5. Share of students aged 25 and over among all students in upper secondary education, by programme orientation (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 students aged 25 and over enrolled in upper secondary education programmes.
See Table B3.3 for data and under Chapter B3 Tables for StatLink. For more information see *Source* section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

The share of adult students aged 25 and over among all students at upper secondary level exceeds 20% in Australia, Finland, Iceland, New Zealand and Sweden, where the majority of these students are enrolled in vocational programmes. Conversely, 18% or more students enrolled in upper secondary general programmes are 25 and over in Costa Rica, Sweden and Türkiye. Notably, in both Costa Rica and Türkiye – the two countries with the highest shares of young adults without upper secondary attainment among OECD countries – a larger share of these older upper secondary students are enrolled in general programmes than vocational ones (Figure B3.5).

Formal adult education programmes at upper secondary level vary from country to country. For example, countries such as Belgium, Colombia, Costa Rica and Sweden have dedicated programmes for adults, while others such as Chile, Italy, the Slovak Republic, Slovenia and Türkiye offer combined programmes that provide both initial and formal adult education. In Sweden, for instance, there are four general education programmes, two of which are tailored to adults seeking to complete their compulsory or upper secondary education. Costa Rica offers five general adult education programmes awarding diplomas upon completion, ensuring flexibility. The Flemish Community of Belgium offers a language programme at upper secondary level, focusing on the teaching of foreign languages and Dutch to non-native speakers, which provides a certificate without direct access to higher education. Türkiye offers one vocational programme at the upper secondary level without age restrictions, accepting anyone with primary or secondary school

completion certificates. To effectively promote adult participation in formal education, adaptation strategies tailored to the needs of adult learners are crucial. For instance, France, the French Community of Belgium and Spain have public organisations in their education ministries that ensure the provision of open and distance learning for learners of all ages. Most European countries also offer modularised education programmes, providing flexible learning pathways for adults to achieve their educational goals (Pilz et al., 2017[17]).

In order to promote adult education, countries have put in place governance arrangements and policies to ensure co-operation between stakeholders involved in adult learning. In Iceland, a cross-sectoral co-ordinating body for adult education policies and measures, named the Education and Training Service Centre (ETSC; *Fræðslumiðstöð atvinnulífsins*), serves as the designated focal point for supporting for the development of adult education, basic skills and second-chance education (Sigurðardóttir et al., 2020[18]).

Countries with a high share of adult students in upper secondary education generally have a higher share of students in vocational programmes than in general programmes (Figure B3.5). This may be because vocational programmes, by offering more part-time involvement, work-based learning and an emphasis on practical skills relevant to chosen careers, provide greater flexibility for adults wanting to participate in formal education.

Graduation in upper secondary and post-secondary education, by gender

Women are slightly over-represented among those graduating at upper secondary level, and the share of female graduates ranges from 47% in Germany and Hungary to 56% in Finland. The share has remained stable since 2013, except for Hungary and Poland where the share of women fell by almost 3 percentage points (Table B3.1).

Gender disparities over programme orientation at upper secondary and post-secondary level are wider. On average, women are slightly over-represented among graduates of upper secondary general programmes (55%) and under-represented among those graduating from upper secondary vocational (46%). The share of female upper secondary graduates is higher for general programmes than vocational programmes in all OECD and partner countries except Brazil, Canada, Colombia, Ireland, New Zealand and the United Kingdom (Figure B3.1).

Many countries have separate pathways for general and vocational programmes, aiming to prepare students to enter higher levels of education or the labour market. While general education aims to develop students' general knowledge, skills and competencies, often as preparation for higher levels of education, vocational education is designed to give learners the specific knowledge and skills needed for a particular occupation, often involving work-based programmes and apprenticeships (Stronati, 2023[19]).

There are a number of factors behind women's preference for general over vocational programmes at upper secondary level. Except in Costa Rica, the most common specialism among graduates of vocational programmes is in the science, technology, engineering and mathematics (STEM) fields, which are traditionally favoured by men. In Estonia, Hungary and Lithuania, where women make up less than 40% of graduates in upper secondary vocational programmes, less than 10% of students pursue fields such as business, administration, law, or health and welfare, which typically attract a higher percentage of female students (Table B3.1).

Gender disparities in the labour market and the pursuit of higher education could also contribute to the gender gap in programme orientation. Although the majority of students opt for upper secondary vocational programmes because they intend to go straight into the labour market, this may not benefit female students as much. Gender differences in earnings among 25-34 year-old workers with upper secondary or post-secondary non-tertiary qualifications are more pronounced for those with vocational qualifications than general ones. In the United Kingdom, young women working full-time with general qualifications earned 92% of what their male counterparts earned in 2021, while those with vocational qualifications earned only

65% (OECD, 2023[20]). However, in some countries, 25-34 year-old women's relative earnings notably increase with tertiary attainment compared to those with only upper secondary education, with differences exceeding 10 percentage points in Australia, France and Luxembourg (see Chapter A4, Table A4.3). This disparity in labour-market outcomes gives women a greater incentive to enrol in general pathways rather than vocational pathways at upper secondary level, facilitating their continuation to tertiary education.

Box B3.1. How do parents' educational attainment and immigrant background affect students' completion of general and vocational programmes?

This box examines how students' choice of upper secondary programme and their completion rates differ for individuals from potentially disadvantaged backgrounds.

Across OECD countries, there is increasing interest in the development of vocational upper secondary programmes as an alternative for young people seeking to acquire labour-market skills. Research has shown that graduating from a vocational programme positively affects their employability due to their early entry into the labour market (OECD, 2023[20]).

Providing separate vocational pathways facilitates school-to-work transitions while acting as a safety net to prevent students from dropping out of education and increases employment rates among young workers. However, systems that strongly separate general and vocational pathways may reinforce existing social inequities, as advantaged students are often over-represented in general programmes while disadvantaged students are more commonly found in vocational programmes (Stronati, 2023[19]).

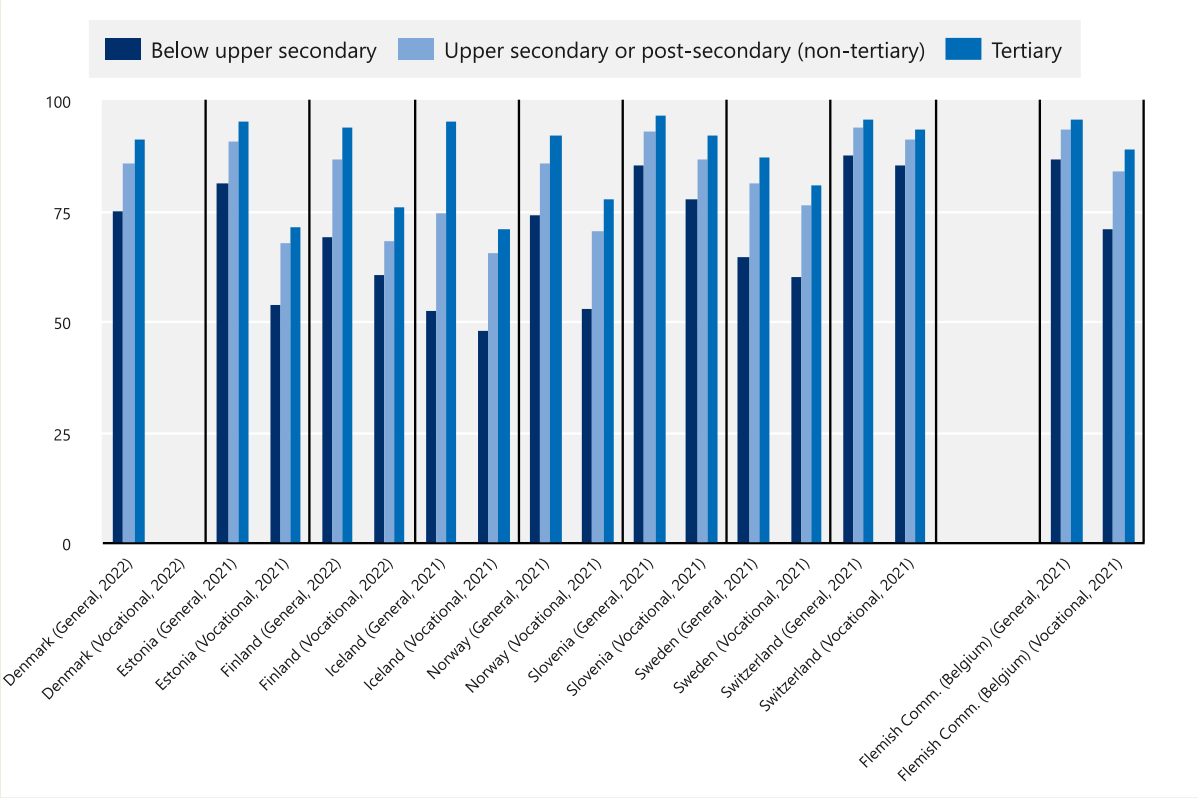
Completion rates for vocational education also raise equity concerns. On average across OECD countries and other participants, 82% of students who enter upper secondary education end up graduating (from any programme) within the theoretical duration of the programme plus two years. But students who entered a general upper secondary programme have a higher rate of completion (87% on average) than those who entered in a vocational programme (73%) and this is the case in nearly all countries (OECD, 2023[20]).

Figure B3.6 and Figure B3.7 explore the completion rates of upper secondary programmes within the theoretical duration of programmes plus two years, disaggregated by programme orientation, parents' educational attainment and students' immigration background.

In all countries with available data, students whose parents have lower educational attainment have substantially lower completion rates than those whose parents have higher attainment. This discrepancy is often more pronounced among students pursuing general studies. For instance, in Finland, the completion rate for young people in a general programme with a parent with tertiary education is 28 percentage points higher than for those whose parents do not have upper secondary education. This difference is smaller for 15 percentage points for those in vocational programmes. In Iceland, the disparities almost double for general programmes for 44 percentage points compared to 17 percentage points difference for vocational programmes. In Estonia, Slovenia and Sweden, in contrast, although there are substantial differences in completion rates according to the parents' level of education, there are small differences according to the student's programme orientation. In Israel, the gap is more pronounced for students in vocational programmes (Figure B3.6).

Figure B3.6. Upper secondary completion rates, by parents' educational attainment (latest available year)

Completion rate of full-time students by the theoretical duration plus two years, in per cent

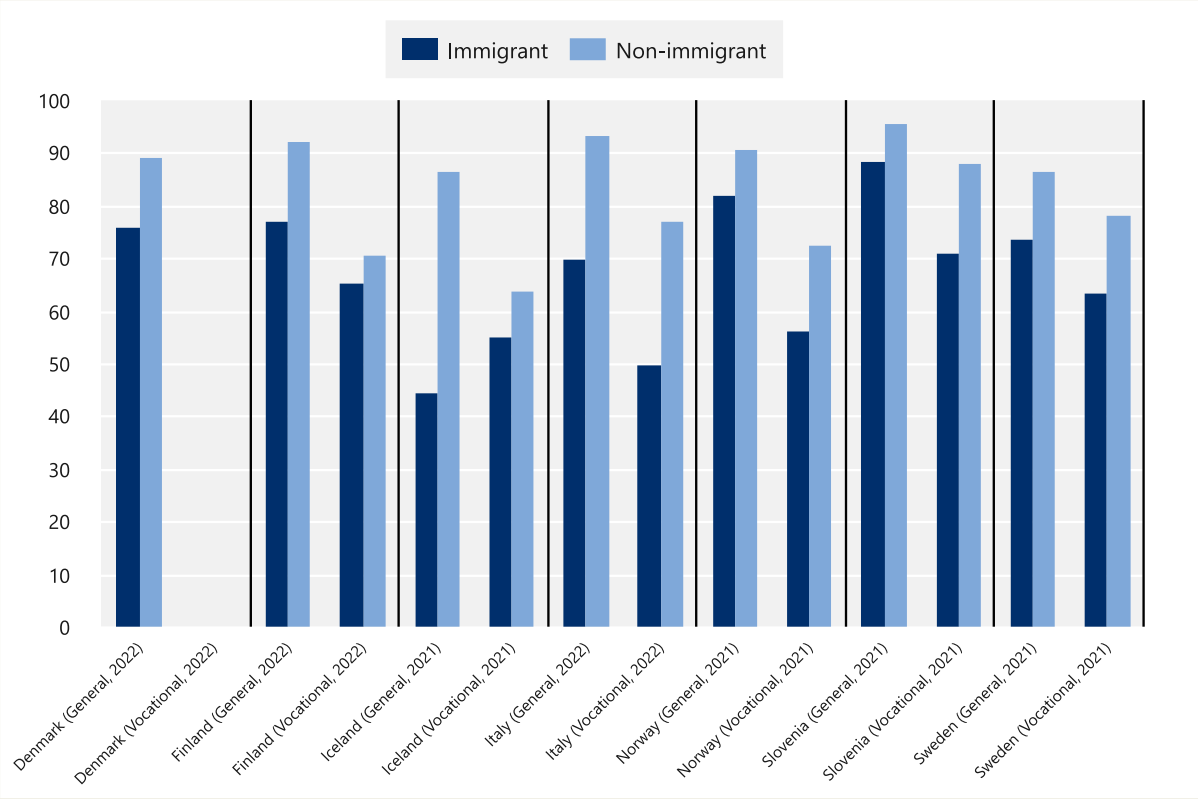


Note: The year of reference for the data (in parentheses next to the country name) corresponds to the graduation year two years after the theoretical end of the programme.
The reference year for the entrance cohort changes depending on the duration of programmes. Parents' educational attainment refers to the highest educational level attained by at least one parent.
See Table B3.4 for data and under Chapter B3 Tables for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en

Being a first- or second-generation immigrant also affects students' likelihood of completing upper secondary education. In almost all countries with available data, the completion rates of first-generation immigrants (those born outside the country and whose parents were also born in another country, excluding international students) and second-generation immigrants (those born in the country, but whose parents were both born in another country) are lower than those of students without an immigrant background (Figure B3.7).

Figure B3.7. Upper secondary completion rates, by immigration status (latest available year)

Completion rate of full-time students by the duration plus two years, in per cent



Note: The year of reference for the data (in parentheses next to the country name) corresponds to the graduation year two years after the theoretical end of the programme. The reference year for the entrance cohort changes depending on the duration of programmes.
See Table B3.4 for data and under Chapter B3 Tables for StatLink. For more information see *Source* section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

However, the discrepancy in the completion rates between immigrant and non-immigrant students varies depending on the programme orientation. With the exception of Finland and Iceland, the difference in completion rates between young people with and without an immigrant background is wider for vocational programmes than general ones in the countries that participated in this survey. For instance, in Italy, the completion rate of non-immigrants in a general programme is 34 percentage points higher than that of immigrants of the first generation. This figure decreases to 29 percentage points difference for students enrolled in vocational programmes (Figure B3.7). It is important to note that students from an immigrant background are more likely to study vocational subjects than general subjects (OECD, 2015[21]).

The results show that not only do children from disadvantaged social groups face more barriers to accessing education but that once in education they also perform less well than their more advantaged counterparts. To provide equal opportunities to all children, policy makers need to implement targeted policies to support students from disadvantaged backgrounds.

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 to complete 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'.

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.

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.

Parents' educational attainment refers to the highest level of educational attainment of at least one parent: below upper secondary corresponds to ISCED 2011 Levels 0, 1 and 2, and includes recognised qualifications from ISCED 2011 Level 3 programmes, which are not considered as sufficient for ISCED 2011 Level 3 completion, and without direct access to post-secondary non-tertiary education or tertiary education; upper secondary or post-secondary non-tertiary corresponds to ISCED 2011 Levels 3 and 4; and tertiary corresponds to ISCED 2011 Levels 5, 6, 7 and 8.

Repeaters are students who enrol in the same grade for a second or further time. Students who participate in a second or further education programme at the same level of education after having successfully completed a first programme are not regarded as repeaters. Repeaters include re-entrants to the same programme.

Students with an immigrant background are students whose mother and father were both born in a country.

The theoretical duration of programmes is the regulatory or common-practice time it takes a full-time student to complete a level of education.

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.

Methodology

The completion rate 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 more information see *Education at a Glance 2024 Sources, Methodologies and Technical Notes*.

For more information, please see the *OECD Handbook for Internationally Comparative Education Statistics* (OECD, 2018[22]).

Source

Data refer to the 2021/22 academic year and are based on the UNESCO-Institute of Statistics (UIS)/OECD/Eurostat data collection on education statistics administered by the OECD in 2023. Data for

some countries may have a different reference year. For more information see *Education at a Glance 2024 Sources, Methodologies and Technical Notes.*

The UNESCO Institute of Statistics (UIS) provided data for Argentina, China, India, Indonesia, Saudi Arabia and South Africa.

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Chapter B3 Tables

Tables Chapter B3. What are the key features of general and vocational upper secondary education?

StatLink https://stat.link/xfg25r

Cut-off date for the data: 14 June 2024. Any updates on data and more breakdowns can be found on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

Table B3.1. Share of female graduates and distribution of all graduates, by field in upper secondary and post-secondary non-tertiary education (2022)

Women as a share of total graduates by level and programme orientation, and distribution of all graduates by field, based on head counts

	Share of female graduates								Distribution of graduates by field							
	Upper secondary						Post-secondary non-tertiary		Upper secondary vocational programmes				Post-secondary non-tertiary vocational programmes			
	General programmes		Vocational programmes		All programmes				Business, administration and law	Health and welfare	Services	Science, technology, engineering and mathematics (STEM)	Business, administration and law	Health and welfare	Services	Science, technology, engineering and mathematics (STEM)
	2013	2022	2013	2022	2013	2022	2013	2022	2022	2022	2022	2022	2022	2022	2022	2022
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Australia	51	51	51	49	51	51	56	53	15	27	13	35	27	21	15	16
Austria	59	60	46	46	48	49	73	74	26	5	18	39	9	59	2	3
Belgium	56	57	48	45	51	51	53	57	m	m	m	m	m	m	m	m
Canada	52	50	42	50	51	50	m	m	m	m	m	m	m	m	m	m
Chile	52	52	50	47	51	50	a	a	28	7	4	50	a	a	a	a
Colombia	54	52	55	55	54	53	78	79	m	m	m	m	a	a	a	a
Costa Rica[1]	54	56	52	53	53	55	a	a	45	0	12	39	a	a	a	a
Czechia	60	60	45	45	49	49	62	59	16	7	17	45	m	m	m	m
Denmark	54	55	51	46	53	52	61	39	23	24	13	35	m	m	m	m
Estonia	58	57	34	36	51	53	63	73	2	0	25	64	42	10	25	16
Finland	57	59	53	54	54	56	58	62	20	21	20	29	46	15	8	26
France	55	55	48	47	51	51	m	m	17	20	20	38	6	11	4	16
Germany	54	55	41	38	48	47	59	57	31	11	12	39	20	48	6	22
Greece	53	53	43	40	50	49	58	58	10	28	9	47	7	35	35	16
Hungary	53	52	41	33	50	47	49	51	9	4	25	57	18	16	21	33
Iceland	57	59	46	38	53	51	37	35	1	10	17	56	14	0	13	56
Ireland[1]	50	50	66	60	55	52	33	38	12	36	7	7	9	23	5	45
Israel	53	50	48	50	51	50	a	a	19	3	5	53	a	a	a	a
Italy	62	62	41	39	50	49	52	38	21	6	25	46	13	0	13	55
Japan	51	51	44	43	49	49	m	m	m	m	m	m	m	m	m	m
Korea	47	49	45	42	47	48	a	a	24	3	8	51	a	a	a	a
Latvia	54	54	38	44	50	52	59	68	13	0	23	42	5	27	23	23
Lithuania	54	53	34	32	50	50	52	56	8	2	26	60	12	24	26	30
Luxembourg	55	52	48	50	51	51	24	28	27	11	7	27	0	1	19	69
Mexico	54	55	51	52	53	54	a	a	m	m	m	m	a	a	a	a
Netherlands	53	53	50	51	51	52	26	a	15	27	23	22	a	a	a	a
New Zealand	51	51	60	56	55	53	60	48	12	11	8	26	21	20	12	36
Norway	58	58	38	38	50	50	70	68	8	24	19	43	26	33	13	14
Poland	60	61	38	37	51	48	71	77	12	0	24	55	14	41	27	0
Portugal	55	55	47	46	51	52	36	42	13	15	29	29	12	0	45	35
Slovak Republic	60	58	46	45	50	49	45	58	14	9	21	42	16	18	34	11
Slovenia	61	63	45	44	51	49	a	a	13	12	13	45	a	a	a	a
Spain	55	55	54	50	54	53	m	57	12	21	13	23	32	25	14	25
Sweden	54	54	45	40	50	49	58	63	9	20	17	44	13	26	10	28
Switzerland	57	57	46	43	50	49	43	50	30	18	9	35	a	a	a	a
Türkiye	53	51	47	48	50	50	a	a	8	14	7	28	a	a	a	a
United Kingdom[1]	50	50	52	54	51	51	a	a	10	16	14	27	a	a	a	a
United States	51	50	a	a	51	50	61	58	a	a	a	a	10	28	18	26
OECD average	55	55	47	46	51	51	54	56	16	13	16	40	17	22	18	27
Partner and/or accession countries																
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	57	53	62	57	57	54	57	58	31	11	4	39	30	33	7	24
Bulgaria[1]	52	54	43	40	49	49	50	37	9	1	22	48	16	2	76	6
China[2]	m	m	m	m	45	47	m	m	m	m	m	m	m	m	m	m
Croatia[1]	61	63	45	42	50	48	a	a	18	8	26	41	a	a	a	a
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	50	m	a	a	m	m	a	a	a	a	a	a	a	a	a
Romania	59	56	42	44	49	49	65	69	2	0	29	40	3	64	12	19
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
South Africa[2]	m	m	m	m	56	56	m	m	m	m	m	m	m	m	m	m
EU25 average	56	56	45	44	51	50	53	55	15	12	19	40	15	23	21	25
G20 average	m	m	m	m	51	51	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter B3 Tables for Statlink and Box B3.2 for the notes related to this Table.

Table B3.2. Enrolment rates of 15-19 year-olds and share of students enrolled in private institutions at upper secondary and post-secondary non-tertiary level (2013 and 2022)

	Enrolment rates of 15-19 year-olds (in both public and private institutions)								Share of students enrolled in private institutions							
		Upper secondary							Upper secondary							
	Lower secondary	General programmes	Vocational programmes	Total	Post-secondary non-tertiary	Tertiary	All levels		General programmes		Vocational programmes		All programmes		Post-secondary non-tertiary	
	2022	2022	2022	2022	2022	2022	2013	2022	2013	2022	2013	2022	2013	2022	2013	2022
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Australia	27	34	7	40	1	16	86	85	37	40	37	66	37	54	31	74
Austria	3	20	42	62	0	16	79	80	15	16	8	10	10	12	40	70
Belgium	5	31	36	68	1	19	92	93	65	65	55	55	59	59	73	73
Canada	0	54	m	55	m	19	73	74	7	9	0	5	6	8	m	m
Chile	2	51	13	64	a	17	78	84	67	66	54	53	63	64	a	a
Colombia[1]	18	21	9	30	0	13	61	62	31	35	10	8	26	27	0	0
Costa Rica[1]	14	28	15	42	a	5	m	62	12	9	4	4	9	8	a	a
Czechia	12	m	52	74	m	6	90	92	11	30	16	18	15	22	12	25
Denmark	33	43	10	53	a	1	88	88	2	3	2	1	2	2	a	a
Estonia	28	40	15	55	0	5	89	88	5	6	1	0	3	4	7	7
Finland	22	34	28	62	0	3	86	88	10	10	23	28	19	22	16	44
France	3	39	23	61	0	23	85	88	22	22	44	43	32	30	32	14
Germany	30	32	14	46	5	7	90	87	11	12	4	4	8	9	25	27
Greece	3	43	m	58	3	21	86	86	6	7	0	0	4	5	m	51
Hungary	3	33	38	71	4	6	87	84	27	45	26	14	27	28	52	23
Iceland	20	52	11	63	0	4	88	86	15	18	30	35	20	23	65	66
Ireland	16	54	4	59	2	17	94	93	2	1	0	0	2	1	1d	0
Israel	3	34	24	58	0	5	65	66	10	12	0	a	6	7	84	90
Italy	1	37	40	77	0	9	78	87	6	5	11	15	9	10	100	100
Japan[2]	0	46	12	58	0	m	m	m	35	40	22	20	32	36	63	66
Korea	0	47	9	55	a	29	87	85	43	40	46	48	44	41	a	a
Latvia	24	34	24	59	0	9	94	92	3	13	1	2	2	9	4	5
Lithuania	42	32	10	42	1	11	94	96	1	4	0	1	1	3	1	1
Luxembourg	13	29	34	63	0	1	78	78	26	30	11	11	17	19	0	0
Mexico	5	25	15	41	a	12	54	58	22	19	11	6	17	14	a	a
Netherlands[1]	21	25	29	54	a	17	94	92	2	100	14	100	10	100	a	a
New Zealand	4	51	6	56	6	14	82	81	6	6	33	37	15	17	22	43
Norway	20	35	29	64	0	4	87	89	11	11	11	8	11	9	79	69
Poland	2	38	49	87	1	8	90	97	25	20	6	8	16	14	83	90
Portugal	9	40	24	64	0	19	89	92	15	14	28	42	21	25	12	0
Slovak Republic	13	22	44	66	1	5	85	86	20	24	13	15	15	18	17	26
Slovenia	3	28	52	80	a	12	93	95	6	7	2	6	4	6	a	a
Spain	8	45	15	60	0	20	87	88	28	30	18	31	25	30		94
Sweden[1]	21	42	21	62	0	4	86	88	17	21	16	18	16	20	57	51
Switzerland	16	28	38	65	1	4	86	86	15	16	14	13	15	14	85	59
Türkiye	1	37	25	61	a	10	69	72	5	10	1	6	3	9	a	a
United Kingdom	6	38	21	58	a	18	81	82	54	69	100	100	74	81	a	a
United States	7	56	a	56	1	18	81	82	8	8	a	a	8	8	50	31
OECD average	12	37	24	59	1	12	83	84	18	24	18	22	18	23	39	43
Partner and/or accession countries																
Argentina[3]	11	58	a	58	a	m	72	m	30	28	a	a	30	28	a	a
Brazil	12	46	6	51	1	8	69	73	12	13	29	24	14	14	59	66
Bulgaria	1	31	34	66	0	10	78	76	2	3	7	3	4	3	87	71
China	m	m	m	m	m	m	m	m	9	17	11	15	10	17	m	m
Croatia[1]	1	22	51	73	a	13	83	87	9	10	2	2	4	4	a	a
India[3]	1	33	0	33	0	m	m	m	56	58	65	24	56	56	51	15
Indonesia[3]	31	27	21	48	a	4	72	83	38	37	63	57	48	46	a	a
Peru	6	35	a	35	a	m	m	m	29	28	a	a	29	28	a	a
Romania	4	26	32	58	1	8	77	71	3	4	2	2	2	3	48	49
Saudi Arabia	m	m	m	m	m	m	66	m	19	15	0	0	19	14	0	0
South Africa[1,3]	28	48	1	49	0	4	m	86	4	4	12	10	5	5	9	10
EU25 average	13	34	30	63	1	11	87	88	14	20	12	17	13	18	35	39
G20 average	10	41	16	54	1	m	m	m	23	25	28	27	24	26	41	40

Note: See under Chapter B3 Tables for Statlink and Box B3.2 for the notes related to this Table.

Table B3.3. Share of repeaters and share of students aged 25 and over at upper secondary and post-secondary level (2013, 2015 and 2022)

	Share of repeaters			Share of students aged 25 and over							
	Upper secondary general programmes			Upper secondary						Post-secondary non-tertiary	
	Share of repeaters		Share of boys	General programmes		Vocational programmes		All programmes			
	2015	2022	2022	2013	2022	2013	2022	2013	2022	2013	2022
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Australia	m	m	m	3	2	54	58	29	31	73	77
Austria	5	4	48	1	1	3	6	2	4	42	64
Belgium[1,2]	8	5	61	18	14	33	15	27	14	57	61
Canada	m	m	m	m	4	m	m	7	7	m	m
Chile	9	3	60	3	6	1	2	2	5	a	a
Colombia[1]	1	5	58	8	6	0	0	6	4	18	21
Costa Rica	8	3	62	9	21	8	12	9	18	a	a
Czechia	11	7	68	0	m	7	4	5	3	m	m
Denmark	1	1	49	7	6	29	39	17	19	a	a
Estonia	4	4	40	5	6	6	33	5	17	48	73
Finland	a	a	a	3	2	43	49	31	34	96	98
France	6	2	55	0	0	4	5	2	2	28	45
Germany	m	m	m	0	0	7	13	3	6	16	21
Greece	5	1	66	0	0	m	m	1	1	21	36
Hungary	6	2	50	7	9	6	8	6	8	17	28
Iceland	m	m	m	12	10	36	44	20	21	81	82
Ireland	2	0	60	1	0	63	52	2	11	m	47
Israel	2	3	70	0	0	0	0	0	0	30	28
Italy	6	3	46	0	0	0	4	0	2	m	45
Japan	m	m	m	m	m	m	m	m	m	m	m
Korea	0	0	71	0	0	0	0	0	0	a	a
Latvia	6	1	57	0	6	3	3	1	5	27	47
Lithuania	0	0	88	6	4	6	11	6	6	29	34
Luxembourg	6	4	60	1	0	3	7	2	4	58	65
Mexico	7	11	48	1	7	1	1	1	5	a	a
Netherlands	m	m	m	0	0	15	27	10	19	85	a
New Zealand	m	m	m	2	1	54	67	19	25	52	62
Norway	m	m	m	4	4	9	14	6	9	75	85
Poland	m	m	m	9	3	1	0	5	2	36	55
Portugal	m	4	51	5	10	10	10	7	10	27	57
Slovak Republic	0	0	58	1	0	2	4	2	3	36	54
Slovenia	2	1	47	0	0	10	6	7	4	a	a
Spain	11	6	57	2	1	29	35	11	14	m	78
Sweden	1	1	50	15	22	21	30	18	25	56	73
Switzerland	5	5	49	2	2	5	7	4	5	37	49
Türkiye	4	6	62	10	18	2	7	7	14	a	a
United Kingdom	a	a	a	1	0	34	27	15	10	a	a
United States[1]	3	3	52	m	m	a	a	m	m	54	49
OECD average	5	3	57	4	5	15	18	8	10	46	55
Partner and/or accession countries											
Argentina[3]	6	7	53	3	2	m	m	3	2	a	a
Brazil	m	m	m	8	7	12	13	9	8	48	56
Bulgaria	2	0	52	2	2	14	7	8	5	43	87
China[3]	0	0	53	m	m	m	m	m	m	m	m
Croatia[4]	1	0	38	0	0	0	0	0	0	a	a
India[3]	3	2	55	0	0	m	m	0	1	m	m
Indonesia[3]	m	m	m	0	0	0	0	0	0	a	a
Peru	2	0	43	0	3	a	a	0	3	a	a
Romania	2	0	47	0	7	0	11	0	9	m	57
Saudi Arabia	m	m	m	4	13	7	30	4	13	m	m
South Africa[3,4]	m	m	m	0	1	24	24	3	4	m	m
EU25 average	4	2	55	3	4	13	16	7	9	42	56
G20 average	4	4	55	2	4	m	m	6	7	m	m

Note: See under Chapter B3 Tables for Statlink and Box B3.2 for the notes related to this Table.

Table B3.4. Completion rates of entrants to upper secondary education, by timeframe, programme orientation on entry and social background (latest year available)

Completion rate of full-time students, graduating from any programme

		By parents' educational attainment						By immigration status							
		General programmes			Vocational programmes			General programmes				Vocational programmes			
		Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	First generation (arrived in country before or at age 6)	First generation (arrived in country after age 6)	Second generation	Non-immigrant	First generation (arrived in country before or at age 6)	First generation (arrived in country after age 6)	Second generation	Non-immigrant
	Latest year available	True cohort – Completed by theoretical duration													
OECD countries		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Denmark	2020	68	81	86	a	a	a	64	48	76	84	a	a	a	a
Estonia	2019	75	85	91	48	61	63	m	m	m	m	m	m	m	m
Finland	2020	54	75	82	52	58	67	66	53	70	81	45	58	44	61
Iceland	2019	41	64	85	36	47	53	x(8)	45 d	x(8)	76	x(12)	47 d	x(12)	48
Israel	2020	93	91	95	92	95	98	x(8)	92 d	93	93	x(12)	96 d	96	97
Italy	2020	m	m	m	m	m	m	x(8)	49 d	54	83	x(12)	34 d	40	63
Norway	2019	61	77	85	37	49	55	71	65	75	83	46	36	47	51
Slovenia	2019	71	80	88	69	77	83	52	60	76	86	58	53	64	79
Sweden	2019	60	77	82	55	72	76	72	63	72	82	62	58	58	74
Switzerland	2020	61	71	77	64	77	79	m	m	m	m	m	m	m	m
Other participant															
Flemish Comm. (Belgium)	2019	70	81	88	56	70	74	m	m	m	m	m	m	m	m

		True cohort – Completed by theoretical duration plus two years													
OECD countries		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Denmark	2022	75	86	91	a	a	a	72	53	83	89	a	a	a	a
Estonia	2021	81	91	96	54	68	72	m	m	m	m	m	m	m	m
Finland	2022	69	87	94	61	68	76	79	71	82	93	59	68	60	71
Iceland	2021	53	75	96	48	66	71	x(8)	53 d	x(8)	87	x(12)	59 d	x(12)	64
Israel	2022	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Italy	2022	m	m	m	m	m	m	x(8)	66 d	77	94	x(12)	46 d	59	77
Norway	2021	74	86	92	53	71	78	81	79	86	91	60	54	64	73
Slovenia	2021	86	93	97	78	87	92	76	83	93	96	73	66	77	88
Sweden	2021	65	82	87	60	77	81	78	68	76	87	67	62	63	78
Switzerland	2022	88	94	96	86	92	94	m	m	m	m	m	m	m	m
Other participant															
Flemish Comm. (Belgium)	2021	87	94	96	71	84	89	m	m	m	m	m	m	m	m

Note: See under Chapter B3 Tables for Statlink and Box B3.2 for the notes related to this Table.

Box B3.2. Notes for Chapter B3 Tables

Table B3.1. Share of female graduates and distribution of all graduates, by field in upper secondary and post-secondary non-tertiary education (2022)

1. Year of reference differs from 2013: 2014 for Bulgaria and Ireland; 2015 for Costa Rica and Croatia; and 2016 for the United Kingdom.
2. Year of reference differs from 2022: 2018 for South Africa and 2019 for China.

Table B3.2. Enrolment rates of 15-19 year-olds and share of students enrolled in private institutions at upper secondary and post-secondary non-tertiary level (2013 and 2022)

1. Year of reference differs from 2015: 2014 for Croatia; 2015 for the Netherlands and Sweden; 2016 for Colombia and South Africa; and 2017 for Costa Rica.
2. Enrolment data with a breakdown by age are not available at tertiary level.
3. Year of reference differs from 2022: 2018 for Indonesia; 2020 for India; and 2021 for Argentina and South Africa.

Table B3.3. Share of repeaters and share of students aged 25 and over at upper secondary and post-secondary level (2013, 2015 and 2022)

1. Year of reference for repeaters differs from 2015: 2016 for Belgium and Colombia; and 2017 for the United States.
2. Only includes students aged over 24 of the Flemish community of Belgium for vocational and all programmes.
3. Year of reference differs from 2022: 2018 for Indonesia; 2019 for Argentina; 2020 for China and India; and 2021 for South Africa.
4. Year of reference for older students differs from 2013: 2014 for Croatia and 2015 for South Africa.

Table B3.4. Completion rates of entrants to upper secondary education, by timeframe, programme orientation on entry and social background (latest year available)

The data presented in this table only concern initial education programmes so do not include adult education. Completion rates based on true cohort (individual-level). Please note that the year of reference for the data (latest year available) corresponds to a period two years after the theoretical end of the programme. The reference year for students' entry to study may differ depending on the duration of their programme. Parents' educational attainment refers to the highest educational level attained by at least one parent. See *Definitions and Methodology* sections for more information.

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

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

Chapter B4. What are the differences in access and outcomes of tertiary education?

Highlights

- Across the OECD, 63% of students who graduated with a bachelor's degree did so from public institutions in 2022. However, private education is slowly becoming more common across all levels of tertiary education as the share of graduates from public institutions has decreased by 3 percentage points since 2013.
- On average, women are over-represented in tertiary education, but they remain under-represented in some fields. Only 15% of female new entrants at tertiary level choose a science, technology, engineering or mathematics (STEM) field, compared to 41% of male new entrants. In contrast, only 4% of male entrants opted for the field of education and 8% for health and welfare, shares which have not changed since 2015.
- Completion rates for tertiary education show disparities related to students' parental and immigration background. Students with less educated parents and who come from immigrant backgrounds tend to have lower completion rates than those with more educated parents or from non-immigrant backgrounds.

Context

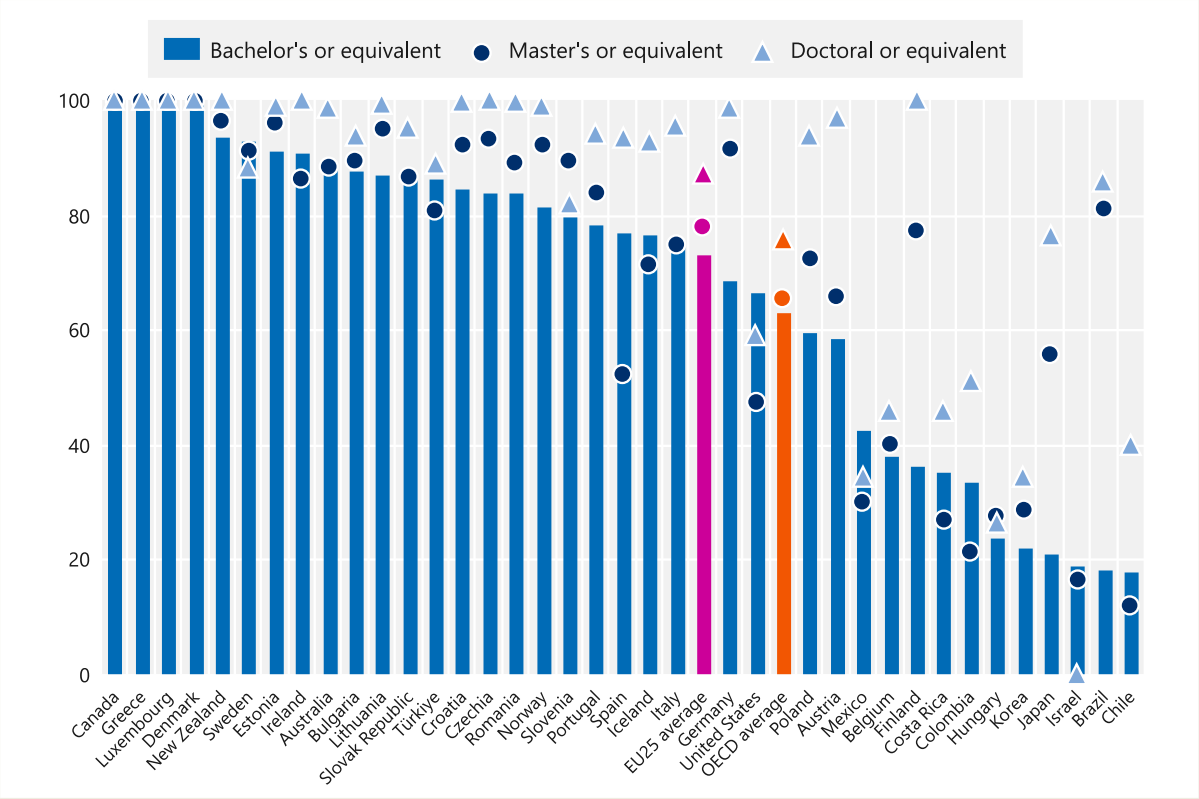
Participation in tertiary education is essential for developing advanced skills and ensuring access to many highly qualified professions. Students entering tertiary education face important decisions including the type of institution (public or private), their fields of study and whether they want to study abroad. These choices will significantly impact their academic and professional trajectories but are often influenced by various external factors.

The financial aspect is a major consideration. The cost of studying varies widely depending on the country and level of education, influencing students' decisions. Tuition fees, living expenses and the availability of scholarships or financial aid can either enable or limit access to certain institutions or programmes (Chapter C5). In many cases, students from lower-income families face significant barriers, which can restrict their educational opportunities and outcomes.

Choosing a field of study is another pivotal decision. Students often balance personal interests with pragmatic considerations, such as labour-market demand and potential international opportunities. STEM fields are frequently promoted due to the high labour-market demand for graduates. However, these fields also show gender disparities, with women under-represented in many STEM disciplines due to societal norms and educational biases.

Studying abroad presents a unique opportunity for personal and academic growth. It allows students to immerse themselves in a new culture, develop language skills and gain a global perspective. International education can enhance employability, as employers often value the diverse experiences and adaptability that come from studying in a foreign country. Countries actively seek to attract mobile students due to the substantial economic benefits they bring. These students often pay higher tuition fees than domestic students, providing a significant source of revenue for educational institutions. If foreign students choose to remain in the country after graduation, they continue to contribute economically by joining the workforce, paying taxes and fostering innovation.

Figure B4.1. Share of graduates in public institutions among tertiary graduates, by level of education (2022)



Countries are ranked in descending order of the share of graduates from public institutions at bachelor's or equivalent level.
See Table B4.1 for data and Chapter B4 Tables section for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Other findings

- In some OECD countries, private institutions account for a larger share of graduates than public institutions across all levels of tertiary education, particularly in Latin America and Asia.
- The proportion of mobile students among all tertiary enrolments has risen in nearly all countries since 2013, notably in Central and East European countries.
- Mobile students are heavily represented in STEM fields, with on average around 30% of all mobile students enrolled in such fields, compared to 19% of national (non-mobile) students.

Note

This chapter draws from data on graduates, new entrants and enrolled students. For more information on the definitions please refer to the *Education at a Glance 2024 Sources, Methodologies and Technical Notes*.

Analysis

Equity in tertiary education

Share of new entrants by gender

There has been a reversal in gender education outcomes at tertiary levels of education over the last decades, notably those related to participation and achievement. Across OECD countries, women comprised 56% of first-time entrants into tertiary education in 2022 and they constitute a majority of new entrants in every OECD country. The share is the highest in Iceland, where 64% of first-time entrants are women and it is narrowest in Germany, Japan, Korea and Switzerland (Table B4.2). Women are also more likely to finish their tertiary degree than men. In 2023, there were 1.4 female graduates for every male graduate at bachelor's and master's level (OECD, 2023[1]).

Distribution of new entrants by gender and field

One in two students choose to pursue studies in education, health and welfare, or a STEM field, but the gender distribution among these fields varies considerably. On average, only 15% of female new entrants choose a STEM field, compared to 41% of male new entrants. These disparities persist across countries, with Chile and Finland showing the largest gaps, while the Netherlands and the Republic of Türkiye have the smallest (Figure B4.2).

Progress in encouraging more women to pursue STEM-related fields has been slow, with the share of female new entrants who choose to study STEM fields increasing by less than 1 percentage point between 2015 and 2022 across OECD countries. Luxembourg stands out with the share of female new entrants choosing a STEM field increasing from 8% to 16% over the past six years. The share of female new entrants who chose a STEM field has fallen by at least 5 percentage points in Greece, Mexico, Poland and the United Kingdom (Table B4.2).

Conversely, men in OECD countries continue to show little interest in fields related to education and health. Only 4% of all male new entrants opt to study the field of education, and 8% choose health and welfare, with no significant changes since 2015. No country has a greater share of men than women choosing to studying health or medicine. Costa Rica and Israel see the largest share of men entering the field of education, with 9% of all male tertiary entrants choosing the field, while Belgium has the greatest share of male new entrants opting for health and welfare, at 14% Table B4.2).

Policies to achieve gender equity in tertiary education

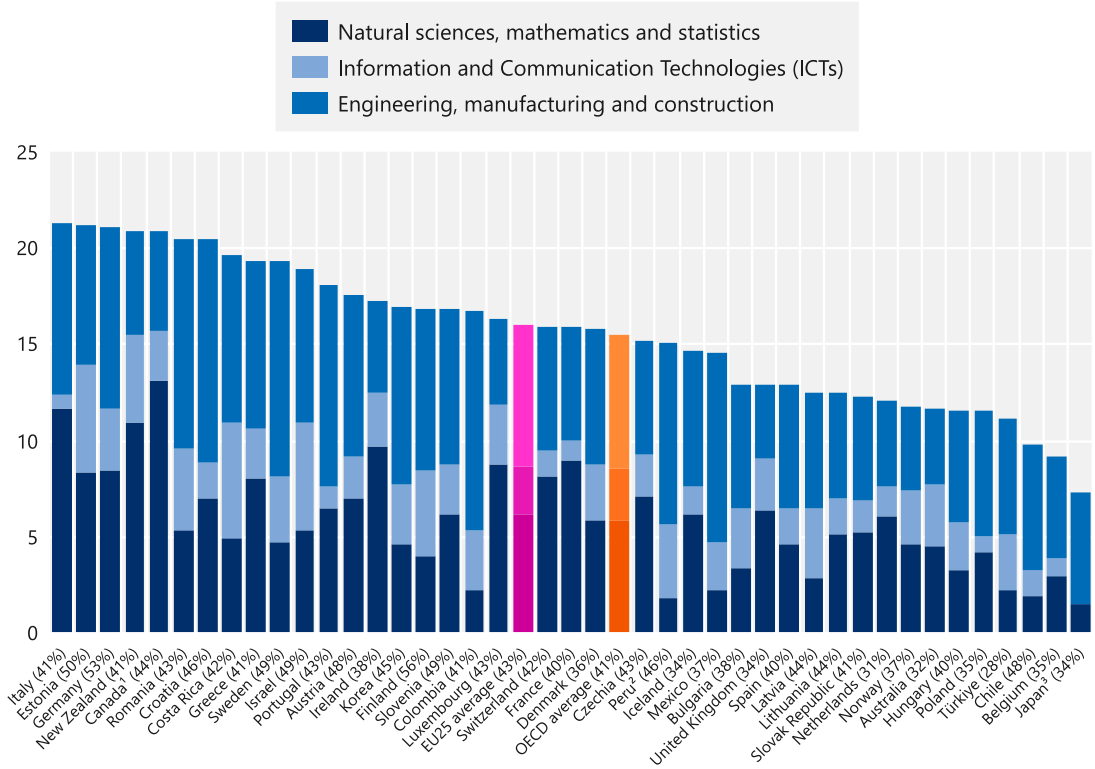
Reducing gender biases in teaching strategies and facilitating spaces where female students can interact with role models can effectively encourage them to pursue careers in male-dominated fields. Recent studies have demonstrated the impact of teachers' gender biases on girls' performance and educational decisions, as well as the long-term effect of brief encounters with female role models, particularly in male-dominated fields (Delaney and Devereux, 2021[2]).

Various countries have implemented policies to attract female students into STEM fields. Ireland's STEM passport offers mentoring programmes connecting female students with industry professionals (National

University of Ireland Maynooth, 2023[3]). Germany's Alliance for Women in MINT Professions launched the #empowerGirl internship programme in 2023, offering positions to young women interested in STEM (MINTvernetzt, 2024[4]). In some countries, policies target the whole student population irrespective of gender. Luxembourg's Fairness in Teaching (FIT) project trains teachers to adopt impartial and just treatment or behaviour without favouritism or discrimination in their practices (FIT, 2024[5]). The Flemish Community of Belgium aims to boost STEM enrolment among all students by 2030 and strengthening STEM-competences in broader society (Flemish Government, 2024[6]). The initiative known as Spain's STEAM Alliance for Female Talent, Girls Rising in Science, aims to promote STEAM vocations among girls and young women and reduce the gender gap, with over 150 companies and organisations already on board (Ministerio de Educación, Formación Profesional y Deportes, 2024[7]).

Policies targeting male students at tertiary or upper secondary level are not common, but some countries have introduced initiatives to improve boys' academic performance in school, which could potentially have a positive impact later in their studies. In Germany and the United Kingdom, literacy programmes encourage boys to read through football-related activities including texts, reading sessions, discussions, excursions and exchanges with professional footballers (Welmond and Gregory, 2021[8]).

Figure B4.2. Share of women in STEM fields among all female tertiary new entrants, by field of study (2022)



Note: The percentage in parentheses represents the share of new entrants into STEM fields among all male new entrants.
1. Year of reference differs from 2022. Refer to the Education at a Glance Database for more details.
2. Only includes new entrants into bachelor's programmes.
3. All fields of study include the field of information and communication technologies.
Countries are ranked in descending order of the share of new entrants into STEM fields among all female new entrants.
See Table B4.2. for data and Chapter B4 Tables section for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Addressing the underachievement of boys, especially those from disadvantaged backgrounds, can yield positive outcomes without detracting from girls' progress. Studies indicate that boys' performance in school

is particularly sensitive to socio-economic factors, suggesting that policies targeting disadvantaged students, regardless of gender, could help address underperformance among boys (Delaney and Devereux, 2021[2]).

Box B4.1. The influence of parental background on student's completion rates in tertiary education

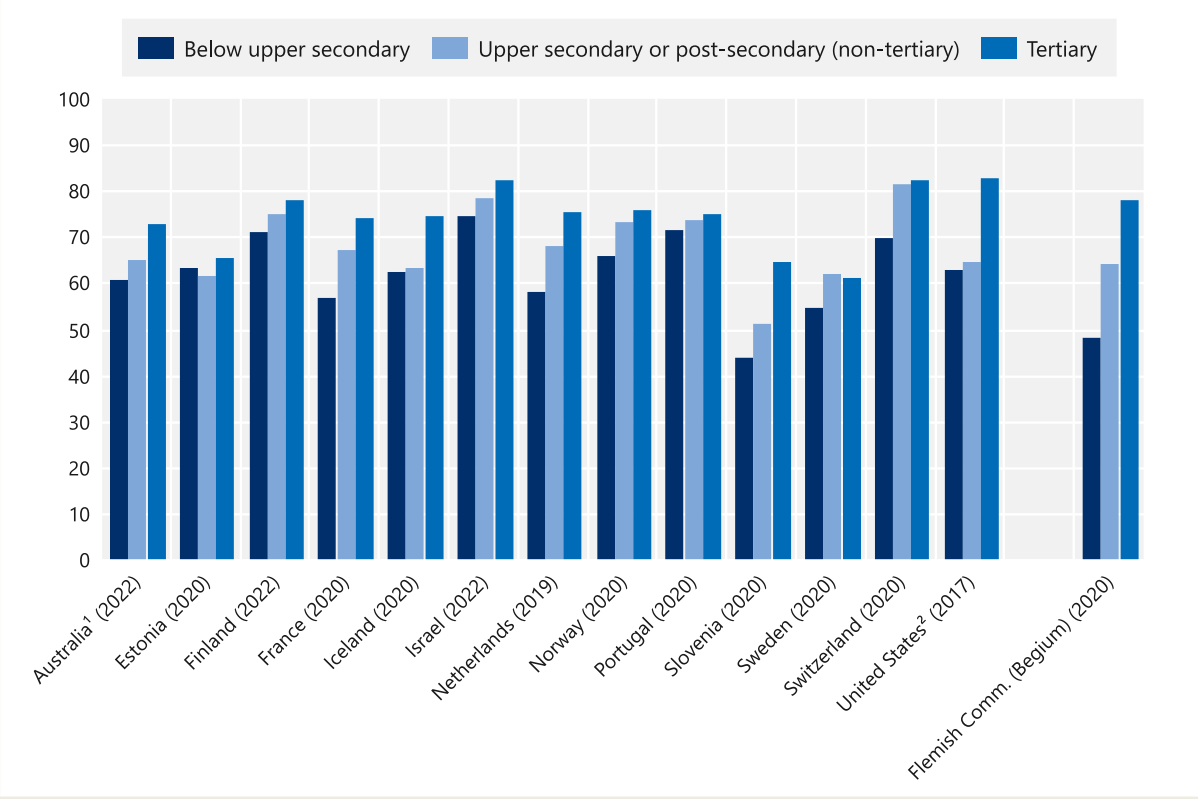
Data on tertiary completion rates were collected in 2022, disaggregated by two equity dimensions: parents' educational attainment and migration background. The results from this data collection underscore the importance of looking beyond national averages to analyse outcomes for potentially disadvantaged subgroups. A total of 15 countries and economies were able to provide the relevant data.

The completion patterns in tertiary education exhibit considerable differences across countries. The Flemish Community of Belgium, Slovenia and the United States have the greatest difference in completion rates (based on the theoretical duration plus three years for Slovenia, and two years for the United States) between students with at least one tertiary-educated parent and those whose parents had lower than tertiary attainment. In several other countries, such as Portugal, Sweden and Switzerland, completion rates for students differ less with parental educational background (Figure B4.3).

In Finland, students from highly educated backgrounds seem to study at a slower pace, completing their tertiary studies later than students whose parents had lower educational achievement. Among students with at least one tertiary-educated parent, the completion rate based on the theoretical duration is 9 percentage points lower than those whose parents' highest attainment was below upper secondary education, and 8 percentage points lower than those with at least one parent with upper secondary or post-secondary non-tertiary attainment. Three years after the theoretical duration, however, the opposite holds: the completion rate among students with at least one tertiary-educated parent is 7 percentage points higher than those whose parents lacked upper secondary attainment, and 3 percentage points higher than those with parents upper secondary or post-secondary non-tertiary attainment. A similar pattern can be observed in Estonia, but the difference in completion rates after three years is smaller (Table B4.4). This pattern is also observed when looking at students' duration of studies: a study conducted in Finland over the period 1980-2010 found that students with the lowest parental education graduated 1.8 months sooner than students with parents with the highest education (Lehti and Kinnari, 2024[9]).

Figure B4.3. Completion rate of full-time students who entered bachelor's or equivalent level, by parents' educational attainment (latest available year)

Completion rate of full-time students by the duration plus three years, in per cent

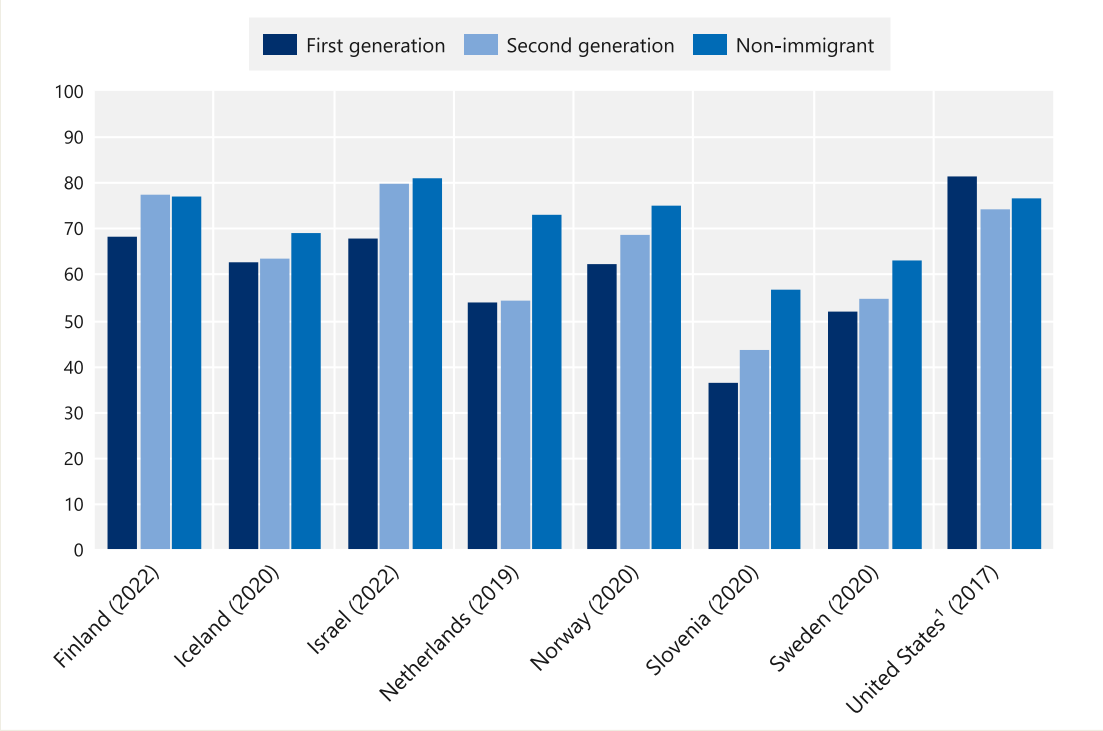


Note: The year of reference for the data (in parentheses next to the country name) corresponds to the graduation year three years after the theoretical end of the programme. The reference year for the entrance cohort changes depending on the duration of programmes. Parents' educational attainment refers to the highest educational level attained by at least one parent.
1. Data refer only to programmes with a theoretical duration of three, four or five years in Australia.
2. Data are provided for the theoretical duration plus two years in the United States (not three years).
See Table B4.4 for data and Chapter B4 Tables section for StatLink For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Differences can also be found when looking at students' immigration status in different countries. Students with an immigrant background had completion rates (after the theoretical duration plus three years) that were at least 15 percentage points lower than for those without such a background in the Netherlands and Slovenia. In Finland and Israel, the differences between second-generation immigrants and non-immigrants are small, but first-generation immigrants had lower completion rates, which may reflect barriers to adjusting to the culture and language of the host country. In the United States, first-generation immigrants have slightly higher completion rates than the other two categories (Figure B4.4).

Figure B4.4. Completion rate of full-time students who entered bachelor's or equivalent level, by immigration status (latest available year)

Completion rate of full-time students by the duration plus three years, in per cent



Note: The year of reference for the data (in parentheses next to the country name) corresponds to the graduation year three years after the theoretical end of the programme. The reference year for the entrance cohort changes depending on the duration of programmes.
1. Data are provided for the theoretical duration plus two years in the United States (not three years).
See Table B4.1 for data and Chapter B4 Tables section for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Enrolment and graduation in public and private tertiary institutions

Private institutions are becoming a more common choice among students pursuing tertiary studies. The choice of a public or private institution can be influenced by various factors, including students' expectations about future opportunities after graduation and the availability of financial support. These decisions may also be affected by their country's institutional context, and the effects of their governments' education policies.

While public and independent private tertiary institutions frequently co-exist, as in Costa Rica and the United States, the institutional context can greatly differ from one country to another. The United Kingdom only have government-dependent private institutions at tertiary level but Greece and Luxembourg have no private tertiary institutions whatsoever, while Canada only has a negligible amount of private tertiary institutions (Table B4.1).

The share of tertiary graduates who studied at public institutions exceeds the share from private institutions and tends to rise with the level of tertiary education. Across OECD countries, 58% of those graduating from short-cycle tertiary programmes attended public institutions, increasing to 63% at bachelor's level,

65% at master's level and 76% at doctoral level or equivalent. In a few countries, the majority of tertiary students earned their degrees at a private institution, regardless of the level of education. In Chile, Costa Rica, Hungary, Israel, Korea and Mexico, at least 50% of students at bachelor's, master's and doctoral level graduated from a private institution in 2022. In Colombia, that is also the case at bachelor's and master's level, but not at doctoral level (Figure B4.1).

Countries also differ in how the share of public graduates has changed through time. Since 2013, private institutions have accounted for an increasing share of graduates from short-cycle tertiary, bachelor's and master's or equivalent programmes. On the other hand, the share of graduates from public institutions at doctoral level has been stable over that period, except in Colombia, Estonia, Hungary and the Netherlands, where it has decreased by more than 20%. In Hungary, from 2019-21, most of the institutions maintained by the government were taken over by public trusts with a public service task and became private institutions (Eurydice, 2024[10]). In 2022, 24% of students graduating from a bachelor's programme in Hungary did so from a public institution, down from 87% in 2013 (Table B4.1.).

Private expenditure contributes considerably to the funding of tertiary education institutions in many of the countries which have a large share of students enrolled in private institutions. Private expenditure accounted for over 60% of total expenditure on education at tertiary level in Chile and over 55% in Japan and Korea (OECD, 2023[1]). Private institutions in these contexts may rely less on public funds, and more on household expenditure in the form of tuition fees and donations. They may have a more market-oriented approach to setting their tuition fees, their accessibility and the programmes they offer.

In Latin America, both public and private institutions have grown in the last decades, especially private universities, with the aim of meeting growing demand for higher education and to include an increasing number of less favoured social groups (Brunner and Labraña, 2020[11]). In Colombia and Chile, the share of graduates who studied at public institutions has fallen since 2013, reflecting the shift in students' choices towards private universities.

Trade-offs of choosing between public and private institutions

Students' decisions about which type of institution to enrol in are influenced by various factors. Students in Brazil may choose to attend private institutions as public universities have more selective entry criteria, potentially due to competition for places and/or limited capacity to enrol students. In Colombia, students at private institutions benefit from flexible payment options and no entry examinations. In Germany, private higher education institutions complement public institutions in so far that they offer attractive study options (e.g. distance-learning programs) that are well-suited for employed people as well as for people with a vocational background. They offer access to fields of study to which the access at public institutions is very competitive and restrictive, for example psychology (Bildungsberichterstattung, 2022[12]).

The tuition fees charged by universities and the availability of financial support have a significant influence on students' choice of public or private institutions. In Australia and Japan, the average tuition fees in independent private institutions are twice those in public institutions for full-time national students in bachelor's programmes or equivalent. In contrast, in Lithuania and Romania, the fees for public and private institutions are relatively similar (see Table C5.1). In many countries, tertiary students have access to grants and public or government-guaranteed private loans to finance their studies. In Australia and Japan, these two forms of financial support could cover a significant share of students' tuition fees, alleviating the additional financial burden of choosing a private institution. Notably, in the United Kingdom, where there are only private institutions, 84% of students receive one or both types of financial aid (see Table C5.3).

The higher proportion of graduates from doctoral programmes or equivalent in public institutions can be attributed to under-developed financial ties between the private sector and research-oriented institutions. Across OECD countries, in 2016, two-thirds of research and development funding in tertiary institutions came from government sources, with less than 10% coming from businesses and the private non-profit

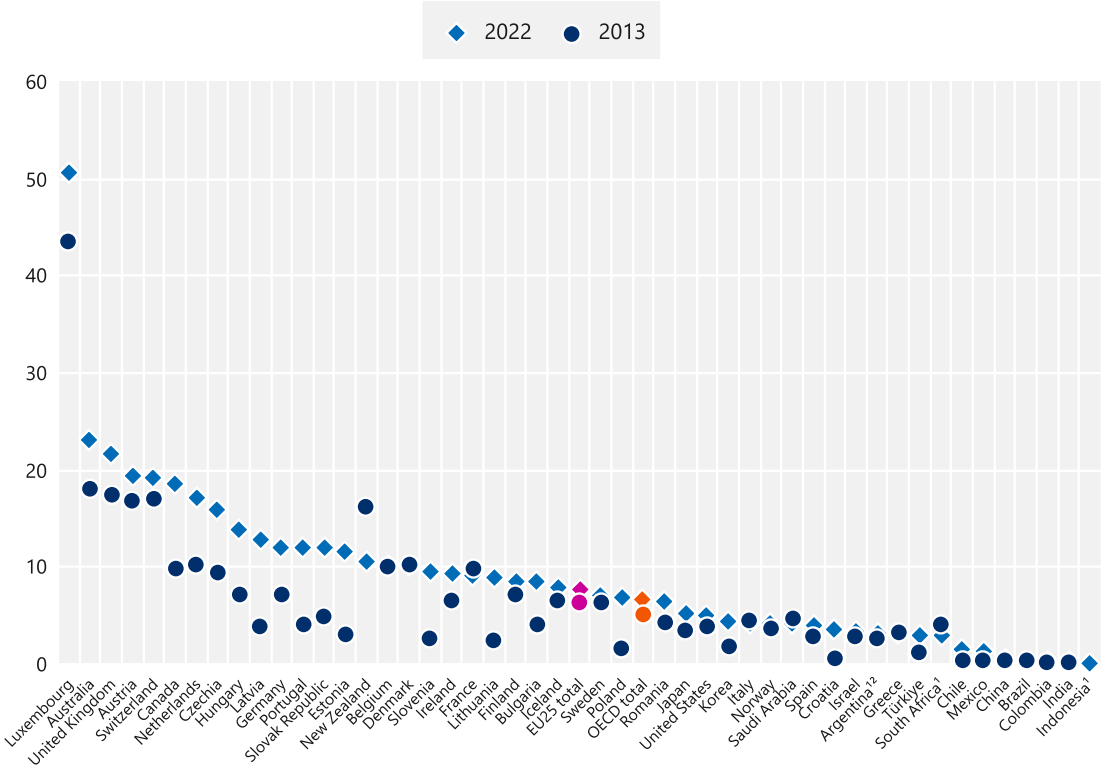
sector. Similarly, surveys of businesses indicated that only 15% reported co-operation with higher education institutions in developing new products or processes (OECD, 2019[13]). Finally, in 2019, the share of current expenditure on R&D activities as percentage of total expenditure in tertiary education was 83% for public institutions, compared to 17% in private institutions (OECD, 2022[14]).

International mobility

Trends in the number of mobile students

The proportion of mobile students – international or foreign – among all tertiary enrolments has risen in nearly all countries between 2013 and 2022 (Figure B4.5). New Zealand is a notable exception, with a 6 percentage-point decrease in the share of international students attributed largely to stringent travel restrictions coinciding with the start of the academic year. Many Central and East European countries saw very large increases in mobile students, albeit from low levels in 2013. In Estonia, the share of international students increased from 3% in 2013 to 11% in 2022. Similarly, the share increased from 4% to 13% in Latvia, and from 10% to 19% in Canada (Table B4.3).

Figure B4.5. Trends in the share of international or foreign students among all tertiary students (2013, 2022)



1. Year of reference differs from 2022. Refer to the source table for more details.
2. Year of reference differs from 2013. Refer to the source table for more details.
Countries are ranked in descending order of the share of international or foreign students in 2022.
See Table B4.3 for data and Chapter B4 Tables section for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

The most substantial increase has been in the share of mobile students enrolled in master's or equivalent programmes, rising from 10% in 2013 to 15% in 2022. Bulgaria, Estonia, Latvia, Lithuania and Portugal

have attracted notably more mobile master's students with considerable increases of at least 10 percentage points in the proportion of mobile students at this level of education. For doctoral or equivalent programmes, the share of international students increased more slowly among OECD countries, with Chile, Estonia and Hungary seeing the largest increases of at least 20 percentage points (Table B4.3).

Mobile students across fields of education

Across OECD countries, national and mobile students often make very different choices about fields of study. Mobile students are highly represented in STEM fields with 30% of all international or foreign students enrolled in these fields on average, compared to 19% of non-mobile students. In Denmark, 40% of mobile students enrol in STEM fields compared to only 22% of national students, similar differences can be seen in Sweden and Türkiye (Figure B4.6 and Table B4.3). Korea is an exception, where 34% of non-mobile students are enrolled in STEM compared to 16% of mobile students. Scientific, mathematical and technical knowledge are transferable across different education systems, facilitated by international curriculum standardisation and use of a common language, enabling students to pursue their studies abroad.

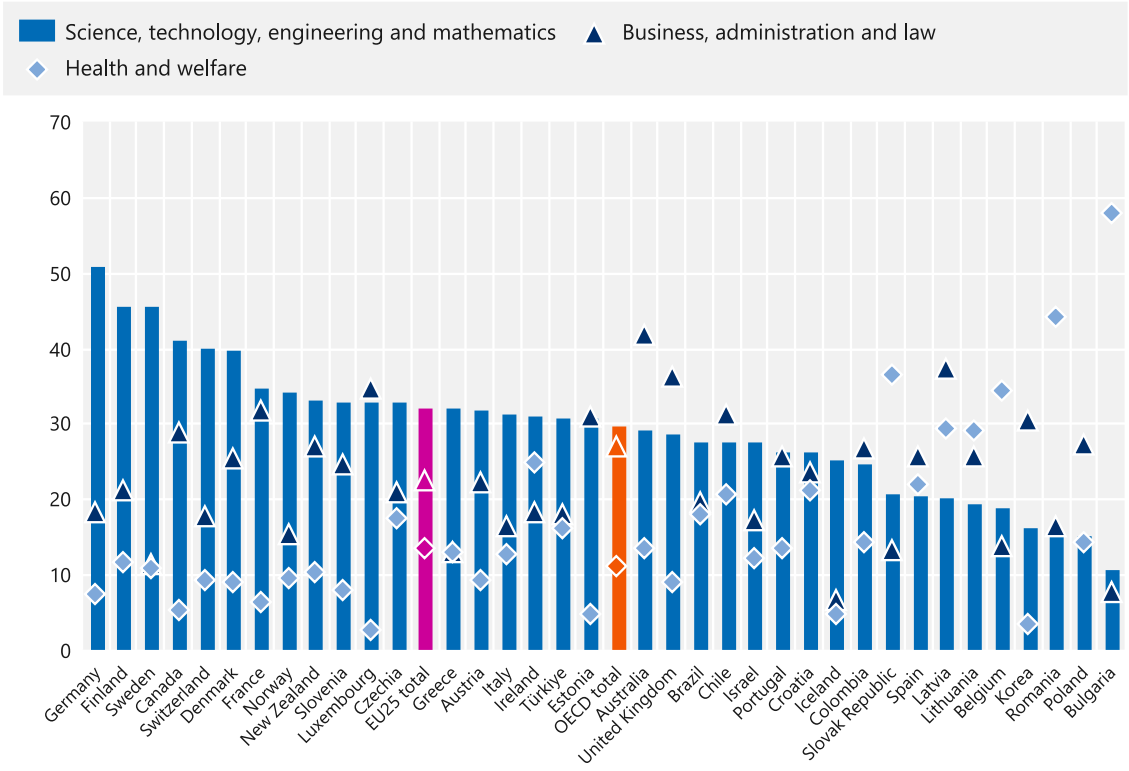
Mobile students are less likely to choose fields leading to careers in health and welfare compared to national students. On average 11% of mobile students are enrolled in health and welfare compared to 15% of non-mobile students. Regulatory policies and the cost of having a degree recognised may deter students from studying for these careers abroad. Bulgaria and Romania are exceptions, were the share of mobile students enrolled in health and welfare fields is 30% higher than the share of non-mobile students (Figure B4.6 and Table B4.3).

Some countries have succeeded in attracting international students to fields aligned with employers' needs, helping to close skill gaps. Across OECD countries, digital proficiency, medical knowledge and scientific expertise are in high demand and some countries are making use of the pool of mobile students to address local skill shortages. In Bulgaria and Romania, over 40% of mobile students have enrolled in health and welfare programmes, aligning with the most-needed skills in their labour markets (OECD, 2022[15]). Latvia and the Slovak Republic, where a considerable share of mobile students are pursuing degrees in health and welfare, are also among the countries which have significantly increased their share of mobile students at tertiary level since 2013 (Table B4.3). How successful this strategy is will depend on countries' retention policies and measures to facilitate labour-market transitions.

Policies to attract international or foreign students.

OECD countries have implemented a number of initiatives to attract and retain international students. Factors such as language of instruction, cultural affinity and post-study job opportunities influence student mobility. Institutions often adapt language requirements and work restrictions to accommodate the needs of international students. Some countries also offer family residence permits and access to the labour market to encourage student retention (OECD, 2022[16]). Mobile students in the Slovak Republic can automatically access the labour market without applying for a permit or a labour-market test (OECD, 2022[16]). Brazil has dedicated programmes for students from developing countries to pursue further studies (Ministry of External Relations of Brazil, 2024[17]). In Finland, several measures have proven effective in attracting international students, including adjusting application periods, facilitating joint degree programmes and establishing a centralised English-language application platform (European Commission, 2018[18]).

Figure B4.6. Share of international or foreign students in selected fields of study among all mobile students (2022)



Countries are ranked in descending order of share of international or foreign students in sciences, technology, engineering and mathematics.
See Table B4.3 for data and Chapter B4 Tables section for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

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.

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.

Parents' educational attainment refers to the highest level of educational attainment of at least one parent: below upper secondary corresponds to ISCED 2011 Levels 0, 1 and 2, and includes recognised qualifications from ISCED 2011 Level 3 programmes, which are not considered as sufficient for ISCED 2011 Level 3 completion, and without direct access to post-secondary non-tertiary education or tertiary education; upper secondary or post-secondary non-tertiary corresponds to ISCED 2011 Levels 3 and 4; and tertiary corresponds to ISCED 2011 Levels 5, 6, 7 and 8.

Students with an immigrant background are students whose mother and father were both born in a country.

- First generation: Those born outside the country and whose both parents were also born in another country.
- Second generation: Those born in the country but whose both parents were born in another country.

Methodology

International mobility

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[19]).

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.

Source

Data refer to the 2021/22 academic year and are based on the UNESCO-Institute of Statistics (UIS)/OECD/Eurostat data collection on education statistics administered by the OECD in 2023. Data for some countries may have a different reference year. For more information see *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (OECD, 2024[20]).

The UNESCO Institute of Statistics (UIS) provided data for Argentina, China, India, Indonesia, Saudi Arabia and South Africa.

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Chapter B4 Tables

Tables Chapter B4. What are the differences in access and outcomes of tertiary education?

StatLink https://stat.link/dl1mtw

Cut-off date for the data: 14 June 2024. Any updates on data and more breakdowns can be found on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

Table B4.1. Distribution of graduates in each level of tertiary education, by type of institution (2013 and 2022)

In per cent

	Short-cycle tertiary education				Bachelor's or equivalent				Master's or equivalent				Doctoral or equivalent			
			Private institutions				Private institutions				Private institutions				Private institutions	
	Public institutions		Government-dependent	Independent	Public institutions		Government-dependent	Independent	Public institutions		Government-dependent	Independent	Public institutions		Government-dependent	Independent
	2013	2022	2022	2022	2013	2022	2022	2022	2013	2022	2022	2022	2013	2022	2022	2022
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Australia	71	28	m	m	95	89	m	m	97	88	m	m	99	99	m	m
Austria	83	80	m	m	65	59	m	m	77	66	m	m	97	97	m	m
Belgium[1]	20	40	60	0	41	38	62	0	41	40	59	1	45	46	54	0
Canada	100	100	a	a	100	100	a	a	100	100	a	a	100	100	a	a
Chile	2	5	3	92	21	18	14	68	23	12	25	63	42	40	46	14
Colombia	76	80	a	20	40	34	a	66	23	21	a	79	73	51	a	49
Costa Rica[2]	88	100	a	a	26	35	a	65	32	27	a	73	31	46	a	54
Czechia	90	85	15	a	79	84	4	12	88	93	a	7	100	100	a	0
Denmark	96	98	2	0	98	100	0	0	100	100	0	0	100	100	0	0
Estonia	a	a	a	a	27	91	0	9	1	96	0	4	0	99	0	1
Finland	a	a	a	a	57	36	64	a	93	77	23	a	100	100	0	a
France	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Germany[3]	86	7	m	m	85	69	m	m	97	92	m	m	99	99	m	m
Greece	a	a	a	a	100	100	a	a	100	100	a	a	100	100	a	a
Hungary	45	3	8	89	87	24	9	67	91	28	10	62	97	26	4	70
Iceland	29	86	14	0	78	77	23	0	75	71	29	0	95	93	7	0
Ireland	100	94	0	6	100	91	0	9	100	86	0	14	100	100	0	0
Israel	m	45	55	0	11	19	67	14	5	16	67	17	a	0	100	0
Italy	a	a	a	100	87	76	0	24	90	75	0	25	96	95	0	5
Japan	8	7	a	93	22	21	a	79	54	56	a	44	75	76	a	24
Korea	2	2	a	98	24	22	a	78	29	29	a	71	36	34	a	66
Latvia	49	41	33	26	a	a	81	19	a	a	86	14	a	a	98	2
Lithuania	a	a	a	a	89	87	a	13	96	95	a	5	99	99	a	1
Luxembourg	100	100	a	a	100	100	a	a	100	100	a	a	100	100	a	a
Mexico	95	94	a	6	64	43	a	57	37	30	a	70	51	34	a	66
Netherlands	m	m	m	m	m	m	m	m	m	m	m	m	100	m	m	m
New Zealand	54	60	39	1	93	94	6	0	98	96	4	0	100	100	0	0
Norway	60	64	35	0	87	81	5	13	96	92	3	5	99	99	1	1
Poland	86	49	a	51	64	60	a	40	73	72	a	28	94	94	a	6
Portugal	a	75	a	25	77	79	a	21	81	84	a	16	94	94	a	6
Slovak Republic	74	56	44	a	76	87	a	13	79	87	a	13	96	95	a	5
Slovenia	59	69	2	28	84	80	15	5	93	90	8	3	95	82	5	13
Spain	77	62	17	21	76	77	0	23	83	52	0	48	95	93	0	7
Sweden	46	29	67	4	92	93	7	a	92	91	9	a	90	88	12	a
Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	99	1	0
Türkiye	95	86	a	14	94	87	a	13	80	81	a	19	96	89	a	11
United Kingdom	a	a	100	a	a	a	100	a	a	a	100	a	a	a	100	a
United States	77	89	a	11	63	67	a	33	45	47	a	53	63	59	a	41
OECD average	61	58	18	25	66	63	14	23	68	65	13	22	77	76	12	12
Partner and/or accession countries																
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	2	53	a	47	23	19	a	81	m	81	a	19	m	86	a	14
Bulgaria[2]	a	a	a	a	82	88	a	12	86	89	a	11	97	94	a	6
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	100	100	a	0	89	85	a	15	94	92	a	8	100	100	0	a
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	a	a	a	a	74	84	a	16	88	89	a	11	99	100	a	0
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	70	62	16	22	79	73	12	15	80	78	9	13	87	87	8	5
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter B4 Tables for StatLink and Box B4.2 for the notes related to this Table.

Table B4.2. Share of female entrants and distribution of female and male new entrants into tertiary education, by selected field of study (2015 and 2022)

In per cent

	Share of female new entrants		Distribution of female new entrants						Distribution of male new entrants					
			Education		Health and welfare		Science, technology, engineering and mathematics (STEM)		Education		Health and welfare		Science, technology, engineering and mathematics (STEM)	
	2015	2022	2015	2022	2015	2022	2015	2022	2015	2022	2015	2022	2015	2022
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Australia	m	57	m	12	m	29	m	12	m	5	m	13	m	32
Austria	54	55	18	16	8	12	17	18	6	6	4	6	50	48
Belgium	56	55	11	8	32	30	8	9	5	5	15	14	33	35
Canada[1]	m	56	m	5	m	23	m	21	m	2	m	7	m	44
Chile	52	54	14	13	29	32	10	10	4	3	9	11	46	48
Colombia	52	53	9	10	8	7	17	17	5	6	3	4	41	41
Costa Rica[2]	54	52	18	18	12	6	16	20	10	9	7	3	39	42
Czechia	57	57	13	15	17	20	18	15	4	5	5	7	46	43
Denmark	57	55	7	5	26	26	12	16	4	3	10	9	30	36
Estonia	57	57	10	11	15	17	20	21	2	2	3	5	52	50
Finland	55	57	6	7	33	34	14	17	2	1	8	9	56	56
France[2]	55	56	5	4	17	16	15	16	2	2	5	6	43	40
Germany	49	50	12	14	8	12	22	21	3	4	3	4	56	53
Greece	54	58	10	11	11	15	24	19	2	3	5	9	49	41
Hungary	57	55	16	10	13	15	12	12	6	3	7	8	39	40
Iceland	62	64	14	16	16	21	13	15	6	9	4	6	37	34
Ireland	52	55	10	10	23	23	16	17	5	5	6	8	39	38
Israel	58	58	29	25	10	11	17	19	7	9	4	4	50	49
Italy[2]	55	55	7	7	11	10	20	21	1	1	9	6	41	41
Japan[3]	49	49	13[d]	11[d]	21[d]	22[d]	6	7	5[d]	5[d]	12[d]	10[d]	33	34
Korea	50	51	11	10	21	22	15	17	3	4	9	11	45	45
Latvia	56	58	10	9	18	24	12	13	2	1	6	7	46	44
Lithuania	55	57	5	7	17	25	14	13	2	1	5	7	47	44
Luxembourg	53	55	9	15	18	13	8	16	3	5	7	4	30	43
Mexico	49	54	12	15	16	16	19	15	4	7	8	9	45	37
Netherlands	53	55	14	10	22	21	9	12	5	4	8	8	29	31
New Zealand	55	60	10	10	15	18	17	21	3	3	5	7	36	41
Norway	55	57	14	15	21	25	12	12	6	7	6	7	36	37
Poland	58	61	12	10	12	18	17	12	4	3	5	7	42	35
Portugal	56	54	8	5	19	18	16	18	3	2	6	6	37	43
Slovak Republic	59	58	17	18	21	21	14	12	7	6	10	10	40	41
Slovenia	54	56	13	13	12	17	17	17	2	3	4	6	50	49
Spain	53	54	16	16	19	23	13	13	5	6	8	9	40	40
Sweden	58	58	16	15	22	20	17	19	7	6	8	7	46	49
Switzerland	49	51	11	11	20	24	13	16	4	5	7	9	39	42
Türkiye	48	53	10	5	13	27	11	11	3	4	6	9	24	28
United Kingdom	56	57	11	7	18	25	18	13	4	3	7	9	41	34
United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m
OECD average	54	56	12	11	18	20	15	15	4	4	7	8	41	41
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	56	56	13	21	10	14	14	13	5	6	7	8	37	38
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	55	57	8	10	13	17	19	21	2	3	5	7	43	46
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[4]	m	53	m	7	m	27	m	15	m	3	m	8	m	46
Romania	55	56	5	7	11	13	23	21	1	1	6	6	46	43
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	55	56	11	11	17	19	16	16	4	3	7	7	43	43
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter B4 Tables for StatLink and Box B4.2 for the notes related to this Table.

Table B4.3. Share of international or foreign students, by level of tertiary education, and distribution of tertiary students, by selected fields of study and mobility status (2013 and 2022)

In per cent

	Share of international or foreign students								Distribution of students by field of study and mobility status							
	Bachelor's or equivalent		Master's or equivalent		Doctoral or equivalent		All tertiary		All tertiary							
									Social sciences, journalism and information		Business, administration and law		Health and welfare		Science, technology, engineering and mathematics	
	2013	2022	2013	2022	2013	2022	2013	2022	Mobile	Non-mobile	Mobile	Non-mobile	Mobile	Non-mobile	Mobile	Non-mobile
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	International students															
Australia	14	15	38	39	33	35	18	23	2	9	42	21	14	26	29	19
Austria	20	19	19	26	28	40	17	19	16	7	22	25	9	10	32	29
Belgium	8	7	16	17	38	25	10	10	11	11	14	24	34	25	19	19
Chile	0	1	2	4	3	25	0	1	5	6	31	22	21	23	28	27
Czechia	8	13	11	18	13	26	9	16	10	8	21	19	17	14	33	24
Denmark	6	5	18	20	30	37	10	10	9	9	25	23	9	25	40	22
Estonia	2	7	4	17	7	32	3	11	10	6	31	18	5	15	31	31
Finland	5	6	11	11	17	28	7	8	4	6	21	18	12	20	46	34
France	8	7	13	14	40	36	10	9	10	7	32	27	6	14	35	25
Germany	4	7	12	18	7	23	7	12	7	8	18	24	7	10	51	34
Greece[1]	3	3	1	1	2	3	3	3	16	13	13	20	13	8	32	33
Iceland	6	5	6	11	20	39	7	8	10	17	6	20	5	17	25	18
Ireland	6	7	10	16	25	37	6	9	7	6	18	23	25	16	31	27
Israel	3	3	4	5	5	12	3	3	17	15	17	17	12	9	28	33
Italy	4	3	4	6	12	12	4	4	16	14	16	18	13	15	31	25
Japan	3	3	7	10	19	22	3	5	m	m	m	m	m	m	m	m
Latvia	4	10	3	28	6	13	4	13	4	9	37	24	29	16	20	26
Lithuania	2	6	3	15	3	10	2	9	12	10	26	27	29	20	20	25
Luxembourg	24	25	67	77	84	91	44	50	13	9	35	25	3	12	33	22
Mexico	0	1	1	4	3	8	0	1	m	m	m	m	m	m	m	m
Netherlands	8	15	17	27	38	m	10	17	m	m	m	m	m	m	m	m
New Zealand	13	9	20	19	43	44	16	10	9	13	27	19	10	18	33	26
Norway	2	2	7	7	21	23	4	4	12	11	15	20	10	18	34	20
Poland	1	7	2	6	2	3	1	7	16	12	27	24	14	16	15	22
Portugal	3	8	5	15	15	33	4	12	13	11	26	22	14	16	26	30
Slovenia	2	9	4	10	8	22	3	9	14	8	25	18	8	15	33	30
Spain	1	2	5	10	16	20	3	4	12	10	26	20	22	17	21	25
Sweden	2	3	10	12	33	36	6	7	13	11	11	14	11	18	46	27
Switzerland	10	10	27	31	52	58	17	19	12	8	18	26	9	19	40	25
United Kingdom	13	15	36	43	41	41	17	22	12	13	36	23	9	22	29	22
	Foreign students															
Canada	8	15	14	20	27	37	10	19	10	12	29	20	5	17	41	27
Colombia[1]	0	0	1	1	3	2	0	0	13	11	27	36	14	7	25	29
Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Hungary	5	10	14	21	7	29	7	14	m	m	m	m	m	m	m	m
Korea	1	4	6	11	8	20	2	4	13	6	31	13	3	15	16	34
Slovak Republic	4	11	6	13	9	14	5	12	8	10	13	19	36	18	21	22
Türkiye	1	3	4	9	4	10	1	3	14	13	18	33	16	14	31	13
United States	3	4	8	12	32	25	4	5	m	m	m	m	m	m	m	m
OECD total	4	5	10	15	23	25	5	6	12	10	27	25	11	15	30	19
Partner and/or accession countries																
	International students															
Bulgaria	3	4	6	17	4	10	4	8	5	9	8	22	58	11	11	25
Croatia[1]	0	3	1	4	3	8	1	4	7	6	23	24	21	13	26	28
Romania[1]	2	4	8	12	2	4	4	6	7	9	16	25	44	12	16	32
	Foreign students															
Argentina[1,2]	m	m	m	m	m	m	2	3	m	m	m	m	m	m	m	m
Brazil	0	0	1	1	2	2	0	0	8	6	20	27	18	22	28	18
China	m	m	m	m	m	m	0	0	m	m	m	m	m	m	m	m
India	m	m	m	m	m	m	0	0	m	m	m	m	m	m	m	m
Indonesia[2]	m	m	m	m	m	m	m	0	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	5	4	m	m	m	m	m	m	m	m
South Africa[2]	m	m	m	m	m	m	4	3	m	m	m	m	m	m	m	m
EU25 total	5	7	9	14	16	23	6	8	11	10	23	22	13	14	32	25
G20 average	m	m	m	m	m	m	5	7	m	m	m	m	m	m	m	m

Note: See under Chapter B4 Tables for StatLink and Box B4.2 for the notes related to this Table.

Table B4.4. Completion rates of students who entered a bachelor's or equivalent programme, by timeframe and social background (latest available year)

Completion rate of full-time students, graduating from any level

		By parents' educational attainment			By immigration status		
		Below upper secondary	Upper secondary or post-secondary non-tertiary	Tertiary	First generation	Second generation	Non-immigrant
		(1)	(2)	(3)	(4)	(5)	(6)
OECD countries		**True cohort - Completed by theoretical duration**					
Australia[1]	2019	45	47	53	m	m	m
Estonia	2017	49	43	42	m	m	m
Finland	2019	55	54	46	47	47	49
France	2017	33	38	40	m	m	m
Iceland	2017	38	35	42	33	18	39
Israel	2019	58	62	63	51	63	63
Netherlands	2016	24	31	30	20	17	31
Norway	2017	40	49	51	34	39	51
Portugal	2017	39	38	37	m	m	m
Slovenia	2017	30	34	45	24	27	38
Sweden[2]	2017	26	34	33	26	26	35
Switzerland	2017	32	45	36	m	m	m
United Kingdom[1]	2017	m	m	72	m	m	m
United States[2]	2015	37	40	55	52	42	50
Other participants							
Flemish Comm. (Belgium)	2018	20	30	39	m	m	m
OECD countries		**True cohort - Completed by theoretical duration plus three years**					
Australia[1]	2022	61	65	73	m	m	m
Estonia	2020	64	62	66	m	m	m
Finland	2022	71	75	78	69	78	77
France	2020	57	67	75	m	m	m
Iceland	2020	63	64	75	63	64	69
Israel	2022	75	79	83	68	80	81
Netherlands	2019	58	68	76	54	55	73
Norway	2020	66	74	76	63	69	75
Portugal	2020	72	74	75	m	m	m
Slovenia	2020	44	52	65	37	44	57
Sweden[2]	2020	55	63	61	52	55	63
Switzerland	2020	70	82	83	m	m	m
United Kingdom[1]	2020	m	m	87	m	m	m
United States[2]	2017	63	65	83	82	74	77
Other participants							
Flemish Comm. (Belgium)	2021	49	65	78	m	m	m

Note: See under Chapter B4 Tables for StatLink and Box B4.2 for the notes related to this Table.

Box B4.2. Notes for Chapter B4 Tables

Here you will find all the notes and footnotes corresponding to the tables. For the time being, please refer to the Excel file with the tables and charts for detailed information**.**

Table B4.1 Distribution of graduates in each level of tertiary education, by type of institution (2013 and 2022)

1. Short-cycle tertiary data refer to the Flemish Community of Belgium only.
2. Year of reference differs from 2013: 2015 for Bulgaria and Costa Rica.
3. From 2020, inclusion of the advanced vocational training programmes which are predominantly private training providers..

Table B4.2 Share of female entrants and distribution of female and male new entrants into tertiary education, by selected field of study (2015 and 2022)

1. Year of reference differs from 2022: 2021 for Canada.
2. Year of reference differs from 2015: 2016 for France and Italy; and 2017 for Costa Rica.
3. All fields of study include the field of information and communication technologies.
4. Data refer to the distribution of new entrants into bachelor's programmes rather than all tertiary programmes.

Table B4.3 Share of international or foreign students by level of tertiary education and distribution of tertiary students by selected fields of study and mobility status (2013 and 2022)

1. Year of reference differs from 2013: 2015 for Croatia, Greece and Romania; and 2016 for Argentina and Colombia.
2. Year of reference differs from 2022: 2021 for Argentina and South Africa; and 2018 for Indonesia.

Table B4.4 Completion rates of students who entered a bachelor's (or equivalent) programme, by timeframe and social background (latest available year)

1. Data on bachelor's and equivalent programmes refer only to those with a theoretical duration of three, four or five years in Australia. Only bachelor's programmes with a theoretical duration of three or four years are included for the United Kingdom.
2. Timeframes of reference differ. Data are provided for the theoretical duration of the programme plus two years in the United States (not three years). Data are provided for the theoretical duration of the programme plus one semester (not the theoretical duration) in Sweden.

See Definitions and Methodology sections and Education at a Glance 2024 Sources Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en) for more information.

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

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

Part C. Financial resources invested in education

Introduction

Educational expenditure indicators reveal how much is spent on education, where the resources come from and how they are directed to educational institutions. This introduction describes the framework that underpins the indicators presented in the following chapters and sets out the accounting principle used to calculate expenditure data.

The framework for comparative indicators on educational expenditure

The framework that underpins the education finance indicators contained in Part C is built around three dimensions:

- **The location of service providers (within or outside of educational institutions)**. This dimension distinguishes between the spending that occurs in educational institutions and spending that takes place outside them. In this context, educational institutions include both teaching institutions (e.g. schools and universities) and non-teaching institutions, such as education ministries and other agencies directly involved in providing and supporting education. Spending outside educational institutions covers items such as books and computers purchased outside institutions, fees for private tutoring, student living costs and the cost of student transport not provided by educational institutions.
- **The type of goods and services (core or peripheral goods and services)**. This dimension allows spending on core educational purposes to be differentiated from other education-related expenditures. Core educational goods and services include expenditure directly related to instruction and education. This includes all expenditure on teachers, maintenance of school buildings, teaching materials, books, tuition outside schools and the administration of schools. Other education-related expenditure refers to other expenditure in the context of education. For example, educational institutions may offer ancillary services, such as meals, transport and housing. At tertiary level, spending on research and development can be significant.
- **The source of funds that finance the provision or purchase of these goods and services (government, private or international sources).** The framework distinguishes between three sources of funds. Government expenditure refers to spending by public authorities (i.e. central, regional and local governments). Private expenditure refers to spending by households and other private entities (e.g. companies). International funds consist of funds from public multilateral organisations for development aid to education. Expenditure by sources of funds can be analysed either before or after transfers between different entities. The term “initial source of funds” refers to the source before transfers (i.e. where the money originates), while “final source of funds” refers to the source after transfers (i.e. where the money is ultimately spent on education). Transfers may take different forms. For example, public transfers to private entities include public subsidies to households (e.g. scholarships and grants) and public subsidies to other private entities (e.g. subsidies to private companies that provide apprenticeships). Intergovernmental transfers of funds refer to transfers between different levels of government.

The table below depicts how these three dimensions intersect in practice, with some examples of types of expenditure. The first dimension (location of spending) is represented by the horizontal axis. The second dimension (types of goods and services) is represented by the vertical axis. The third dimension (sources of funding) is represented by the colours in the cells. Funds from the public sector and international agencies are indicated by light blue, and private funds 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

Types of goods and services		Location of service providers: Spending on educational institutions (e.g. schools, universities, educational administration and student welfare services)	Location of service providers: Spending on education outside educational institutions (e.g. private purchases of educational goods and services, including private tutoring)
Spending on core educational goods and services		Public and international funds *e.g. public spending on instructional services in educational institutions*	Publicly subsidised private funds *e.g. subsidised private spending on books, materials or fees for private tutoring*
		Publicly subsidised private funds *e.g. subsidised private spending on instructional services in educational institutions*	Private funds *e.g. private spending on books and other school materials or private tutoring*
		Private funds *e.g. private spending on tuition fees*	
Educational peripheral goods and services	**Spending on research and development**	Public and international funds *e.g. public spending on university research*	
		Private funds *e.g. funds from private industry for research and development in educational institutions*	
	Spending on educational services other than instruction	Public and international funds *e.g. public spending on ancillary services such as meals, transport to schools, or housing on the campus*	Publicly subsidised private funds *e.g. subsidised private spending on student living costs or reduced prices for transport*
		Publicly subsidised private funds *e.g. public subsidies for lodging, meals, health other than services, or other welfare services furnished to instruction students by the educational institutions*	
		Private funds e.g. private spending on fees for ancillary services	Private funds e.g. private spending on student living costs or transport

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. Therefore expenditure (both capital and current) is recorded in the year in which the payments occurred. In particular:

- 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 start 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 to arrive at a more internationally comparable cost of employing the personnel.

Chapter C1. How much is spent per student on educational institutions?

Highlights

- Expenditure per student increases with the educational level in nearly all OECD countries, although by how much varies substantially among countries. On average, expenditure per student amounts to about USD 11 900 at primary level, USD 13 300 at secondary level and USD 20 500 at tertiary level.
- Increasing expenditure per student typically correlates with improved outcomes, but only up to a point after which additional investment shows little impact on performance. For instance, Japanese 15-year-olds' mathematics scores are higher than those of their US peers, even though Japan spends about 30% less per student aged 6 to 15 than the United States.
- National averages sometimes hide substantial variation in spending within countries. In Canada, the highest-spending region records double the expenditure per student at primary and secondary level of the lowest-spending region, while in the United States it is three times the amount. Belgium and Lithuania have few regions and small differences by region in expenditure per student at primary and secondary education.

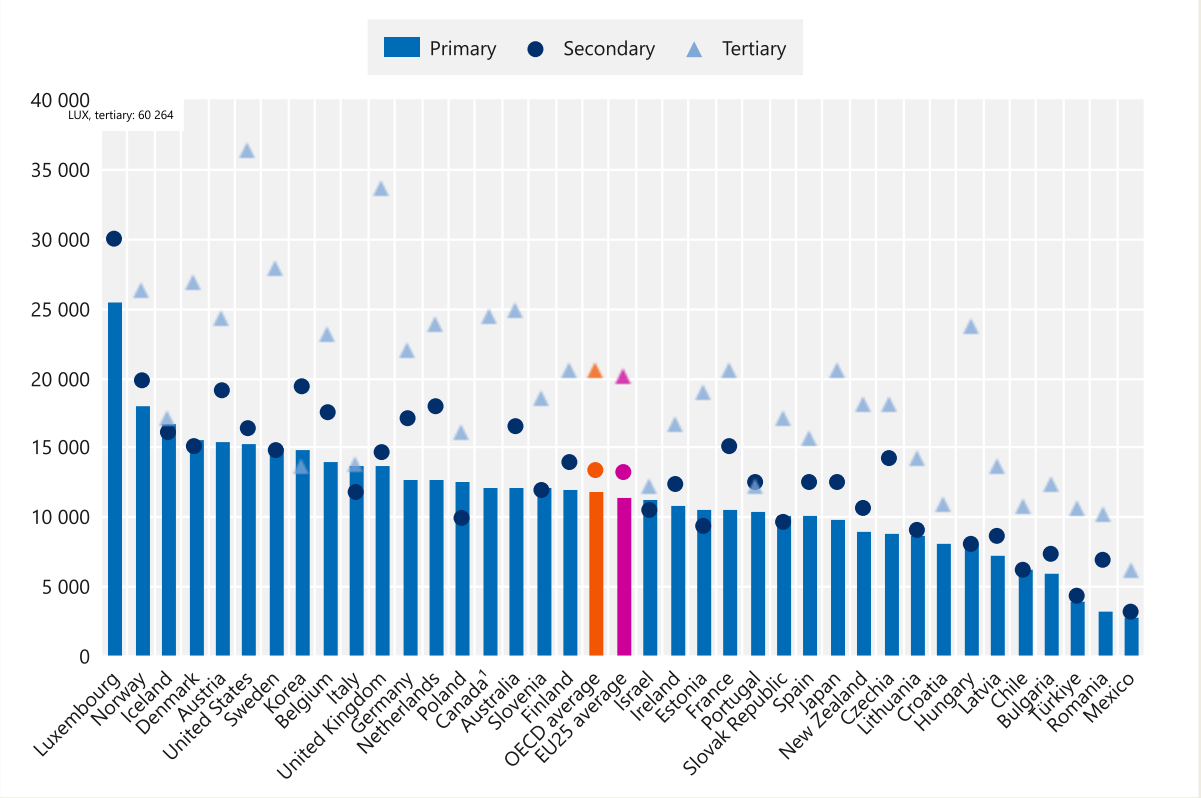
Context

Education finance plays an important role in ensuring equitable access to high-quality education and analysing the expenditure dynamics is crucial to understand the challenges of achieving equity in education while maintaining quality. Meeting the policy goals of expanding access to educational opportunities and providing high-quality education can mean higher costs which must be balanced against other demands on public expenditure and the overall tax burden. As a result, understanding the impact of different spending approaches is crucial in determining where investments can achieve the best outcomes. 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 chapter first looks at expenditure per student at different levels of education. It then looks at spending per student on core services (e.g. teachers' salaries – see Chapter D3), ancillary services (e.g. meals, residence halls and healthcare) and, in the case of tertiary education, research and development. This is followed by an analysis of recent trends in spending per student and data on subnational variations in spending. Finally, this chapter also explores the relationship between expenditure and learning outcomes by combining data from the 2022 Programme for International Student Assessment (PISA) and cumulative expenditure on students from the ages of 6 to 15.

Figure C1.1. Total expenditure per full-time equivalent student in primary, secondary and tertiary education (2021)

In equivalent USD converted using PPPs, expenditure on educational institutions



Note: Expenditure at tertiary level includes R&D.

1. Primary education includes pre-primary and lower secondary programmes.

Countries are ranked in descending order of the total expenditure per full-time equivalent student in primary education.

See Table C1.1. for data and under Chapter C1 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Other findings

- The average annual spending per student from primary to tertiary education in OECD countries is around USD 14 200, ranging from around USD 3 500 in Mexico to over USD 30 100 in Luxembourg.
- Appropriately dividing government spending between core services (such as teaching costs), ancillary services (such as canteen services), and research and development (R&D) can be challenging. On average across OECD countries, expenditure on core education services represents 86% of total expenditure per student from primary to tertiary educational institutions.
- In Denmark and Sweden, more than half of the expenditure at tertiary level is dedicated to R&D, well above the OECD average. Across OECD countries, 65% of total expenditure on educational institutions at tertiary level goes to core services (about USD 14 100 per student), while over 30% of total expenditure goes to R&D (about USD 7 000 per student).
- More is spent per child on early childhood education for 0-2-year-olds than for pre-primary programmes, which cater to children over 2. This gap, partly driven by differing child-adult ratios, is particularly pronounced in Denmark, Finland, and Romania, where spending per child is about

two to three times higher for programmes aimed at children aged 0 to 2 than for pre-primary programmes.

Analysis

Overall expenditure per student on educational institutions

In 2021, the annual spending per student from primary to tertiary education in OECD countries was around USD 14 000 on average. But this average masks a wide range, from around USD 3 500 per student in Mexico to over USD 30 000 in Luxembourg (Table C1.1)The drivers behind these spending levels 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 Chapter D3) are reflected in high levels of expenditure per student. In contrast, Mexico has one of the highest ratios of students to teaching staff, which tends to drive costs down (see Indicator D7 in (OECD, 2023[1])). Differences can also be attributed to differences in gross domestic product (GDP) per capita, which are reflected in different teacher salaries and other costs, with GDP per capita in Mexico and Luxembourg at the opposite ends of the scale for OECD countries (see Annex 2).

Expenditure per student on educational institutions by level of education

The distribution of expenditure at different levels of education reflects the relative costs of education provision. Expenditure per student on educational institutions rises with the level of education in almost all countries, but by how much varies markedly. On average across OECD countries, expenditure per full-time equivalent student is around USD 11 900 at primary level, USD 13 300 at secondary level and USD 20 500 at tertiary level (Figure C1.1.). In pre-primary education, expenditure per child, rather than per full-time equivalent student, is around USD 11 700 (Box C1.3.).

Primary and secondary education take place in settings with generally similar organisations (with the exception of vocational programmes) and similar patterns of expenditure per student. In contrast, at tertiary level, higher salaries, the specialised resources needed such as advanced laboratory equipment and the investment in R&D contribute to the comparatively higher expenditure per student.

Among OECD countries, Italy and Korea stand out as the only countries where expenditure per student is higher at primary level than tertiary level (Table C1.1). In Italy, expenditure per student has increased faster at primary than tertiary level in recent years, to the point where expenditure per student at primary exceeded that at tertiary level. This is partly due to the integration of students with special educational needs, supported by the implementation of a law in 2020 providing a noticeable increase of teachers for special need students at primary level.

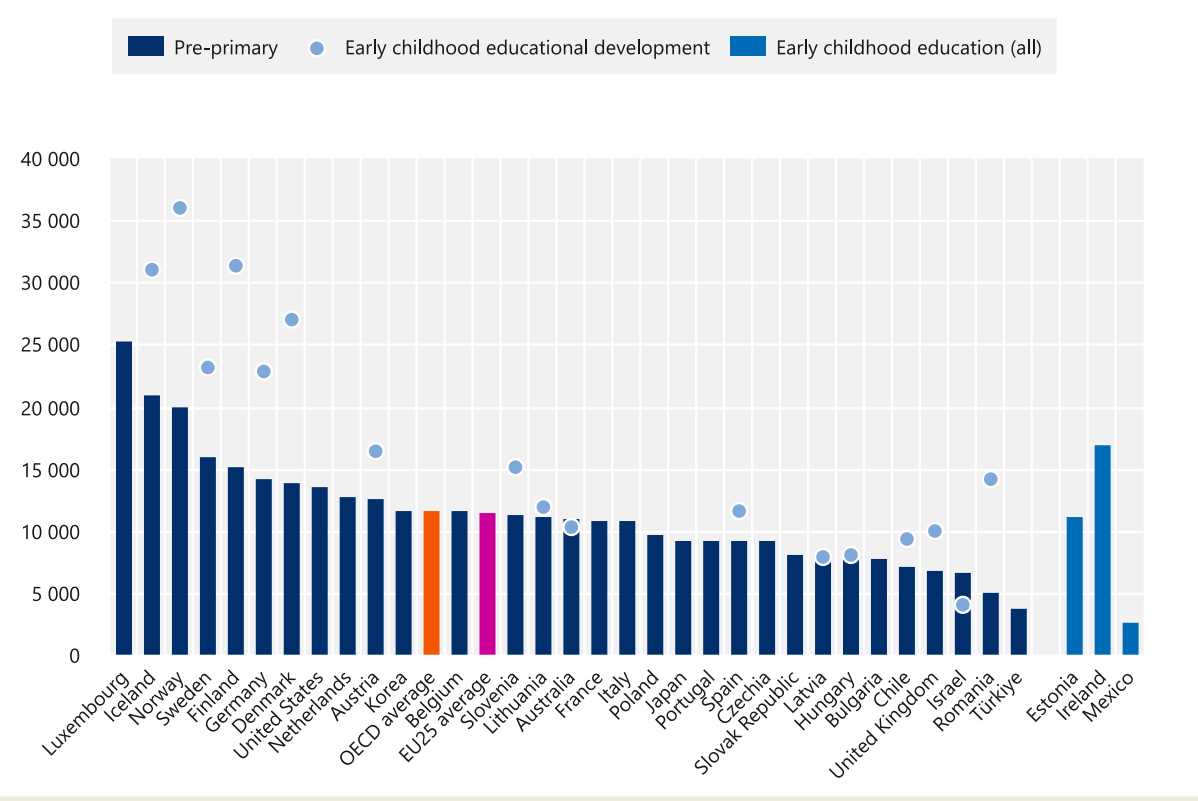
In contrast, in Hungary, Luxembourg, Romania, Türkiye, and the United Kingdom, expenditure per tertiary student is at least 2.4 times higher than it is for each primary student. In Luxembourg, where expenditure per student is the highest, the difference between the two levels is about USD 34 700, but it falls to about USD 9 900 when excluding R&D. In Denmark, Finland, Norway and Sweden, expenditure per student at tertiary level is lower than at primary level when R&D is excluded. While this is typical of Nordic countries, this is also true in a few other OECD countries where a substantial share of tertiary expenditure is dedicated to R&D (Table C1.1).

Box C1.3. Investing in early years

There is extensive research evidence showing that high-quality early childhood education and care brings both short- and long-term benefits, in terms of learning, well-being and subsequent educational, social and employment outcomes (Currie and Almond, 2011[2]; Taggart et al., 2015[3]; Van Huizen and Plantenga, 2018[4]; Heckman and Karapakula, 2019[5]). Yet, children from socio-economically disadvantaged families are less likely to participate in early childhood education and care (ECEC) and receive high quality care (see Chapter B1). Investing in ECEC is particularly important to address sources of inequality and promote intergenerational mobility. Complementing data on participation in early childhood education in Chapter B1, Figure C1.2 shows how much is spent per child in such programmes across OECD countries.

Figure C1.2. Expenditure per child in early childhood education (2021)

In equivalent USD converted using PPPs, expenditure on educational institutions



Note: Expenditure per child is based on headcounts rather than full-time equivalent students. Countries on the right side of the chart do not have data disaggregated by pre-primary and early childhood educational development programmes available.
Countries are ranked in descending order of the total expenditure per child in pre-primary education.
See Table C1.1 for data and under Chapter C1 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Figure C1.2. shows that, among countries with data available, expenditure ranges from less than half of the OECD average of about USD 11 700 per child in pre-primary education to more than twice that figure. In Denmark, Finland and Romania, there is a substantial difference between early childhood educational development and pre-primary programmes, while in Australia, Chile, and Lithuania spending per child is

similar. Countries with above-average pre-primary spending per child also tend to be the ones with a wider gap between the two levels.

The financing of ECEC education programmes reflects – and may influence – quality of staffing, minimum space requirements, pedagogy and other process quality measures (Edwards, 2021[6]). Taking staffing as an example, higher minimum qualifications for teachers often raise staff compensation. Child-adult ratios can often be associated with the quality of care, but they also are determined by needs at different age levels (see Table D2.1.); this is reflected in the higher spending per child in early childhood education development compared to pre-primary for many countries.

The data in Figure C1.2 refer to expenditure per child, rather than per full-time equivalent student (which is the standard measure used in this chapter for primary to tertiary education). This means that a child who spends eight hours a day in ECEC and one that spends four hours a day will both count as one child (if they were in primary education, the first would count as one full-time equivalent, the second as 0.5). It is therefore important to acknowledge the wide differences in ECEC hours across countries. For 0-2 year-olds, average hours can range from 20 to 40 hours per week (OECD, 2023[7]). For 4-6 year-olds, data from 13 OECD countries show that minimum compulsory ECEC hours range from 500 to 1 300 hours per year (OECD, 2022[8]).

From an equity perspective, three factors can influence the intensity of participation and expenditure on ECEC, involving both households and governments. First, policies that support parents in the labour market (e.g. parental leave, job protection laws) may help them return to work after childbirth and encourage participation in ECEC, as happened in the United States after the passage of maternal leave packages (Hofferth and Curtin, 2003[9]). Second, high childcare costs can discourage participation in ECEC, especially among low-earning parents. This was found to be the case in Ireland and Germany (ESRI, 2018[10]; Hermesa et al., 2022[11]); research in multiple European countries has shown that subsidies would help families to rely on ECEC and return to work (Narazani et al., 2022[12]). Lastly, a country's culture may affect the role of informal provision (e.g. family members looking after children, even when parents could afford formal childcare) and affect spending on ECEC.

Expenditure per student on different types of services

Spending on education can be split between core services, ancillary services and R&D, each playing a different role in ensuring desirable learning outcomes and addressing potential inequalities. Resources allocated to ancillary services such as meals, transportation and accommodation play an important role in allowing students to pursue their education in the right conditions. Ensuring equitable access to these services is essential for addressing disparities in educational outcomes among different student populations. Meanwhile, spending on R&D plays a vital role in fostering innovation and driving economic growth.

Core services encompasses essential components directly related to instruction and account for most of the expenditure. On average across OECD countries, expenditure on core education services represents 86% of total expenditure per student from primary to tertiary educational institutions and it exceeds 90% in Chile, Israel, Latvia and Romania. At primary and secondary levels, among OECD countries with data available, on average about 94% of the expenditure on educational institutions is devoted to core educational services (equivalent to about USD 11 900 per student at primary level and USD 13 400 at secondary level). However, in Finland, France, Hungary, the Slovak Republic and the United Kingdom, ancillary services account for 10% or slightly more of the expenditure on educational institutions (Table C1.2).

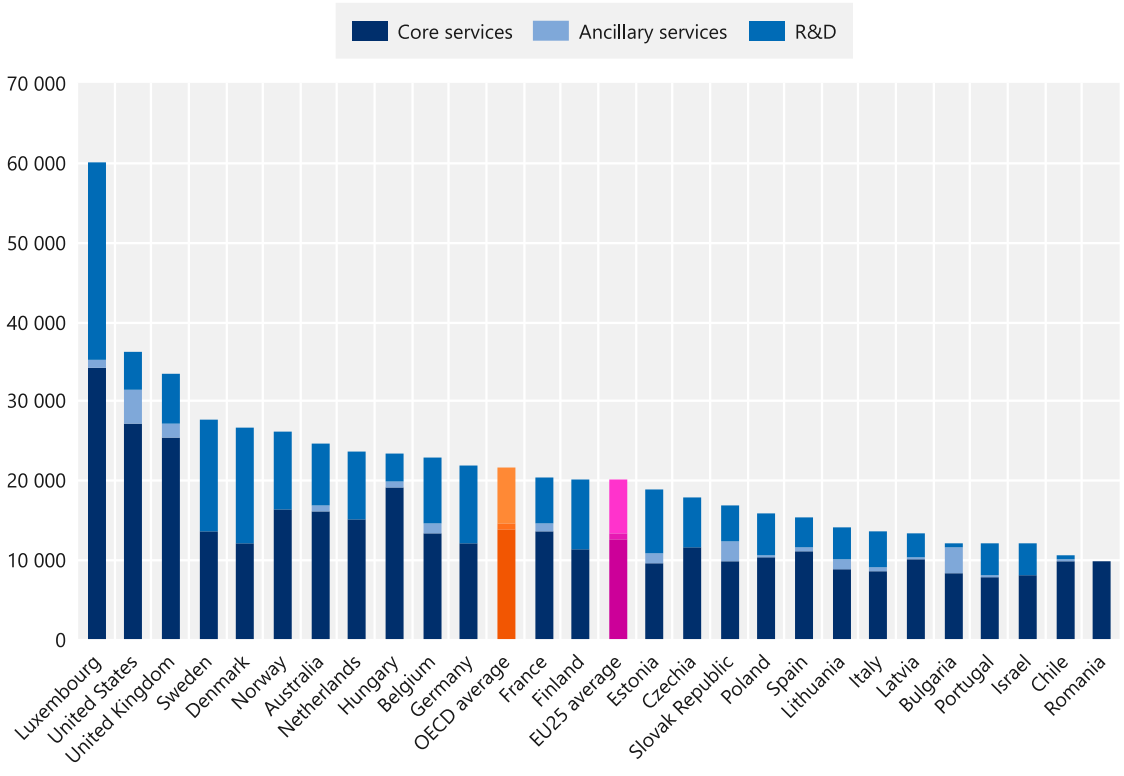
At tertiary levels R&D expenditure can be substantial, reducing the share dedicated to core services (Figure C1.3). On average across OECD countries, 65% of total expenditure on tertiary educational

institutions goes to core services (about USD 14 100 per student), while over 30% is on R&D (about USD 7 000 per student). More than half of the expenditure at tertiary education is dedicated to R&D in Denmark (equivalent to about USD 14 500 per student) and Sweden (USD 14 100). This might be explained by the essential R&D role universities play in these countries, while in others more R&D may be conducted outside educational institutions.

Expenditure per student in tertiary education is below average in Bulgaria, Chile and Romania. These countries also stand out by their very low spending on R&D in tertiary education. Spending on R&D represents only 4% of expenditure on tertiary institutions in Chile (USD 421 per student) and Bulgaria (USD 531 per student), and less than 1% in Romania, where it amounts to just USD 29 per student (Table C1.2). The historical development and structure of higher education systems in these countries may not have prioritised R&D activities within tertiary education institutions. For example, Bulgaria and Romania both inherited the Soviet model of the organisation of the science system, where the main institutional bodies were industrial research institutes, leaving public higher education institutions with very weak R&D (Radosevic and Auriol, 1999[13]; European Commission, 2021[14]).

Figure C1.3. Expenditure on core services, ancillary services and R&D per full-time equivalent tertiary student (2021)

In equivalent USD converted using PPPs, expenditure on educational institutions



Countries are ranked in descending order of the total expenditure per full-time equivalent student in tertiary education.
See Table C1.2. for data and under Chapter C1 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

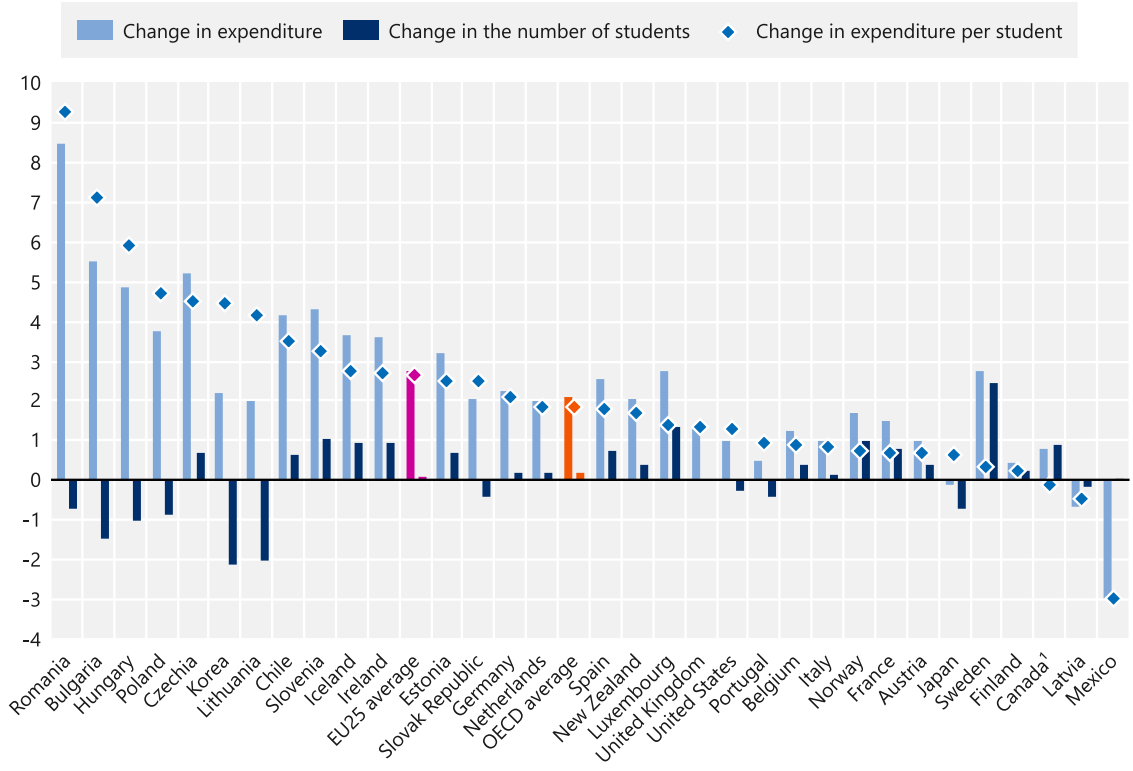
Trends in expenditure on education and student population

Changes in spending on educational institutions primarily mirror fluctuations in the size of the school-age population (especially at primary and lower secondary levels, where enrolment is near universal) and the allocation of funds towards teachers' salaries, which constitute a key component of education expenditure.

On average across OECD countries, the total expenditure on primary to tertiary educational institutions per full-time equivalent student increased by 1.8% between 2015 and 2021. This was the result of a slight increase in expenditure (2.1%) and nearly stable numbers of students (a 0.2% increase in the number of full-time-equivalent students). However, the average hides cross-country variation in both student numbers and expenditure. While most countries experienced moderate growth in both students and overall expenditure, some have seen a decline in student enrolment accompanied by moderate to high growth in expenditure. For example, in Bulgaria, Hungary, Poland and Romania this resulted in high growth in expenditure per student, ranging from 5% to 9% (Figure C1.4).

Figure C1.4 Average annual change in the number of students, expenditure on primary to tertiary educational institutions and expenditure per student (2015 to 2021)

In per cent, based on full-time equivalent students, constant prices



1. Primary education includes pre-primary programmes.

Countries are ranked in descending order of the average annual change in total expenditure on primary to tertiary educational institutions per full-time equivalent student.

See Table C1.2 for data and under Chapter C1 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Provisional data on education expenditure in 2022 are available for a small number of countries. After accounting for inflation, expenditure on primary to tertiary educational institution per student fell between

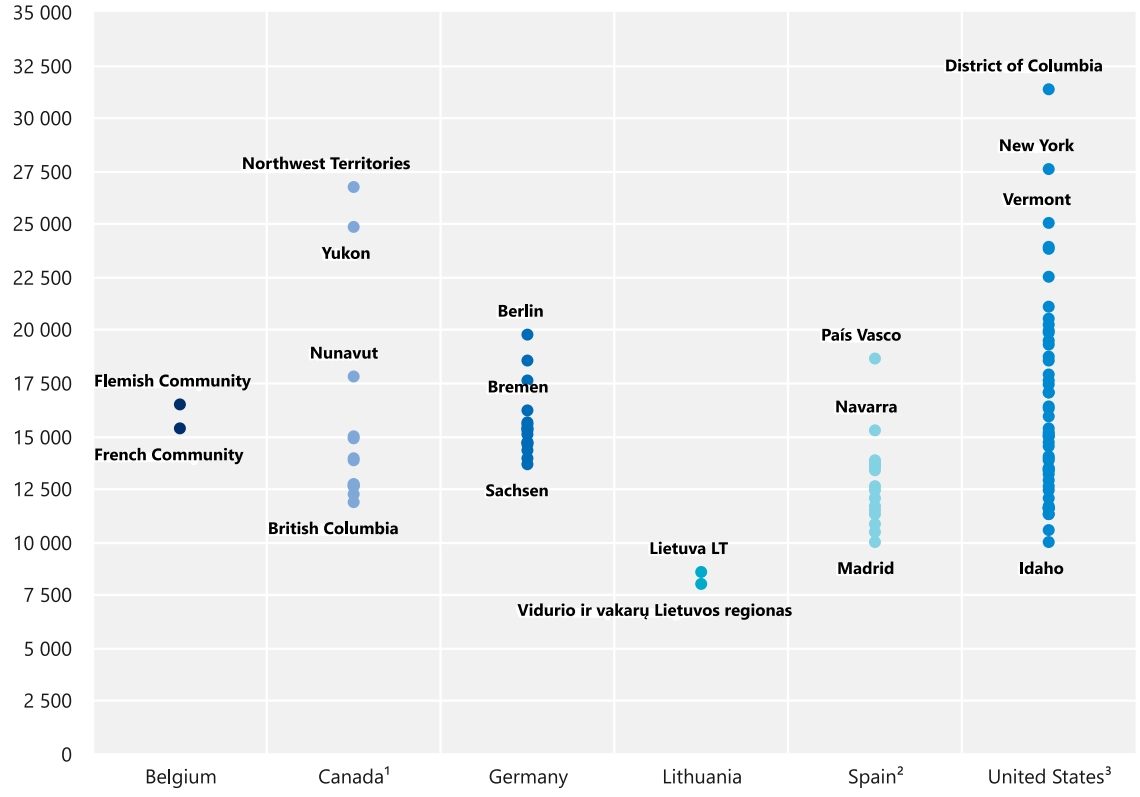
2021 and 2022 in Germany, Lithuania, New Zealand, Slovenia and Spain. The difference was the largest in Lithuania and Spain where both countries observed a decrease of 3% (Table C1.4, available online).

Subnational variations in expenditure per student in primary and secondary education

In some countries, subnational governments play an important, sometimes even a leading, role in financing education (see Chapter C4). Geographical disparities in economic activity mean that regions and municipalities may have varying levels of capacity to raise resources for education. This may be balanced by funding from central governments (e.g. a funding formula might allocate more resources to poorer areas). But there are many other potential factors at play; for example rural areas with smaller classes will have higher spending per student, all other things being equal. The combination of such factors can lead to substantial within-country variation in expenditure per student. Examining regional expenditure per student can help identify potential sources of inequality within countries. It also enables cross-country comparisons – a region that ranks highly within its own country may still lag behind internationally.

Figure C1.5. Regional variation in expenditure on educational institutions per full-time equivalent student (2021)

Primary and secondary education, in equivalent USD converted using PPPs



1. Education finance data for Canada are calendarised, but not for subnational data.
2. Data refer to public expenditure on non-university education per student in public institutions. Only public expenditure is reported, implying that private expenditure in public institutions is not covered.
3. Data refer to public institutions only. ISCED 02 is included in the ISCED 1-3 total for both spending and enrolment counts. Total expenditure includes current expenditure and capital outlays.
Countries are listed in alphabetical order.
See Chapter C1 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Figure C1.6Figure C1.5 shows that regional disparities in expenditure vary greatly across countries, especially among countries with highly decentralised education funding systems and many regions. For example, very little funding originates from central government for primary education in Germany (3%), Canada (5%), Spain (9%) and the United States (12%) (see Figure C4.2.). But regional variation is greater in Canada and the United States than in Germany or Spain. In Canada, the region with the highest expenditure per student is double that of the lowest region while in the United States, it is three times higher. In Germany the federal state with highest per-student expenditure spends 1.5 as much as the one with the lowest spending. Belgium and Lithuania, each with only two regions with data, have minimal differences in expenditure per student.

The data also show that two capital cities, Madrid and Berlin, are at opposite ends of the spectrum within their own national expenditure contexts. The absence of a clear expenditure pattern regarding capital cities underscores the decentralised nature of education governance and funding structures within countries (see Chapter C4). Although capital cities often serve as administrative and political centres, their expenditure per student is shaped by a wide range of factors.

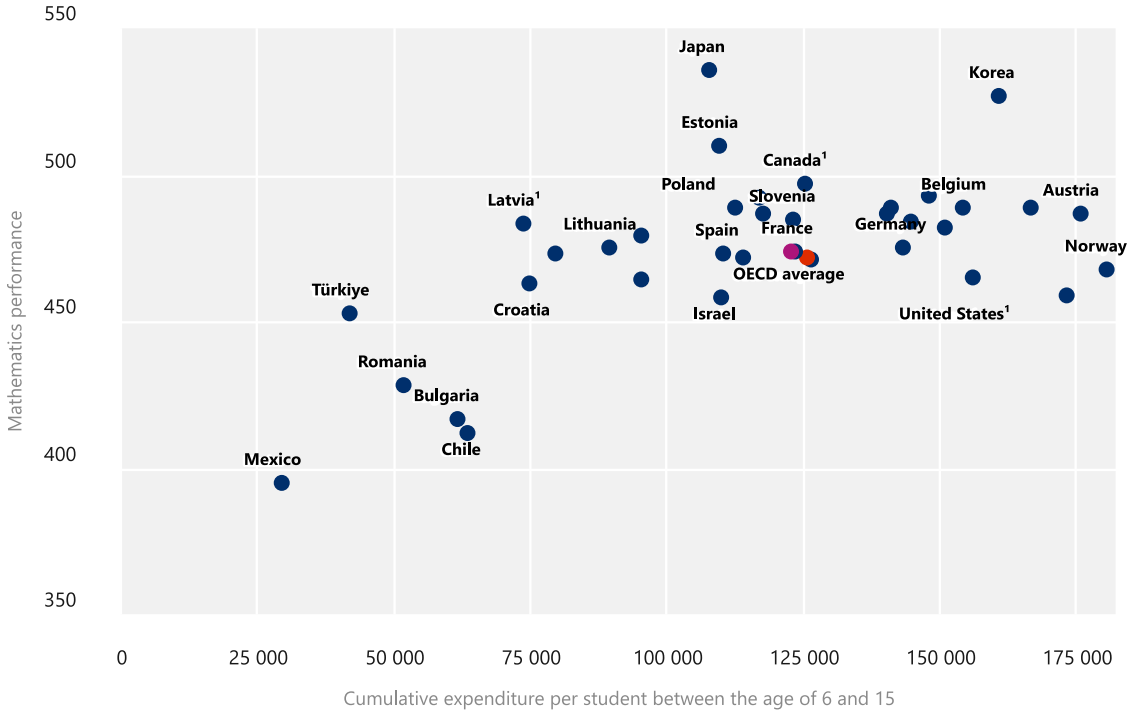
PISA performance and expenditure on education

Figure C1.6 shows the association between average student performance in PISA and cumulative expenditure per student between the ages of 6 and 15. Increasing expenditure per student typically correlates with improved outcomes, up to a certain threshold. Specifically, there is a positive association between cumulative expenditure and average performance until the threshold of about USD 100 000 per student from ages 6 to 15 is reached. Beyond this point, additional investment shows little to no discernible relationship with student performance.

For example, the cumulative expenditure per student between ages 6 to 15 is over USD 150 000 in the United States. Yet, the mathematics scores of 15-year-old students in Japan are higher, even though Japan spends about 30% less. This shows that increasing financial resources for schools alone may not address all educational challenges. Rather, the key lies in the strategic allocation of funds supporting quality education (Table C1.5, available online).

Figure C1.6. Cumulative expenditure per student between the age of 6 and 15 (2021) and mean mathematics performance in PISA (2022)

In equivalent USD converted using PPPs, expenditure on educational institutions



1. Caution is required when interpreting estimates of performance because one or more PISA sampling standards were not met (see PISA Reader's Guide, Annexes A2 and A4).
See Table C1.5. available online for data and under Chapter C1 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en)

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 child on educational institutions for early childhood education development and pre-primary levels is calculated by dividing total expenditure on educational institutions at that level by the corresponding sum of full-time and part-time enrolment, resulting in total expenditure on educational institutions per head count as opposed to per full-time equivalent student. Expenditure per student on educational institutions at a particular level of education (primary to tertiary) 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.

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[15]) for more information and *Education at a Glance 2024 Sources, Methodologies and Technical Notes*, for country-specific notes.

Source

Data refer to the financial year 2021 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2023 (for details see *Education at a Glance 2024 Sources, Methodologies and Technical Notes*. Data from Argentina, China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

Provisional data on educational expenditure in 2022 are based on an ad-hoc data collection administered by the OECD and Eurostat in 2023.

Data from Table X2.2. are used to compute expenditure in constant 2015 prices and in equivalent USD converted using PPPs.

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Chapter C1 Tables

Tables Chapter C1. How much is spent per student on educational institutions?

StatLink https://stat.link/left9y

Cut-off date for the data: 14 June 2024. Any updates on data and more breakdowns can be found on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

Table C1.1. Total expenditure on educational institutions per student (2021)

In equivalent USD converted using PPPs for GDP, direct expenditure within educational institutions, by level of education

	Early childhood education					Secondary					
							Upper secondary				
OECD countries	Early childhood educational development (ISCED 01)	Pre-primary (ISCED 02)	All ECE (ISCED 0)	Ages 3 to 5	Primary	Lower secondary	General programmes	Vocational programmes	All programmes	All secondary	Post-secondary non-tertiary
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Australia	10 341	11 069	10 770	11 397	12 191	16 808	17 165	12 851	15 942	16 498	9 486
Austria	16 448	12 692	13 406	12 902	15 415	18 815	16 786	21 087	19 344	19 049	4 241
Belgium	m	11 714	m	m	13 987	17 811	16 190 d	18 357 d	17 371 d	17 525 d	x(7,8,9,10)
Canada [1]	m	x(5)	m	m	12 229 d	x(5)	x(9)	x(9)	15 208	m	m
Chile	9 265	7 256	7 673	7 318	6 347	6 957	5 252	8 132	5 721	6 143	a
Colombia	m	m	m	m	m	m	m	m	m	m	m
Costa Rica	m	m	m	m	m	m	m	m	m	m	a
Czechia	a	9 258	9 258	9 258	8 838	15 060	12 154	13 549	13 144	14 160	2 342
Denmark	26 992	13 989	18 660	14 099	15 598	19 110	8 037	17 143	11 684	15 067	a
Estonia	x(3)	x(3)	11 223	11 223	10 642	11 443	5 710	9 458	7 275	9 314	10 601
Finland	31 372	15 317	18 357	m	12 067	19 003	10 975	11 439 d	11 300 d	13 961 d	x(8,9,10)
France	a	11 001	11 001	11 001	10 554	13 228	16 465	20 005	17 698	15 112	12 634
Germany [2]	22 762	14 358	16 578	14 356	12 829	15 312	16 694	23 761 d	20 216 d	17 077	15 801
Greece	m	m	m	m	m	m	m	m	m	m	m
Hungary	8 083	7 930	7 937	7 931	8 154	7 515	8 024	8 862	8 455	7 981	9 218
Iceland	31 064	21 037	24 548	21 034	16 786	18 513	12 367	19 169	14 177	16 068	18 163
Ireland	x(3)	x(3)	16 978	14 486	10 959	13 186	x(9)	x(9)	11 598	12 390	30 714
Israel	4 048	6 799	5 864	6 806	11 327	x(9)	x(9)	x(9)	10 464 d	10 464	644
Italy	a	10 912	10 912	10 985	13 799	10 965	x(9)	x(9)	12 201 d	11 739 d	x(9,10)
Japan [3]	a	9 368	9 368	9 368	9 928	11 585	x(9)	x(9)	13 292 d	12 444 d	x(9,10,13,14,15)
Korea	m	11 792	m	11 795	14 873	16 337	x(9)	x(9)	22 383	19 299	a
Latvia	7 946	7 946	7 946	7 946	7 248	7 394	8 716	11 149	9 737	8 536	11 807
Lithuania	11 838	11 223	11 339	11 223	8 716	8 702	8 969	13 351	10 128	9 074	15 377
Luxembourg	a	25 327	25 327	25 332	25 584	30 775	28 871	29 417	29 200	29 940	4 908
Mexico	m	m	2 804	2 819	2 933	2 656	3 397	4 618	3 829	3 130	a
Netherlands	a	12 871	12 871	12 871	12 817	17 651	15 537	19 463	18 159	17 909	a
New Zealand	m	m	m	m	8 967	9 750	12 316	9 699	11 630	10 574	9 253
Norway	36 007	20 004	25 769	20 004	18 037	18 037	19 327	23 087	21 286	19 831	25 293
Poland	a	9 729	9 729	9 729	12 661	10 834	8 060	9 557	8 903	9 887	5 702
Portugal	m	9 314	m	m	10 469	13 066	x(9)	x(9)	12 016 d	12 511 d	x(9,10)
Slovak Republic	a	8 120	8 120	8 121	10 223	8 693	9 555	11 493	10 856	9 555	10 743
Slovenia	15 035	11 479	12 572	11 479	12 170	13 000	11 183	10 805	10 928	11 831	a
Spain	11 532	9 288	9 848	9 289	10 181	12 043	11 619	16 117 d	13 041 d	12 541 d	x(8,9,10)
Sweden	23 181	16 069	17 912	16 069	15 037	14 869	12 885	17 829	14 770	14 814	8 983
Switzerland	a	m	m	m	m	m	x(9)	x(9)	21 610 d	m	x(9)
Türkiye	m	3 930	m	3 932	4 038	4 194	3 424	6 308	4 401	4 305	a
United Kingdom	9 937	6 893	7 462	9 133	13 797	13 655	16 116	14 080	15 531	14 664	a
United States	m	13 623	m	m	15 270	15 934	16 683	a	16 683	16 301	15 332
OECD average	m	11 735	12 749	11 497	11 902	13 528	12 314	14 646	13 719	13 324	m
Partner and/or accession countries											
Argentina	m	m	m	m	m	m	m	m	m	m	m
Brazil	m	m	m	m	m	m	m	m	m	m	m
Bulgaria	a	7 921	7 921	7 921	5 976	7 972	6 001	7 640	6 834	7 314	24 124
China	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	8 753	8 753	8 199 d	x(5)	x(9)	x(9)	9 174	m	a
India	m	m	m	m	m	m	m	m	m	m	m
Indonesia	m	m	m	m	m	m	m	m	m	m	m
Peru	m	m	m	m	m	m	m	m	m	m	m
Romania	14 183	5 201	5 521	5 258	3 346	7 057	7 403	6 202	6 710	6 885	2 310
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m
South Africa	m	m	m	m	m	m	m	m	m	m	m
EU25 average	m	11 508	12 371	11 440	11 478	13 631	11 992	14 834	12 947	13 225	11 300
G20 average	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter C1 Tables for StatLink and Box C1.2. for the notes related to this Table.

	Primary, secondary and post-secondary non-tertiary	Tertiary				Primary to tertiary	Primary to tertiary (excluding R&D)
		Short-cycle tertiary	Bachelor's, master's and doctoral or equivalent	All tertiary (including R&D)	All tertiary (excluding R&D)		
OECD countries	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Australia	14 055	11 834	27 941	24 837	17 094	16 285	14 683
Austria	17 472	20 953	24 773	24 206	15 070	19 542	16 734
Belgium	15 967	16 749	23 311	23 027	14 699	17 410	15 708
Canada[1]	13 162	18 716	27 596	24 406	m	15 974[d]	m
Chile	6 243	5 358	12 463	10 718	10 297	7 544	7 421
Colombia	m	m	m	m	m	m	m
Costa Rica	m	x(15)	x(15)	15 868	m	m	m
Czechia	12 010	30 527	18 034	18 074	11 797	13 136	11 970
Denmark	15 308	15 376	28 188	26 781	12 245	17 964	14 599
Estonia	9 978	a	18 967	18 967	11 014	11 708	10 178
Finland	13 201	a	20 444	20 444	11 420	14 723	12 827
France	13 219	20 114	20 565	20 458	14 747	14 803	13 553
Germany[2]	15 770	8 447	21 995	21 963	12 395	17 161	15 011
Greece	m	m	m	m	m	m	m
Hungary	8 080	15 079	23 945	23 591	20 159	10 782	10 184
Iceland	16 458	17 019	17 019	17 019	m	16 581	m
Ireland	12 258	x(15)	x(15)	16 700	12 361	13 059	12 273
Israel	10 855	6 400	14 900	12 239	8 284	11 111	10 381
Italy	12 481	4 633	13 825	13 717	9 356	12 760	11 776
Japan[3]	11 218	14 572[d]	22 050[d]	20 518[d]	m	13 323	m
Korea	17 082	7 304	15 059	13 573	10 552	15 858	14 805
Latvia	7 944	12 950	13 692	13 591	10 415	9 151	8 472
Lithuania	9 129	a	14 231	14 231	10 225	10 259	9 372
Luxembourg	27 838	10 043	67 496	60 264	35 485	30 115	28 375
Mexico	3 030	x(15)	x(15)	6 093	5 052	3 513	3 349
Netherlands	15 734	14 462	24 026	23 864	15 211	17 747	15 604
New Zealand	9 827	11 113	19 300	18 082	13 658	11 264	10 494
Norway	18 993	22 302	26 432	26 299	16 607	20 642	18 454
Poland	10 647	3 999	16 111	16 104	10 704	11 729	10 658
Portugal	11 601	5 637	12 572	12 252	8 365	11 752	10 846
Slovak Republic	9 792	10 932	17 208	17 114	12 667	10 963	10 252
Slovenia	11 994	8 907	19 776	18 533	14 921	13 205	12 536
Spain	11 441	11 771	16 751	15 654	11 683	12 426	11 497
Sweden	14 829	6 772	30 395	27 765	13 697	17 107	14 630
Switzerland	m	m	m	m	m	m	m
Türkiye	4 219	x(15)	x(15)	10 657	7 353	5 425	4 806
United Kingdom	14 262	30 044	33 822	33 574	27 234	17 706	16 576
United States	15 799	x(15)	x(15)	36 274	31 610	20 387	19 342
OECD average	12 703	13 408	22 096	20 499	14 077	14 209	12 818
Partner and/or accession countries							
Argentina	m	m	m	m	m	m	m
Brazil	m	m	m	m	m	m	m
Bulgaria	6 858	a	12 305	12 305	11 774	8 018	7 905
China	m	m	m	m	m	m	m
Croatia	8 508	x(15)	x(15)	10 894	m	9 085	m
India	m	m	m	m	m	m	m
Indonesia	m	m	m	m	m	m	m
Peru	m	m	m	m	m	m	m
Romania	5 421	a	10 137	10 137	10 109	6 279	6 274
Saudi Arabia	m	m	m	m	m	m	m
South Africa	m	m	m	m	m	m	m
EU25 average	12 395	12 785	21 307	20 027	13 501	13 787	12 662
G20 average	m	m	m	m	m	m	m

Note: See under Chapter C1 Tables for StatLink and Box C1.2. for the notes related to this Table.

Table C1.2. Total expenditure on educational institutions per student on core educational services, ancillary services and R&D (2021)

In equivalent USD converted using PPPs for GDP, direct expenditure within educational institutions, by level of education

	Primary		Secondary									
			Lower secondary		Upper secondary						All secondary	
					General programmes		Vocational programmes		All programmes			
	Core services	Ancillary services	Core services	Ancillary services	Core services	Ancillary services	Core services	Ancillary services	Core services	Ancillary services	Core services	Ancillary services
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Australia	12 115	75	16 587	220	16 927	238	12 714	137	15 733	209	16 281	216
Austria	14 656	759	17 980	835	15 922	864	19 779	1 308	18 216	1 128	18 084	965
Belgium	13 228	759	17 124	687	15 737[d]	453[d]	17 806[d]	551[d]	16 864[d]	507[d]	16 956[d]	570[d]
Canada[1]	11 699[d]	530[d]	x(1)	x(2)	x(9)	x(10)	x(9)	x(10)	14 548	660	m	m
Chile	5 759	588	6 068	889	5 195	57	7 940	192	5 643	79	5 788	355
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
Czechia	8 342	496	14 230	830	11 420	734	12 624	926	12 274	870	13 311	849
Denmark	15 564	34	18 553	557	8 006	32	17 139	4	11 663	20	14 802	265
Estonia	10 546	96	11 359	84	5 635	75	9 350	108	7 187	89	9 227	86
Finland	10 551	1 516	16 622	2 381	10 475	500	10 992[d]	447[d]	10 837[d]	463[d]	12 836[d]	1 126[d]
France	9 150	1 403	11 629	1 599	14 761	1 704	18 041	1 963	15 904	1 794	13 431	1 682
Germany[2]	12 433	396	14 940	373	16 332	362	23 550[d]	211[d]	19 929[d]	287[d]	16 735	342
Greece	m	m	m	m	m	m	m	m	m	m	m	m
Hungary	7 262	893	6 937	578	7 355	669	8 289	573	7 835	619	7 383	598
Iceland	m	m	m	m	m	m	m	m	m	m	m	m
Ireland	m	m	m	m	x(9)	x(10)	x(9)	x(10)	11 032	565	m	m
Israel	10 864	x(17)	x(16)	x(17)	x(16)	x(17)	x(16)	x(17)	x(16)	x(17)	10 100	x(17)
Italy	13 235	564	10 071	894	x(9)	x(10)	x(9)	x(10)	12 196[d]	4[d]	11 402[d]	337[d]
Japan	m	m	m	m	m	m	m	m	m	m	m	m
Korea	14 004	869	15 276	1 061	x(9)	x(10)	x(9)	x(10)	20 674	1 709	17 921	1 379
Latvia	7 084	164	7 229	165	8 541	175	10 984	164	9 566	171	8 368	168
Lithuania	8 393	323	8 370	332	8 637	332	12 419	933	9 637	491	8 700	374
Luxembourg	24 616	967	27 924	2 851	26 323	2 547	26 804	2 613	26 613	2 587	27 229	2 711
Mexico	m	m	m	m	m	m	m	m	m	m	m	m
Netherlands	12 817	a	17 651	a	15 537	a	19 463	a	18 159	a	17 909	a
New Zealand	m	m	m	m	m	m	m	m	m	m	m	m
Norway	17 737	299	17 737	299	18 592	735	21 094	1 993	19 896	1 390	18 929	902
Poland	12 438	222	10 671	163	7 691	369	9 119	438	8 495	408	9 604	283
Portugal	9 640	829	12 566	501	x(9)	x(10)	x(9)	x(10)	11 065[d]	950[d]	11 773[d]	738[d]
Slovak Republic	9 153	1 071	7 678	1 016	8 244	1 310	10 438	1 056	9 717	1 139	8 490	1 065
Slovenia	m	m	m	m	m	m	m	m	m	m	m	m
Spain	9 302	879	11 440	602	11 104	515	15 909[d]	208[d]	12 623[d]	418[d]	12 031[d]	510[d]
Sweden	13 395	1 642	13 206	1 664	11 773	1 111	16 307	1 523	13 501	1 268	13 369	1 446
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	12 305	1 492	12 236	1 419	14 768	1 348	12 044	2 036	13 986	1 545	13 177	1 487
United States	14 249	1 021	14 872	1 062	15 601	1 082	a	a	15 601	1 082	15 229	1 072
OECD average	11 872	716	13 558	878	m	m	m	m	13 681	787	13 426	813
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	5 511	465	7 407	565	5 616	385	7 248	392	6 445	388	6 851	463
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	3 330	15	7 045	12	7 374	29	6 184	18	6 687	23	6 868	17
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	10 983	675	12 887	834	11 394	676	14 339	746	12 566	676	12 636	730
G20 average	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter C1 Tables for StatLink and Box C1.2 for the notes related to this Table.

	Tertiary			Primary to tertiary		
	Core services	Ancillary services	R&D	Core services	Ancillary services	R&D
OECD countries	(13)	(14)	(15)	(16)	(17)	(18)
Australia	16 429	665	7 743	14 435	249	1 601
Austria	m	m	9 136	m	m	2 809
Belgium	13 667	1 032	8 328	14 978	731	1 702
Canada[1]	m	m	m	m	m	m
Chile	9 984	313	421	6 997	424	122
Colombia	m	m	m	m	m	m
Costa Rica	m	m	m	m	m	m
Czechia	11 685	112	6 277	11 374	596	1 165
Denmark	12 243	1	14 536	14 475	124	3 365
Estonia	9 821	1 193	7 954	9 874	303	1 531
Finland	11 420	0	9 024	11 814	1 013	1 896
France	13 859	888	5 711	12 138	1 415	1 249
Germany[2]	12 287	108	9 568	14 719	292	2 150
Greece	m	m	m	m	m	m
Hungary	19 306	852	3 433	9 460	724	598
Iceland	m	m	m	m	m	m
Ireland	m	m	4 339	m	m	786
Israel	8 256	28	3 955	10 038	342	730
Italy	8 872	483	4 361	11 343	433	984
Japan	m	m	m	m	m	m
Korea	m	m	3 021	m	m	1 053
Latvia	10 220	196	3 176	8 300	172	679
Lithuania	8 941	1 284	4 005	8 795	577	887
Luxembourg	34 252	1 233	24 780	26 510	1 865	1 740
Mexico	m	m	1 041	m	m	164
Netherlands	15 211	a	8 652	15 604	a	2 143
New Zealand	m	m	4 423	m	m	770
Norway	16 448	159	9 692	17 950	505	2 188
Poland	10 427	277	5 400	10 397	261	1 071
Portugal	7 946	419	3 887	10 152	695	906
Slovak Republic	10 121	2 545	4 448	8 950	1 302	711
Slovenia	m	m	3 611	m	m	669
Spain	11 191	492	3 971	10 859	638	928
Sweden	13 697	0	14 068	13 380	1 250	2 477
Switzerland	m	m	19 911	m	m	4 012
Türkiye	m	m	3 305	m	m	619
United Kingdom	25 668	1 566	6 340	15 073	1 503	1 131
United States	27 354	4 256	4 664	17 580	1 762	1 045
OECD average	14 138	787	6 974	12 716	747	1 371
Partner and/or accession countries						
Argentina	m	m	m	m	m	m
Brazil	m	m	m	m	m	m
Bulgaria	8 651	3 123	531	6 874	1 031	113
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	10 050	59	29	6 249	25	5
Saudi Arabia	m	m	m	m	m	m
South Africa	m	m	m	m	m	m
EU25 average	12 693	753	6 923	11 810	708	1 329
G20 average	m	m	m	m	m	m

Note: See under Chapter C1 Tables for StatLink and Box C1.2 for the notes related to this Table.

Table C1.3. Average annual change in total expenditure on educational institutions per student (2015 to 2021)

Constant 2015 prices in equivalent USD converted using PPPs, by level of education

	Primary			All secondary (lower and upper secondary)			Tertiary			Primary to tertiary		
	Change in expenditure per student	Change in the number of students	Change in expenditure	Change in expenditure per student	Change in the number of students	Change in expenditure	Change in expenditure per student	Change in the number of students	Change in expenditure	Change in expenditure per student	Change in the number of students	Change in expenditure
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	0.9	0.9	1.9	-0.3	0.1	-0.1	1.6	0.4	2.1	0.6	0.4	1.0
Belgium	1.3	0.6	1.9	0.7	-0.2	0.5	0.6	1.4	2.0	0.9	0.4	1.3
Canada[1]	1.4[d]	0.6[d]	2.0[d]	m	m	m	-1.5	2.6	1.0	-0.1[d]	0.9[d]	0.8[d]
Chile	3.5	0.7	4.2	2.3	0.5	2.8	4.3	0.8	5.2	3.5	0.7	4.2
Colombia	m	m	m	m	m	m	m	m	m	m	m	m
Costa Rica	m	-0.8	m	m	1.4	m	m	-10.6	m	m	-1.3	m
Czechia	4.9	0.6	5.5	4.6	2.2	6.8	4.5	-2.2	2.2	4.5	0.7	5.2
Denmark	m	m	m	m	m	m	m	m	m	m	m	m
Estonia	5.2	1.6	6.8	1.5	2.9	4.5	2.9	-2.7	0.1	2.5	0.7	3.2
Finland	0.4	0.6	1.0	0.9	-0.3	0.5	-1.4	1.4	0.0	0.2	0.3	0.5
France	1.8	-0.1	1.8	0.1	0.6	0.7	-0.2	2.9	2.7	0.7	0.8	1.5
Germany	2.9	0.9	3.9	2.5	-0.6	1.9	0.5	1.6	2.1	2.1	0.2	2.3
Greece	m	m	m	m	m	m	m	m	m	m	m	m
Hungary	5.1	-1.0	4.0	2.3	-0.6	1.6	14.6[b]	-0.8[b]	13.7[b]	5.9	-1.0	4.9
Iceland	3.3	0.8	4.2	2.7	0.0	2.7	1.5	2.6	4.2	2.7	1.0	3.7
Ireland	4.4	0.1	4.5	1.1	3.4	4.6	-1.9	2.1	0.2	2.7	1.0	3.6
Israel	4.0	2.1	6.1	2.6	2.1	4.8	0.1	1.4	1.5	m	m	4.6
Italy	4.1	-1.3	2.7	0.1	0.1	0.2	-0.9	2.5	1.6	0.8	0.2	1.0
Japan	0.5	-0.7	-0.2	0.9	-1.2	-0.3	0.0	0.2	0.3	0.6	-0.7	-0.1
Korea	3.8	-0.2	3.5	6.6	-3.9	2.4	2.7	-1.9	0.7	4.4	-2.1	2.2
Latvia	-2.2	0.1	-2.1	-0.1	0.6	0.5	1.3	-1.5	-0.3	-0.5	-0.1	-0.6
Lithuania	3.9	1.1	5.1	5.6	-1.9	3.7	2.6	-4.1	-1.6	4.1	-2.0	2.0
Luxembourg	-0.2	2.1	1.9	2.9	0.9	3.8	-0.1	1.5	1.5	1.4	1.4	2.8
Mexico	-2.2	-0.9	-3.1	-2.5	-0.5	-3.1	-7.2	4.9	-2.6	-3.0	0.1	-2.9
Netherlands	3.2	-0.7	2.4	1.8	-0.4	1.4	-0.2	2.8	2.6	1.8	0.2	2.0
New Zealand	3.1	0.7	3.8	2.1	0.5	2.6	0.6	-1.1	-0.5	1.7	0.4	2.1
Norway	1.3	0.3	1.6	0.4	0.7	1.0	-0.1	2.7	2.6	0.7	1.0	1.7
Poland	7.6	-7.2	-0.1	3.2	4.8	8.1	5.5	-3.1	2.2	4.7	-0.8	3.8
Portugal	2.6	-1.8	0.8	1.3	-0.8	0.5	-2.5	2.9	0.3	0.9	-0.4	0.5
Slovak Republic	4.9	0.8	5.7	4.3	0.0	4.3	-0.6	-3.2	-3.8	2.5	-0.4	2.1
Slovenia	2.3	2.2	4.5	2.3	0.9	3.2	6.5	-0.7	5.7	3.2	1.1	4.3
Spain	2.1	-0.4	1.7	2.1	1.1	3.2	0.2	2.4	2.6	1.8	0.8	2.6
Sweden	1.5	1.9	3.4	0.3	2.8	3.1	-1.3	2.8	1.5	0.3	2.5	2.8
Switzerland	m	1.1	m	m	0.3	m	m	2.1	m	m	0.9	m
Türkiye	0.7	0.0	0.7	1.4	0.5	1.9	m	1.8	m	m	0.6	m
United Kingdom	-0.6	0.7	0.1	2.1	-1.4	0.6	0.6	2.7	3.4	1.3	0.0	1.3
United States	2.4	-0.6	1.7	1.1	0.7	1.8	1.1	-1.0	0.1	1.3	-0.2	1.0
OECD average	2.4	0.1	2.6	1.8	0.5	2.3	1.1	0.4	1.7	1.8	0.2	2.1
OECD average for countries with data available for the reference years	2.4	0.1	2.6	1.8	0.4	2.3	1.1	0.7	1.7	1.8	0.2	2.1
Partner and/or accession countries												
Argentina	m	0.1	m	m	1.4	m	m	3.9	m	m	1.6	m
Brazil	m	m	m	m	m	m	m	m	m	m	m	m
Bulgaria	8.1	-1.1	6.8	8.5	-0.8	7.6	5.7	-3.1	2.4	7.1	-1.4	5.6
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	-0.5	m	m	m	m	m	-0.1	m	m	-0.9	m
India	m	-2.1	m	m	1.1	m	m	3.2	m	m	0.0	m
Indonesia	m	m	m	m	1.1	m	m	m	m	m	m	m
Peru	m	1.2	m	m	1.1	m	m	m	m	m	m	m
Romania	9.2	-1.2	7.9	10.1	-0.8	9.2	6.8	0.6	7.5	9.2	-0.7	8.5
Saudi Arabia	m	-1.3	m	m	-2.5	m	m	0.5	m	m	-1.4	m
South Africa	m	0.3	m	m	0.2	m	m	1.7	m	m	0.3	m
EU25 average	3.4	-0.1	3.3	2.5	0.6	3.2	2.0	0.2	2.2	2.6	0.1	2.8
G20 average	m	-0.3	m	m	-0.4	m	m	1.8	m	m	0.0	m

Note: See under Chapter C1 Tables for StatLink and Box C1.2 for the notes related to this Table.

Box C1.2. Notes for Chapter C1 Tables

Table C1.1 Total expenditure on educational institutions per student (2021)

Note: Expenditure per child/student is based on headcounts for early childhood education and on full-time equivalent students for all other levels of education.

1. Post-secondary non-tertiary figures are treated as negligible.
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.

Table C1.2 Total expenditure on educational institutions per student on core educational services, ancillary services and R&D (2021)

Note: Based on full-time equivalent students. Some levels of education are included with others. Refer to "x" and "d" codes in Table C1.1 for details.

1. Primary education includes pre-primary programmes.
2. Upper secondary vocational programmes include lower secondary vocational programmes.

Table C1.3 Average annual change in total expenditure on educational institutions per student (2015 to 2021)

Note: Data on R&D are included in tertiary education, unless otherwise specified.

1. Primary education includes pre-primary and lower secondary programmes.

See *Definitions* and *Methodology* sections and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en) for more information.

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

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

Chapter C2. What proportion of national output is spent on educational institutions?

Highlights

- OECD countries spend, on average, the equivalent of 4.9% of their gross domestic product (GDP) (over USD 3.5 trillion in total) on educational institutions from primary to tertiary levels (including tertiary research and development). Iceland, Israel, Norway and the United Kingdom invest over 6% of their national output into education.
- Early childhood education, widely seen as a crucial foundation for further learning, receives resources equivalent to 0.9% of GDP on average across OECD countries. In Iceland and Norway around 2% of GDP is dedicated to early childhood education programmes.
- The share of GDP dedicated to educational institutions (from primary to tertiary levels) has been broadly stable, at 4.9% between 2015 and 2021 on average across OECD countries. The average hides much cross-country variation: the largest increases occurred in Bulgaria, Chile, Czechia, Hungary and Spain, and the most noticeable decreases in Ireland, Latvia and Mexico. Government expenditure remained stable at 4.1% between 2015 and 2021.

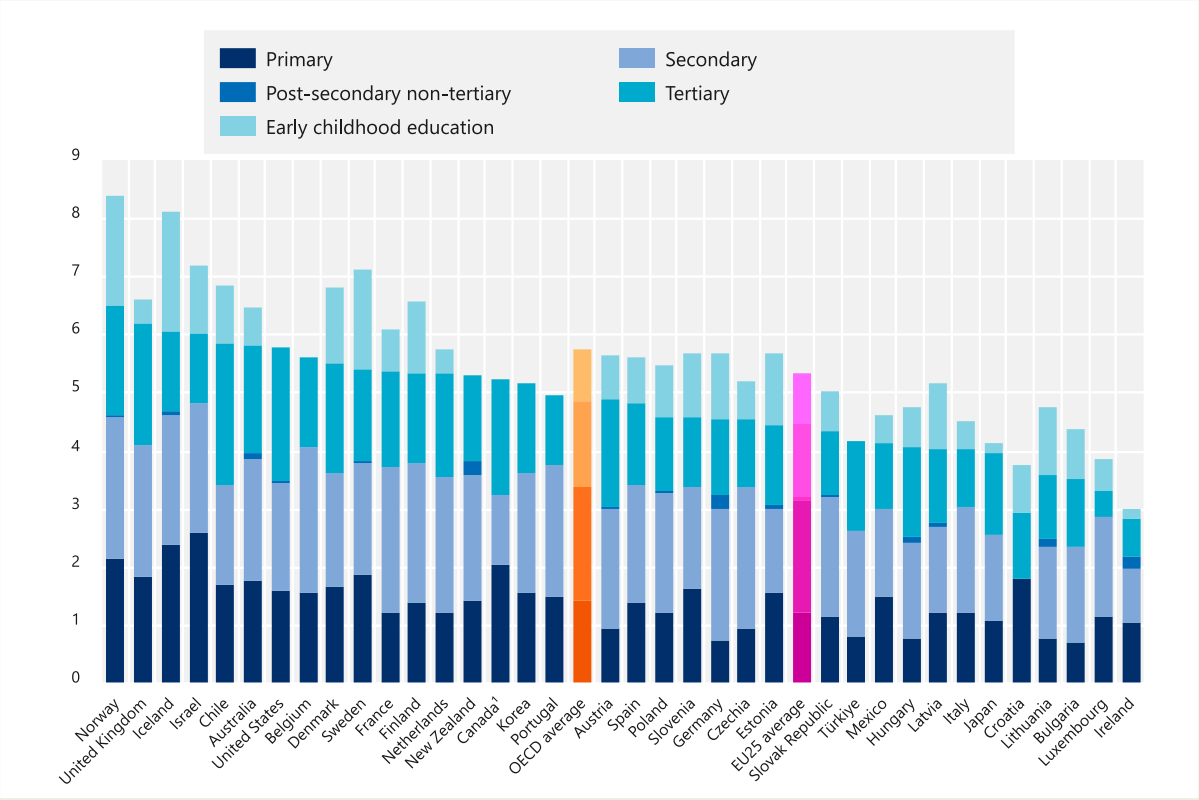
Context

Countries invest in education for various reasons: to enhance productivity and foster economic growth, contribute to personal and social development, or reduce social inequality, among other objectives. The proportion of a country's output (based on GDP) invested in educational institutions provides a measure of the priority given to education relative to a country's overall resources. This measure changes over time as influencing factors change. Real GDP fluctuates, rising in periods of expansion and falling during economic downturns. The number of students also varies, mostly shaped by demographic changes in the case of primary and lower secondary education (where enrolment is near universal in OECD countries) and by changing participation patterns in higher levels of education (see Chapters B3 and B4). In addition, the cost of delivering education also evolves, as teachers' salaries and the organisation of schools and classrooms, among other factors, change over time.

This chapter starts by providing a picture of the overall investment in educational institutions, measured as expenditure as a share of GDP, and explores how it has changed. It then focuses specifically on government expenditure on educational institutions. This area receives particular attention because public policies can directly affect government spending and economic fluctuations can profoundly affect it.

Figure C2.1. Expenditure on educational institutions as a percentage of GDP, by level of education (2021)

In per cent



1. Primary education includes pre-primary and lower secondary programmes. The category "Secondary" refers to upper secondary education only, as data on lower secondary education are included in primary education.

Countries are ranked in descending order of total expenditure on primary to tertiary education as a percentage of GDP.

See Table C2.1 for data and under Chapter C2 Tables for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Other findings

- In some countries, the balance of investment between tertiary education and lower levels of education has changed. For example, between 2015 and 2021, Bulgaria, Estonia, Israel, the Slovak Republic and Sweden saw increased investment of at least 5% in primary to post-secondary non-tertiary education, relative to GDP, while the amount spent on tertiary institutions fell. The opposite happened in Austria and the United Kingdom, where funding shifted towards tertiary education.
- Early childhood education received more funds from government sources, as a share of GDP, in 2021 than in 2015 on average across OECD countries. The greatest increases were in Croatia, Germany, Japan and Lithuania.
- Private sources play a much more important role in funding tertiary education, relative to government sources, than at lower levels. On average, private sources of funding amount to 0.3% of GDP for primary to post-secondary non-tertiary institutions, with a similar percentage for tertiary institutions. In contrast, government funding amounts to 3.2% of GDP for primary to post-secondary non-tertiary institutions, well above the 1.0% of GDP that governments spend on tertiary institutions.

Analysis

Expenditure relative to GDP

Expenditure by level of education

OECD countries spend, on average, 4.9% of their GDP on educational institutions from primary to tertiary levels, including research and development (R&D). Across all OECD countries, a total of over USD 3.5 trillion (converted using purchasing power parities) was spent on educational institutions in 2024 – if one dollar was equal to one second, that would amount to 111 thousand years.

The countries investing the largest shares of their national output into education from primary to tertiary level include Iceland, Israel, Norway and the United Kingdom (all above 6% of GDP). Figure C2.1 shows expenditure as a share of GDP broken down into different levels of education across OECD countries. The level and distribution of expenditure is affected by a country's demographic mix, enrolment rates and teachers' salaries. The organisation of the education system also matters – longer programmes at a particular level mean more investment at that level, all other things being equal. On average, OECD countries spend the equivalent of 3.4% of their GDP on primary to post-secondary non-tertiary education. Primary education takes up the largest share in nearly all countries, amounting to 1.4% of GDP on average, with spending on lower and upper secondary education equal to 1.0% of GDP each.

Tertiary education (including R&D conducted in tertiary institutions) accounts for expenditure equivalent to 1.5% of GDP on average across OECD countries. The level of investment at this level is shaped by enrolment patterns (enrolment rates in tertiary education vary widely across OECD countries), the types of programmes pursued by students (shorter, applied programmes or longer, research intensive programmes), the mix of fields of study and the extent of the research activities conducted in tertiary institutions. Investment in tertiary education is highest in relative terms in Chile (2.4% of GDP), followed by the United States (2.3%) and the United Kingdom (2.1%). A considerable share of investment in tertiary education is directed to research activities. Excluding R&D, 1.0% of GDP is spent on tertiary institutions on average across OECD countries (Table C2.1).

Investment in early years is widely recognised as crucial for building strong foundations for learning in schools. On early childhood education, however, the country coverage of the data is weaker than for other levels of education (eight OECD countries do not report expenditure data for early childhood education, even though they provide data for other levels of education). One difficulty is that the data concern programmes that fit the ISCED framework in that they have an intentional education component. For example, this requires educational activities at least 2 hours per day and 100 days a year (for further details see Chapter B1 and (OECD, 2018[1]). In practice, it is often hard to separate the educational and childcare components in early childhood education and care (ECEC) provision for young children. The intensity of programmes also varies widely across countries (see Box C1.1 for further details), making cross-country comparisons difficult.

On average, among OECD countries with available data, countries invest 0.9% of their GDP in early childhood education programmes. The countries that invest most at this level are Iceland (2.0%), Norway (1.9%) and Sweden (1.7%). Another issue with data comparability is that investment in early childhood education will appear lower in countries where primary education starts at an earlier age (5-year-olds, for example, are in primary school in some countries and in pre-primary education in others). Measuring spending on 3-5 year-olds makes it possible to compare countries' expenditure on young children, regardless of where they draw the line between early childhood education and primary education. On average, OECD countries spend 0.6% of their GDP on education for 3-5 year-olds. The highest levels of expenditure are in Iceland (1.1%), Israel, Norway and Sweden (0.9%) (Table C2.1).

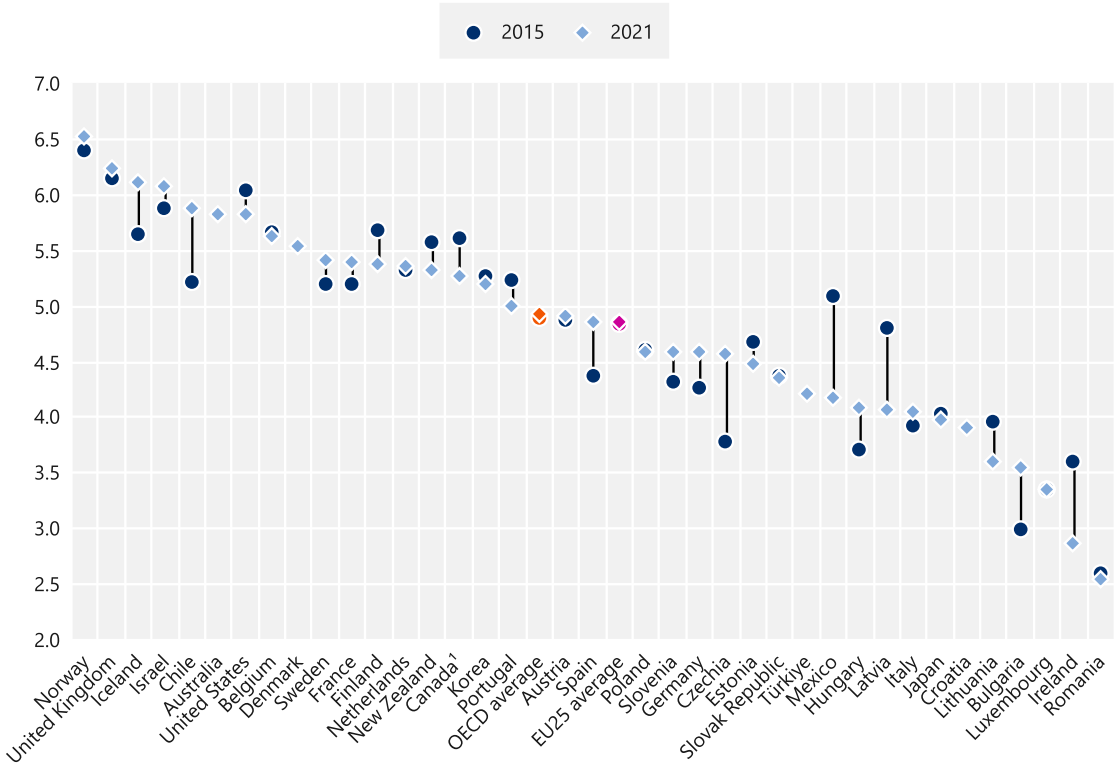
Changes in total expenditure relative to GDP

Figure C2.2 shows how expenditure on primary to tertiary education changed between 2015 and 2021. Overall, education expenditure relative to GDP remained stable over this period at 4.9%, with considerable variation across countries. It increased most strongly in Bulgaria, Chile, Czechia, Hungary and Spain, and fell most noticeably in Ireland, Latvia and Mexico.

In some countries, there has been a shift in the balance of investment between tertiary education and lower levels. For example, in Bulgaria, Estonia, Israel, the Slovak Republic and Sweden, investment in primary to post-secondary non-tertiary education rose by over 5% between 2015 and 2021, while spending on tertiary education fell relative to GDP (Table C2.2). This is largely driven by changes in the number of students enrolled in tertiary education and lower levels. The opposite happened, for example, in Austria and the United Kingdom, where there was a relative shift towards spending on tertiary education. In these countries there was an increase in both the number of tertiary students and the amount of spending per full-time equivalent student (see Table C2.3).

Figure C2.2. Trends in expenditure on educational institutions as a percentage of GDP, primary to tertiary education (2015 and 2021)

In per cent



Note: The OECD average is for countries with available and comparable data for both years.
1. Primary education includes pre-primary programmes.
Countries are ranked in descending order of expenditure on educational institutions as a percentage of GDP in 2021.
See Table C2.2 for data and Chapter C2 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Expenditure from government and private sources relative to GDP

Expenditure by level of education

On average, government expenditure on educational institutions (primary to tertiary levels) is equivalent to 4.2% of GDP (these refer to "final funds", after transfers from government to the private sector, mostly households) (Table C2.3). The equivalent of 0.8% of GDP comes from private sources. In the context of primary and secondary education, that predominantly includes contributions from households (students and their families) in the form of tuition fees, payments for canteen costs etc. Other private sources contribute a larger share of the funding at tertiary level where, alongside contributions from households, private entities such as firms and non-profit organisations play a greater role (see Tables C3.1 and C3.2 in Chapter C3). The highest levels of government expenditure – at least 5% of GDP – are found in several Nordic countries (Denmark, Finland, Iceland, Norway and Sweden), as well as Belgium, Costa Rica, Israel and South Africa. At the other end of the scale, government sources in Ireland, Japan and Romania contribute the equivalent of less than 3.0% of GDP (Table C2.3).

Government spending on early childhood education – defined here as programmes that fit the ISCED framework – varies greatly (with data missing for several countries). The highest levels, in terms of the share of GDP, are in Iceland, Norway and Sweden, all dedicating over 1.5% of their GDP to this level. Relatively limited government funds are dedicated to early childhood education in Ireland, Japan (0.1% of GDP) and the United Kingdom (0.2% of GDP) (Table C2.4, available online).

Private sources play a much more important role, relative to government sources, in tertiary education than at primary to post-secondary non-tertiary levels. On average, before transfers, private sources of funding amount to the equivalent of 0.3% of GDP for primary to post-secondary non-tertiary institutions, with a similar proportion for tertiary institutions. In contrast, government funding amounts to 3.2% of GDP for primary to post-secondary non-tertiary institutions, well above the 1.0% of GDP that governments spend on tertiary institutions on average (Table C2.3).

Transfers from government to the private sector play a major role at tertiary level, so it is helpful to distinguish between initial funds (before transfers) and final funds (after transfers) to identify nuances in expenditure patterns. In the United Kingdom, for example, total funds spent by the private sector on tertiary education amount to the equivalent of 1.1% of GDP before transfers, but after government transfers this rises to 1.6% of GDP. Similarly, in Australia, the equivalent of 0.9% of GDP originates from the private sector initially, rising to 1.2% after transfers. Government transfers to the private sector are also relatively large in Chile, Ireland, Korea, and New Zealand, where they represent over 0.2% of GDP (Table C2.3).

Changes in government expenditure relative to GDP

On average across OECD countries with available and comparable data for 2015 and 2021, government expenditure on educational institutions from primary to tertiary levels stayed stable at 4.1% of GDP, while real GDP increased by 15% over the same period. Within these figures, however, several countries have seen major changes. The largest increases occurred in Bulgaria (where government expenditure increased from 2.3% of GDP to 3.0%) and in Czechia (from 3.2% to 4.0% of GDP). At the same time, government spending fell considerably in Argentina (from 5.2% to 4.0% of GDP) and Latvia (from 4.3% to 3.4% of GDP) (Table C2.4, available on line).

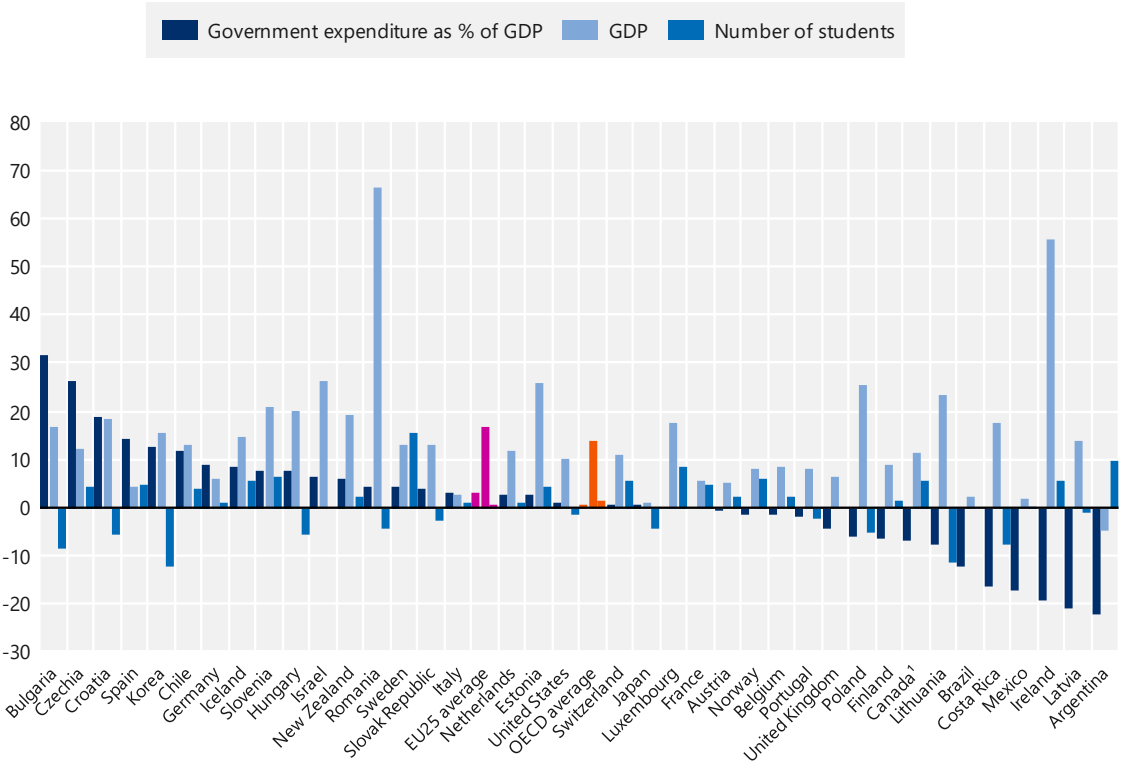
On average, early childhood education (excluded from Figure C2.3because of limited country coverage), received more funds from government sources as a share of GDP in 2021 (0.8%) than in 2015 (0.7%). The greatest increase occurred in Croatia (rising from less than 0.1% to 0.6% of GDP) (Table C2.4, available online).

Changes in government expenditure as a share of GDP, are shaped by changes in both real GDP and enrolment patterns. Figure C2.3 shows how government expenditure on educational institutions changed

between 2015 and 2021, alongside changes in GDP and the number of students in primary to tertiary education. The patterns of change vary considerably across countries. Some countries (e.g. Bulgaria, Croatia, Hungary, Korea) now devote a greater share of their GDP to government spending on educational institutions than they did in 2015, even though the number of students fell by at least 5% and real GDP grew over this period. Many other countries have combined real GDP growth with an increasing share of GDP invested in education and rising student numbers (15 countries). In Costa Rica, Latvia, Lithuania, Poland and Portugal, growth in real GDP and falling student numbers have led to a decrease in the share of GDP dedicated to government expenditure on educational institutions. In contrast, 11 countries have seen decrease in the share of GDP dedicated to educational institutions, combined with growth in real GDP and an increasing number of students (Table C2.2 and Table C2.4, available online).

Figure C2.3. Changes in government expenditure on educational institutions, GDP and the number of students (2015 to 2021)

After transfers, primary to tertiary education, in per cent



Note: The OECD average is for countries with available and comparable data for both years.
1. Primary education includes pre-primary programmes.
Countries are ranked in descending order of the change in government expenditure on educational institutions.
See Table C2.4, available online, for data and Chapter C2 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

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 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 chapter. Government subsidies for educational expenditure outside institutions are discussed in Chapter 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 chapter.

Expenditure on educational institutions is calculated on a cash-accounting basis and, as such, represents a snapshot of expenditure in the reference year. Many countries operate a loan payment/repayment system at the tertiary level. While public loan payments are taken into account, loan repayments from private individuals are not, and so the private contribution to education costs may be under-represented.

For more information please see the OECD Handbook for Internationally Comparative Education Statistics 2018 (OECD, 2018[1]) and Education at a Glance 2024 Sources, Methodologies and Technical Notes (*https://doi.org/10.1787/e7d20315-en*) for country-specific notes.

Source

Data refer to the financial year 2021 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2023 (for details see Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en). Data from Argentina, China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

Data from Table X2.1 are used for the computation of expenditure as a share of GDP. Data from Table X2.2 are used for the computation of expenditure as a share of GDP per capita, and to transform expenditure in constant 2015 prices and in equivalent USD converted using PPPs.

References

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

Chapter C2 Tables

Tables Chapter C2. What proportion of national output is spent on educational institutions?

StatLink https://stat.link/nx2dzj

Cut-off date for the data: 14 June 2024. Any updates on data and more breakdowns can be found on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

Table C2.1. Expenditure on educational institutions as a percentage of GDP (2021)

Direct expenditure within educational institutions, by level of education

	Early childhood education					Secondary				Tertiary			Primary to tertiary	
	Early childhood educational development	Pre-primary	All programmes	Ages 3 to 5	Primary	Lower secondary	Upper secondary	All secondary	Post-secondary non-tertiary	Including R&D	Excluding R&D	Primary, secondary and post-secondary non-tertiary	Including R&D	Excluding R&D
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Australia	0.3	0.4	0.7	0.6	1.8	1.4	0.7	2.1	0.1	1.8	1.3	4.0	5.8	5.3
Austria	0.2	0.6	0.8	0.5	1.0	1.1	0.9	2.1	0.0	1.9	1.2	3.0	4.9	4.2
Belgium	m	0.7	m	m	1.6	0.9	1.6[d]	2.5[d]	x(7,8)	1.5	1.0	4.1	5.6	5.1
Canada[1, 2]	m	x(5)	m	m	2.1[d]	x(5)	1.2	1.2	m	2.0	m	3.2	5.3	m
Chile	0.3	0.8	1.0	0.7	1.7	0.7	1.1	1.7	a	2.4	2.3	3.4	5.9	5.8
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	a	1.4	m	m	m	m
Czechia	a	0.7	0.7	0.5	1.0	1.4	1.1	2.4	0.0	1.2	0.8	3.4	4.6	4.2
Denmark	0.7	0.6	1.3	0.6	1.7	1.1	0.8	2.0	a	1.9	0.9	3.6	5.5	4.5
Estonia	x(3)	x(3)	1.2	0.7	1.6	0.9	0.6	1.4	0.1	1.4	0.8	3.1	4.5	3.9
Finland	0.4	0.8	1.2	0.6	1.4	1.1	1.3[d]	2.4[d]	x(7, 8)	1.6	0.9	3.8	5.4	4.7
France	a	0.7	0.7	0.7	1.2	1.3	1.2	2.5	0.0	1.6	1.2	3.8	5.4	4.9
Germany[3]	0.4	0.7	1.1	0.6	0.8	1.3	1.0[d]	2.3	0.2	1.3	0.7	3.3	4.6	4.0
Greece	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Hungary	0.0	0.7	0.7	0.6	0.8	0.8	0.9	1.6	0.1	1.6	1.3	2.5	4.1	3.9
Iceland	0.9	1.1	2.0	1.1	2.4	1.1	1.1	2.2	0.1	1.4	m	4.7	6.1	m
Ireland	x(3)	x(3)	0.2	0.3	1.1	0.5	0.4	0.9	0.2	0.7	0.5	2.2	2.9	2.7
Israel	0.3	0.9	1.2	0.9	2.6	x(7)	2.2[d]	2.2	0.0	1.2	0.8	4.8	6.1	5.7
Italy	a	0.5	0.5	0.5	1.2	0.6	1.2[d]	1.8[d]	x(7,8)	1.0	0.7	3.1	4.0	3.7
Japan[4]	a	0.2	0.2	0.2	1.1	0.7	0.8[d]	1.5[d]	x(7,8,10)	1.4[d]	m	2.6	4.0	m
Korea	m	0.5	m	0.5	1.6	0.9	1.2	2.1	a	1.5	1.2	3.6	5.2	4.8
Latvia	0.2	0.9	1.1	0.7	1.2	0.7	0.8	1.5	0.1	1.3	1.0	2.8	4.1	3.8
Lithuania	0.2	0.9	1.2	0.7	0.8	1.1	0.5	1.6	0.1	1.1	0.8	2.5	3.6	3.3
Luxembourg	a	0.5	0.5	0.5	1.2	0.8	0.9	1.7	0.0	0.5	0.3	2.9	3.3	3.2
Mexico	x(3)	x(3)	0.5	0.5	1.5	0.8	0.8	1.5	a	1.1	0.9	3.0	4.2	4.0
Netherlands	a	0.4	0.4	0.4	1.2	1.1	1.2	2.3	a	1.8	1.1	3.6	5.3	4.7
New Zealand	m	m	m	m	1.4	1.1	1.0	2.2	0.2	1.5	1.1	3.8	5.3	5.0
Norway	1.0	0.9	1.9	0.9	2.2	1.0	1.4	2.4	0.0	1.9	1.2	4.6	6.5	5.8
Poland	a	0.9	0.9	0.7	1.3	1.1	0.9	2.0	0.0	1.2	0.8	3.3	4.6	4.2
Portugal	m	0.6	m	m	1.5	1.1	1.1[d]	2.3[d]	x(7,8)	1.2	0.8	3.8	5.0	4.6
Slovak Republic	a	0.7	0.7	0.5	1.2	1.1	0.9	2.1	0.0	1.1	0.8	3.3	4.4	4.1
Slovenia	0.4	0.7	1.1	0.7	1.7	0.8	0.9	1.7	a	1.2	1.0	3.4	4.6	4.4
Spain	0.2	0.5	0.8	0.5	1.4	1.0	1.0[d]	2.0[d]	x(7,8)	1.4	1.1	3.4	4.9	4.5
Sweden	0.6	1.2	1.7	0.9	1.9	0.9	1.1	2.0	0.0	1.5	0.8	3.9	5.4	4.6
Switzerland	a	m	m	m	m	m	1.1[d]	m	x(7)	m	m	m	m	m
Türkiye	m	0.2	m	0.2	0.8	0.8	1.0	1.8	a	1.5	1.1	2.7	4.2	3.7
United Kingdom	0.1	0.3	0.4	0.6	1.9	1.0	1.3	2.3	a	2.1	1.7	4.1	6.2	5.8
United States	m	0.4	m	m	1.6	0.9	0.9	1.8	0.0	2.3	2.0	3.5	5.8	5.5
OECD average	m	0.7	0.9	0.6	1.4	1.0	1.0	1.9	m	1.5	1.0	3.4	4.9	4.5
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	a	0.9	0.9	0.6	0.7	0.8	0.9	1.7	0.0	1.2	1.1	2.4	3.5	3.5
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	x(3)	x(3)	0.8	0.4	1.8[d]	x(5)	0.9	m	a	1.1	1.1	2.8	3.9	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	0.0	0.4	0.4	0.3	0.4	0.7	0.7	1.4	0.0	0.7	0.7	1.8	2.5	2.5
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	m	0.7	0.9	0.6	1.2	1.0	1.0	1.9	0.1	1.3	0.9	3.1	4.4	4.0
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under *Chapter C2 Tables* section for StatLink and Box C2.1 for the notes related to this Table.

Table C2.2. Trends in expenditure on educational institutions as a percentage of GDP and change in GDP (2015 and 2021)

Final source of funds, constant prices, by level of education

	Expenditure on educational institutions									Gross domestic product
	Primary, secondary and post-secondary non-tertiary			Tertiary			Primary to tertiary			
	2015	2021	Index of change (2015=100)	2015	2021	Index of change (2015=100)	2015	2021	Index of change (2015=100)	Index of change (2015=100)
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	m	4.0	m	m	1.8	m	m	5.8	m	m
Austria	3.1	3.0	97	1.7	1.9	107	4.9	4.9	101	105
Belgium	4.2	4.1	98	1.5	1.5	104	5.6	5.6	100	108
Canada[1]	3.5	3.2	93	2.1	2.0	95	5.6	5.3	94	112
Chile	3.2	3.4	108	2.0	2.4	119	5.2	5.9	113	113
Colombia	m	m	m	m	m	m	m	m	m	m
Costa Rica	m	m	m	m	1.4	m	m	m	m	118
Czechia	2.6	3.4	129	1.1	1.2	102	3.8	4.6	121	112
Denmark	m	3.6	m	m	1.9	m	m	5.5	m	115
Estonia	2.9	3.1	106	1.7	1.4	80	4.7	4.5	96	126
Finland	4.0	3.8	96	1.7	1.6	91	5.7	5.4	94	109
France	3.7	3.8	101	1.5	1.6	111	5.2	5.4	104	106
Germany[2]	3.0	3.3	108	1.2	1.3	107	4.2	4.6	108	106
Greece	m	m	m	m	m	m	m	m	m	102
Hungary	2.8	2.5	89	0.9	1.6[b]	180[b]	3.7	4.1	110	120
Iceland	4.4	4.7	107	1.2	1.4	111	5.6	6.1	108	115
Ireland	2.6	2.2	85	1.0	0.7	65	3.6	2.9	79	156
Israel	4.4	4.8	109	1.4	1.2	86	5.9	6.1	103	127
Italy	3.0	3.1	102	0.9	1.0	107	3.9	4.0	103	103
Japan	2.7	2.6	97	1.4	1.4	101	4.0	4.0	99	101
Korea	3.5	3.6	103	1.7	1.5	90	5.3	5.2	99	116
Latvia	3.3	2.8	84	1.5	1.3	86	4.8	4.1	84	114
Lithuania	2.4	2.5	102	1.5	1.1	73	3.9	3.6	91	124
Luxembourg	2.8	2.9	101	0.5	0.5	93	3.3	3.3	100	118
Mexico	3.7	3.0	81	1.4	1.1	84	5.1	4.2	82	102
Netherlands	3.6	3.6	99	1.7	1.8	104	5.3	5.3	101	112
New Zealand	3.7	3.8	102	1.8	1.5	82	5.6	5.3	96	120
Norway	4.6	4.6	100	1.7	1.9	108	6.4	6.5	102	108
Poland	3.2	3.3	103	1.4	1.2	91	4.6	4.6	100	126
Portugal	3.9	3.8	96	1.3	1.2	94	5.2	5.0	95	108
Slovak Republic	2.8	3.3	116	1.6	1.1	70	4.4	4.4	100	113
Slovenia	3.3	3.4	104	1.0	1.2	115	4.3	4.6	106	121
Spain	3.1	3.4	111	1.3	1.4	112	4.4	4.9	111	105
Sweden	3.6	3.9	108	1.6	1.5	97	5.2	5.4	104	113
Switzerland	m	m	m	m	m	m	m	m	m	111
Türkiye	3.2	2.7	84	m	1.5	m	m	4.2	m	131
United Kingdom	4.3	4.1	96	1.8	2.1	114	6.1	6.2	101	107
United States	3.5	3.5	100	2.6	2.3	91	6.0	5.8	96	110
OECD average	3.4	3.4	101	1.5	1.5	99	4.9	4.9	100	114
OECD average for countries with available and comparable data for both years	3.4	3.4	101	1.5	1.4	99	4.9	4.8	100	115
Partner and/or accession countries										
Argentina	m	m	m	m	m	m	m	m	m	96
Brazil	m	m	m	m	m	m	m	m	m	103
Bulgaria	1.8	2.4	131	1.2	1.2	99	3.0	3.5	118	117
China	m	m	m	m	m	m	m	m	m	143
Croatia	m	2.8	m	m	1.1	m	m	3.9	m	118
India	m	m	m	m	m	m	m	m	m	131
Indonesia	m	m	m	m	m	m	m	m	m	124
Peru	m	m	m	m	m	m	m	m	m	115
Romania	1.8	1.8	100	0.8	0.7	92	2.6	2.5	98	167
Saudi Arabia	m	m	m	m	m	m	m	m	m	106
South Africa	m	m	m	m	m	m	m	m	m	102
EU25 average	3.4	3.5	101	1.4	1.4	99	4.8	4.9	100	114
G20 average	m	m	m	m	m	m	m	m	m	112

Note: See under *Chapter C2 Tables* section for StatLink and Box C2.1 for the notes related to this Table.

Table C2.3. Expenditure on educational institutions as a percentage of GDP, by source of funds (2021)

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	3.4	0.6	0.0	3.3	0.7	0.0	1.0	0.9[d]	x(8)	0.7	1.2[d]	x(11)	4.4	1.5[d]	x(14)	4.0	1.8[d]	x(17)
Austria	2.9	0.1	a	2.9	0.1	a	1.7	0.2	a	1.7	0.2	a	4.6	0.3	a	4.6	0.3	a
Belgium	3.9	0.1	0.0	3.9	0.2	0.0	1.3	0.2	0.1	1.3	0.2	0.1	5.2	0.3	0.1	5.2	0.4	0.1
Canada[1]	m	m	m	3.0[d]	0.2[d]	x(5)	m	m	m	1.1	0.9[d]	x(11)	m	m	m	4.1[d]	1.2[d]	x(17)
Chile	2.8	0.6	a	2.8	0.6	a	1.2	1.2	a	0.9	1.5	a	4.0	1.9	a	3.8	2.1	a
Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Costa Rica	m	m	m	4.0	m	m	m	m	m	1.3	0.1	0.0	m	m	m	5.3	m	m
Czechia	3.1	0.3	0.0	3.1	0.3	0.0	0.9	0.2	0.1	0.9	0.2	0.1	4.0	0.5	0.1	4.0	0.5	0.1
Denmark	3.4	0.2	0.0	3.4	0.2	0.0	1.6	0.2	0.1	1.6	0.2	0.1	5.0	0.4	0.1	5.0	0.4	0.1
Estonia	2.8	0.1	0.2	3.0	0.1	0.0	0.9	0.2	0.3	1.1	0.2	0.1	3.7	0.3	0.5	4.1	0.3	0.1
Finland	3.8	0.0	0.0	3.8	0.0	0.0	1.4	0.1	0.1	1.4	0.1	0.1	5.2	0.1	0.1	5.2	0.1	0.1
France	3.5	0.3	0.0	3.4	0.4	0.0	1.2	0.4	0.0	1.1	0.5	0.0	4.6	0.7	0.0	4.5	0.8	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	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Hungary	m	m	0.0	2.2	0.3	0.0	m	m	0.0	1.2	0.3	0.0	m	m	0.0	3.4	0.7	0.0
Iceland	4.6	0.1	0.0	4.6	0.1	0.0	1.2	0.1	0.1	1.2	0.1	0.1	5.8	0.2	0.1	5.8	0.2	0.1
Ireland	2.0	0.2	0.0	2.0	0.2	a	0.7	0.0	0.0	0.5	0.2	0.0	2.6	0.2	0.0	2.4	0.4	0.0
Israel	4.5	0.4	0.0	4.4	0.4	0.0	0.8	0.5	0.0	0.7	0.5	0.0	5.3	0.8	0.0	5.1	0.9	0.0
Italy	2.9	0.1	0.1	2.9	0.1	0.1	0.7	0.2	0.0	0.6	0.4	0.0	3.6	0.4	0.1	3.5	0.5	0.1
Japan	m	m	0.0	2.4	0.2	0.0	m	m	0.0	0.5[d]	0.9[d]	0.0	m	m	0.0	2.9	1.1	0.0
Korea	3.5	0.2[d]	x(2)	3.4	0.2[d]	x(5)	0.9	0.6[d]	x(8)	0.7	0.9[d]	x(11)	4.4	0.8[d]	x(14)	4.1	1.1[d]	x(17)
Latvia	m	m	0.0	2.6	0.1	0.0	m	m	0.3	0.8	0.3	0.2	m	m	0.4	3.4	0.5	0.2
Lithuania	2.2	0.1	0.1	2.4	0.1	0.0	0.6	0.3	0.2	0.8	0.3	0.0	2.9	0.4	0.3	3.1	0.4	0.0
Luxembourg	2.7	0.1	0.1	2.7	0.1	0.1	0.4	0.0	0.0	0.4	0.0	0.0	3.2	0.1	0.1	3.2	0.1	0.1
Mexico	2.6	0.4	0.0	2.6	0.4	0.0	0.8	0.4	0.0	0.8	0.4	0.0	3.4	0.8	0.0	3.4	0.8	0.0
Netherlands	m	m	0.0	3.1	0.4	0.0	m	m	0.1	1.3	0.4	0.1	m	m	0.1	4.4	0.9	0.1
New Zealand	3.6	0.3	0.0	3.5	0.3	0.0	1.1	0.4	0.0	0.9	0.6	0.0	4.7	0.6	0.0	4.4	0.9	0.0
Norway	4.6	0.0	0.0	4.5	0.1	0.0	1.8	0.1	0.0	1.7	0.1	0.0	6.4	0.1	0.0	6.2	0.3	0.0
Poland	2.7	0.5	0.1	2.8	0.5	0.1	1.1	0.1	0.0	1.0	0.2	0.0	3.8	0.6	0.2	3.8	0.7	0.1
Portugal	3.3	0.4	0.0	3.3	0.4	0.0	0.7	0.4	0.1	0.7	0.4	0.1	4.1	0.8	0.1	4.1	0.8	0.1
Slovak Republic	3.0	0.1	0.2	3.1	0.2	0.0	0.8	0.2	0.1	0.8	0.2	0.0	3.8	0.3	0.3	3.9	0.4	0.0
Slovenia	3.1	0.2	0.1	3.1	0.2	0.0	0.9	0.2	0.1	1.0	0.2	0.0	4.0	0.4	0.1	4.1	0.4	0.1
Spain	2.9	0.4	0.1	3.1	0.4	0.0	1.0	0.4	0.0	1.0	0.4	0.0	3.9	0.8	0.1	4.0	0.8	0.0
Sweden	3.9	0.0	0.0	3.9	0.0	0.0	1.3	0.2	0.1	1.3	0.2	0.1	5.2	0.2	0.1	5.2	0.2	0.1
Switzerland	m	m	m	3.2	m	0.0	1.3	m	0.0	1.3	m	0.0	m	m	m	m	m	m
Türkiye	2.0	0.6	0.0	2.0	0.6	0.0	1.1	0.4	0.0	1.1	0.4	0.0	3.1	1.1	0.0	3.1	1.1	0.0
United Kingdom	3.6	0.5	0.0	3.5	0.6	0.0	1.0	1.1	0.1	0.5	1.6	0.1	4.6	1.5	0.1	4.0	2.1	0.1
United States[2]	m	m	a	3.2	0.3	a	m	m	a	0.9	1.4	a	m	m	a	4.1	1.7	a
OECD average	3.2	0.3	0.0	3.2	0.3	0.0	1.0	0.3	0.1	1.0	0.5	0.0	4.3	0.6	0.1	4.2	0.8	0.1
Partner and/or accession countries																		
Argentina	m	m	0.0	3.1	m	0.0	m	m	0.0	0.9	m	0.0	m	m	0.0	4.0	m	0.0
Brazil	m	m	m	3.5	m	m	m	m	m	0.9	m	m	m	m	m	4.4	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	3.0	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	m	m	0.1	2.6	0.2	0.0	0.7	0.3	0.2	0.8	0.3	a	m	m	0.3	3.4	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	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	1.7	0.0	0.0	1.7	0.0	0.0	0.7	0.0	0.1	0.7	0.0	0.1	2.4	0.0	0.1	2.4	0.0	0.1
Saudi Arabia	m	m	m	m	m	m	m	m	m	0.3	m	m	m	m	m	m	m	m
South Africa	m	m	m	4.4	m	m	m	m	m	0.7	m	m	m	m	m	5.0	m	m
EU25 average	3.0	0.2	0.1	2.9	0.2	0.0	1.0	0.2	0.1	1.0	0.3	0.1	3.9	0.4	0.1	3.9	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 under *Chapter C2 Tables* section for StatLink and Box C2.1 for the notes related to this Table.

Box C2.1. Notes for Chapter C2 Tables

Table C2.1. Expenditure on educational institutions as a percentage of GDP (2021)

1. Primary education includes pre-primary programmes. The category "All secondary" refers to upper secondary education only, as data on lower secondary education are included in primary education.
2. Post-secondary non-tertiary figures are treated as negligible.
3. Upper secondary vocational programmes include lower secondary vocational programmes.
4. Data do not cover day care centres and integrated centres for early childhood education.

Table C2.2 Trends in expenditure on educational institutions as a percentage of GDP and change in GDP (2015 and 2021)

Columns showing data for early childhood education, primary, lower secondary, upper secondary, and post-secondary non-tertiary education are available for consultation on line (see StatLink).

1. Primary education includes pre-primary programmes.
2. Upper secondary vocational programmes include lower secondary vocational programmes.

Table C2.3 Expenditure on educational institutions as a percentage of GDP, by source of funds (2021)

Some levels of education are included in others. Refer to "x" code in Table C2.1 for details.

1. Primary education includes pre-primary programmes.
2. Figures are for net student loans rather than gross, thereby underestimating public transfers.

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

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

Chapter C3. How much public and private investment in educational institutions is there?

Highlights

- On average, across OECD countries, the government is the primary source of funding for both public and private primary schools. For public institutions, the government covers nearly all expenditure, amounting to about USD 11 900 per student, while it accounts for less than 60% of the costs for private ones, roughly USD 7 900 per student. Ultimately, how much is spent per student on public and private institutions varies considerably across countries.
- In several OECD countries, such as Finland, Norway, and Sweden, government funding covers nearly all the costs of private primary education. In contrast, private schools in Bulgaria, Ireland, and Mexico do not receive government funding and households bear the entire cost.
- As students advance through the education system, the reliance on private expenditure grows. On average across OECD countries, household contributions to educational expenses rise from 5% at primary level to 7% at secondary level and 19% at tertiary level. This underscores the importance of financial support at tertiary level to guarantee equitable access for all students.

Context

Ensuring individuals have access to high-quality learning opportunities, regardless of their background, is the backbone of an equitable education system. Analysing the funding mechanisms of different types of institutions allows for a deeper exploration of equity issues. Public education, funded and operated by government entities, is designed to be accessible to all students. In contrast, private institutions often charge tuition fees for programmes that are free in public institutions, creating financial barriers to access.

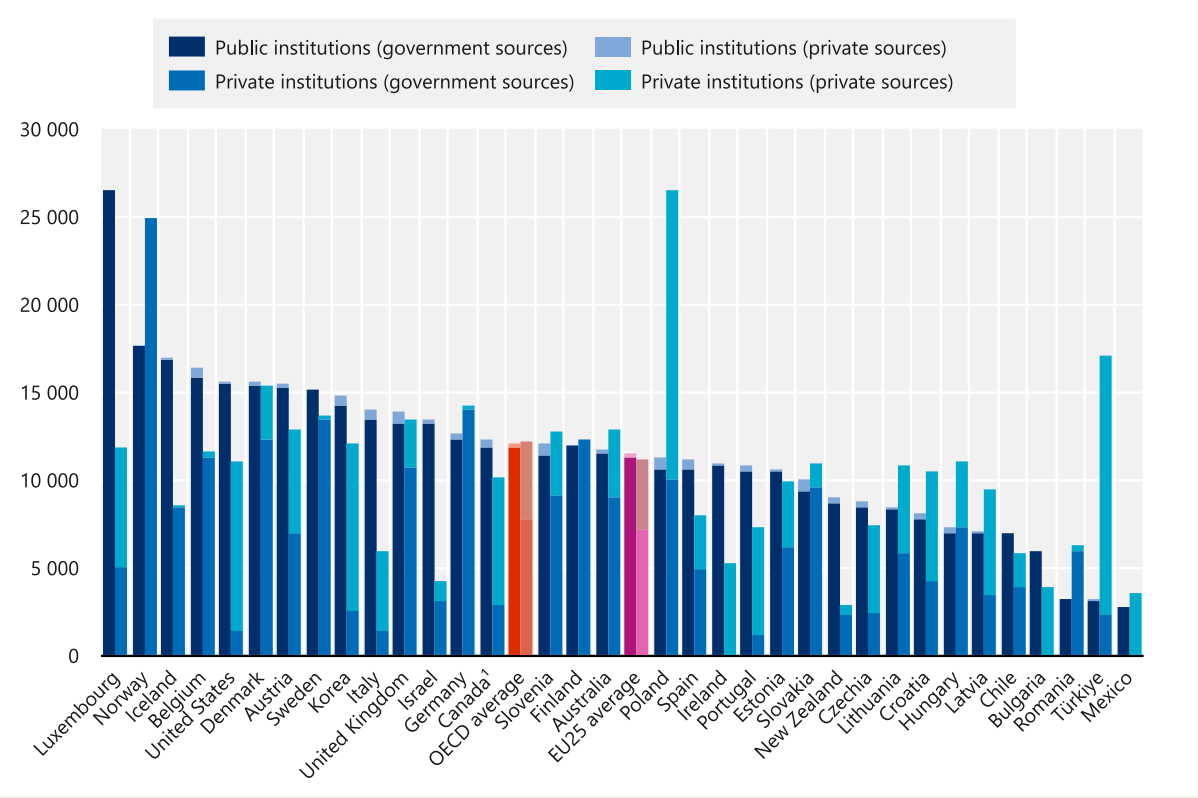
The relationship between private education and equity is complex. First, private institutions in some systems may be almost entirely government-funded, removing potential sources of inequity that would result from financial barriers, but others may rely exclusively on private tuition fees. Second, some drivers of inequity may exist no matter how private schools (and indeed public ones) are funded. For example, academic selection into certain schools is likely to lead to a more socio-economically homogeneous student body.

This chapter sheds light on these aspects by first looking at how much is spent per student in different types of institutions at primary level. It then analyses the proportion of government and private funding allocated to educational institutions at various education levels, and the relative importance of

government transfers to households in subsidising education. Finally, it examines recent trends in the sources of expenditure at tertiary education level.

Figure C3.1. Expenditure per full-time equivalent student in primary education, by type of institution and source of expenditure (2021)

In equivalent USD converted using PPPs, expenditure on educational institutions



1. Primary education includes pre-primary and lower secondary programmes.
Countries are ranked in descending order of total expenditure on public institutions per full-time equivalent student.
See Table C3.1. for data and under Chapter C3 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Other findings

- In OECD member and partner countries where private schools do not receive government funding, the sector tends to remain small in terms of the share of enrolment (e.g. Bulgaria, Ireland and Mexico).
- Household spending on education across OECD countries follows a U-shaped pattern, with larger shares of expenditure coming from private sources at pre-primary and tertiary levels, where education is mostly not compulsory. In contrast, compulsory primary and secondary education receives significant public investment, lowering the share of household contributions.
- In Japan, around half of tertiary education funding comes from households. Despite this, Japan has one of the highest proportions of 25-34 year-olds with tertiary degrees among OECD countries.
- Households in Romania have to contribute very little to tertiary education, with the share of expenditure remaining below 5% between 2015 and 2021. However, only 22% of 25-34 year-

olds in Romania have completed a tertiary degree, suggesting that participation in education is influenced by factors beyond its immediate cost to families, such as cultural norms.

Analysis

Government and private sources of expenditure on primary educational institutions

Expenditure per student in private versus public institutions

The way resources are allocated to public and private institutions varies widely across countries, although both types of institutions have similar average levels of expenditure per student at primary level (Figure C3.1.). On average across OECD countries, expenditure per student on primary institutions amounts to about USD 12 200 in public institutions, and to about USD 12 300 in private institutions. The government is the largest contributor in both cases, although it covers almost all expenditure in public institutions (about USD 11 900 per student) but less than 60% in private institutions (about USD 7 900 per student). The lower government expenditure on private institutions is compensated by money from private sources, mostly households. About USD 4 200 per student comes from household sources in private primary institutions, much higher than the USD 210 per student in public primary institutions (Table C3.1).

There is wide variation across countries in household spending on private primary institutions. In Poland, 7% of primary students are enrolled in private institutions with households spending more than USD 16 000 per student, while the government contributes over USD 10 000 per student, resulting in the largest amount spent on private primary institutions per student across OECD countries (about USD 26 600). This is more than double the amount spent per student in public institutions in Poland (about USD 11 600). Norway has the second highest expenditure on private primary institution per student across OECD countries (about USD 25 000) and, exceptionally, 100% of this expenditure comes from the government. This means the Norwegian government spends more per student on private primary institutions than on public ones (about USD 17 800). This is also the case in Finland, Germany, Hungary and Romania (Figure C3.1.).

Funding arrangements and size of the private sector

One question for policy makers is whether the private education sector is a source of inequity. The data show that how private schools are funded can vary significantly across countries. In some systems, private schools are funded in the same way as public schools and may enrol a large share of students. In other countries, private schools require students' families to fully fund their education and enrol only a small share of children. The equity implications of these different funding models are obviously very different. In addition, barriers to access may be non-financial – for example, selection mechanisms into private schools, such as entry exams, may also act as a vehicle for social segregation.

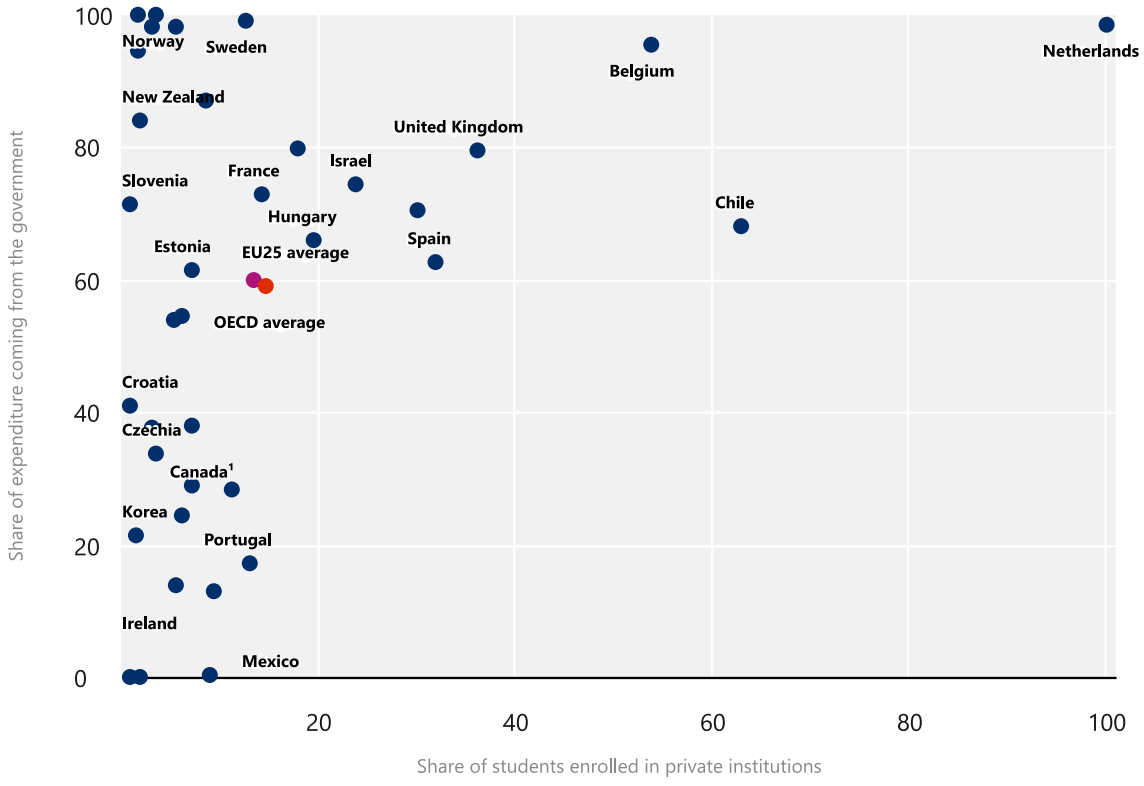
In countries where the private sector is relatively large, with an above-average share of students enrolled in private institutions, the share of expenditure coming from the government is also relatively high. For example, in the Netherlands, nearly all primary students are enrolled in government-dependent private institutions, which are 99% funded by the government. In Belgium, over half of primary students are enrolled in government-dependent private institutions and the government supports 95% of the expenditure in such institutions. Access to both public and government-dependent private institutions is tuition-free. In eight countries, private primary institutions are predominantly government funded (at least 95% of expenditure is provided by the government) (Figure C3.2). In these countries, students from lower socio-economic backgrounds are less likely to face financial barriers to private education. However, other factors, such as selection mechanisms for entry into private institutions, also affect the degree of socio-economic diversity within schools. Inclusive admissions policies can prevent students from privileged

socio-economic groups being concentrated in private schools and foster a more diverse learning environment.

The funding mechanism for private schools is very different in Bulgaria, Ireland and Mexico, where households cover 100% of the expenditure on private primary institutions. In these countries enrolment in private institutions is much lower, ranging from 1% in Ireland, to 2% in Bulgaria and 9% in Mexico (Figure C3.2). More broadly, in countries where private schools receive limited government funding and most expenditure is covered by private sources, private schools tend to have a small share of enrolment. This suggests that the requirement for families to fully or largely fund the education of their children creates a substantial barrier to participation. As financial barriers are most likely to affect lower-income households, reliance on private sources is likely to increase the concentration of students from privileged backgrounds in private schools.

Figure C3.2. Share of government funding and share of enrolment in private primary educational institutions (2021)

In per cent



Note: The share of students enrolled in private institutions is based on enrolment data adjusted to the financial year and may therefore differ from data on enrolment based on the school year.
1. Primary education includes pre-primary and lower secondary programmes.
See Table C3.2 for data and under Chapter C3 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

The balance of government and private sources across levels of education

In most OECD countries, the share of private expenditure is highest in pre-primary education and in tertiary education. The share of private expenditure and enrolment in private institutions also tends to increase

from primary to secondary and tertiary education. On average across OECD countries, 5% of expenditure on educational institutions at the primary level comes from households, rising to 7% at secondary level and 19% at tertiary level (Figure C3.3). This is in line with the share of students enrolled in private institutions which also increases with the level of education: 15% at primary, 21% at secondary and 32% at tertiary level (see Data Explorer).

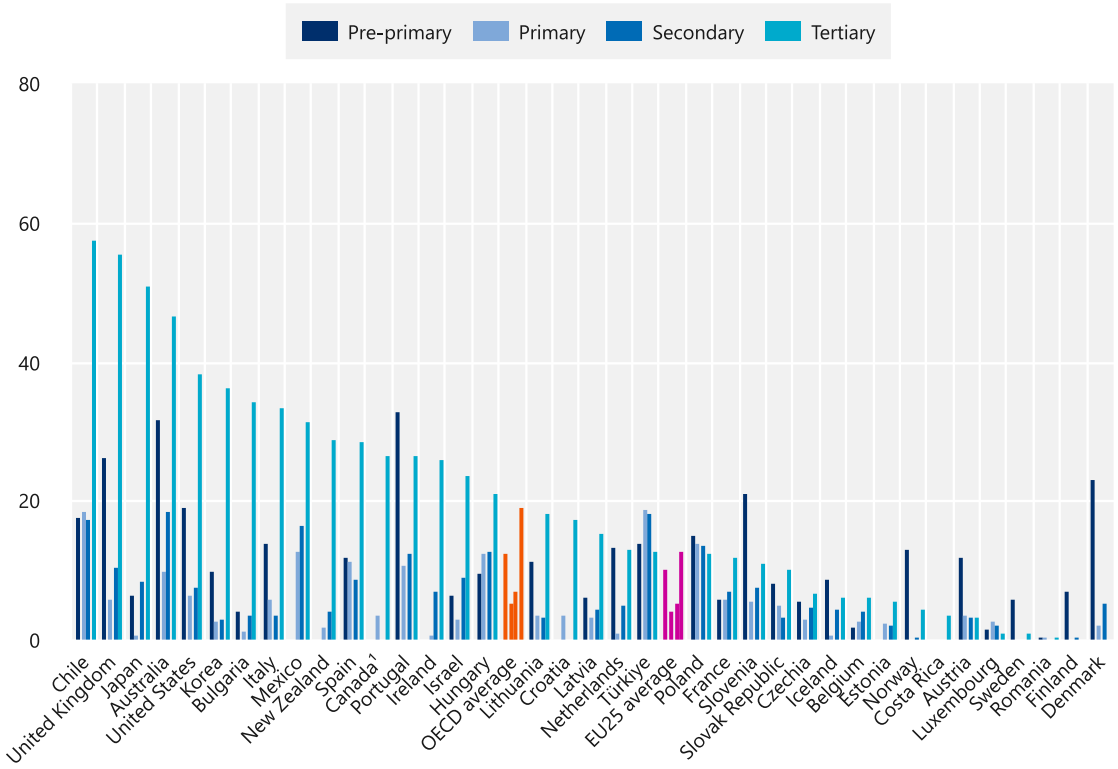
Tertiary education, unlike primary and secondary education, is not compulsory, and students pursue it with the expectation of gaining personal and professional benefits (see Chapter A4 on the earnings benefits associated with tertiary qualifications). Given that these benefits will accrue to the students, many countries require them to bear some of the costs of their education (see Chapter C5). How the costs of tertiary education are shared varies across countries – in Chile, Japan and the United Kingdom, over half is covered by households, while in Denmark, Finland, Luxembourg, Romania and Sweden, households cover 1% or less of the costs (Figure C3.3).

In many OECD countries, pre-primary education is also not compulsory (see Chapter B1) and households bear a significant portion of the costs. The associated equity challenge is that the significant financial burden on households can limit access to pre-primary education, in particular for children from lower-income families, and can create educational inequalities from an early age. The share of household contributions is higher at this level than any other level of education in some countries. For example, in Denmark, households cover 23% of pre-primary expenditure, whereas tertiary education costs are funded by the government (84%), other private entities (12%) and international sources (5%). Similarly, in Portugal, even though pre-primary education is free (see Chapter B1), households still contribute 33% of expenditure at that level, the highest among OECD countries, and more than their contribution to tertiary education (27%). In 13 OECD and partner countries, households bear a larger portion of the costs for pre-primary educational institutions than they do for tertiary ones (Figure C3.3).

The share of household expenditure on educational institutions therefore forms a U-shaped pattern on average across OECD countries, reflecting the non-compulsory nature of pre-primary and tertiary education and the higher enrolment in private institutions at these levels, resulting in greater shares of private spending. In contrast, compulsory primary and secondary education benefits from substantial public investment, reducing household contributions (Figure C3.3).

Figure C3.3. Share of expenditure on institutions coming from households, by level of education (2021)

In per cent, final source of funds



1. Primary education includes pre-primary and lower secondary programmes.
Countries are ranked in descending order of the share of expenditure on tertiary institutions coming from households.
See Table C3.2 for data and under Chapter C3 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Government transfers to households

Figure C3.3. provides data on expenditure based on the final sources of funds, i.e. after transfers from government to households in the form of student loans, scholarships and other grants. As a result, the share of household expenditure can appear high in many countries. Although these subsidies represent a small share at primary level, their relative importance increases with the level of education (Table C3.4., available on line).

By tertiary level, in some countries, government subsidies may exceed reported household expenditure on educational institutions. This is the case in Austria, Belgium, Ireland, Luxembourg, the Netherlands, Norway, Romania and Sweden, driven by different factors (Table C3.4., available on line). For instance, in Austria, estimates of household expenditure might not fully cover their actual spending. In the French Community of Belgium, receiving a scholarship exempts students from paying tuition fees. In Luxembourg, tuition fees are low and the government provides subsidies to students even if they live with their parents and pay no rent. Finally, in Sweden, grants and loans for students cover living costs, which are not categorised as household expenditure on education. In all these cases, reported household expenditure will be lower than the government subsidies received.

Trends in sources of expenditure in tertiary education

Trends in the distribution of expenditure on education illustrate changes in the financial burden borne by households during access to tertiary education. Figure C3.4 complements the analysis in Chapter C5, which focuses on tuition fees and public support for students. It illustrates the changes in the share of household expenditure on tertiary education between 2015 and 2021.

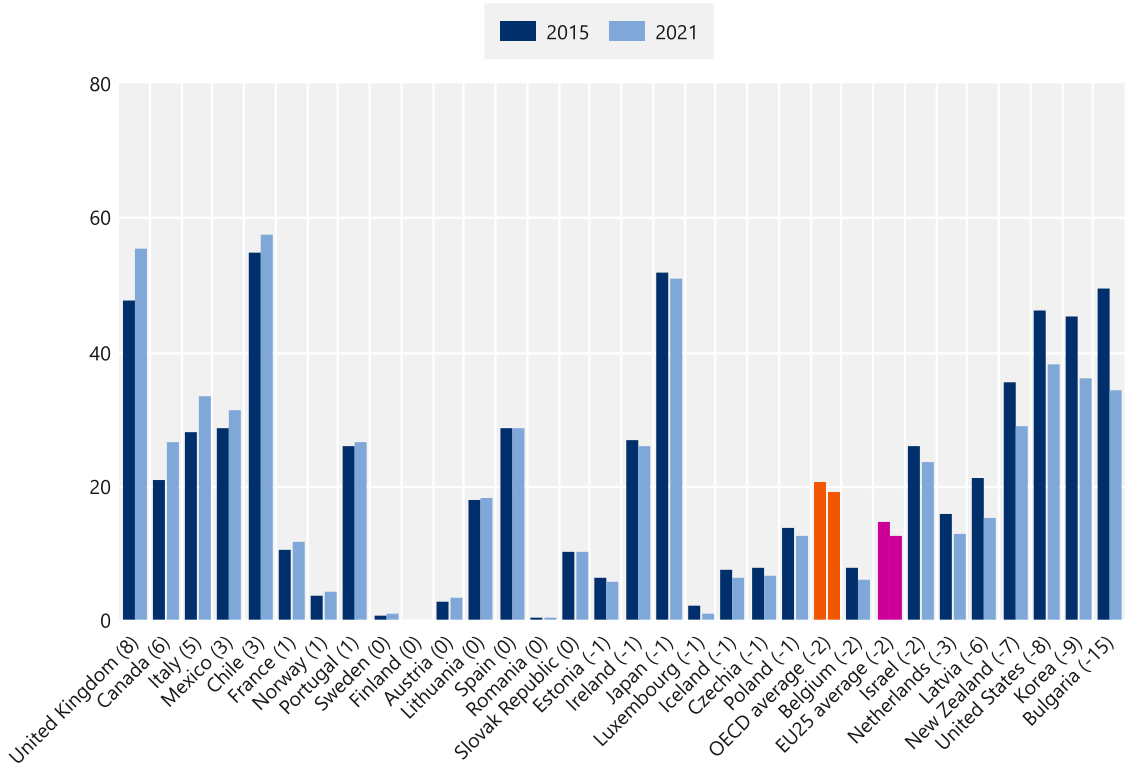
On average across OECD countries, household expenditure on tertiary education fell slightly, from 21% to 20% during this period and in the majority of OECD and partner countries, the share of expenditure coming from households remained stable or experienced little change. In 12 countries, the share changed by 1 percentage point or less between 2015 and 2021, showing that the share of the financial burden has not increased for families in most cases. Chile and the United Kingdom both have high reliance on private funding and saw an increase in the portion of tertiary education expenditure borne by households over this period (Figure C3.4). In the United Kingdom, the increase occurred in the context of various changes in the funding of tertiary education, including major increases in tuition fees in England (United Kingdom) since 2012 (Hubble and Bolton, 2018[1]) (see also Chapter C5 on tuition fees and financial support).

Meanwhile, some countries have seen significant decreases in the share of expenditure on tertiary institutions coming from households. The share in Bulgaria dropped from 50% to 35% between 2015 and 2021, suggesting enhanced public funding or subsidies aimed at reducing the financial burden on households. Similarly, in Korea, Latvia, New Zealand and the United States, households' share of expenditure fell by more than 5 percentage points over this period. For New Zealand the lower share in 2021 is largely due to the introduction in 2018 of zero fees for first-year domestic tertiary students, as well as fewer higher-fee paying international students in 2021 compared to 2015 (Figure C3.4).

In Japan, about half of the funding for tertiary education is provided by households, a share that has fallen only slightly, from 52% to 51%, between 2015 and 2021. Despite this significant household contribution, Japan remains one of the OECD countries with the highest proportion of 25-34 year-olds who hold a tertiary qualification (see Chapter A1). In contrast, in several countries the share of household contributions to tertiary education has remained well below the OECD average. In Austria, Finland, Norway, Luxembourg, Romania and Sweden, household expenditure remained below 5% of total contributions over this period. Yet in Romania, only 22% of 25-34 year-olds have completed a tertiary degree. This shows that participation in tertiary education is influenced by several factors beyond financial investment. These include cultural norms, social expectations, government policies and individual motivations.

Figure C3.4. Trends in the share of expenditure on tertiary institutions coming from households (2015 and 2021)

In per cent, final sources of funds



Note: Values in parentheses represent the difference between 2021 and 2015 in the share of expenditure on tertiary institutions coming from households.
Countries are ranked in descending order of the difference between 2021 and 2015 in the share of expenditure on tertiary institutions coming from households.
See Table C3.3 for data and under Chapter C3 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

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 chapter. Government subsidies for educational expenditure outside institutions are discussed in Chapter 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 here.

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[2]) and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* for country-specific notes (https://doi.org/10.1787/e7d20315-en).

Source

Data refer to the financial year 2021 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2023 (for details see Education at a Glance 2024 Sources, Methodologies and Technical Notes at https://doi.org/10.1787/e7d20315-en). Data from Argentina, China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

The data on expenditure for 2015 to 2021 were updated based on the UOE data collection in 2023 and adjusted to the methods and definitions used in the current UOE data collection.

Data from Table X2.2. are used to compute expenditure in constant 2015 prices and in equivalent USD converted using PPPs.

References

Hubble, S. and P. Bolton (2018), "Higher education tuition fees in England", *Briefing Paper*, No. 8151, House of Commons Library, https://dera.ioe.ac.uk/id/eprint/31330/1/CBP-8151%20_Redacted.pdf. [1]

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

Chapter C3 Tables

Tables Chapter C3. How much public and private investment in educational institutions is there?

StatLink https://stat.link/8h0ci3

Cut-off date for the data: 14 June 2024. Any updates on data and more breakdowns can be found on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

Table C3.1. Expenditure on educational institutions per full-time equivalent student, by type of institution and source of expenditure (2021)

In equivalent USD converted using PPPs for GDP, direct expenditure within educational institutions (final source of funds), by level of education

	Primary									
	Public institutions					Private institutions				
		Private sources					Private sources			
OECD countries	Government	Household expenditure	Expenditure by other private entities	All private sources	Non-domestic sources	Government	Household expenditure	Expenditure by other private entities	All private sources	Non-domestic sources
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	11 573	287	2	289	0	9 135	3 439	377	3 816	0
Austria	15 332	247	a	247	a	7 034	5 679	223	5 903	a
Belgium	15 897	542	0	542	0	11 356	310	19	329	206
Canada[1]	11 971[d]	57[d]	362[d]	419[d]	x(2,3)	2 953[d]	5 651[d]	1 568[d]	7 219[d]	a
Chile	7 081	0	0	0	a	4 031	1 865	21	1 886	a
Colombia	m	m	m	m	m	m	m	m	m	m
Costa Rica	5 124	m	m	m	m	4 031	m	m	m	m
Czechia	8 527	277	82	360	0	2 532	275	4 732	5 007	0
Denmark	15 461	0	167	167	0	12 336	2 003	1 123	3 127	0
Estonia	10 577	67	37	104	0	6 234	3 127	617	3 744	159
Finland	12 057	4	0	4	0	12 334	5	0	5	4
France	m	m	m	m	m	m	m	m	m	m
Germany	12 425	x(4)	x(4)	316	0	14 082	x(9)	x(9)	261	0
Greece	m	m	m	m	m	m	m	m	m	m
Hungary	7 072	x(4)	x(4)	354	0	7 361	x(9)	x(9)	3 786	0
Iceland[2,3]	16 899	121[d]	36	157[d]	0	8 526	116[d]	35	150[d]	0
Ireland	10 958	57	a	57	a	a	5 324	a	5 324	a
Israel	13 276	236	22	257	0	3 218	781	319	1 100	0
Italy	13 507	561	11	572	233	1 488	4 583	0	4 583	0
Japan	m	3	9	12	0	m	7 157	1 950	9 107	0
Korea	14 304	284	328[d]	613[d]	x(3)	2 577	9 164	383[d]	9 547[d]	x(8)
Latvia	7 064	68	22	89	18	3 573	5 429	498	5 927	11
Lithuania	8 424	76	71	147	16	5 910	4 749	292	5 041	21
Luxembourg	26 559	0	0	0	0	5 076	6 769	88	6 856	5 969
Mexico	2 808	51	a	51	0	7	3 676	a	3 676	0
Netherlands	a	a	a	a	a	12 641	165	a	165	11
New Zealand	8 719	165	207	372	0	2 440	465	0	465	0
Norway	17 779	0	0	0	0	25 031	a	0	0	0
Poland	10 674	663	64	727	177	10 066	16 276	235	16 510	a
Portugal	10 537	387	0	387	0	1 279	6 138	0	6 138	0
Slovak Republic	9 462	447	219	666	19	9 606	1 345	77	1 422	a
Slovenia	11 457	663	33	696	10	9 194	3 697	0	3 697	0
Spain	10 736	452	13	465	0	5 035	2 722	258	2 979	0
Sweden	15 233	a	a	a	a	13 567	128	a	128	a
Switzerland	19 679	a	m	m	0	32 352	m	m	m	0
Türkiye	3 133	84	41	125	24	2 389	12 433	2 289	14 722	a
United Kingdom	13 242	226	469	695	0	10 766	1 848	938	2 786	0
United States[4]	15 603	100	a	100	a	1 458	9 635	a	9 635	a
OECD average	11 914	211	88	290	19	7 867	4 165	617	4 395	266
Partner and/or accession countries										
Argentina	3 679	m	m	m	m	1 406	0	m	m	m
Brazil	3 668	m	m	m	m	a	m	m	m	m
Bulgaria	6 013	1	0	1	0	0	4 020	0	4 020	0
China	m	m	m	m	m	m	m	m	m	m
Croatia[5]	7 873[d]	256[d]	47[d]	303[d]	a	4 344[d]	4 366[d]	1 863[d]	6 229[d]	0[d]
India	m	m	m	m	m	m	m	m	m	m
Indonesia	m	m	m	m	m	m	m	m	m	m
Peru	2 022	m	m	m	m	m	m	m	m	m
Romania	3 241	15	4	19	30	6 038	15	324	339	7
Saudi Arabia	m	m	m	m	m	m	m	m	m	m
South Africa	2 888	326	m	m	m	m	m	m	m	m
EU25 average	11 322	252	45	297	28	7 322	3 673	575	3 979	355
G20 average	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter C3 Tables section for StatLink and Box C2.1. for the notes related to this Table.

	Tertiary									
	Public institutions					Private institutions				
		Private sources					Private sources			
	Government	Household expenditure	Expenditure by other private entities	All private sources	Non-domestic sources	Government	Household expenditure	Expenditure by other private entities	All private sources	Non-domestic sources
OECD countries	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Australia	10 940	13 265	5 325 [d]	18 590 [d]	x(13)	67	4 594	518 [d]	5 113 [d]	x(18)
Austria	25 226	395	820	1 215	a	9 452	2 304	4 955	7 258	a
Belgium	23 106	1 384	1 227	2 611	863	16 753	1 473	1 607	3 080	726
Canada [1]	12 952	6 525	4 842	11 367	87	a	a	a	a	a
Chile	9 459	5 232	943	6 175	a	3 048	6 360	315	6 675	a
Colombia	m	m	m	m	m	m	m	m	m	m
Costa Rica	14 555	606	703	1 309	3	a	a	a	a	a
Czechia	15 302	953	1 898	2 851	1 331	309	3 828	1 540	5 368	0
Denmark	22 444	0	3 089	3 089	1 249	2 491	607	23 374	23 981	0
Estonia	15 601	841	1 763	2 605	1 554	563	5 079	1 032	6 111	481
Finland	27 128	68	1 460	1 528	1 858	9 664	84	319	403	589
France	m	m	m	m	m	m	m	m	m	m
Germany	21 019	x(14)	x(14)	2 465	457	2 803	x(19)	x(19)	7 176	23
Greece	m	m	m	m	m	m	m	m	m	m
Hungary	15 488	x(14)	x(14)	2 239	366	22 083	x(19)	x(19)	8 674	0
Iceland [2, 3]	16 453	1 184	133	1 317	854 [d]	10 769	775	87	862	x(15)
Ireland	11 773	3 905	284	4 189	578	a	23 258	a	23 258	a
Israel	1 911	65	0	65	0	7 960	3 493	2 807	6 300	0
Italy	9 884	3 736	270	4 006	347	1 086	8 271	2 093	10 364	82
Japan	m	m	m	m	m	m	m	m	m	m
Korea	16 551	3 505	4 275 [d]	7 779 [d]	x(13)	3 450	5 296	2 122 [d]	7 418 [d]	x(18)
Latvia	10 280	823	222	1 045	108	8 273	2 227	1 414	3 641	1 856
Lithuania	11 202	2 357	1 281	3 638	345	1 445	4 556	448	5 004	625
Luxembourg	55 028	717	2 105	2 822	2 415	a	a	a	a	a
Mexico	6 452	338	a	338	0	0	4 821	a	4 821	0
Netherlands	19 049	2 585	1 281	3 866	817	a	7 934	17 116	25 050	a
New Zealand	11 190	5 294	2 353	7 647	0	5 610	4 882	0	4 882	0
Norway	27 616	9	771	780	473	7 257	6 558	648	7 207	173
Poland	16 851	1 239	988	2 227	649	2 726	4 069	237	4 306	0
Portugal	9 194	1 866	92	1 958	1 312	360	9 167	1 713	10 880	116
Slovak Republic	14 425	1 359	1 852	3 211	492	606	5 900	499	6 399	a
Slovenia	16 425	1 157	510	1 667	725	5 917	9 283	443	9 726	592
Spain	13 802	2 507	203	2 710	316	839	10 387	846	11 233	117
Sweden	24 886	326	2 972	3 298	1 267	14 337	342	2 313	2 655	769
Switzerland	33 126	m	m	m	m	11 389	m	m	m	m
Türkiye	9 247	183	1 139	1 322	119	9	7 145	3 353	10 498	a
United Kingdom	a	a	a	a	a	7 630	18 696	6 095	24 791	1 153
United States [4]	16 990	10 053	5 396	15 449	a	7 106	23 186	15 020	38 206	a
OECD average	17 138	2 416	1 662	3 918	688	5 655	6 592	3 497	9 711	m
Partner and/or accession countries										
Argentina	m	m	m	m	m	m	m	m	m	m
Brazil	13 569	m	m	m	m	a	m	m	m	m
Bulgaria	8 748	2 485	42	2 528	186	37	18 751	313	19 064	144
China	m	m	m	m	m	m	m	m	m	m
Croatia [5]	8 598	1 573	1 104	2 676	a	752	5 383	748	6 131	a
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	10 115	46	9	55	772	3 536	49	10	59	447
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	17 634	1 444	1 118	2 543	857	5 202	6 148	3 212	9 083	386
G20 average	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter C3 Tables section for StatLink and Box C3.1 for the notes related to this Table.

Table C3.2. Distribution of expenditure on educational institutions, by type of institution and source of expenditure (2021)

Direct expenditure within educational institutions (final source of funds), by level of education, in per cent

	Primary									
	Public institutions					Private institutions				
		Private sources					Private sources			
	Government	Household expenditure	Expenditure by other private entities	All private sources	Non-domestic sources	Government	Household expenditure	Expenditure by other private entities	All private sources	Non-domestic sources
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	98	2	0	2	0	71	27	3	29	0
Austria	98	2	a	2	a	54	44	2	46	a
Belgium	97	3	0	3	0	95	3	0	3	2
Canada[1]	97[d]	0[d]	3[d]	3[d]	x(2,3)	29[d]	56[d]	15[d]	71[d]	a
Chile	100	0	0	0	a	68	32	0	32	a
Colombia	m	m	m	m	m	m	m	m	m	m
Costa Rica	m	m	m	m	m	m	m	m	m	m
Czechia	96	3	1	4	0	34	4	63	66	0
Denmark	99	0	1	1	0	80	13	7	20	0
Estonia	99	1	0	1	0	62	31	6	37	2
Finland	100	0	0	0	0	100	0	0	0	0
France	96	4	0	4	0	73	27	0	27	0
Germany	98	x(4)	x(4)	2	0	98	x(9)	x(9)	2	0
Greece	m	m	m	m	m	m	m	m	m	m
Hungary	95	x(4)	x(4)	5	0	66	x(9)	x(9)	34	0
Iceland[2,3]	99	1[d]	0	1[d]	0	98	1[d]	0	2[d]	0
Ireland	99	1	a	1	a	a	100	a	100	a
Israel	98	2	0	2	0	75	18	7	25	0
Italy	94	4	0	4	2	25	75	0	75	0
Japan	m	m	m	m	m	m	m	m	m	m
Korea	96	2	2[d]	4[d]	x(3)	21	76	3[d]	79[d]	x(8)
Latvia	99	1	0	1	0	38	57	5	62	0
Lithuania	98	1	1	2	0	54	43	3	46	0
Luxembourg	100	0	0	0	0	28	38	0	38	33
Mexico	98	2	a	2	0	0	100	a	100	0
Netherlands	a	a	a	a	a	99	1	a	1	0
New Zealand	96	2	2	4	0	84	16	0	16	0
Norway	100	0	0	0	0	100	a	0	0	0
Poland	92	6	1	6	2	38	61	1	62	a
Portugal	96	4	0	4	0	17	83	0	83	0
Slovak Republic	93	4	2	7	0	87	12	1	13	a
Slovenia	94	5	0	6	0	71	29	0	29	0
Spain	96	4	0	4	0	63	34	3	37	0
Sweden	100	a	a	a	a	99	1	a	1	a
Switzerland	m	m	m	m	m	m	m	m	m	m
Türkiye	95	3	1	4	1	14	73	13	86	a
United Kingdom	95	2	3	5	0	79	14	7	21	0
United States[4]	99	1	a	1	a	13	87	a	87	a
OECD average	97	2	1	3	0	59	35	5	39	2
Partner and/or accession countries										
Argentina	m	m	m	m	m	m	m	m	m	m
Brazil	m	m	m	m	m	a	m	m	m	m
Bulgaria	100	0	0	0	0	0	100	0	100	0
China	m	m	m	m	m	m	m	m	m	m
Croatia[5]	96[d]	3[d]	1[d]	4[d]	a	41[d]	41[d]	18[d]	59[d]	0[d]
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	99	0	0	1	1	95	0	5	5	0
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	97	2	0	3	0	60	33	5	38	2
G20 average	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter C3 Tables section for StatLink and Box C3.1 for the notes related to this Table.

	Tertiary									
	Public institutions					Private institutions				
		Private sources					Private sources			
	Government	Household expenditure	Expenditure by other private entities	All private sources	Non-domestic sources	Government	Household expenditure	Expenditure by other private entities	All private sources	Non-domestic sources
OECD countries	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Australia	37	45	18[d]	63[d]	x(13)	1	89	10[d]	99[d]	x(18)
Austria	95	1	3	5	a	57	14	30	43	a
Belgium	87	5	5	10	3	81	7	8	15	4
Canada[1]	53	27	20	47	0	a	a	a	a	a
Chile	61	33	6	39	a	31	65	3	69	a
Colombia	m	m	m	m	m	m	m	m	m	m
Costa Rica	92	4	4	8	0	a	a	a	a	a
Czechia	79	5	10	15	7	5	67	27	95	0
Denmark	84	0	12	12	5	9	2	88	91	0
Estonia	79	4	9	13	8	8	71	14	85	7
Finland	89	0	5	5	6	91	1	3	4	6
France	83	4	10	14	2	17	41	42	83	0
Germany	88	x(14)	x(14)	10	2	28	x(19)	x(19)	72	0
Greece	m	m	m	m	m	m	m	m	m	m
Hungary	86	x(14)	x(14)	12	2	72	x(19)	x(19)	28	0
Iceland[2, 3]	88	6	1	7	5[d]	93	7	1	7	x(15)
Ireland	71	24	2	25	3	a	100	a	100	a
Israel	97	3	0	3	0	56	24	20	44	0
Italy	69	26	2	28	2	9	72	18	90	1
Japan	m	m	m	m	m	m	m	m	m	m
Korea	68	14	18[d]	32[d]	x(13)	32	49	20[d]	68[d]	x(18)
Latvia	90	7	2	9	1	60	16	10	26	13
Lithuania	74	16	8	24	2	20	64	6	71	9
Luxembourg	91	1	3	5	4	a	a	a	a	a
Mexico	95	5	a	5	0	0	100	a	100	0
Netherlands	80	11	5	16	3	a	32	68	100	a
New Zealand	59	28	12	41	0	53	47	0	47	0
Norway	96	0	3	3	2	50	45	4	49	1
Poland	85	6	5	11	3	39	58	3	61	0
Portugal	74	15	1	16	11	3	81	15	96	1
Slovak Republic	80	7	10	18	3	9	84	7	91	a
Slovenia	87	6	3	9	4	36	57	3	60	4
Spain	82	15	1	16	2	7	85	7	92	1
Sweden	84	1	10	11	4	81	2	13	15	4
Switzerland	m	m	m	m	m	m	m	m	m	m
Türkiye	87	2	11	12	1	0	68	32	100	a
United Kingdom	a	a	a	a	a	23	56	18	74	3
United States[4]	52	31	17	48	a	16	51	33	84	a
OECD average	79	11	7	18	3	34	48	18	66	m
Partner and/or accession countries										
Argentina	m	m	m	m	m	m	m	m	m	m
Brazil	m	m	m	m	m	a	m	m	m	m
Bulgaria	76	22	0	22	2	0	97	2	99	1
China	m	m	m	m	m	m	m	m	m	m
Croatia[5]	76	14	10	24	a	11	78	11	89	a
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	92	0	0	1	7	87	1	0	1	11
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	82	9	5	14	4	34	46	18	63	3
G20 average	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter C3 Tables section for StatLink and Box C3.1. for the notes related to this Table.

Table C3.3. Trends in the share of government, private and non-domestic expenditure on educational institutions (2015 and 2021)

Private and public institutions combined, direct expenditure within educational institutions (final source of funds), by level of education, in per cent

	Primary										Tertiary									
	Government		Private sources: Household expenditure		Private sources: Expenditure by other private entities		Private sources: All private sources		Non-domestic sources		Government		Private sources: Household expenditure		Private sources: Expenditure by other private entities		Private sources: All private sources		Non-domestic sources	
	2015	2021	2015	2021	2015	2021	2015	2021	2015	2021	2015	2021	2015	2021	2015	2021	2015	2021	2015	2021
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Australia	m	89	m	10	m	1	m	11	m	0	m	36	m	47	m	18[d]	m	64[d]	m	x(16)
Austria	96	96	3	4	1	0	4	4	a	a	94	89	3	3	3	7	6	11	a	a
Belgium	97	96	3	3	0	0	3	3	0	1	84	84	8	6	6	6	14	13	3	3
Canada[1]	91[d]	93[d]	4[d]	4[d]	6[d]	4[d]	9[d]	7[d]	a	a	57	53	21	27	22[d]	20[d]	43[d]	47[d]	x(15)	x(16)
Chile	82	81	18	19	0	0	18	19	m	a	36	39	55	58	9	4	64	61	m	a
Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Costa Rica	m	m	m	m	m	m	m	m	m	m	m	92	m	4	m	4	m	8	m	0
Czechia	94	94	5	3	1	3	6	6	0	0	65	76	8	7	12	10	20	17	15	7
Denmark	m	96	m	2	m	2	m	4	m	0	m	84	m	0	m	12	m	12	m	5
Estonia	92	96	7	3	0	1	8	3	0	0	71	77	6	6	17	9	24	15	5	8
Finland	100	100	0	0	0	0	0	0	0	0	93	89	0	0	3	4	3	5	4	6
France	93	94	7	6	0	0	7	6	0	0	78	69	11	12	10	17	20	29	2	2
Germany	97	98	x(7)	x(8)	x(7)	x(8)	3	2	0	0	83	84	x(17)	x(18)	x(17)	x(18)	15	14	2	2
Greece	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Hungary	91	87	x(7)	x(8)	x(7)	x(8)	9	13	0	0	63	78[b]	x(17)	x(18)	x(17)	x(18)	37	21[b]	0	1[b]
Iceland[2]	99	99	1	1[d]	0	0[d]	1	1[d]	0[d]	0[d]	89	89	8	6	1	1	8	7	2	4
Ireland	99	99	1	1	a	a	1	1	a	a	67	69	27	26	2	2	29	28	4	3
Israel	95	96	4	3	1	1	5	4	0	0	59	57	26	24	15	19	41	43	0	0
Italy	93	92	5	6	0	0	5	6	1	2	62	60	28	34	7	5	35	38	3	2
Japan	99	99	1	1	0	0	1	1	0	0	32	37	52	51	16	12	68	63	0	0
Korea	92	95	7	3	1[d]	2[d]	8[d]	5[d]	x(5)	x(6)	36	45	45	36	18[d]	19[d]	64[d]	55[d]	x(15)	x(16)
Latvia	98	96	2	3	0	1	2	4	0	0	73	62	21	16	1	10	23	25	5	13
Lithuania	96	95	3	4	1	1	4	5	0	0	72	71	18	18	7	8	25	27	3	3
Luxembourg	95	94	3	3	0	0	3	3	3	3	92	91	2	1	2	3	4	5	3	4
Mexico	86	87	14	13	0	a	14	13	0	0	71	68	29	32	0	a	29	32	a	0
Netherlands	98	99	2	1	a	a	2	1	0	0	68	72	16	13	13	12	29	25	3	3
New Zealand	93	96	4	2	3	2	7	4	0	0	51	59	36	29	13	12	49	41	0	0
Norway	100	100	0	0	0	0	0	0	0	0	96	91	4	5	0	3	4	7	0	2
Poland	92	84	7	14	0	1	8	15	1	1	79	80	14	13	2	5	16	18	5	3
Portugal	88	89	12	11	0	0	12	11	0	0	58	61	26	27	6	4	32	30	10	9
Slovak Republic	90	93	6	5	3	2	10	7	0	0	79	77	10	10	9	10	20	20	1	3
Slovenia	91	94	9	6	0	0	9	6	0	0	83	82	m	11	2	3	13	14	4	4
Spain	84	88	15	12	1	1	16	12	0	0	66	67	29	29	3	2	32	31	2	2
Sweden	100	100	a	0	a	a	a	0	a	a	85	84	1	1	10	10	11	12	4	4
Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Türkiye	80	77	15	19	5	4	19	23	0	1	m	72	m	13	m	14	m	27	m	1
United Kingdom	91	89	7	6	2	5	9	11	0	0	25	23	48	56	23	18	71	74	4	3
United States[3]	93	93	7	7	a	a	7	7	a	a	35	39	46	38	18	23	65	61	a	a
OECD average	93	93	6	5	1	1	7	6	0	0	67	68	21	19	8	9	29	28	3	3
Partner and/or accession countries																				
Argentina	m	m	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	m	m
Bulgaria	98	99	2	1	0	0	2	1	0	0	47	63	50	35	1	1	51	35	2	1
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia[4]	m	96[d]	m	4[d]	m	1[d]	m	4[d]	m	0[d]	m	73	m	17	m	10	m	27	m	a
India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Peru	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Romania	97	98	1	0	1	0	1	1	2	1	77	92	1	0	0	0	1	1	22	7
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
EU25 average	94	95	5	4	1	1	5	5	0	0	74	76	15	13	6	7	21	20	5	4
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter C3 Tables section for StatLink and Box C3.1 for the notes related to this Table.

Box C3.1. Notes for Chapter C3 Tables

Table C3.1. Expenditure on educational institutions per full-time equivalent student, by type of institution and source of expenditure (2021)

Note: Data on R&D are included in tertiary education, unless otherwise specified.

1. Primary education includes pre-primary and lower secondary programmes.
2. Household expenditure includes expenditure outside educational institutions.
3. At primary level, expenditure from the central government on government-dependent private institutions is included in expenditure on public institutions.
4. Figures are for net student loans rather than gross, thereby underestimating public transfers.
5. Primary includes lower secondary education.

Table C3.2. Distribution of expenditure on educational institutions, by type of institution and source of expenditure (2021)

Note: Data on R&D are included in tertiary education, unless otherwise specified.

1. Primary education includes pre-primary and lower secondary programmes.
2. Household expenditure includes expenditure outside educational institutions.
3. At primary level, expenditure from the central government on government-dependent private institutions is included in expenditure on public institutions.
4. Figures are for net student loans rather than gross, thereby underestimating public transfers.
5. Primary includes lower secondary education.

Table C3.3. Trends in the share of government, private and non-domestic expenditure on educational institutions (2015 and 2021)

Note: Data on R&D are included in tertiary education, unless otherwise specified. The share of expenditure from other private entities and from non-domestic sources is available for consultation on Data Explorer.

1. Primary education includes pre-primary and lower secondary programmes.
2. Household expenditure includes expenditure outside educational institutions.
3. Figures are for net student loans rather than gross, thereby underestimating public transfers.
4. Primary includes lower secondary education.

See *Definitions* and *Methodology* sections and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en) for more information.

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

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

Chapter C4. What is the total government spending on education?

Highlights

- Although most funding for primary education comes originally from central governments, how it is spent varies widely from country to country. In a few countries (Costa Rica, Ireland and New Zealand), all of the expenditure comes direct from central government, without transfers to lower governments. In other countries (e.g. Korea and Mexico) funding involves large transfers from central to lower levels of government. However there are other countries (e.g. Iceland, Germany and Switzerland) where local or regional governments are the main funding sources for primary education.
- Regional and local governments play a key role in spending on schools in many countries: on average, after transfers, 63% of government funds dedicated to primary education in OECD countries are spent by subnational governments.
- On average, the share of government expenditure OECD countries dedicated to education fell between 2015 and 2021. This is due to increased public spending on other functions: in most countries, public spending on education increased in real terms over this period, but more slowly than overall government spending.

Context

Governments are key sources of funding for primary and secondary schools. Countries vary widely in the roles played by different levels of government, ranging from fully centralised funding arrangements to countries where regional or local governments are the only sources of public funding for schools. In addition, countries may also transfer funding between levels of government for spending on schools, with some making extensive use of transfers – typically from central to regional or local levels. The different roles of subnational governments and transfer arrangements have important implications for equity. Greater responsibility at subnational level may be associated with greater local autonomy, which is desirable, but this needs to be balanced with tools to address inequalities as some localities or regions will have less capacity to raise revenue than others.

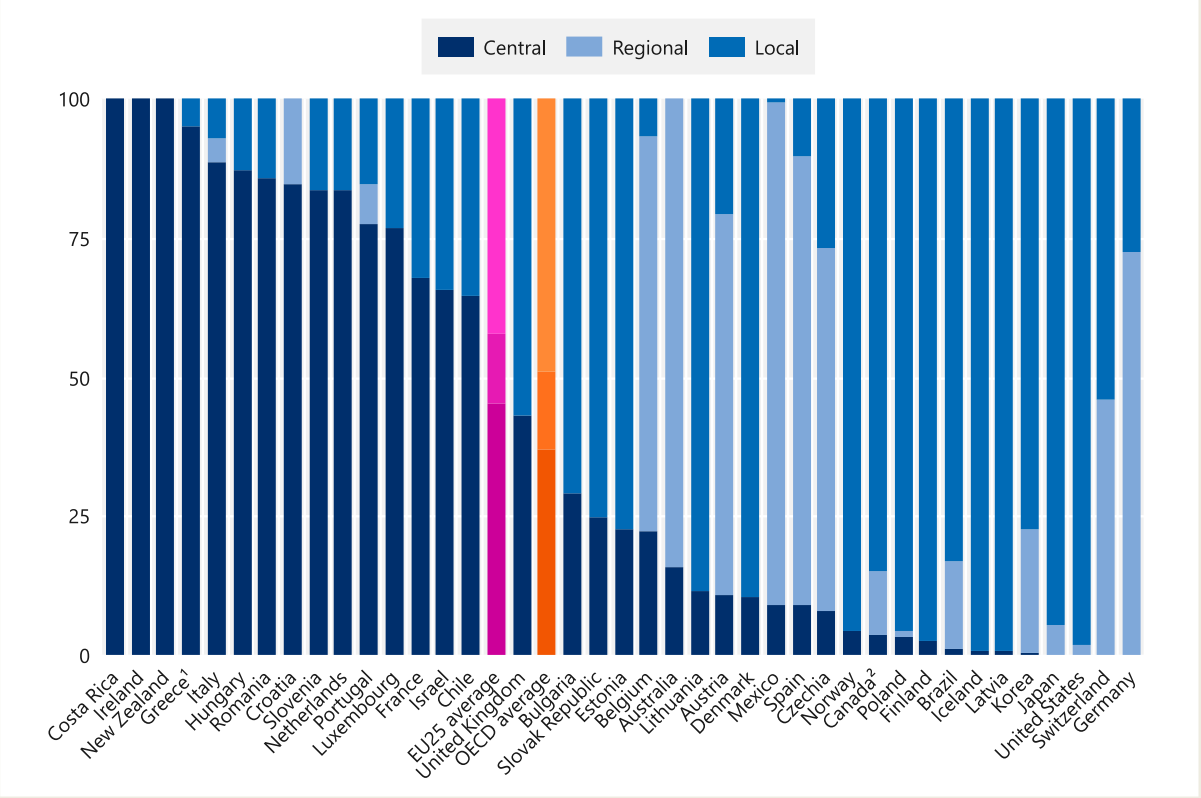
Education is one of the main functions on which governments spend money, alongside other key areas like health and social protection. In the context of competing pressures on government budgets, it is important to look at the choices different countries make in allocating budgets to different functions.

This chapter sets out the role of different levels of government in spending on primary schools (data for other levels of education are available in Table C4.1). This is followed by an analysis of transfers between levels of government, showing at which level of government funds originate and at which level they are ultimately spent. Finally, the analysis looks at how the share of government spending allocated

to education has changed in recent years, a clear demonstration of the priority given to education in relation to other areas of public expenditure.

Figure C4.1. Distribution of government expenditure on primary education by level of government (2021)

Final sources of funds, in per cent



1. Year of reference differs from 2021. Refer to Notes for Chapter C4 tables for more details.
2. Primary education includes pre-primary and lower secondary programmes.
Countries are ranked in descending order of the share of expenditure coming from central government sources.
See Table C4.2 for data and under Chapter C4 Tables section for StatLink. For more information see *Source* section *and Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Other findings

- Early childhood education receives a large share of government expenditure in some countries (over 3% of total government expenditure in Iceland and Sweden). On average across OECD countries, 1.7% of government expenditure is dedicated to this level of education.
- On average, 10% of government expenditure is dedicated to education from primary to tertiary levels (or 9.1% when spending on R&D is excluded). At least 13% of government expenditure goes to education in Israel and Mexico.
- When non-formal learning is included, 12% of government expenditure is dedicated to education. This makes education one of the largest areas of expenditure after social protection and health, and on a level with economic affairs and general public services.

Analysis

The role of different levels of government

Distribution of final expenditure on primary education

A variety of actors may raise and spend funds for education. Figure C4.1. shows how expenditure on primary education is shared between different levels of governments, after inter-governmental transfers (final funds). It shows the substantial role played by regional and local governments: on average almost two-thirds of funds are spent by subnational governments. This major role reflects a broader trend among OECD countries towards decentralisation of spending in various areas, including education, in particular in the 1990s and early 2000s (OECD, 2021[1]).

In a few countries, the funding of primary education is fully centralised (Costa Rica, Ireland and New Zealand), with central government the sole source of public funding (Figure C4.1.). Funding is also highly centralised in Greece, Italy, Hungary, Romania and Croatia, with over 85% of public expenditure spent directly by central governments. At the other end of the spectrum, the figure shows the key role played by federal states in Germany and autonomous communities in Spain (where 73% and 81% of government expenditure is at regional level, respectively), the sharing of responsibilities in Switzerland between regional cantons (46%) and local municipalities (54%), and the predominant role of local school districts in the United States (98% of expenditure is at local level). While not measured here, there is also considerable variation across countries in the kind of roles and decision-making powers regional and local authorities have. For example, subnational authorities may have different responsibilities depending on the type of expenditure (e.g. capital versus current) or the level of education considered (OECD, 2017[2])

The evidence suggests that, on its own, the distribution of spending across different levels of government is not associated with differences in key outcomes. A cross-country study of decentralisation and educational performance (Lastra-Anadón and Mukherjee, 2019[3]) found no significant relationship between the share of education spent subnationally and Programme for International Student Assessment (PISA) results. What seems to matter is how resources are raised and managed.

The role of inter-government transfers in funding

On average, over half of public funding for primary education comes originally from central government, with much of it transferred to regional or local authorities to spend (Figure C4.2). Lower levels of government often supplement this central government funding from their own revenues. This reflects a broader pattern across OECD countries: government spending (across different sectors, not just education) tends to be more decentralised than revenue (OECD, 2021[1]).

When subnational sources play a major role in education funding, this can create an equity challenge: ensuring that underprivileged areas, with less capacity to raise revenue, are not left behind. At the same time, some spending differences may also be due to factors that do not raise equity issues. For example, geographic location and population density may vary considerably across regions and shape spending patterns (e.g. when teacher salaries are adjusted to reflect the cost of living, spending per student will be higher in costly urban areas). Figure C1.5. in Chapter C1 illustrates the disparities that can exist in spending per student in different regions. In the United States, for example, where the federal government plays only a minor role in funding schools, spending per student in primary and secondary education is three times higher in the District of Columbia than it is in Idaho. In Canada, where the federal government also plays a minor role in funding schools, over twice as much is spent per student in the Northwest Territories as in British Columbia.

Transfers from central to regional or local levels are one of the tools used to share responsibility for funding and, if necessary, provide supplementary funding to areas in need. However, transfer mechanisms

designed to equalise expenditure can raise other issues. For example, they might have the unintended effect of reduced tax effort or overspending at subnational level, while fluctuations in transfers may make planning at regional or local level difficult (OECD, 2017[2]).

Figure C4.2. shows the role of central governments in funding primary education. Initial funds refer to expenditure that originates from central government and which might be spent directly on education or transferred in turn to lower levels of government. Final funds refer to funding that ends up being spent directly by the individual levels of government, after transfers have been taken into account.

In several countries, the bulk of the money that comes from central government is channelled to schools via regional or local governments. For example, in Korea 80% of funding for primary education comes from central government, but only 1% is spent directly at central level, as regional governments are responsible for 22% of final expenditure and local governments for 77%. Similarly, in Mexico 83% of funding originates from central government, but the money is predominantly spent by state governments, at the regional level. In Chile, on the other hand, all of the funding transferred from central government level goes directly to the local municipalities. Most of their expenditure comes from central government sources, only supplemented by a small extent (2% of expenditure) from local funds (Table C4.2).

In some education systems, funding is highly decentralised and transfers between government levels are relatively small. The funding of primary education is highly decentralised in Iceland, Germany and Switzerland, for example (Figure C4.2). Transfers are also uncommon in some countries where responsibility for financing primary education is shared between central and lower level governments. For example, in France two-thirds of the funding comes from and is spent by central government, while the rest is directly raised and spent by municipalities. Similarly, in the United Kingdom, funding involves a mix of sources and spending at the level of local authorities and central governments (with each of the four nations being responsible for financing primary education).

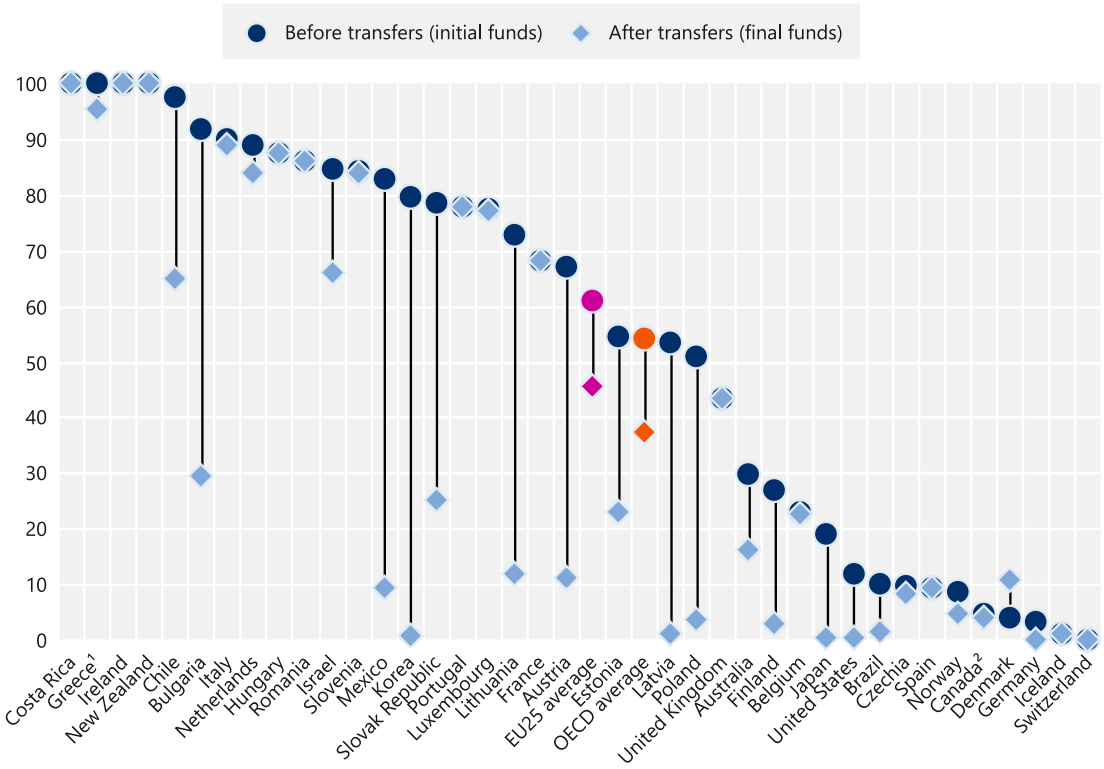
Education in the context of competing pressures on government resources

Trends in the share of government expenditure dedicated to education

Governments face competing pressures on tight public budgets. How government funds are shared across different functions matters. Education is one of the key areas of investment for long-term growth and a more equitable distribution of incomes. Various cross-national studies focusing on OECD countries have shown that allocating an increasing share of spending on education, even while keeping overall public expenditure the same, has a positive impact on long-term economic growth and can help increase income levels ((Barbiero and Cournède, 2013[4]), (Fournier and Johansson, 2016[5]), (Gemmell, Kneller and Sanz, 2016[6])).

Figure C4.2. Central government's share of education expenditure on primary education before and after inter-governmental transfers (2021)

In per cent



1. Year of reference differs from 2021. Refer to Notes for Chapter C4 tables for more details.
2. Primary education includes pre-primary and lower secondary programmes.
Countries are ranked in descending order of the share of expenditure coming from central government sources.
See Table C4.2. for data and under Chapter C4 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Yet the average share of government expenditure dedicated to education has fallen slightly since 2015 across OECD countries (Table C4.3.). This holds for both primary to post-secondary non-tertiary education, with an average annual change of -1.3%, and for tertiary education, where the decrease was 1.8%. The drop was particularly significant in Costa Rica (average annual change of -7.5%), Latvia (-6.1%) and Mexico (-2.2%), where education expenditure (from primary to tertiary) fell between 2015 and 2021 not just as a share of overall government expenditure but also in real terms. In most other countries, the amount of public expenditure dedicated to education remained stable or increased over the period, even if its share of public expenditure fell. This is consistent with analysis of longer-term trends (since 2000), which found that on average government expenditure on educational institutions has been growing, but government expenditure on all services has grown even faster, particularly since 2019 (OECD, 2023, p. 290[7]).

These results should be interpreted in the context of broader evidence on changes in the mix of public spending. Although reallocating funds to different functions might be desirable, it may not happen because such decisions are politically hard to negotiate and implement. A recent OECD study (Barnes, Cournède and Pascal, 2023[8]) found that the propensity of countries to change their mix of public spending varies considerably, and there is more active reallocation in countries with better governance. The study also

found that governments tend to avoid nominal cuts in many functions, especially health and social protection, so the room for reallocation depends on inflation rates. In this context, one question to be explored in the coming years is whether the downward trend in the share of public spending dedicated to education has continued, stopped or been reversed during the recent period of high inflation.

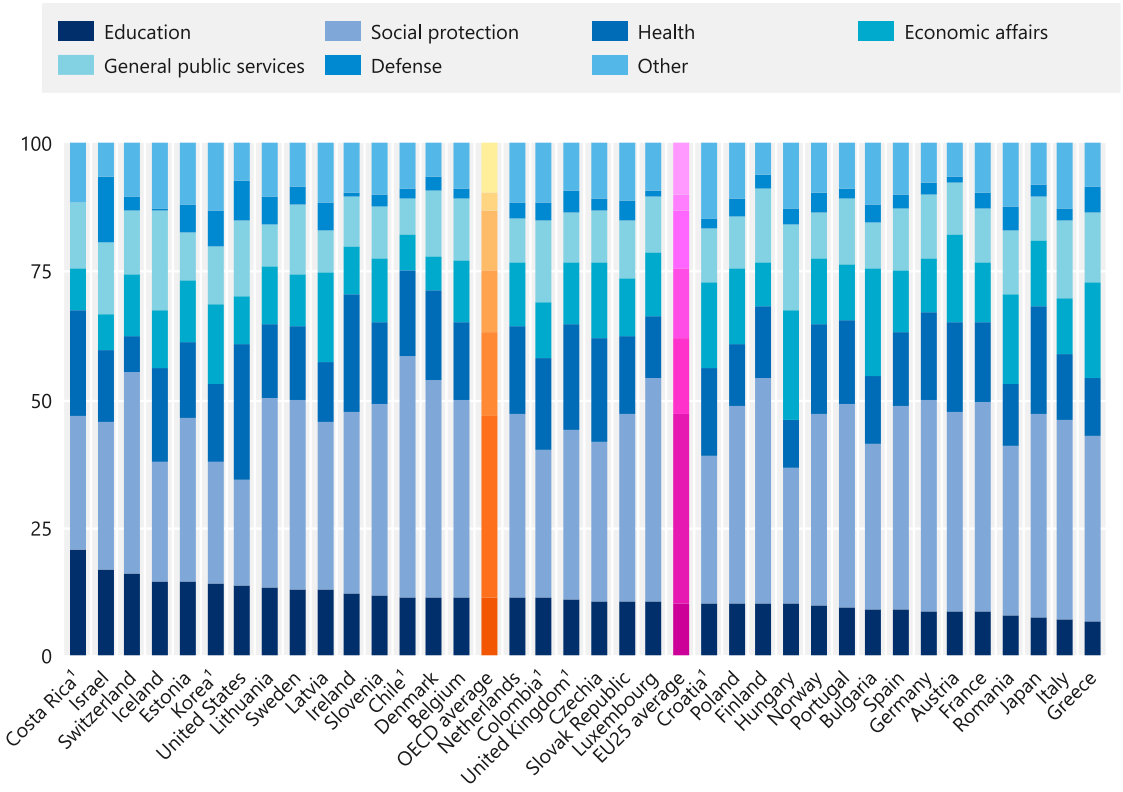
Education expenditure in the wider context of government spending

The share of government expenditure allocated to education varies considerably across countries. On average, 10% of government spending goes to education provided at primary to tertiary levels (9.1% when R&D is excluded). Some countries devote a particularly high share of government spending to education: the figure is 13% or more in Israel and Mexico. The availability of data on early childhood education and care is sometimes quite limited, even though investment at this level is widely seen as key for creating strong foundations for further learning. On average across OECD countries, 1.7% of government expenditure is dedicated to this level of education. Some countries (Iceland and Sweden) direct over 3% of government spending to early childhood educational development and/or pre-primary education (Table C4.1).

Figure C4.3. shows education expenditure in the context of government spending on other functions. On average, 12% of government expenditure is dedicated to education (which here includes non-formal learning, hence the higher figure than in Table C4.1.). Education is one of the largest areas of expenditure after social protection and health, and on par with economic affairs and general public services. There is much variation across countries, ranging from Costa Rica, Israel and Switzerland, which dedicate over 15% of government expenditure to education, to Italy and Greece, which dedicate only around 7%. In almost all countries, social protection receives the largest share of government expenditure, with much variation in its size across countries (ranging from less than 25% in Korea and the United States to over 40% in Chile, Denmark, Finland, France, Germany and Luxembourg). Health receives the second largest share (16% on average across OECD countries), with again much variation across countries: ranging from less than 10% in Hungary and Switzerland, to 26% in the United States.

Figure C4.3. Distribution of government expenditure by function (2022)

In per cent, data based on the Classification of the Functions of Government (COFOG)



Note: The category "Other" includes Public order and safety, Environmental protection, Housing and community amenities, and Recreation, culture and religion. COFOG data are not fully comparable to UOE data due to differences in underlying definitions. Notably, non-formal learning is excluded from UOE data but included in COFOG data.

1. Year of reference differs from 2022. Refer to Notes for Chapter C4 tables for more details.

Countries are ranked in descending order of the share of government expenditure allocated to education.

See Table C4.4., available online, for data and under Chapter C4 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

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 chapters 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 channeled 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 are based on data from the *OECD National Accounts Statistics Database* (see Annex X.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[9]).

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.

Data from Table X2.1. are used for the computation of expenditure on education as a share of total government expenditure on all services. Data from Table X2.2. are used to transform expenditure in constant 2015 prices and in equivalent USD converted using PPPs.

For more information, please see the *OECD Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018[10]) and *Education at a Glance 2024 Sources, Methodologies and Technical Notes*, (https://doi.org/10.1787/d7f76adc-en).

Source

Data refer to the financial year 2021 (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 Education at a Glance 2024 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).

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Chapter C4 Tables

Tables Chapter C4. What is the total government spending on education?

StatLink https://stat.link/dip1e8

Cut-off date for the data: 14 June 2024. Any updates on data and more breakdowns can be found on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

Table C4.1. Government expenditure on education as a percentage of total government expenditure (2021)

Initial sources of funds, by level of education

	Early childhood education				Secondary			Tertiary		Primary to tertiary	
	Early childhood educational development	Pre-primary	All programmes	Primary	Lower secondary	Upper secondary	Post-secondary non-tertiary	Including R&D	Excluding R&D	Including R&D	Excluding R&D
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Australia	0.4	0.7	1.1	3.9	2.7	1.5	0.2	2.6	1.4	11.0	9.8
Austria	0.2	1.0	1.2	1.7	2.0	1.6	0.0	3.3	2.2	8.6	7.4
Belgium	m	1.3	m	2.8	1.6	3.0 d	x(6)	2.8	2.0	10.2	9.4
Canada[1,2]	m	m	m	4.3 d	x(4)	2.4	m	2.4	m	9.1 d	m
Chile	0.6	1.8	2.5	4.2	1.8	2.6	a	3.8	3.6	12.4	12.2
Colombia	m	m	m	m	m	m	m	m	m	m	m
Costa Rica	0.5	0.5	1.0	4.4	2.2	2.8	a	3.1	3.1	12.5	12.5
Czechia	a	1.4	1.4	2.0	2.8	2.0	0.0	1.9	1.2	8.8	8.1
Denmark	1.0	1.0	2.0	3.2	2.1	2.0	a	4.8	3.3	12.1	10.6
Estonia	x(3)	x(3)	2.7	3.7	2.0	1.4	0.2	2.7	1.6	9.9	8.9
Finland	0.7	1.4	2.0	2.5	2.0	2.4 d	x(6)	2.7	1.8	9.7	8.7
France	a	1.1	1.1	2.0	2.0	1.9	0.0	2.1	1.5	8.0	7.5
Germany[3]	0.7	1.3	2.0	1.5	2.5	1.6 d	0.2	2.6	1.7	8.5	7.6
Greece[4]	m	0.6	m	2.4	1.3	1.1	0.0	1.3	0.8	6.1	5.6
Hungary	0.1	1.2	1.3	1.5	1.4	1.6	0.2	2.7	2.3	7.4	7.0
Iceland	1.7	2.0	3.7	4.8	2.2	2.0	0.1	2.9	m	12.1	m
Ireland	x(3)	x(3)	0.6	4.3	1.9	2.0	0.3	3.2	2.6	11.7	11.2
Israel	0.2	2.0	2.2	6.3	x(6)	4.7 d	0.0	1.9	m	13.0	m
Italy	a	0.8	0.8	2.0	1.1	2.1 d	x(6)	1.5	1.1	6.7	6.3
Japan[5]	a	0.3	0.3	2.5	1.5	1.5 d	x(6,8)	1.6 d	m	7.1	m
Korea	m	1.2	m	4.0	2.3	2.9	a	2.4	1.7	11.7	11.0
Latvia	0.4	2.0	2.4	2.7	1.4	1.8	0.1	1.9	1.4	7.9	7.5
Lithuania	0.5	2.2	2.7	2.0	2.9	1.2	0.3	2.3	1.5	8.7	7.9
Luxembourg	a	1.2	1.2	2.6	1.8	2.0	0.0	1.1	0.7	7.5	7.1
Mexico	x(3)	x(3)	1.6	5.1	2.6	2.8	a	3.3	2.6	13.8	m
Netherlands	a	0.8	0.8	2.7	2.4	2.3	a	3.8	2.7	11.2	10.1
New Zealand	0.6	0.8	1.4	3.0	2.3	2.1	0.5	3.1	2.6	10.9	10.4
Norway	1.3	1.3	2.7	3.5	1.6	2.6	0.1	4.1	3.1	11.9	10.9
Poland	a	1.7	1.7	2.4	2.1	1.8	0.1	2.5	1.7	8.9	8.1
Portugal	m	0.8	m	3.0	2.3	2.2 d	x(6)	1.8	1.1	9.2	8.5
Slovak Republic	a	1.4	1.4	2.4	2.4	2.1	0.1	2.1	1.5	9.2	8.6
Slovenia	0.6	1.1	1.7	3.2	1.6	2.0	a	2.3	1.9	9.1	8.7
Spain	0.3	1.0	1.3	2.5	1.8	2.0 d	x(6)	2.2	1.6	8.4	7.8
Sweden	1.1	2.2	3.3	3.8	1.8	2.6	0.2	3.7	2.5	12.1	10.9
Switzerland	a	1.2	1.2	4.3	2.4	2.3 d	x(6)	3.6	1.8	12.6	10.8
Türkiye	m	0.6	m	2.1	2.1	2.5	a	4.1	3.0	10.7	9.7
United Kingdom	0.1	0.4	0.5	3.6	1.8	2.3	a	3.1	2.5	10.7	10.2
United States	m	0.6	m	3.2	1.8	1.8	0.0	3.4	3.0	10.3	9.9
OECD average	m	1.2	1.7	3.1	2.1	2.2	m	2.7	2.0	10.0	9.1
Partner and/or accession countries											
Argentina[4]	a	1.2	a	3.7	2.4	1.9	0.0	2.6	m	10.6	m
Brazil	x(3)	x(3)	2.2	3.1	2.8	2.3 d	x(6)	2.4	2.1	10.6	10.3
Bulgaria	a	2.5	2.5	2.3	2.3	2.3	0.0	2.0	1.9	8.9	8.8
China	m	m	m	m	m	m	m	m	m	m	m
Croatia	x(3)	x(3)	1.2	3.6 d	x(4)	1.8	a	1.8	1.8	7.2	m
India	a	m	m	3.6	2.0	3.1	0.0	4.5	m	13.2	m
Indonesia	m	m	m	m	m	m	m	m	m	m	m
Peru	m	m	m	m	m	m	m	2.7	m	m	m
Romania	0.1	0.9	1.0	1.0	1.8	1.7	0.1	1.9	1.9	6.4	6.4
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m
South Africa	m	0.3	m	7.4	2.2	3.7	0.4	3.5	m	17.3	m
EU25 average	m	1.3	1.7	2.6	2.0	1.9	0.1	2.4	1.8	8.9	8.3
G20 average	m	m	m	3.5	2.1	2.3	m	2.8	m	10.6	m

Note: See under Chapter C4 Tables for StatLink and Box C4.1 for the notes related to this Table.

Table C4.2. Distribution of sources of total government funds devoted to education, by level of government (2021)

Percentage of total government expenditure, before and after transfers, by level of education

	Primary						Tertiary						Primary to post-secondary non-tertiary					
	Initial funds (before transfers between levels of government)			Final funds (after transfers between levels of government)			Initial funds (before transfers between levels of government)			Final funds (after transfers between levels of government)			Initial funds (before transfers between levels of government)			Final funds (after transfers between levels of government)		
	Central	Regional	Local	Central	Regional	Local	Central	Regional	Local	Central	Regional	Local	Central	Regional	Local	Central	Regional	Local
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Australia	30	70 d	x(2)	16	84 d	x(5)	91	9 d	x(8)	89	11 d	x(11)	35	65 d	x(14)	21	79 d	x(17)
Austria	67	14	19	11	69	21	97	3	0	97	3	0	76	13	11	39	49	12
Belgium	23	73	4	23	71	7	15	84	1	14	84	2	22	76	2	22	74	4
Canada[1]	5 d	78 d	18 d	4 d	11 d	85 d	m	m	m	m	m	0	5	78	18	4	11	85
Chile	98	a	2	65	a	35	100	a	0	100	a	0	98	a	2	64	a	36
Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Costa Rica	100	a	a	100	a	a	100	a	0	100	a	0	100	a	0	100	a	0
Czechia	10	64	27	8	65	27	97	2	1	97	2	1	9	68	23	8	69	23
Denmark	4	a	96	11	a	89	100	a	0	100	a	0	32	a	68	38	a	62
Estonia	54	a	46	23	a	77	100	a	0	100	a	0	60	a	40	32	a	68
Finland	27	a	73	3	a	97	98	a	2	98	a	2	33	a	67	8	a	92
France	68	0	32	68	0	32	88	8	5	88	8	5	73	16	11	73	16	11
Germany	3	79	17	0	73	27	29	70	1	24	75	1	7	75	18	5	70	25
Greece[3]	100	a	0	95	a	5	100	a	a	100	a	a	100	a	0	95	a	5
Hungary	88	a	12	87	a	13	100	a	0	100	a	0	92	a	8	92	a	8
Iceland	1	a	99	1	a	99	100	a	0	100	a	0	24	a	76	23	a	77
Ireland	100	a	a	100	a	a	100	a	a	100	a	a	100	a	a	100	a	a
Israel	85	a	15	66	a	34	97	a	3	96	a	4	90	a	10	69	a	31
Italy	90	4	6	89	4	7	86	14	0	84	16	0	88	6	6	87	6	7
Japan[2]	19	42	39	0	5	94	91 d	9 d	0 d	90 d	9 d	0 d	18	53	29	1	30	69
Korea	80	18	3	1	22	77	96	2	1	96	2	1	81	17	2	1	46	53
Latvia	53	a	47	1	a	99	99	a	1	99	a	1	61	a	39	20	a	80
Lithuania	73	a	27	12	a	88	99	a	1	99	a	1	76	a	24	23	a	77
Luxembourg	77	a	23	77	a	23	100	a	0	100	a	0	91	a	9	91	a	9
Mexico	83	17	0	9	90	0	83	17	0	80	19	0	80	20	0	28	72	0
Netherlands	89	0	11	84	0	16	100	0	a	100	0	a	94	0	6	92	0	8
New Zealand	100	0	0	100	0	0	100	0	0	100	0	0	100	0	0	100	0	0
Norway	9	a	91	5	a	95	99	a	1	98	a	2	13	a	87	10	a	90
Poland	51	0	49	4	1	95	100	0	0	100	0	0	58	1	41	3	2	95
Portugal	78	7	15	78	7	15	100	0	0	100	0	0	81	7	13	81	7	13
Slovak Republic	78	a	22	25	a	75	100	a	0	99	a	1	81	a	19	28	a	72
Slovenia	84	a	16	84	a	16	99	a	1	99	a	1	89	a	11	89	a	11
Spain	9	81	10	9	81	10	18	81	1	18	81	1	11	83	6	11	83	6
Sweden	m	m	m	m	m	m	98	2	0	98	2	0	m	m	m	m	m	m
Switzerland	0	51	49	0	46	54	33	67	0	16	84	0	3	62	35	1	60	39
Türkiye	m	a	m	m	a	m	m	a	m	m	a	0	m	a	m	m	a	m
United Kingdom	43	a	57	43	a	57	100	a	0	100	a	0	60	a	40	60	a	40
United States	12	39	49	0	2	98	63	28	9	63	28	9	12	39	49	1	2	97
OECD average	55	15	29	39	14	47	88	11	1	87	12	1	60	16	24	45	15	40
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	10	14	76	2	16	83	72	27	1	72	27	1	15	44	41	7	45	49
Bulgaria	92	a	8	29	a	71	100	a	0	100	a	0	93	a	7	34	a	66
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	85 d	15 d	a	99	m	m	99	a	1	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	86	a	14	86	a	14	100	a	0	100	a	0	76	a	24	76	a	24
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	61	13	26	46	13	42	89	10	1	88	11	1	65	14	21	50	15	35
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter C4 Tables for StatLink and Box C4.1. for the notes related to this Table.

Table C4.3. Change in government expenditure on education as a percentage of total government expenditure between 2015 and 2021

	Primary, secondary and post-secondary non-tertiary				Tertiary				Primary to tertiary (including R&D)			
	Public expenditure on education as a percentage of total government expenditure		Average annual change between 2015 and 2021		Public expenditure on education as a percentage of total government expenditure		Average annual change between 2015 and 2021		Public expenditure on education as a percentage of total government expenditure		Average annual change between 2015 and 2021	
	2015	2021	Change in government expenditure on education as a percentage of total government expenditure	Change in government expenditure on education	2015	2021	Change in government expenditure on education as a percentage of total government expenditure	Change in government expenditure on education	2015	2021	Change in government expenditure on education as a percentage of total government expenditure	Change in government expenditure on education
	%	%	%	%	%	%	%	%	%	%	%	%
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Australia	m	8.4	m	m	m	2.6	m	m	m	11.0	m	m
Austria	6.1	5.3	-2.3	0.2	3.5	3.3	-0.9	1.6	9.5	8.6	-1.8	0.7
Belgium	7.8	7.4	-1.0	0.7	2.7	2.8	0.5	2.3	10.5	10.2	-0.6	1.1
Canada[1]	7.8[d]	6.7[d]	-2.5[d]	1.0[d]	3.8	2.4	-7.5	-4.2	11.6[d]	9.1[d]	-4.0[d]	-0.6[d]
Chile	10.8	8.6	-3.8	3.1	5.0	3.8	-4.4	2.5	15.8	12.4	-4.0	2.9
Colombia	m	m	m	m	m	m	m	m	m	m	m	m
Costa Rica	15.1	9.4	-7.6	-0.4	4.8	3.1	-6.9	0.3	19.9	12.5	-7.5	-0.3
Czechia	5.9	6.8	2.4	6.2	1.8	1.9	1.0	4.7	7.8	8.8	2.1	5.9
Denmark	m	7.3	m	m	m	4.8	m	m	m	12.1	m	m
Estonia	6.9	7.2	0.6	5.5	3.5	2.7	-4.4	0.2	10.5	9.9	-0.9	3.8
Finland	7.2	6.9	-0.6	0.6	3.3	2.7	-3.1	-1.9	10.5	9.7	-1.4	-0.1
France	6.2	6.0	-0.7	0.9	2.2	2.1	-0.8	0.7	8.4	8.0	-0.7	0.9
Germany	6.4	5.8	-1.5	1.9	2.8	2.6	-1.2	2.2	9.2	8.5	-1.4	2.0
Greece	m	m	m	m	m	m	m	m	m	m	m	m
Hungary	5.4	4.6	-2.6	-0.2	1.3	2.7[b]	13.5	16.2	6.7	7.4	1.6	4.1
Iceland	9.9	9.2	-1.2	3.5	3.2	2.9	-2.0	2.6	13.1	12.1	-1.4	3.3
Ireland	8.6	8.5	-0.1	4.5	3.8	3.2	-2.9	1.6	12.4	11.7	-0.9	3.7
Israel	10.5	11.0	0.8	5.8	2.5	1.9	-3.8	1.1	13.0	13.0	0.0	5.0
Italy	5.6	5.2	-1.3	1.1	1.5	1.5	0.1	2.5	7.1	6.7	-1.0	1.4
Japan	6.3	5.5	-2.4	-0.2	1.7	1.6	-0.3	2.0	8.0	7.1	-2.0	0.3
Korea	10.3	9.2	-1.8	4.3	2.9	2.4	-3.1	2.9	13.3	11.7	-2.1	4.0
Latvia	8.6	6.0	-5.7	-1.3	3.0	1.9	-7.4	-3.1	11.6	7.9	-6.1	-1.7
Lithuania	6.8	6.4	-0.9	3.7	3.3	2.3	-6.3	-1.9	10.1	8.7	-2.5	2.0
Luxembourg	6.8	6.4	-0.8	2.9	1.2	1.1	-2.3	1.4	8.0	7.5	-1.0	2.7
Mexico	11.9	10.5	-2.0	-2.2	3.9	3.3	-3.0	-3.2	15.8	13.8	-2.2	-2.4
Netherlands	7.5	7.4	-0.4	1.9	3.6	3.8	0.9	3.3	11.1	11.2	0.0	2.4
New Zealand	8.7	7.8	-1.7	3.9	4.2	3.1	-5.1	0.3	12.9	10.9	-2.8	2.8
Norway	m	7.8	m	1.4	m	4.1	m	2.6	m	11.9	m	1.8
Poland	7.2	6.4	-1.9	2.9	2.9	2.5	-2.8	1.9	10.1	8.9	-2.1	2.6
Portugal	7.2	7.4	0.4	1.4	1.9	1.8	-0.5	0.5	9.1	9.2	0.2	1.3
Slovak Republic	5.8	7.1	3.2	5.3	3.0	2.1	-5.5	-3.6	8.8	9.2	0.7	2.7
Slovenia	6.3	6.8	1.3	4.9	2.0	2.3	2.1	5.7	8.3	9.1	1.5	5.1
Spain	6.2	6.2	0.2	3.1	2.2	2.2	0.1	3.0	8.3	8.4	0.1	3.1
Sweden	7.7	8.4	1.4	3.4	3.8	3.7	-0.1	m	11.5	12.1	0.9	2.9
Switzerland	9.5	9.0	-1.0	1.8	3.9	3.6	-1.1	1.7	13.4	12.6	-1.0	1.7
Türkiye	8.1	6.6	-3.3	m	m	4.1	m	m	m	10.7	m	m
United Kingdom	9.1	7.7	-2.8	0.1	3.1	3.1	-0.3	2.8	12.2	10.7	-2.1	0.9
United States	8.3	6.9	-3.0	m	3.5	3.4	-0.2	m	11.7	10.3	-2.1	m
OECD average	8.0	7.3	-1.3	2.2	3.0	2.8	-1.8	1.4	10.9	10.1	-1.4	2.0
OECD average for countries with data available for the reference years	8.0	7.3	-1.3	2.3	3.0	2.7	-1.8	1.5	10.9	10.0	-1.4	2.1
Partner and/or accession countries												
Argentina	10.0	8.2	-3.2	-5.3	2.9	2.4	-2.7	-4.8	12.8	10.7	-3.0	-5.2
Brazil	8.5	8.2	-0.5	-2.1	2.7	2.4	-2.2	-3.8	11.2	10.6	-0.9	-2.5
Bulgaria	5.7	6.9	3.3	6.5	1.6	2.0	4.0	7.3	7.3	8.9	3.4	6.7
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	5.4	m	m	1.8	1.8	0.6	3.8	m	7.2	m	m
India	9.6	8.7	-1.5	4.6	4.2	4.5	1.1	7.3	13.8	13.2	-0.6	5.5
Indonesia	14.3	m	m	m	3.2	m	m	m	17.5	m	m	m
Peru	m	m	m	m	3.1	2.7	-1.8	-1.3	m	m	m	m
Romania	4.8	4.6	-0.8	9.9	1.8	1.9	0.5	11.4	6.6	6.4	-0.4	10.4
Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
South Africa	m	13.7	m	m	m	3.5	m	m	m	17.3	m	m
EU25 average	6.7	6.5	-0.3	3.0	2.5	2.5	-0.7	2.7	9.2	9.0	-0.5	2.9
G20 average	8.7	7.8	-2.0	0.5	3.0	2.8	-1.7	0.1	11.7	10.6	-1.9	0.4

Note: See under Chapter C4 Tables for StatLink and Box C4.1 for the notes related to this Table.

Box C4.1. Notes for Chapter C4 Tables

Table C4.1. Government expenditure on education as a percentage of total government expenditure (2021)

Note: 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 on educational institutions. Therefore, the figures presented here (before transfers) exceed those for government spending on institutions found in Chapters C1, C2 and C3. Data on early childhood education refer to ISCED programmes only (ISCED level 01 for early childhood educational development, ISCED level 02 for pre-primary education and ISCED 0 for all programmes). Data on R&D are included in tertiary education, unless otherwise specified.

1. Primary education includes pre-primary programmes.

2. Post-secondary non-tertiary figures are treated as negligible.

3. Upper secondary vocational programmes include lower secondary vocational programmes.

4. Year of reference 2020.

5. 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 (2021)

Note: Columns showing the distribution for early childhood education are available for consultation on line (see StatLink). Data on R&D are included in tertiary education, unless otherwise specified.

1. Primary education includes pre-primary and lower secondary programmes.

2. Year of reference 2020.

3. Data do not cover day care centres and integrated centres for early childhood education. Data on tertiary education include some expenditure on ISCED 3 and ISCED 4.

Table C4.3. Change in government expenditure on education as a percentage of total government expenditure between 2015 and 2021

Note: 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 Chapters C1, C2 and C3 Data on R&D are included in tertiary education, unless otherwise specified. Some levels of education are included in others. Refer to “x” and “d” codes in Table C4.1 for details.

1. Primary education includes pre-primary programmes.

See *Definitions* and *Methodology* sections and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en) for more information.

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

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

Chapter C5. How much do tertiary students pay and what public support do they receive?

Highlights

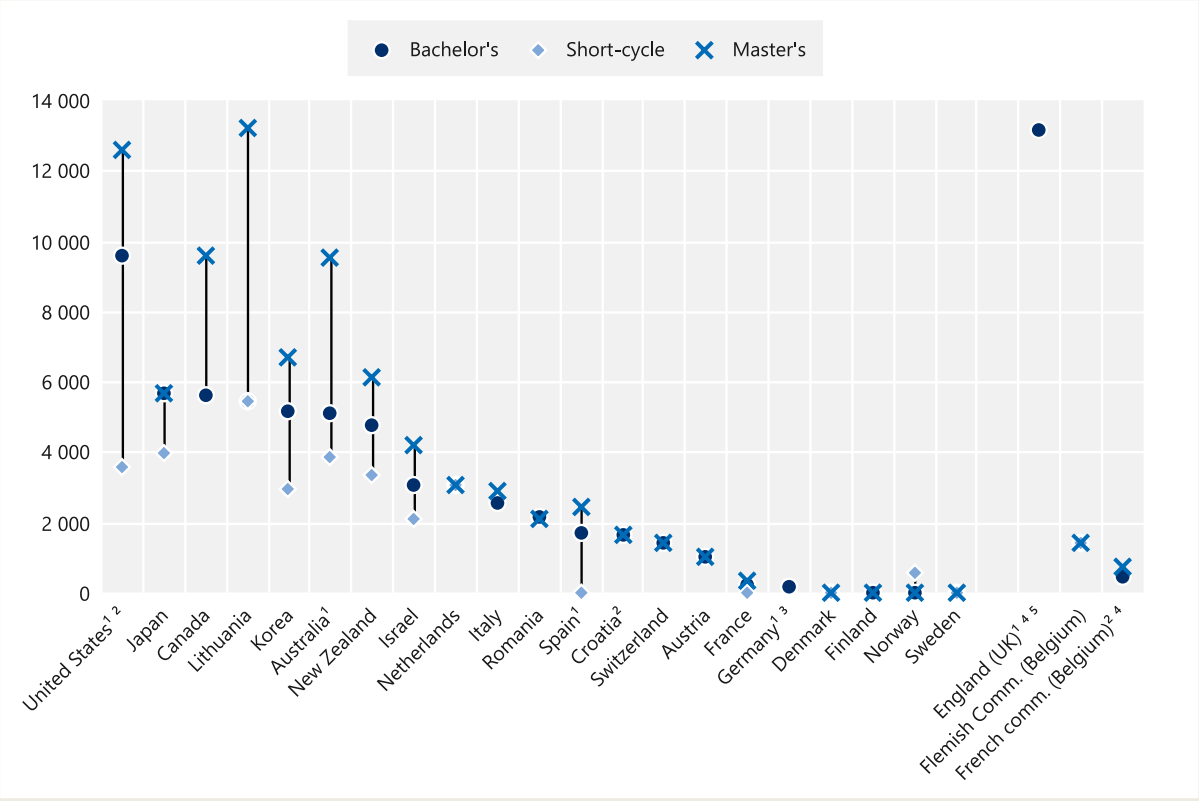
- Tuition fees for bachelor's degrees vary considerably from country to country. In one-third of the countries and other participants with data, public institutions either offer tuition-free education to national students or charge less than USD 1 100 per year in fees. In another third of countries, annual tuition fees are relatively modest, averaging between USD 1 400 and USD 3 100 per student. In the remaining countries, fees are considerably higher, exceeding USD 4 500 per year.
- Tuition fees per year are higher for a master's degree than for a bachelor's degree in only half of the countries and other participants with data.
- OECD countries and other participants fall into three different groups when it comes to tuition fees and direct financial support to tertiary students: no tuition fees and high financial support to students, high tuition fees and high financial support, and low or moderate tuition fees and targeted financial support for a smaller share of students.

Context

The political landscape surrounding tuition fees in tertiary education is often the subject of intense debate and scrutiny. At the heart of this discourse are questions of accessibility, affordability and the societal value of education in a context of rapid expansion of tertiary education. On the one hand, proponents of tuition fees argue that they are necessary to maintain the quality of education and the financial viability of institutions. They argue that students benefit from the investments made in facilities, faculty staff and educational resources, and that tuition fees are a fair way of distributing costs among those who benefit directly. However, opponents counter that high tuition fees create barriers to entry for low-income students, exacerbating social inequalities and limiting upward mobility. They argue for greater public support to ease the financial burden on students, through measures such as scholarships and grants and public loans. The debate encompasses broader discussions on the balance between public and private funding, and the economic implications of student debt. OECD and partner countries tend to have very different approaches to student financial aid and to sharing the costs of tertiary education between governments, students and their families, and other private entities. Finding a solution that reconciles these divergent interests remains a major challenge for policy makers worldwide.

Figure C5.1. Annual average tuition fees charged by public institutions to national students, by level of education (2022/23)

In USD converted using PPPs



Note: Data refers to the academic year 2022/23 or calendar year 2022, except for countries listed in footnote 1.
1. Reference year: calendar year 2021 for Australia and Germany and academic year 2021/22 for England (UK), Spain and the United States.
2. Master's or equivalent programmes also include doctoral programmes.
3. Including master's or equivalent programmes and doctoral programmes. Only academic programmes are included.
4. Bachelor's or equivalent programmes also include short-cycle tertiary programmes.
5. Government-dependent private institutions instead of public institutions.
Countries and other participants are ranked in descending order of the amount of tuition fees charged to national students enrolled in bachelor's programmes.
See Table C5.1. for data and under Chapter C5 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Other findings

- Annual fees charged by public institutions for master's programmes in education; arts and humanities; and engineering, manufacturing and construction are among the lowest of all fields of study in most countries.
- Independent private institutions are less affected by government regulation and have often more freedom to set tuition fees. As a result, they charge higher annual tuition fees than public institutions for master's programmes in all OECD countries except Lithuania.

- Tuition fees are higher for foreign students than for national students in more than two-thirds of the countries and other participants with data available.
- Countries with high tuition fees tend to also be those where private entities other than households make a larger contribution to funding tertiary institutions. They also tend to have student financial support systems that offer income-contingent loans to all students, or/and means-tested grants. In contrast, students in countries with more progressive tax regimes often pay no tuition fees and have access to generous public subsidies for tertiary education but face high income tax rates on their earnings later in life.

Analysis

Differentiation of annual tuition fees for full-time study

Differentiation by level of study

More and more students are entering tertiary education each year, with bachelor's or equivalent programmes now the most common tertiary degree pursued by students.

Tuition fees for bachelor's degrees vary considerably from country to country. In one-third of the countries and other participants for which data are available, public institutions either offer tuition-free education to national students, as in Denmark, Finland, Norway and Sweden, or charge fees of less than USD 1 100 per year, as in Austria, France, the French Community of Belgium and Germany. In another third of countries, annual tuition fees are relatively modest, averaging between USD 1 400 and USD 3 100 per student. In the remaining countries and other participants, fees are considerably higher, ranging from around USD 4 500 to USD 6 000 per year in Australia, Canada, Japan, Korea, Lithuania and New Zealand, to over USD 9 500 in England (United Kingdom) and the United States (Table C5.1. and Figure C5.1.).

Continuing education after upper secondary or post secondary non-tertiary graduation has become the norm for students in most OECD countries. As well as bachelor’s programmes, short-cycle tertiary programmes are also expanding in many OECD countries, as they provide a shorter and cheaper tertiary education and, in a number of countries, a better benefit-to-cost ratio than long-cycle tertiary programmes such as bachelor’s and master’s programmes (OECD, 2019[1]). Tuition fees for short-cycle tertiary programmes in public institutions are generally lower than for bachelor’s programmes. They are generally free of charge in Denmark, France, Spain and Sweden, while in the United States fees average less than USD 3 600 per year, less than half those for bachelor’s programmes. In contrast, tuition fees for short-cycle tertiary programmes in public institutions are the same as for bachelor’s programmes in the Lithuania and Netherlands. In Norway, short-cycle tertiary is the only tertiary level where fees are charged (Table C5.1.).

Continuing tertiary education after a bachelor’s degree leads to better labour-market outcomes in most countries. Graduates with a master’s, doctoral or equivalent degree have better employment opportunities and earnings prospects in most countries (see Chapters A3 and A4). Tuition fees for a master's degree are higher than for a bachelor's degree in half of the 22 countries and other participants with data for both programmes. Tuition fees for master’s programmes in public institutions are 25-50% higher than for bachelor’s programmes in France, Israel, Korea, New Zealand, Spain and the United States (data for the United States refer to master’s and doctoral programmes combined), while in Australia, the French Community of Belgium, Canada and Lithuania, they are over 70% higher (Table C5.1.).

These higher tuition fees in some countries may limit the participation of disadvantaged students in programmes at this level if they are not combined with sufficient student financial aid, but they also reflect

the additional opportunities that a master's degree offers on the job market. In the remaining countries, despite the earnings advantage they offer, tuition fees in public institutions for full-time national students are similar to those for bachelor's programmes. In the four countries with data available where tuition is free of charge at bachelor's level, there are also no fees at master's level (Table C5.1.).

It is a different story for doctoral programmes. There are only four countries where public institutions charge higher fees for doctoral programmes than for master's: France, Korea, Lithuania and Romania. Of these, Lithuania is the only country where annual fees for a doctoral programme are more than three times those of a bachelor's programme. Lower overall fees at the doctoral level can be explained by government subsidies for doctoral candidates, in line with policy objectives to boost research in tertiary education institutions in some countries. Thus, in a few OECD countries and other participants (e.g. Australia, Italy and Switzerland), public institutions charge lower fees for doctoral programmes than for bachelor's and master's programmes to promote enrolment in doctoral programmes and attract talent for research and innovation. In Australia, for example, the average annual tuition fees in public institutions for doctoral programmes are about 25 times lower than for bachelor's programmes (about USD 200 compared to USD 5 000). Other countries, such as Norway, recognise doctoral candidates as employees rather than students (Table C5.1.).

Differentiation by type of institution

Private institutions often offer specialised programmes that are not necessarily available at public institutions. These programmes can range from niche academic disciplines to vocational training tailored to specific industries or professions. On average, about one-fifth of students are enrolled in independent private institutions, but this figure hides large differences between countries. In half of OECD countries and other participants with available data, less than 15% of all tertiary students are enrolled in independent private institutions. In contrast, the majority of students in Japan and Korea are enrolled in independent private institutions while the great majority of students are enrolled in government-dependent private institutions in England (United Kingdom) (Table C5.1.).

In contrast, public institutions typically offer lower tuition fees, promoting broader access to education, but may face challenges in resource allocation and maintaining quality due to budget constraints. Public institutions are also more affected by government regulation and more reliant on public funds than independent private institutions, and often have less freedom to set higher tuition fees. As a result, public institutions charge lower annual tuition fees than independent private institutions for bachelor's and master's programmes in all OECD countries and other participants with available data, except Lithuania. Tuition fees for master's or equivalent programmes in independent private institutions are over five times higher than in public ones in Spain; fees are over twice as much in Israel, Italy and the United States; but less than twice as much in Australia, Japan, Korea and Romania (Table C5.1.).

Differentiation between national and foreign students

Tuition fee policies generally cover all students studying in a country's educational institutions, including foreign students. Educational attainment has risen considerably over the last two decades, with more and more students entering tertiary education each year. This has led institutions in some countries to seek additional resources to guarantee the same quality of teaching. In this context, charging higher fees to foreign students can help offset programme costs, strike a balance between public and private sources of tertiary funding, and generate additional resources for institutions and governments.

In 10 of the 14 countries and other participants with available data, tuition fees are higher for foreign students than for national ones, contributing significantly to the funding of tertiary educational institutions. The difference between national and foreign students can be substantial in some countries. For instance, in Australia, Canada, Finland, the Netherlands, New Zealand, Romania and the United States, public

institutions charge foreign master's students on average over USD 6 000 more per year than national students (or in-state students in the United States) (Table C5.1.).

However, in Finland and Romania, as well as in the other countries within the European Union (EU) and the European Economic Area (EEA), foreign students from other EU and EEA countries are charged the same tuition fees as national students. In the United States, tuition fees for foreign students in public institutions are typically equivalent to those paid by out-of-state national students. In Finland, students from outside the EU/EEA are charged about USD 14 000 per year for master's programmes in public institutions. In France the fees charged for master's students are USD 5 200 higher for students from outside the EU/EEA, while the difference is less than USD 1 800 in Austria and Switzerland. In Italy, Japan and Spain, public institutions charge similar fees for national and foreign students enrolled in master's programmes, while no tuition fees are applied to either national or foreign students in Norway (Table C5.1.).

Higher fees for foreign students could affect international student flows. However, the data show that foreign students are not necessarily discouraged by the higher tuition fees they face in some countries. For example, international students represent 39% of master's students in Australia and 19% of those in New Zealand, compared to an average of only 15% in OECD countries, even though their tuition fees for foreign students are among the highest across OECD countries (see Table B4.3.).

Tertiary education in countries with higher fees for foreign students can still be attractive because of the quality and prestige of their educational institutions, the language spoken in the country, and the expected labour-market opportunities in the country after graduation. In addition, a few countries offer additional grants and scholarships to foreign students from disadvantaged social backgrounds.

Variations within countries for degrees awarded at the same level

Tuition fees vary not only across countries and educational levels, but also within countries for a given level of education. There are three main factors influencing this.

The first is how much autonomy institutions enjoy in setting their fees (either entirely or within certain limits). For instance, in the Netherlands and Romania, tuition fees are set by the government, but a few institutions may charge higher fees (see minimum and maximum fees in Table C5.2.).

The second reason behind differences in tuition fees for a given level of study is to encourage enrolment in fields where there is less demand, or to take account of the disparity in costs between programmes. In New Zealand, for example, fees are set by individual institutions, and broadly reflect cost-based differences. Differential fee structures can also reflect the different employment prospects experienced by graduates from different fields of study. Globally, 9 of the 17 countries for which data on master's or equivalent programmes are available charge different annual tuition fees for different fields of study. Australia and Canada have the widest range of tuition fees charged by public institutions to national students enrolled at this level. In Australia, fees range from USD 3 300 per year in the field of education to around USD 15 800 for programmes in business, administration and law, while in Canada annual fees range from USD 4 400 for arts and humanities programmes to around USD 14 900 for business, administration and law (Table C5.2.).

It is difficult to find a common trend across all OECD countries but fees charged by public institutions for master's programmes in in education; arts and humanities; and engineering, manufacturing and construction are among the lowest of all fields of study in most countries. These are the fields of study where graduates' labour-market wages are often lower than in other fields (OECD, 2021[2]). In contrast, fields such as health and welfare; and business, administration and law are among the most expensive in many countries, possibly because some of these programmes may have the highest market returns but more likely because of the (perceived or actual) cost of providing them. Despite these overall trends, there are country differences in fees for the same fields of study. For example, while business, administration and law have the highest annual fees in Australia, Canada and Spain, it is the cheapest of all broad fields

of study after social sciences, journalism and information in Lithuania. These differences can be partly explained by structural differences in countries' economies but also by the value of qualifications on the labour market which varies from one country to another (Table C5.2.).

Tuition fee waivers are the third reason for variations in tuition fees within countries and why the fees paid by students might differ from those charged by institutions. When students receive a waiver, even though the tuition fee charged by an institution does not itself change, the fees paid are lower as the fee waiver is deducted. Compared to scholarships, which offer direct financial support to students, a tuition waiver is often granted by an educational institution and indirectly financed by the public sector through funding to the educational institution or from the institution's own resources, depending on the institution type and the type of waiver granted. Waivers can eliminate the cost of tuition for a designated number of credit hours, but cannot be used for any other educational expense. In a number of countries and other participants with available data (Croatia, France, French Community of Belgium, Italy and Spain), between 23% and 57% of students enrolled at master's level in public institutions, particularly students from low-income backgrounds, were benefiting from a scholarship or a tuition fee waiver in 2022/23 (Table C5.3.)

Trends in tuition fees and student enrolment in tertiary education over the last decade

The increase in tertiary student numbers in most countries over the past decade is putting a strain on the financing of education systems. Between 2013 and 2022, enrolment in higher education institutions rose by an average of 9%, with a few exceptions, such as Korea, Lithuania, New Zealand, Romania and the United States, where enrolment figures fell (Table C5.3.).

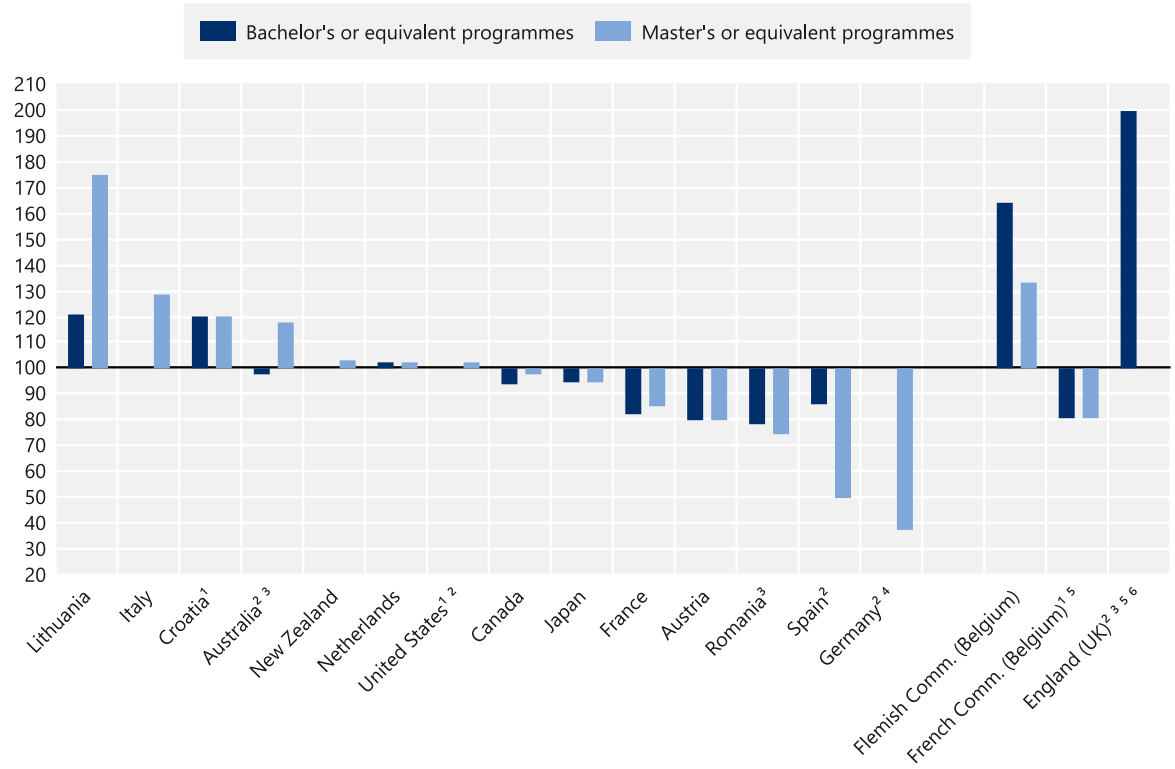
This growing demand and the need to maintain the quality of education provided in the face of an influx of students, inevitably translates into increased financial pressure. The data indicate that tuition fees have risen over the past decade, albeit at a considerably slower pace than inflation in many countries.

In real terms, tuition fee increases have exceeded the rate of inflation in half of the 17 countries and other participants for which data are available. For the rest, the cost of obtaining a master's degree has not risen faster than the general increase in the prices of goods and services. Master's fees for national students increased in real terms over the last decade in Australia, Flemish Community of Belgium, Croatia, Italy (bachelor's and master' programmes are combined) and Lithuania, with Lithuania experiencing the most notable rise, of 75% over this period. Meanwhile, Austria, the French Community of Belgium, France, Germany (bachelor's and master' programmes are combined), Romania and Spain recorded the largest decreases in real terms in tuition fees for master's programmes over this period. In addition, among the four countries for which data are available and which do not charge tuition fees (Denmark, Finland, Norway and Sweden), the situation has not changed for national students, but Finland introduced tuition fees for foreign students during this period, while Sweden introduced tuition fees for non-EU/EEA students just before, in 2011 (Table C5.3.).

Within most countries and other participants, changes in bachelor's and master's tuition fees have followed a similar pattern, with both tending to increase or decrease at similar rates. However, there are exceptions, notably Australia and Lithuania, where annual tuition fees for master's programmes rose faster than those for bachelor's during the period. Conversely, in Spain master's tuition fees fell faster than bachelor's fees over the same period (Figure C5.2.).

Figure C5.2. Change between 2012/13 and 2022/23 in tuition fees charged by public institutions to national students enrolled in bachelor's, master's or equivalent programmes

Index of change of tuition fees between 2012/13 and 2022/23 (2012/13 = 100), constant prices



Note: Data refers to the academic year 2022/23 or calendar year 2022, except for countries listed in footnote 2. Trend data refers to academic year 2012/13 or calendar year 2012, except for countries listed in footnote 3.
1. Master's programmes also include doctoral programmes or equivalent.
2. Reference year: calendar year 2021 for Australia and Germany; and academic year 2021/22 for England (UK), Spain and the United States.
3. Reference year for trends: calendar year 2011 for Australia; academic year 2011/12 for England (UK); and academic year 2014/15 for Romania.
4. Master's programmes include bachelor's and doctoral programmes or equivalent. Only academic programmes are included.
5. Bachelor's programmes also include short-cycle tertiary programmes.
6. Government-dependent private institutions instead of public institutions.
Countries and other participants are ranked in descending order of the change in tuition fees for master's or equivalent programmes.
See Table C5.3. for data and under Chapter C5 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Public financial support to tertiary national students

Different approaches to financial support

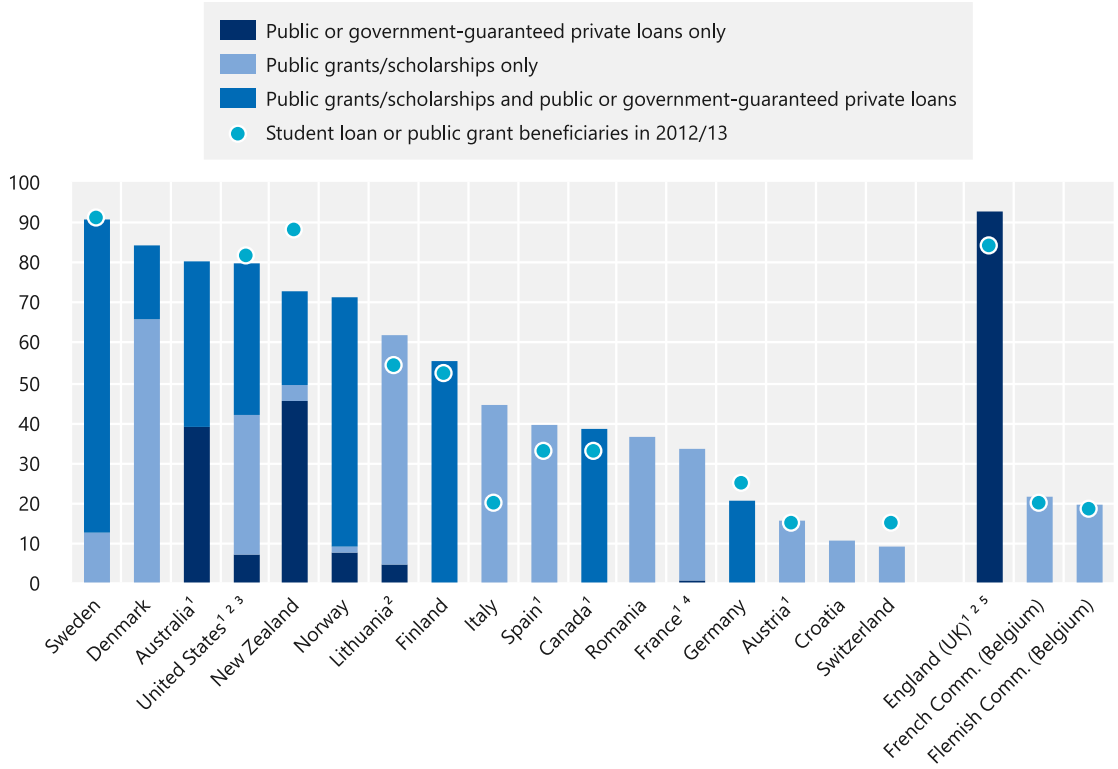
Broadening access to tertiary education has been a public policy objective for decades, but the fiscal tools used to do so are quite diverse. High levels of educational attainment can be found in countries where tuition fees tend to be high and also in those with low fees (Cattaneo et al., 2020[3]).

Countries also take different approaches to providing financial support to tertiary students. Regardless of the level of tuition fees, countries and other participants can be categorised according to how widespread public financial support is for tertiary students. In 2022/23, at least 80% of all national students in Australia,

Denmark, England (United Kingdom), Sweden and the United States, received public financial support in the form of student loans, scholarships or grants. In Finland, Lithuania, New Zealand and Norway the share was between 50% and 75%; in Canada, France, Italy, Romania and Spain it was 30-45%; and in Austria, Croatia, the Flemish and French Communities of Belgium, Germany, and Switzerland no more than 25% of students received any public support (Table C5.3. and Figure C5.3.). In these countries and other participants, public financial support targets selected groups of students, such as those from socio-economically disadvantaged families.

Figure C5.3. Trends in the share of students receiving public financial support (2012/13 and 2022/23) and breakdown by type of subsidy (2022/23)

In per cent



Note: Data refers to the academic year 2022/23 or calendar year 2022, except for countries listed in footnote 1. Trend data refers to academic year 2012/13 or calendar year 2012, except for countries listed in footnote 2.
1. Reference years: academic year 2020/21 for Canada, calendar year 2021 for Australia; and academic year 2021/22 for Austria, England (UK), France Spain; academic year 2019/20 for United States.
2. Reference year for trends: academic year 2011/12 for England (UK) and the United States; and calendar year 2014 for Lithuania.
3. The distribution of loans refers to short-cycle tertiary and bachelor's or equivalent programmes only.
4. Public institutions only.
5. Government-dependent private institutions instead of public institutions.
Countries and other participants are ranked in descending order of the share of tertiary students receiving any form of public support in 2022/23.
See Table C5.3. for data and under Chapter C5 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

In the last decade, the share of tertiary students receiving public financial support has increased by at least 7 percentage points in England (United Kingdom), Italy, Lithuania and Spain; the largest increases were in Italy (where it rose by 25 percentage points). In contrast, the share of students fell substantially in

New Zealand (by 15 percentage points) and Switzerland (by 6 percentage points) between 2012/13 and 2022/23. The decline for New Zealand was due to the introduction in 2018 of zero tuition fees for the first year for first-time tertiary students. The share has remained stable in all other OECD countries and other participants with available data, changing by at most 6 percentage points (Figure C5.3).

Relationships between the forms of public support offered and the tuition fees charged

What type of financial support to offer tertiary students – whether in the form of loans, or of grants or scholarships – is a key question faced by many educational systems. On the one hand, advocates of student loans argue that they allow a larger number of students to benefit from the available resources. If the funding spent on scholarships and grants was used to guarantee and subsidise loans, the same public resources could support a larger number of students, and overall access to tertiary education would increase (OECD, 2014[4]). Loans also shift some of the cost of tertiary education to those who benefit from it the most – the individual students – reflecting the high private returns of completing tertiary education. On the other hand, student loans are less effective than grants at encouraging low-income students to access tertiary education. In addition, opponents of loans argue that high levels of student debt at graduation may have adverse effects on both students and governments if large numbers of students are unable to repay their loans (OECD, 2014[4]). A large share of indebted graduates could be a problem if their employment prospects are not sufficient to guarantee their student loan repayments.

A well-designed and well-resourced student support programme can help to meet the policy goals of equity and inclusion in tertiary education systems. Currently, the balance between private and public funding on the one hand, and countries' ability to provide various forms of public subsidies for tertiary institutions on the other – including indirect subsidies to tertiary students (Box C5.1.) – have been two factors that help to explain the wide differences in approaches to the financing of tertiary education.

Box C5.1. What other forms of indirect subsidy are available to higher education students and their families?

Indirect subsidies to students during their studies are crucial for ensuring equitable access to education and supporting students' overall well-being. These subsidies, which can take various forms including transportation discounts, medical expenses coverage, affordable housing options, meal plans, and provision of books and supplies, help alleviate the financial burden on students. They complement direct subsidies like loans, grants and scholarships by addressing specific daily needs that affect students' ability to succeed academically. By reducing out-of-pocket expenses for essential services, indirect subsidies ensure that all students, regardless of their financial background, can focus on their studies without the added stress of managing basic living costs.

The most common subsidies provided to tertiary students are for transport (in 13 out 18 countries and other participants with data available), medical services (in 10 out of 19) and for studying abroad (in 9 out of 19). Transportation subsidies, offered by countries such as Germany, France and the Netherlands, typically involve discounted rates on public transport passes, significantly reducing travel costs for students. For instance, German students benefit from the "Semester Ticket", which offers unlimited travel at a reduced fee. Medical service subsidies also frequently come in the form of discounted health insurance premiums, as seen in France, where students receive comprehensive health coverage at reduced rates. Austria, Denmark, Finland, the Flemish and French communities of Belgium, France, Japan, Korea and the Netherlands all provide substantial financial support for students studying abroad to encourage international education. For example, Austria offers scholarships to its students for studying overseas, while the Erasmus+ programme provides grants for students across the European

Union to study in other member states. These initiatives make international experiences more accessible, fostering greater academic and cultural exchange (Figure C5.4.).

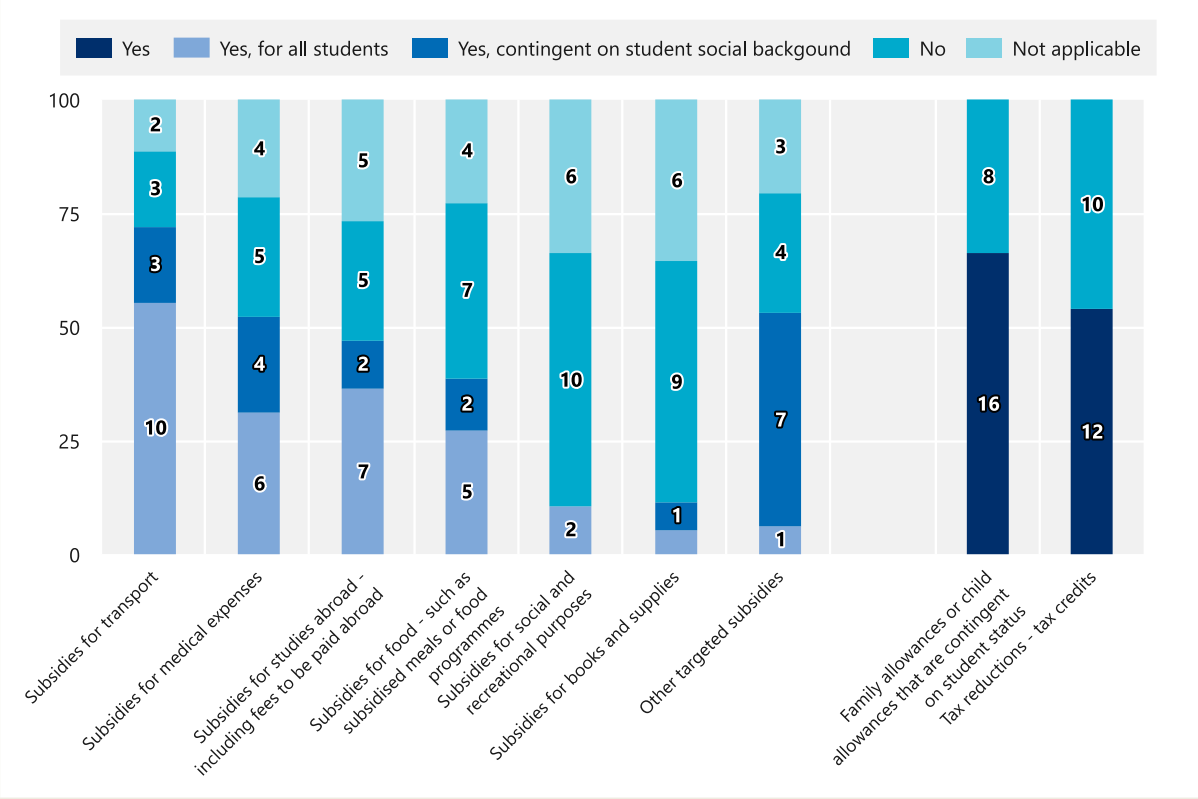
The other subsidies are less common. Subsidies for food, such as subsidised meals or food programmes, are available in only seven countries and other participants, namely Austria, Canada, Croatia, Finland, France, the French Community of Belgium and Korea. In Canada, many universities offer meal plans and dining services that provide students with access to affordable and nutritious meals on campus. Subsidies for social and recreational purposes are even rarer, with such support available only in France and Germany. Students in both these countries can benefit from discounted rates for cultural events, sports facilities and recreational activities. Only Canada and the French Community of Belgium subsidise books and supplies, giving students financial assistance for educational materials to help reduce the overall cost of academic resources (Figure C5.4.).

Two other important forms of public subsidy are family and child allowances that are contingent on student status, and tax reductions. Family and child allowances are provided by two-thirds of the countries and other participants with available data. For instance, Austria offers family allowances for students up to the age of 24. Tax reductions and credits to support student families are available in 12 of the 22 countries and other participants with available data. In the United States, parents can benefit from tax credits like the American Opportunity Tax Credit (AOTC) to offset education costs. In England (United Kingdom), if a tertiary student has graduated within a stipulated timeframe and their studies began before 1 August 2014, they can receive a tax reduction based on their student loan repayments made to the bank. France also provides tax reductions for families with dependent children in tertiary education, helping to alleviate the financial burden on students and their families (Figure C5.4.).

Although most scholarships and grants are means-tested or targeted in some way, in many cases tax reductions and family allowances do not take into account the needs and income of the students or their families. This means that middle- and high-income families could benefit more from them than low-income families. Some research (Dynarski, 2003[5]) shows that channelling money for education to families through tax reductions (as opposed to providing subsidies through means-tested grants or loans) has little effect on participation in education. However, the provision of tax reductions and family allowances contingent on student status is, in many countries, motivated by factors other than education policy.

Figure C5.4. Indirect subsidies to students (and their families) available for tertiary education (2022/23)

In per cent



Note: The numbers in the bars represent the number of countries and other participants responding for each category. Data refers to the academic year 2022/23 or calendar year 2022.
See under Chapter C5 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

When comparing tertiary student financial support systems with the level of tuition fees charged to national students, OECD countries and other participants fall into three clear groups: those with no tuition fees and high financial support to students (Denmark, Finland, Norway and Sweden); those with high tuition fees and high financial support to students (Australia, England [United Kingdom], Lithuania, New Zealand and the United States); and those with low or moderate tuition fees and targeted financial support received by less than 50% of tertiary students (Austria, the Flemish and French Communities of Belgium, Croatia, France, Germany Italy, Romania, and Spain) (Table C5.1. and Table C5.3.). These groupings have been relatively stable for several decades, despite the many recent measures taken by many countries during and following the COVID-19 pandemic, both in terms of the cost of education and the public support available to students (Box C5.2.).

The high tuition fees group tend to be places where private entities other than households make a larger contribution to funding tertiary institutions. They also tend to have well-developed student financial aid systems, offering either loans with income-dependent repayments, means-tested grants or a combination of both. In England (United Kingdom), more than 90% of students only receive loans (rather than scholarships or grants) to cover the cost of tertiary studies. In the United States, 38% of students benefit

from both loans and scholarships or grants, 35% from scholarships/grants alone and 7% from loans alone. In Australia and New Zealand, most students receive either loans alone or both loans and scholarships or grants. In Lithuania, 57% of students only receive scholarships or grants. Canada is a partial exception in this group, since tuition fees are high for national students, but only 39% of them receive financial public support (Table C5.3.).

In contrast, students in countries with more progressive tax regimes often pay no tuition fees and have access to generous public subsidies for tertiary education but face high income tax rates on their earnings later in life. In countries with available data where public institutions charge no tuition fees at the bachelor's and master's level, most national students receive financial support in the form of both loans and scholarships or grants, in order to cover their living costs. This is true for at least 50% of students in Finland, Norway and Sweden. In contrast, in Denmark, 66% of students receive financial support in the form of scholarships or grants alone, and only 18% receive both loans and scholarships or grants (Table C5.1.).

Finally, in OECD countries and other participants including Austria, the French Community of Belgium, Croatia, France, Germany, Italy, Romania, Spain and Switzerland, where annual average tuition fees for tertiary education are below USD 3 100, less than 45% of students receive any form of financial support – and those who do tend to receive it only in the form of grants or scholarships (Table C5.1.).

The amount of money students receive or borrow also varies substantially. Among OECD countries and other participants with data available, the average amount of public or government-guaranteed private loans that tertiary students borrow each year ranges from USD 2 900 per student in the United States to over USD 15 000 in England (United Kingdom), France and Norway (where tuition is free of charge and loans finance students' living costs). Average scholarships or grants received by students range from USD 2 200 per year in the United States to USD 9 700 in Italy. However, these figures should be interpreted with some caution as they cover different reference years among countries (Table C5.3.).

Interestingly, in about 60% of countries and other participants with data available, the average scholarship or grant is generous enough to exceed the average annual tuition fees charged by public institutions for a master's programme. In these countries, scholarships and grants can also help fund students' living expenses. In the remaining countries, the amount received in not enough to cover students' fees entirely. For example, they cover 17% of the average annual master's fee in the United States, 52% in Korea, 63% in Canada, and more than 75% in Australia. Although scholarships and grants are reported as an average for all students in higher education, not just master's students, the comparison is nonetheless interesting. In these countries, students who receive scholarships or grants may also need to borrow money in the form of student loans to finance their studies if they do not have the financial capacity to pay by themselves (Table C5.1. and Table C5.3.).

Box C5.2. Measures taken to support tertiary students in the wake of COVID-19 (2021 to 23)

The COVID-19 pandemic has had a significant impact on tuition fees and public support for students worldwide. Many countries have faced economic challenges, leading to increased financial strain on individuals and families. In response, some governments implemented measures between 2020 and 2021 to alleviate the burden on students. This has included freezing or reducing tuition fees, adjusting the support available for international students, providing emergency financial assistance for all students and institutions, and expanding eligibility criteria for student support programmes.

The question today is whether these measures have been maintained in the wake of the COVID-19 pandemic. While initial responses were crucial for immediate relief, the sustainability and continuation of these reforms are now under scrutiny. Policy makers and educational institutions are evaluating the long-term impacts of these interventions and determining if they should become permanent fixtures. The ongoing challenge is to balance financial viability for educational institutions with the need to maintain affordable and accessible education for all students, particularly as the world navigates the recovery phase from the pandemic.

Figure C5.5. shows that, of the 21 countries and other participants for which data are available, only around one-third implemented measures on fee levels to support students between 2021 and 2023: Austria, the French Community of Belgium, Italy, Korea, Lithuania, the Netherlands, Norway and Spain. For instance, Italy increased the threshold to benefit for fee exemptions. In Spain, fees for master's programmes, which are required to practice a regulated profession, have been adjusted to match those for bachelor's programmes for the 2022/23 academic year. In the Netherlands, first-time entrants to tertiary education now pay only half of the tuition fees in their first year of study but this measure will be abolished from the 2024-2025 academic year. These reforms aimed at easing the financial burden on students have typically been coupled with enhanced public support measures for students.

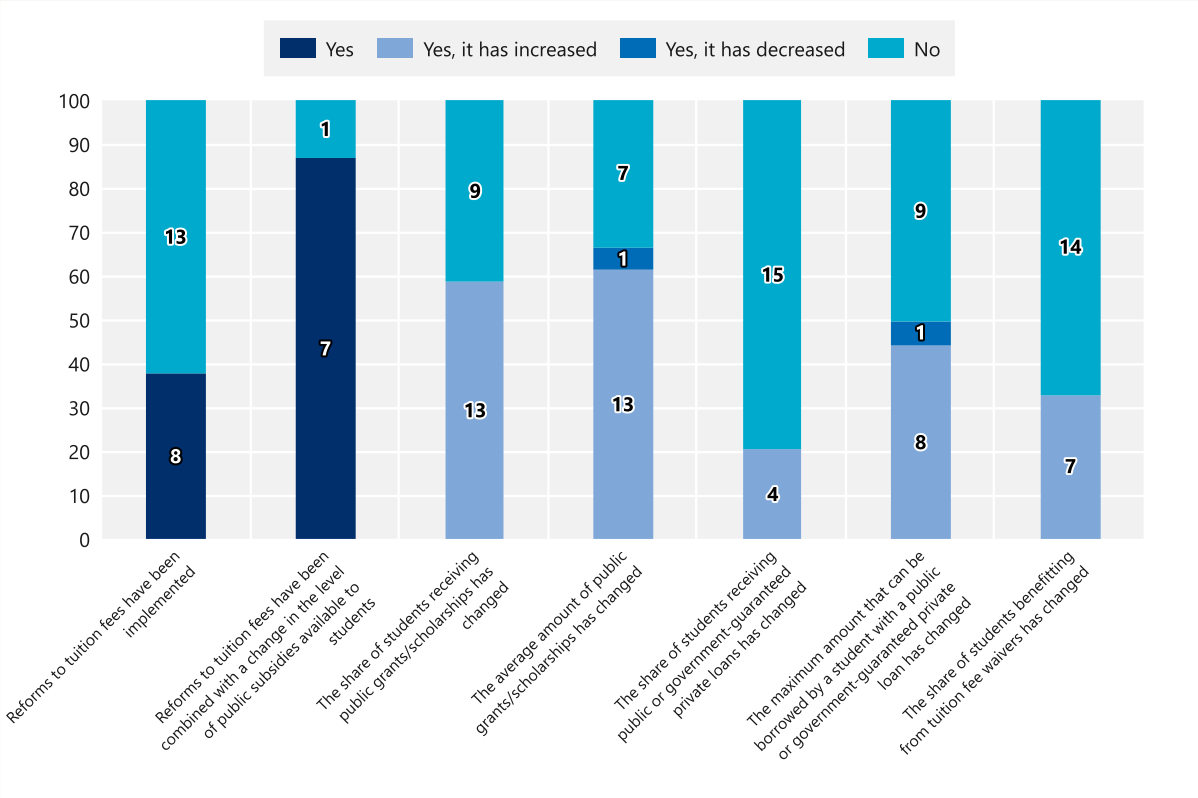
Substantial efforts have also been made over this period to increase the number of students benefiting from scholarships or grants, or to increase the amount of these financial aids. Thus, in 13 of the 22 countries and other participants, there has been a notable increase in the share of students receiving public grants or scholarships between 2021 and 2023. This trend reflects a broader commitment to making tertiary education more accessible in the post-pandemic era. For example, on-demand places offering public scholarships and income-contingent loans will be available in Australia to all indigenous students from 2024. In Austria, the age limit for receiving scholarships has been raised by 3 years to 38. In Israel, the number of scholarships doubled this year while the income limit for public grants and loans was temporarily abolished in Sweden between January 2020 and June 2022. In most of these countries, not only did the proportion of students benefiting from grants and scholarships rise, but the average amount awarded also saw a large uptick.

Increasing the proportion of students benefiting from public or government-guaranteed private loans is a measure that has been less widespread during this period, partly because not that many of the countries and other participants had well-developed loan systems. Only 4 out of the 19 – Australia, Finland, Lithuania and the Netherlands– have seen an increase in the share of students availing themselves of such loans during this period.

Finally, although fee waivers are a valuable tool for supporting students, they seem to have been less commonly adopted than other forms of financial aid to support students in the wake of COVID-19. Only one-third of the countries and other participants with available data have extended waivers to a larger share of students over the period (Figure C5.5.).

Figure C5.5. Measures taken to support tertiary students in the wake of COVID-19 (2021 to 2023)

In per cent



Note: the numbers in the bars represent the number of countries and other participants responding for each category. Data refers to the academic year 2022/23 or calendar year 2022.
See under Chapter C5 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Definitions

In this chapter, **national students** are defined as the citizens of a country who are studying within that country. **Foreign students** are those who are not citizens of the country in which the data are collected. While pragmatic and operational, this classification is inappropriate for capturing student mobility because of differing national policies regarding the naturalisation of immigrants. For European Union (EU) and the European Economic Area (EEA) countries, citizens from other EU countries usually pay the same fees as national students. In these cases, foreign students refer to students who are citizens of countries outside the EU. Further details of these definitions are available in Chapter B4.

Private institutions are those controlled and managed by a non-governmental organisation (e.g. a church, a trade union or business enterprise, foreign or international agency), or whose governing board consists mostly of members not selected by a public agency. **Private institutions** are considered **government-dependent** if they receive more than 50% of their core funding from government agencies or if their teaching personnel are paid by a government agency. **Independent private institutions** receive less than 50% of their core funding from government agencies and their teaching personnel are not paid by a

government agency. In the OECD definitions, independent private institutions do not refer exclusively to for-profit institutions; some of then are not-for-profit institutions. Tuition fee amounts refer to **gross tuition fees** charged by institutions, before grants, scholarships and tuition waivers are applied.

Methodology

Tuition fees and loan amounts in national currencies are converted into equivalent USD by dividing the national currency by the purchasing power parity (PPP) index for gross domestic product. The amounts of tuition fees and associated proportions of students should be interpreted with caution, as they represent the weighted averages of the main tertiary programmes and may not cover all educational institutions.

Student loans include the full range of student loans extended or guaranteed by governments, in order to provide information on the level of support received by students. The gross amount of loans provides an appropriate measure of the financial aid to current participants in education. Interest payments and repayments of principal by borrowers should be taken into account when assessing the net cost of student loans to public and private lenders. In most countries, loan repayments do not flow to education authorities, and the money is not available to them to cover other expenditure on education.

Chapter C5 takes the full amount of scholarships/grants and loans (gross) into account when discussing financial aid to current students. Some OECD countries have difficulty quantifying the amount of loans to students. Therefore, data on student loans should also be treated with caution.

Source

Data refers to the academic year 2022/23 or calendar year 2022 and are based on a special survey administered by the OECD in 2023. Trend data refers to academic year 2012/13 or calendar year 2012.

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Chapter C5 Tables

Tables Chapter C5. How much do tertiary students pay and what public support do they receive?

StatLink https://stat.link/k2oxjc

Cut-off date for the data: 14 June 2024. Any updates on data and more breakdowns can be found on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

Table C5.1. Annual average (or most common) tuition fees charged by tertiary institutions to national and foreign students (2022/23)

In equivalent USD converted using PPPs, for full-time students, by type of institutions and level of education

	Share of full-time and part-time tertiary students enrolled in independent private institutions (2021/2022)	Annual average (or most common) tuition fees charged by institutions for full-time students (2022/23)														Differentiation for foreign students (EU: European Union; EEA: the European Economic Area)*
		National students								Foreign students						
		Public institutions				Independent private institutions				Public institutions			Independent private institutions			
		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	Bachelor's or equivalent	Master's or equivalent	Doctoral or equivalent	Bachelor's or equivalent	Master's or equivalent	Doctoral or equivalent	
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Australia[1,2]	22	3 857	5 108	9 496	196	9 368	10 978	16 057	5 453	22 359	20 880	13 623	8 580	10 431	15 729	A
Austria	24	m	1 043	1 043	1 043	m	m	m	m	2 085	2 085	2 085	m	m	m	B
Canada	a	m	5 590	9 564	5 983	a	a	a	a	30 697	20 876	17 292	a	a	a	A
Denmark	0	0	0	0	0	m	m	a	a	m	m	m	m	a	a	B
Finland[3]	49	a	0	0	0	a	0	0	0	12 084	14 292	a	8 056	9 615	a	B
France	23	0	252	360	564	m	m	m	m	4 109	5 592	564	m	m	m	B
Germany[1,2]	12	m	157[d]	x(3)	x(3)	m	5 509[d]	x(7)	x(7)	x(3)	x(3)	x(3)	x(7)	x(7)	x(7)	–
Israel	12	2 119	3 088	4 174	m	m	9 040	10 368	m	m	m	m	m	m	a	A
Italy	21	a	2 570	2 864	547	m	6 463	8 132	2 730	No differentiation for foreign students						
Japan	79	3 975	5 645	5 647	5 647	7 680	10 104	8 808	6 368	No differentiation for foreign students						
Korea	80	2 922	5 171	6 680	7 777	7 488	9 279	12 523	13 652	m	m	m	m	m	m	B
Lithuania	12	5 428	5 458	13 234	20 069	a	5 141	11 216	16 842	m	m	m	m	m	m	–
Netherlands	m	3 041	3 041	3 041	a	m	m	m	a	16 415	20 328	a	m	m	a	B
New Zealand	0	3 372	4 748	6 124	5 161	m	m	m	a	21 882	22 363	5 161	m	m	a	–
Norway	12	552	0	0	0	9 384	5 538[d]	x(7)	a	No differentiation for foreign students						
Spain[1]	23	0	1 708	2 447	m	m	12 693	13 930	m	No differentiation for foreign students						
Sweden[3]	12	0	0	0	0	0	0	0	0	m	m	m	m	m	m	B
Switzerland	8	a	1 427	1 427	408	m	m	m	m	3 261	3 159	510	m	m	m	–
United States[1,4]	28	3 564	9 596	12 596[d]	x(4)	16 579	34 041	28 017[d]	x(8)	27 457	20 328[d]	x(11)	34 041	28 017[d]	x(14)	C
Other participants																
Flemish Comm. (Belgium)	0	1 410	1 410	1 410	m	m	m	m	m	m	m	m	m	m	m	B
French Comm. (Belgium)	0	x(3)	433[d]	753[d]	x(4)	a	a	a	a	m	m	m	a	a	a	–
England (UK)[1,5]	a	x(3)	13 135[d]	m	m	m	m	m	m	m	m	m	m	m	m	–
Partner and/or accession countries																
Croatia	9	a	1 660	1 657[d]	x(4)	m	m	m	m	m	m	m	m	m	m	B
Romania	12	a	2 163	2 098	3 584	a	2 642	2 943	a	8 578	8 150	10 536	6 152	8 631	a	B

*Legends column 16:
A. Differentiated fees for national, out-of-state and foreign students
B. Distinction between national/EU/EEA students and from outside the EU/EEA
C. Differentiated fees for national, out-of-state and sometimes foreign students

Note: See under Chapter C5 Tables for StatLink and Box C5.3 for the notes related to this Table.

Table C5.2. Annual tuition fees charged by public institutions to national students enrolled in master's or equivalent programmes, by field of study (2022/23)

In equivalent USD converted using PPPs, for full-time students

	Average (or most common) tuition fees charged for national students	Minimum tuition fees charged for national students	Maximum tuition fees charged for national students	Tuition fees by field of study									
				Education	Arts and humanities	Social sciences, journalism and information	Business, administration and law	Natural sciences, mathematics and statistics	Information and communication technologies	Engineering, manufacturing and construction	Agriculture, forestry, fisheries and veterinary	Health and welfare	Services
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Australia[1]	9 496	1 393	22 746	3 300	9 499	11 565	15 763	10 007	11 949	6 848	11 594	11 763	11 222
Austria	1 043	m	m	1 043	1 043	1 043	1 043	1 043	1 043	1 043	1 043	1 043	1 043
Canada	9 564	1 636	100 471	5 882	4 371	5 421	14 914	5 506	7 528	6 212	5 473	10 139	5 671
Denmark	0	0	0	0	0	0	0	0	0	0	0	0	0
Finland	0	0	0	0	0	0	0	0	0	0	0	0	0
France	360	m	3 708	m	m	m	m	m	m	m	m	m	m
Germany[1,2]	157	m	m	122	122	169	194	147	140	176	207	114	m
Israel	4 174	4 174	4 174	4 174	4 174	4 174	4 174	4 174	4 174	4 174	4 174	4 174	4 174
Italy	2 864	336	4 909	2 379	2 653	2 661	2 684	2 903	2 757	3 074	3 000	3 092	2 700
Japan	5 647	m	m	m	m	m	m	m	m	m	m	m	m
Korea	6 680	4 262	11 109	m	m	m	m	m	m	m	m	m	m
Lithuania	13 234	857	35 555	9 895	10 000	8 144	9 015	9 801	10 368	9 349	12 930	17 733	17 394
Netherlands	3 041	3 041	27 145	3 041	3 041	3 041	3 041	3 041	3 041	3 041	3 041	3 041	3 041
New Zealand	6 124	2 340	20 093	6 124	5 711	5 574	5 574	5 574	6 881	5 986	5 986	6 124	6 743
Norway	0	0	0	0	0	0	0	0	0	0	0	0	0
Spain[1]	2 447	1 000	22 844	2 050	2 936	3 372	3 427	3 088	3 279	2 420	2 036	2 131	2 651
Sweden	0	0	0	0	0	0	0	0	0	0	0	0	0
Switzerland	1 427	611	2 446	1 427	1 427	1 427	1 427	1 427	1 427	1 427	1 427	1 427	1 427
United States[1, 3]	12 596	9 292	14 814	m	m	m	m	m	m	m	m	m	m
Other participants													
Flemish Comm. (Belgium)	1 410	167	1 410	m	m	m	m	m	m	m	m	m	m
French Comm. (Belgium)[3]	753	0	1 202	m	m	m	m	m	m	m	m	m	m
England (UK)[1]	m	m	m	m	m	m	m	m	m	m	m	m	m
Partner and/or accession countries													
Croatia[3]	1 657	1 174	2 379	1 351	2 379	1 351	1 351	1 892	1 892	1 892	1 892	1 892	m
Romania	2 098	1 168	5 842	2 160	2 546	2 176	2 202	2 150	2 140	2 150	2 159	2 149	0

Note: See under Chapter C5 Tables for StatLink and Box C5.3 for the notes related to this Table.

Table C5.3. Variation of tuition fees between 2012/13 and 2022/23 and public financial support to students enrolled in tertiary programmes (2022/23)

	Index of change between 2012/13 and 2021/22 in the number of full-time and part-time students enrolled in tertiary education (2012/13 =100)	Index of change in tuition fees between 2012/13 and 2022/23 (2012/13 = 100)				Share of students benefitting in 2022/23 from tuition fee waivers		Annual average amount in 2022/23		2022/23 distribution of students receiving:				Share of students receiving public grants/ scholarships and/or public or government-guaranteed private loans in 2012/13
		Current prices		Constant prices				Public grants/ scholarships	Public or government-guaranteed private loans	Public or government-guaranteed private loans only	Public grants/scholarships only	Public grants/scholarships and public or government-guaranteed private loans	Neither public grants/ scholarships nor public/ government-guaranteed private loans	
	All tertiary	Bachelor's or equivalent	Master's or equivalent	Bachelor's or equivalent	Master's or equivalent	Bachelor's or equivalent	Master's or equivalent	All tertiary						
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Australia[1,2]	124	121	145	98	118	m	m	7 273	5 886	40	0	41	20	m
Austria[1]	104	100	100	80	80	m	m	9 073	a	a	16	a	84	15
Canada[1]	117	121	125	94	98	m	m	6 009	6 851	x(12)	x(12)	39[d]	61	33
Denmark	106	a	a	a	a	a	a	9 230	4 908	0	66	18	15	m
Finland	102	a	a	a	a	a	a	2 537	6 940	x(12)	x(12)	56[d]	44	52
France[1,3]	123	94	97	83	85	42	32	4 547	18 771	1	33	m	66	m
Germany[1]	120	45[d]	x(2)	38[d]	x(4)	m	m	5 384	5 174	x(12)	x(12)	21[d]	79	25
Israel	110	m	m	m	m	m	m	m	m	m	m	m	m	m
Italy	115	146[d]	x(2)	129[d]	x(4)	52	50	9 715	m	0	45	0	55	20
Japan	101	100	100	95	95	m	m	4 706	7 889	m	m	m	m	m
Korea	85	m	m	m	m	m	m	3 469	5 195	m	m	m	m	m
Lithuania	65	176	255	121	175	m	m	a	6 362	5	57	0	38	54
Netherlands	124	125	125	103	103	0	0	5 067	11 243	m	m	m	m	m
New Zealand	95	130	135	100	104	20	0	8 006	8 774	46	4	23	27	88
Norway	125	a	a	a	a	a	a	5 484	15 109	8	2	62	28	a
Spain[1]	117	94	55	86	50	57	33	m	a	a	40	0	60	33
Sweden	111	a	a	a	a	a	a	3 724	9 069	0	13	78	9	91
Switzerland	124	m	m	m	m	m	m	9 263	7 388	1	9	1	90	15
United States[1, 2, 4, 5]	89	119	121	101	102	m	m	2 202	2 879	7	35	38	20	82
Other participants														
Flemish Comm. (Belgium)	112	164	164	133	133	m	m	2 864	a	0	20	0	80	18
French Comm. (Belgium)[4,6]	112	100	100	81	81	24	23	m	a	0	22	0	78	20
England (UK)[1,2, 6,7]	131	240	m	200	m	a	a	m	23 384	93	0	0	7	84
Partner and/or accession countries														
Croatia	m	143	143	121	120	53	57	m	m	a	11	a	89	a
Romania	90	123	117	79	75	m	m	m	m	a	37	0	63	m

Note: See under Chapter C5 Tables for StatLink and Box C5.3 for the notes related to this Table.

Box C5.3. Notes for Chapter C5 Tables

Table C5.1. Annual average (or most common) tuition fees charged by tertiary institutions to national and foreign students (2022/23)

*Legends column 16:
A. Differentiated fees for national, out-of-state and foreign students ; B. Distinction between national/EU/EEA students and from outside the EU/EEA. For Korea, differentiated fees for national and foreign students ; C. Differentiated fees for national, out-of-state and sometimes foreign students.

1. Reference year: calendar year 2021 for Australia and Germany; and academic year 2021/22 for England (UK), Spain and the United States.
2. Government-dependent and independent private institutions are combined. In Germany, only academic programmes are included.
3. Government-dependent private institutions instead of independent private institutions.
4. Tuition fees for foreign students typically refer to tuition fees for out-of-state national students. However, in a minority of institutions, tuition fees can be lower for out-of-state national students.
5. Government-dependent private institutions instead of public institutions.

Table C5.2. Annual tuition fees charged by public institutions to national students enrolled in master's or equivalent programmes, by field of study (2022/23)

1. Reference year: calendar year 2021 for Australia and Germany; and academic year 2021/22 for England (UK), Spain and the United States.
2. Including bachelor's or equivalent programmes and doctoral or equivalent programmes. Only academic programmes are included.
3. Including doctoral or equivalent programmes.

Table C5.3. Variation of tuition fees between 2012/13 and 2022/23 and public financial support to students enrolled in tertiary programmes (2022/23)

1. Reference years for tuition fees, see Table C5.1. In Germany, column 2 include doctoral or equivalent programmes, and only academic programmes are included. Reference years for distribution of public financial support: academic year 2020/21 for Canada, calendar year 2021 for Australia and Germany; and academic year 2021/22 for Austria, England (UK), France and Spain; academic year 2019/20 for United States.
2. Reference year for trends - Tuition fees: calendar year 2011 for Australia; academic year 2011/12 for England (UK); and academic year 2014/15 for Romania. Public financial support: academic year 2011/12 for England (UK) and the United States; and calendar year 2014 for Lithuania.
3. Public institutions only.
4. Master's programmes also include doctoral programmes or equivalent.
5. The distribution of loans refers to short-cycle tertiary and bachelor's or equivalent programmes only.
6. Bachelor's programmes also include short-cycle tertiary programmes.
7. Government-dependent private institutions instead of public institutions.

See *Definitions* and *Methodology* sections and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en) for more information.

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

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

Chapter C6. On what resources and services is education funding spent?

Highlights

- On average across OECD countries and at each level of education, over 90% of the expenditure on educational institutions is dedicated to current expenditure: resources required for daily operations (pay of teachers and other staff, school meals, etc.).
- Students in schools facing shortages of teaching staff or educational material score lower on the PISA test than their peers in better resourced schools, on average across OECD countries. The difference is around or over 10 score points, roughly equivalent to half a year's worth of learning.
- There is much variation across countries in expenditure on different categories of staff. This reflects how education systems and schools are organised. For example, in primary education expenditure on compensation for non-teaching staff is relatively high compared to expenditure on teacher compensation in Chile, Estonia and the United States (the former is around half or more of the latter).

Context

Education systems require funding to provide both the necessary infrastructure, such as school buildings, and the resources required for daily operations, such as teachers, heating and supplies. Both types of expenditure are crucial for ensuring high-quality education, in different ways. Current expenditure, which includes teacher salaries and instructional materials, is fundamental for hiring and retaining teachers and other staff members in educational institutions and thereby ensuring high-quality education. Additionally, certain operational costs within current expenditure are necessary for creating an optimal learning environment (e.g. heating, preparation of school meals). On the other hand, capital expenditure, which involves investments in facilities like buildings, science labs, libraries and computers, can enhance teaching and learning experiences.

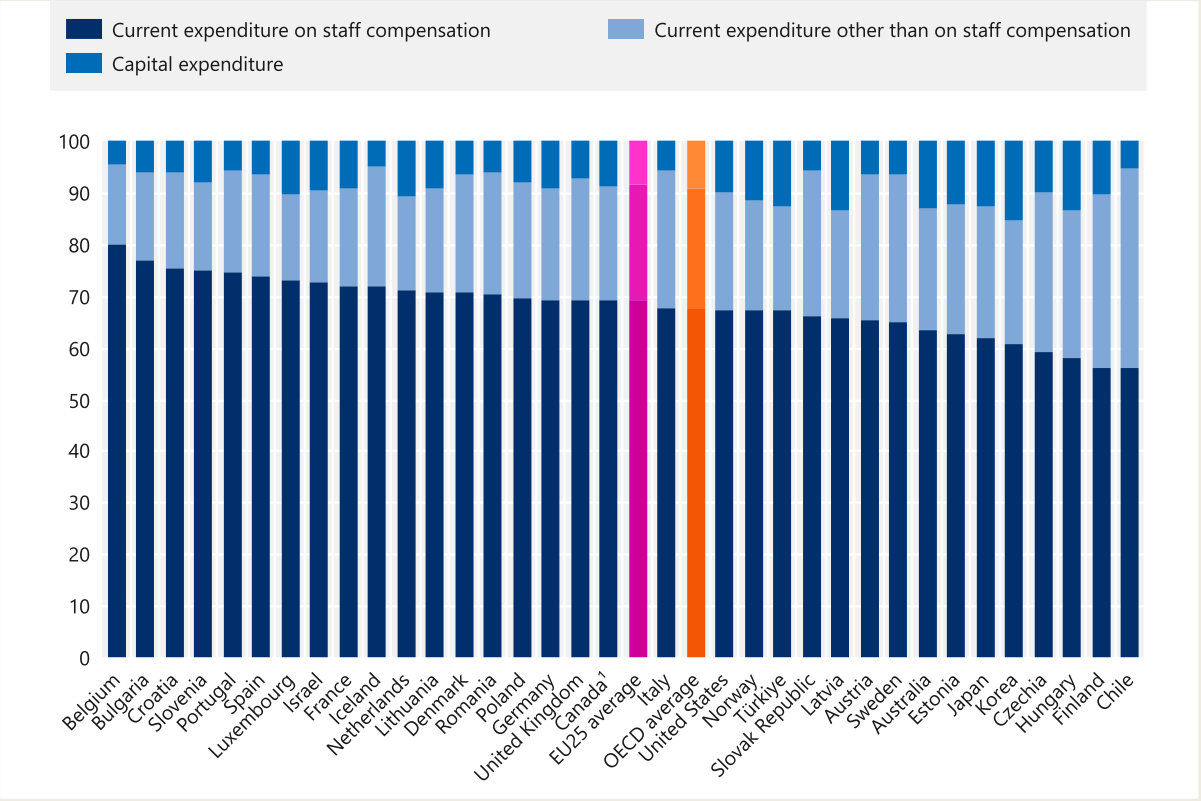
Education budgets and the distribution of various types of expenditure can fluctuate in response to several factors. For example, increasing enrolment often requires hiring more teachers, resulting in higher levels of current expenditure. At the same time, at some point increasing enrolment requires the construction of new buildings, which leads to higher capital expenditure (see Chapter B2 for data on enrolment patterns). The introduction of new health and safety regulations may require the renovation of school buildings, leading to increased capital expenditure. Some strategic initiatives require a combination of current and capital expenditures. For example, effectively incorporating digital tools in classrooms requires not only the purchase of computers (a capital expenditure) but also the training of teachers or the hiring of additional staff (current expenditure).

This chapter focuses on what funds dedicated to educational institutions are spent on. It first examines the share of capital vs. current expenditure at different levels of education. Then it focuses on different

types of current expenditure, followed by an analysis of staff compensation per full-time equivalent student. The last section of this chapter draws on PISA data to explore the relationship between shortages of educational resources and student performance.

Figure C6.1. Distribution of capital and current expenditure (2021)

Primary to tertiary education, in per cent



1. Primary education includes pre-primary programmes.
Countries are ranked in descending order of the share of expenditure on staff compensation.
See Table C6.1. Table C1.1. and Table C6.2. for data and under Chapter C6 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Other findings

- At primary and lower secondary levels 78% of current expenditure goes to staff compensation, while at upper secondary level the figure is 77%. At tertiary level the share of staff compensation is lower at 67% on average across OECD countries, reflecting the fact that other types of current expenditure (e.g. materials and supplies, equipment, rental of buildings) play a more important role at this level.
- In primary education, USD 8 715 is spent on staff compensation per full-time equivalent student on average across OECD countries. Expenditure per student on staff compensation increases with the level of education: the figure is USD 9 793 for lower secondary education, USD 8 993 for general and USD 10 169 for vocational upper secondary education. In tertiary education USD 12 742 is spent on staff compensation per full-time equivalent student.

Analysis

Capital vs. current expenditure

On average across OECD countries and at each level of education, over 90% of the expenditure on educational institutions is dedicated to current expenditure: resources required for daily operations (pay of teachers and other staff, school meals, etc.). The remaining less than 10% is capital expenditure, which involves spending on long-lasting assets such as construction, renovation and major repairs of buildings (see Definitions). Cross-country differences in the share of current vs. capital expenditure reflect largely the degree to which countries have invested in new buildings. This can be due to increased enrolment, the need to restore old structures, or to adapt to new educational or safety regulations. Capital expenditure can fluctuate significantly over time. It peaks in years when major investment plans are implemented and dips in years with less intensive investment activities. The mix of capital vs. current expenditure may also reflect other factors, such as whether school buildings are owned (and therefore built or renovated, with spending falling under capital expenditure) or rented (with spending falling under current expenditure).

In 2021, capital expenditure on primary to tertiary education ranged from 4% of expenditure on educational institutions in Belgium, to 15% in Korea (Figure C6.1.). The share of capital expenditure was highest in Estonia and Korea, accounting for over 15% of spending on primary institutions. At secondary level, it was highest in Korea (17%) and Latvia (14%). In some countries capital expenditure represents a much lower share of spending, accounting for 2% in Portugal at primary level and 3% in Austria and Belgium at secondary level. At tertiary level, the mix of capital and current expenditure varies also across countries, with capital expenditure accounting for 2% in Chile and Iceland, but over 15% in Czechia, Hungary, and Türkiye (Table C6.1).

Types of current expenditure

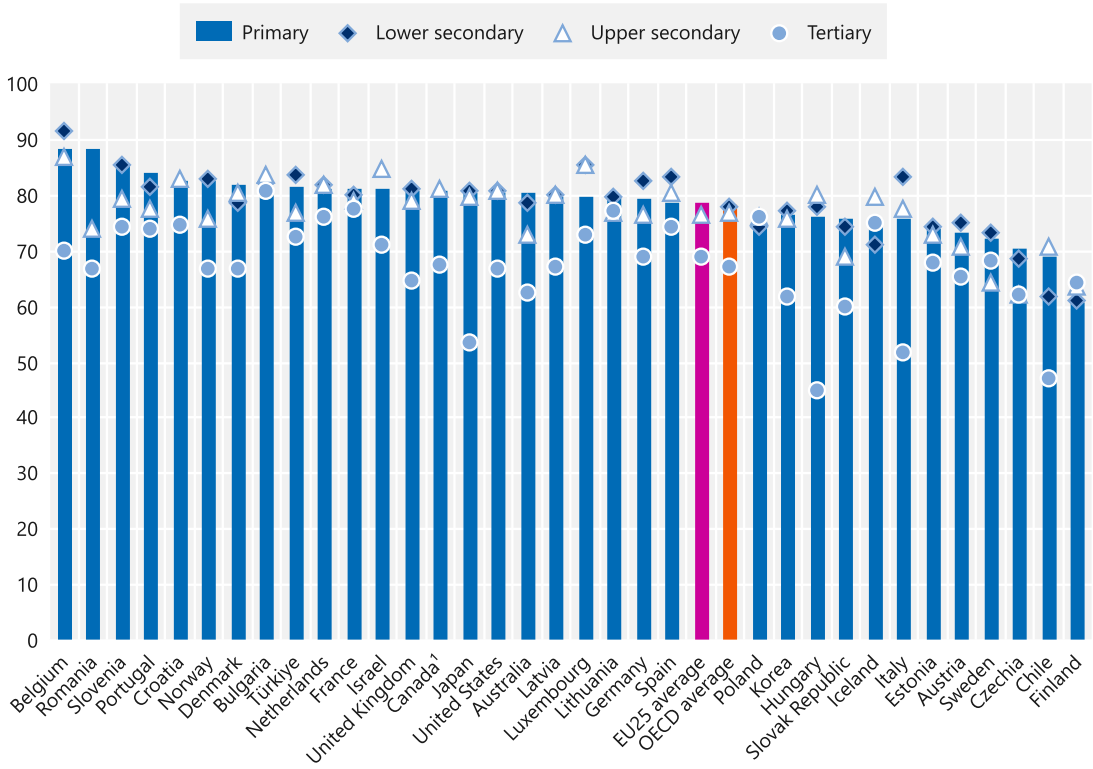
The largest component of current expenditure is staff compensation. On average across OECD countries, 78% of current expenditure goes to staff compensation at primary and lower secondary levels, and 77% at upper secondary level. At tertiary level the share of staff compensation is lower at 67% on average. A similar pattern exists in all OECD countries: the share of staff compensation is lower at tertiary level than at lower levels of education. This reflects the fact that other types of current expenditure, such as materials and supplies, certain items of equipment or the rental of facilities, play a more important role at tertiary level than in primary to post-secondary non-tertiary education.

In primary and secondary education, there is less variation across countries in the share of expenditure on staff compensation within current expenditure than at tertiary level. For example, at primary level it ranges from 61% in Finland to 88% in Belgium and Romania. At lower secondary level it ranges from 61% in Finland to 91% in Belgium. At tertiary level, however, staff compensation accounts for only 45% of current expenditure in Hungary but 81% in Bulgaria (Figure C6.2.).

There is also much variation across countries in expenditure on different categories of staff. This reflects how education systems and schools are organised (for example counselling might be offered within schools or as a service offered to youth not within the education system). For example, in Chile, Czechia, Estonia and the United States, over 25% of current expenditure on primary institutions goes to non-teaching staff such as head teachers, school psychologists, librarians, or maintenance staff. Spending on non-teaching staff represents less than 10% of current expenditure on primary institutions in Portugal, Romania, and the United Kingdom (Table C6.2.).

Figure C6.2. Expenditure on staff compensation as a share of current expenditure, by level of education (2021)

In per cent



1. Primary education includes pre-primary and lower secondary programmes.
Countries are ranked in descending order of the share of current expenditure dedicated to staff compensation in primary education.
See Table C6.2. for data and under Chapter C6 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Staff compensation per student

Figure C6.3. shows expenditure on staff compensation per full-time equivalent student in general upper secondary education. This ranges from more than USD 20 000 per full-time equivalent student in Luxembourg, to less than USD 5 000 per full-time equivalent student in Bulgaria, Chile, Estonia and Türkiye. Countries' placements in the distribution of this measure closely mirrors those for overall expenditure per student (see Figure C1.1. in Chapter C1) as staff compensation is a significant share of total expenditure (Figure C6.1.). Staff compensation is largely driven by teachers' salaries, and some countries that have high levels of staff compensation per student, such as Austria, Germany, and the Netherlands, also have high teacher salaries in general upper secondary education (see Table D3.3. in Chapter D3).

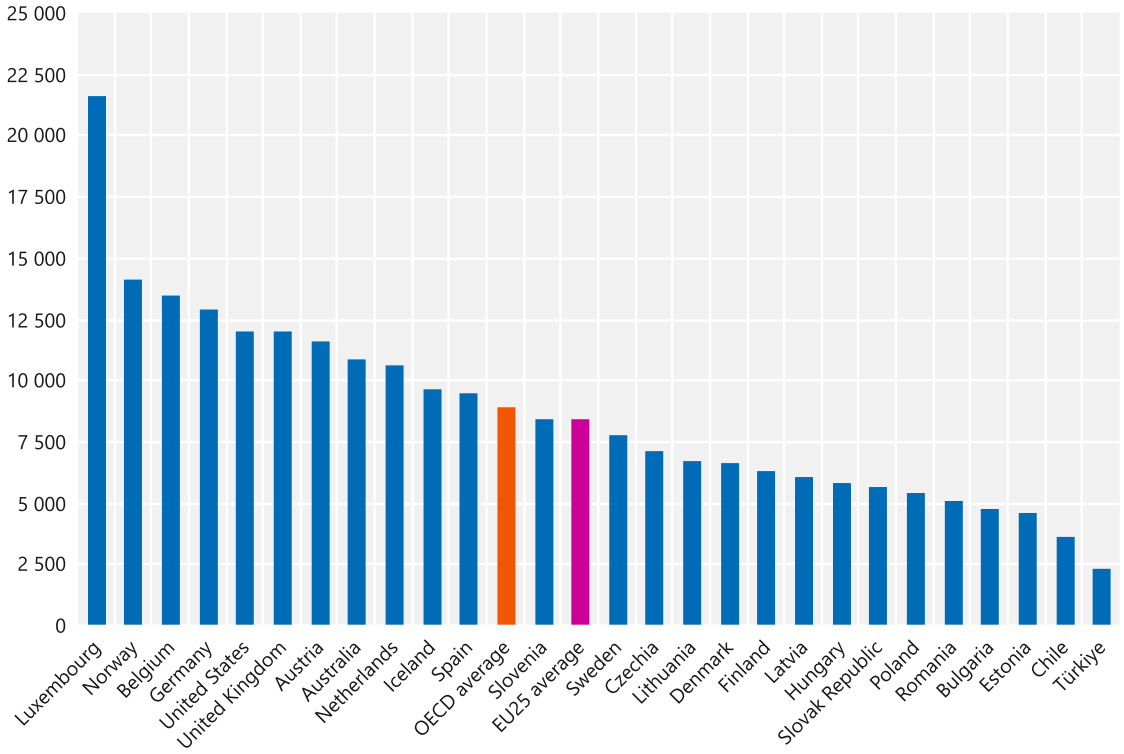
However, expenditure on staff compensation is also driven by other factors. First, "staff" includes non-teaching personnel such as administrators, librarians, and support or operations staff. Depending on how institutions and education systems are organised, the balance of teaching and non-teaching staff will vary across countries. Student-teacher ratios also shape staff compensation per student (higher student-teacher ratios will result in lower staff compensation per student, if all other factors are kept equal), while they do not directly impact teacher salaries. Several countries with high staff compensation per student,

such as Belgium, Germany, Luxembourg, and Norway, also have relatively low student-teacher ratios in general upper secondary education (see Table D2.2. in Chapter D2). Third, compensation includes expenditure on categories other than salaries, such as subsidies, insurance, and employer contributions to staff pension schemes (see Box C6.1. for more information on the breakdown of non-salary payments in primary education).

As a result, above-average levels of staff compensation per student are not always due to high teachers' salaries. For example, at the primary, lower secondary, and upper secondary levels, Finland has relatively high teacher salaries but below-average staff compensation per student (Figure C6.3. and Table D3.3. in Chapter D3).

Figure C6.3. Expenditure on staff compensation per full-time equivalent student in general upper secondary education (2021)

In USD PPP; public and private institutions



Countries are ranked in descending order of expenditure on staff compensation per full-time equivalent student in general upper secondary education.

See Table C6.2 for data and under Chapter C6 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Box C6.1. Breakdown of staff compensation in primary education

Examining the distribution of pay checks, pensions, and more

Salaries for staff are by far the largest element of staff compensation in all countries for which data are available. Looking at primary education, which follows the distribution seen in other education levels (OECD, 2022[1]), most countries spend around 70-90% of staff compensation on staff salaries (see Table C6.4., available online). In addition to salaries, staff compensation also includes contributions to retirement schemes and expenditure for other non-salary compensation such as health insurance, disability insurance, unemployment compensation, maternity and childcare benefits, and other forms of social insurance.

The share of staff compensation that is dedicated to employer contributions in staff pensions reflects country-specific schemes and policies. For example, nearly one-third of staff compensation in the United Kingdom is dedicated to staff pensions. Indeed, employer contribution rates to the UK Teachers' Pension Scheme were very high in 2021, at 24% of staff salaries, and continue to rise (GOV.UK, 2024[2]). Of the seven countries where more than 15% of staff compensation in public institutions goes to employer contributions to staff pensions (Czechia, Estonia, Finland, Latvia, Norway, Switzerland, and the United Kingdom), six have pension systems with employer contributions rates (as a percentage of gross salaries) in public sector occupations which are higher than the OECD average (OECD, 2023[3]).

The diversity of pension systems across OECD countries also leads to methodological differences in how employer contributions to staff pensions are reported. In countries with fully funded pension systems (i.e., employers pay contributions into pension funds that will be returned directly to employees when they retire) pension contributions are easy to report. In unfunded pension systems, where future pensions are paid from future revenues, such pension contributions may sometimes be underestimated, as they are harder to report (amounts must be estimated or imputed). Cross-country comparisons of the distribution of staff compensation should consider such differences in pension systems.

In addition to salaries and contributions to pension systems, staff compensation may include health care or insurance, unemployment compensation, housing support, parental and childcare benefits or subsidies, and other non-cash supplements. In public institutions for all countries for which data are available, except Canada and Mexico, this is the smallest share of expenditure on staff compensation in public institutions (Table C6.4., available online).

Resource shortages and student performance

PISA data shed light on the relationship between resource shortages and student performance in mathematics. Figure C6.4. (OECD, 2023[4]) looks at different types of shortage: teaching staff, assisting staff, educational material, physical infrastructure and digital resources. For each type of shortage, it distinguishes between two levels of severity: lack of resources and inadequate or poor quality resources.

On average across OECD countries, students in schools facing shortages of teaching staff or educational material score lower on the PISA test than their peers in better resourced schools (Figure C6.4.). The difference is around or over 10 score points, roughly equivalent to half a year's worth of learning. Shortages of assisting staff, physical infrastructure and digital resources are also associated with lower PISA scores, with differences ranging from 6 to 10 score points.

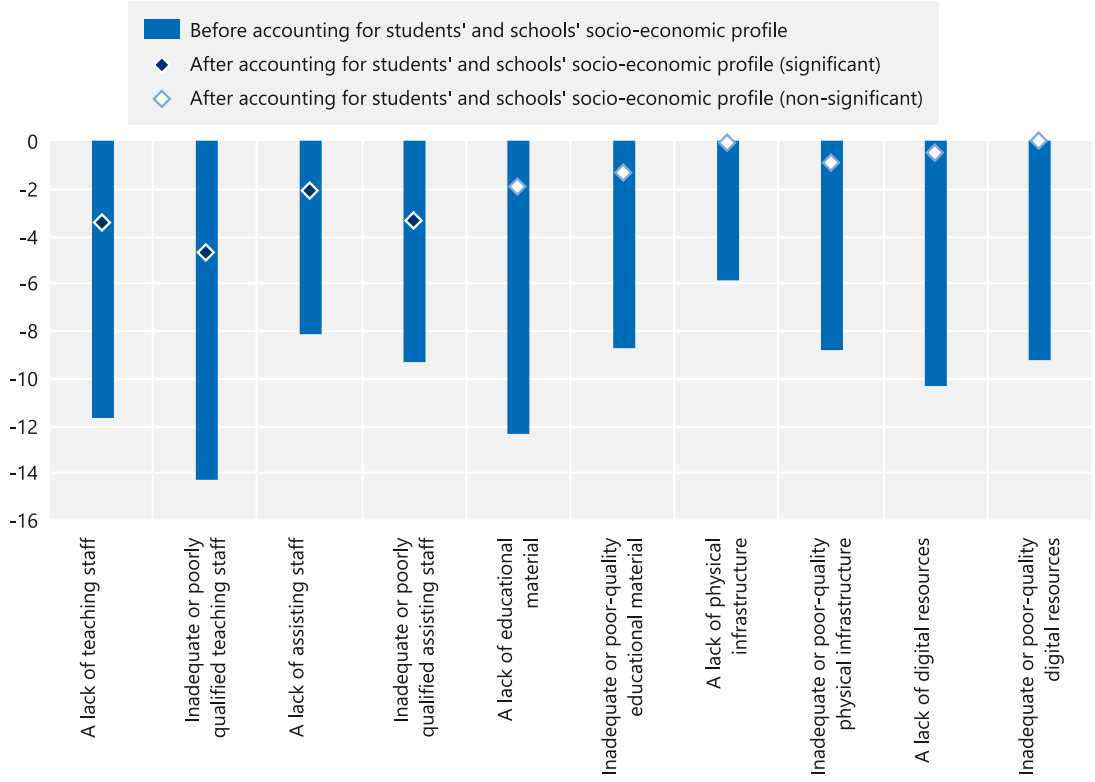
It is also important to analyse these issues taking into account information on the socio-economic background of students, to explore to what extent these results are driven by the socio-economic composition of differently resourced schools. Staff shortages are associated with weaker student

performance on PISA even after accounting for the socio-economic profile of students and schools. Once these profiles are considered, the performance gap between well-resourced and poorly resourced schools narrows to around or below 5 score points, but remains statistically significant. As shown in Figure C6.4., schools that have adequately qualified and sufficient teachers and assisting staff tend to have better PISA scores, regardless of the social background of the students' and their schools.

At the same time, PISA data show that schools serving more disadvantaged students tend to suffer from more shortages of education staff than schools serving students from more privileged backgrounds (OECD, 2023, p. 173[4]). This explains why the relationship between PISA performance and shortages of educational material, physical infrastructure and digital resources disappears (it is no longer statistically significant) when accounting for students' and schools' socio-economic profile. From an equity perspective, this is concerning. The students who most need high-quality learning resources are the ones with the least access to them.

Figure C6.4. Shortages of education staff and material resources, and PISA mathematics performance (2022)

OECD average difference in mathematics scores between schools where principals report specific resource shortages and schools where principals do not



Note: Statistically significant score-point differences are shown in a darker tone. All score-point differences are statistically significant before accounting for students' and schools' socio-economic profiles. Educational material includes textbooks, ICT equipment, library, laboratory material, etc. Physical infrastructure includes school building, grounds, heating/cooling systems, lighting and acoustic systems, etc. Digital resources include desktop or laptop computers, Internet access, learning-management systems or school learning platforms, etc.
1. Socio-economic profiles are measured by the PISA index of economic, social and cultural status (ESCS).
Shortage categories are ordered from left to right by decreasing score-point differences: teaching staff, assisting staff, educational material, physical infrastructure and digital resources.
(OECD, 2023[5]), "Investments in a solid foundation for learning and well-being", in PISA 2022 Results (Volume II): Learning During – and From – Disruption, https://doi.org/10.1787/4a2f0ed6-en, Figure II.5.6. See under Chapter C6 Tables section for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Definitions

Capital expenditure refers to spending on assets that last longer than one year, including construction, renovation or major repair of buildings and new or replacement equipment. The capital expenditure reported here represents the value of educational capital acquired or created during the year in question (i.e. the amount of capital formation), regardless of whether the capital expenditure was financed from current revenue or through borrowing. Neither capital nor current expenditure includes debt servicing.

Current expenditure refers to spending on staff compensation and on "Other current expenditure", i.e. on goods and services consumed within the current year, which require recurrent production in order to sustain educational services (expenditure on support services, ancillary services like preparation of meals for students, rental of school buildings and other facilities, etc.). These services are obtained from outside providers, unlike the services provided by education authorities or by educational institutions using their own personnel.

Research and development includes research performed at universities and other tertiary educational institutions, regardless of whether the research is financed from general institutional funds or through separate grants or contracts from public or private sponsors.

Staff compensation (including teachers and non-teaching staff, see below) includes: 1) salaries (i.e. gross salaries of educational personnel, before deduction of taxes, contributions for retirement or health-care plans and other contributions or premiums for social insurance or other purposes); 2) expenditure on retirement pensions (actual or imputed expenditure by employers or third parties to finance retirement benefits for current educational personnel); and 3) expenditure on other non-salary compensation (health care or health insurance, disability insurance, unemployment compensation, maternity and childcare benefits, and other forms of social insurance). The "teachers" category includes only personnel who participate directly in the instruction of students. The "non-teaching staff" category includes other pedagogical, administrative and professional personnel as well as support personnel (e.g. head teachers, other school administrators, supervisors, counsellors, school psychologists and health personnel, librarians, and building operations and maintenance staff). At tertiary levels, "teaching staff" includes personnel whose primary assignment is instruction or research. This category excludes student teachers, teachers' aides and paraprofessionals.

Methodology

Expenditure per student on educational institutions at a particular level of education is calculated by dividing total expenditure on educational institutions at that level by the corresponding full-time equivalent enrolment. Only educational institutions and programmes for which both enrolment and expenditure data are available are taken into account. Expenditure in national currencies is converted into equivalent USD by dividing the national currency figure by the purchasing power parity (PPP) index for gross domestic product. The PPP conversion factor is used because the market exchange rate is affected by many factors (interest rates, trade policies, expectations of economic growth, etc.) that have little to do with current relative domestic purchasing power in different OECD countries (see Annex 2 for further details).

Please see the OECD Handbook for Internationally Comparative Education Statistics (OECD, 2018[6]) for more information and Education at a Glance 2024 Sources, Methodologies and Technical Notes(https://doi.org/10.1787/e7d20315-en).

Source

Data refer to the financial year 2021 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2023 (for details see *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en). Data from Argentina, China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

Data from Table X2.2. are used to transform expenditure in constant 2015 prices and in equivalent USD converted using PPPs.

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Chapter C6 Tables

Tables Chapter C6. On what resources and services is education funding spent?

Table C6.1	Share of current and capital expenditure, by level of education (2021)
Table C6.2.	Share of current expenditure by resource category, and expenditure on staff compensation (2021)
WEB Table C6.3.	*Trends in the shares of current and capital expenditure (2015 and 2021)*
WEB Table C6.4.	*Distribution of expenditure on teaching staff in primary education (2021)*

StatLink https://stat.link/89hd3o

Cut-off date for the data: 14 June 2024. Any updates on data and more breakdowns can be found on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

Table C6.1. Share of current and capital expenditure, by level of education (2021)

Distribution of current and capital expenditure from public and private sources

	Primary		Secondary						Post-secondary non-tertiary		Primary, secondary and post-secondary non-tertiary		Tertiary		Primary to tertiary	
			Lower secondary		Upper secondary		All secondary									
	Current	Capital	Current	Capital	Current	Capital	Current	Capital	Current	Capital	Current	Capital	Current	Capital	Current	Capital
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Australia	88	12	88	12	88	12	88	12	87	13	88	12	87	13	87	13
Austria	92	8	96	4	98	2	97	3	99	1	95	5	91	9	94	6
Belgium	96	4	97	3	97[d]	3[d]	97[d]	3[d]	x(5,7)	x(6,8)	97	3	94	6	96	4
Canada[1]	91[d]	9[d]	x(1)	x(2)	91	9	91	9	m	m	91	9	92	8	92	8
Chile	94	6	93	7	92	8	92	8	a	a	93	7	98	2	95	5
Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Costa Rica	m	m	m	m	m	m	m	m	a	a	m	m	93	7	m	m
Czechia	92	8	92	8	93	7	93	7	88	12	92	8	84	16	90	10
Denmark	91	9	93	7	98	2	95	5	a	a	93	7	95	5	94	6
Estonia	85	15	84	16	93	7	88	12	92	8	86	14	92	8	88	12
Finland	87	13	87	13	90[d]	10[d]	89[d]	11[d]	x(5,7)	x(6,8)	88	12	95	5	90	10
France	93	7	91	9	90	10	91	9	90	10	91	9	91	9	91	9
Germany	89	11	92	8	92	8	92	8	93	7	91	9	91	9	91	9
Greece	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Hungary	93	7	92	8	93	7	92	8	93	7	93	7	77	23	87	13
Iceland	93	7	93	7	99	1	96	4	99	1	95	5	98	2	95	5
Ireland	m	m	90	10	m	m	m	m	m	m	m	m	m	m	m	m
Israel	89	11	x(5)	x(6)	93[d]	7[d]	93	7	100	0	90	10	91	9	91	9
Italy	96	4	97	3	95[d]	5[d]	96[d]	4[d]	x(5,7)	x(6,8)	96	4	90	10	95	5
Japan	87	13	87	13	88[d]	12[d]	88[d]	12[d]	x(5,7,13)	x(6,8,14)	88[d]	12[d]	87[d]	13[d]	88	12
Korea	83	17	82	18	83	17	83	17	a	a	83	17	90	10	85	15
Latvia	87	13	87	13	85	15	86	14	83	17	86	14	88	12	87	13
Lithuania	93	7	93	7	89	11	92	8	79	21	92	8	90	10	91	9
Luxembourg	89	11	88	12	89	11	89	11	100	0	89	11	97	3	90	10
Mexico	m	m	m	m	m	m	m	m	a	a	m	m	m	m	m	m
Netherlands	89	11	88	12	92	8	90	10	a	a	90	10	89	11	89	11
New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Norway	85	15	85	15	92	8	89	11	93	7	87	13	92	8	89	11
Poland	94	6	94	6	93	7	94	6	92	8	94	6	88	12	92	8
Portugal	98	2	94	6	92[d]	8[d]	93[d]	7[d]	x(5,7)	x(6,8)	95	5	94	6	95	5
Slovak Republic	97	3	98	2	94	6	96	4	94	6	96	4	90	10	95	5
Slovenia	93	7	93	7	94	6	93	7	a	a	93	7	90	10	92	8
Spain	96	4	97	3	96[d]	4[d]	96[d]	4[d]	x(5,7)	x(6,8)	96	4	88	12	94	6
Sweden	92	8	92	8	94	6	94	6	94	6	93	7	96	4	94	6
Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Türkiye	88	12	89	11	91	9	90	10	a	a	90	10	85	15	88	12
United Kingdom	95	5	92	8	92	8	92	8	a	a	93	7	92	8	93	7
United States	90	10	90	10	90	10	90	10	90	10	90	10	91	9	90	10
OECD average	91	9	91	9	92	8	92	8	m	m	91	9	91	9	91	9
Partner and/or accession countries																
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Bulgaria	95	5	95	5	94	6	94	6	94	6	95	5	93	7	94	6
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	96[d]	4[d]	x(1)	x(2)	96	4	x(11)	x(12)	a	a	96	4	90	10	94	6
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	96	4	94	6	95	5	95	5	96	4	95	5	92	8	94	6
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	93	7	92	8	93	7	93	7	m	m	93	7	91	9	92	8
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter C6 Tables section for StatLink and Box C6.2. for the notes related to this Table.

Table C6.2. Share of current expenditure by resource category, and expenditure on staff compensation (2021)

Distribution of current expenditure as a percentage of total current expenditure

	Primary				Lower secondary				Upper secondary			
	Staff compensation			Other current expenditure	Staff compensation			Other current expenditure	Staff compensation			Other current expenditure
	Teachers	Other staff	Total		Teachers	Other staff	Total		Teachers	Other staff	Total	
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(17)	(18)	(19)	(20)
Australia	63	18	81	19	60	19	79	21	52	21	73	27
Austria	61	13	73	27	68	7	75	25	65	6	71	29
Belgium	66	22	88	12	72	19	91	9	68	19	87	13
Canada[1]	66[d]	15[d]	81[d]	19[d]	x(1)	x(2)	x(3)	x(4)	66	15	81	19
Chile	43	26	69	31	39	23	62	38	44	27	71	29
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
Czechia	45	25	71	29	46	23	68	32	50	12	62	38
Denmark	x(3)	x(3)	82	18	x(7)	x(7)	79	21	x(19)	x(19)	80	20
Estonia	48	26	74	26	48	26	74	26	54	18	73	27
Finland	51	10	61	39	51	10	61	39	47	16	63	37
France	60	22	81	19	58	22	80	20	59	20	79	21
Germany	x(3)	x(3)	80	20	x(7)	x(7)	82	18	x(19)	x(19)	76	24
Greece	m	m	m	m	m	m	m	m	m	m	m	m
Hungary	x(3)	x(3)	76	24	x(7)	x(7)	78	22	x(19)	x(19)	80	20
Iceland	54	22	76	24	50	21	71	29	61	19	79	21
Ireland	m	m	m	m	55	8	63	37	m	m	m	m
Israel	x(3)	x(3)	81	19	x(19)	x(19)	x(19)	x(20)	x(19)	x(19)	85	15
Italy	59	17	76	24	80	3	83	17	55	22	77	23
Japan	x(3)	x(3)	81	19	x(7)	x(7)	81	19	a	a	80	20
Korea	56	21	77	23	59	19	77	23	58	18	76	24
Latvia	x(3)	x(3)	80	20	x(7)	x(7)	80	20	x(19)	x(19)	80	20
Lithuania	57	23	80	20	56	23	80	20	51	25	77	23
Luxembourg	67	12	80	20	76	9	85	15	76	9	85	15
Mexico	m	m	m	m	m	m	m	m	m	m	m	m
Netherlands	x(3)	x(3)	81	19	x(7)	x(7)	82	18	x(19)	x(19)	82	18
New Zealand	m	m	m	m	m	m	m	m	m	m	m	m
Norway	x(3)	x(3)	83	17	x(7)	x(7)	83	17	x(19)	x(19)	76	24
Poland	x(3)	x(3)	77	23	x(7)	x(7)	74	26	x(19)	x(19)	76	24
Portugal	76	8	84	16	75	6	81	19	70	7	77	23
Slovak Republic	60	16	76	24	58	17	74	26	53	16	69	31
Slovenia	x(3)	x(3)	86	14	x(7)	x(7)	85	15	x(19)	x(19)	79	21
Spain	68	11	79	21	75	9	83	17	72	8	80	20
Sweden	57	16	73	27	57	16	73	27	53	11	64	36
Switzerland	m	m	m	m	m	m	m	m	m	m	m	m
Türkiye	x(3)	x(3)	82	18	x(7)	x(7)	84	16	x(19)	x(19)	77	23
United Kingdom	72	9	81	19	74	7	81	19	69	10	79	21
United States	53	27	81	19	53	27	81	19	53	27	81	19
OECD average	m	m	78	22	m	m	78	22	m	m	77	23
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	69	13	82	18	69	13	82	18	68	16	83	17
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	x(3)	x(3)	83[d]	17[d]	x(3)	x(3)	x(3)	x(4)	x(19)	x(19)	83	17
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	88	0	88	12	77	0	77	23	73	0	74	26
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	62	16	79	21	64	13	78	22	61	14	76	24
G20 average	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter C6 Tables section for StatLink and Box C6.2. for the notes related to this Table.

Box C6.2. Notes for Chapter C6 Tables

Table C6.1. Share of current and capital expenditure, by level of education (2021)

Note: Data on R&D are included in tertiary education, unless otherwise specified.

1. Primary education includes pre-primary programmes.

Table C6.2. Share of current expenditure by resource category, and expenditure on staff compensation (2021)

Note: Other current expenditure is expenditure not for staff compensation, and this may include contracted and purchased services, such as maintenance of school building and preparation of meals, or expenditure on other resources used in education, such as teaching and learning materials. Some levels of education are included with others. Refer to "x" in Table C6.1. for details. Data on distribution of current expenditure for general and vocational upper secondary (Columns 9 to 16) and primary to tertiary combined (Columns 25 to 28), as well as expenditure on staff compensation per student for all institutions (Columns 29 to 36) are available for consultation online (see StatLink). Tertiary staff includes personnel whose primary assignment is instruction or research (Columns 21 and 22). Data on R&D are included in tertiary education, unless otherwise specified.

1. Primary education includes pre-primary programmes.

See *Definitions* and *Methodology* sections and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en) for more information.

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

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

Part D. Teachers, the learning environment and the organisation of school

Chapter D2. What is the student-teacher ratio and how large are classes and schools?

Highlights

- Between 2013 and 2022, the ratio of children to teaching staff at pre-primary level fell across most countries, from 16:1 to 15:1 on average in OECD countries, due to fewer enrolled children and more teachers. In some countries, however, the ratio has increased due to rising child enrolment and teacher shortages.
- On average, class sizes in public primary schools are slightly larger than those in private schools, at 21 students per class in public schools and 20 in private ones. Overall, class sizes have remained constant in both primary and lower secondary education across OECD countries between 2013 to 2022, with variations seen in individual countries.
- The size of primary schools varies significantly both across and within countries. In general, however, across all countries, metropolitan regions tend to have a lower concentration of small primary schools, while non-metropolitan regions tend to have a higher one.

Context

Class sizes and student-teacher ratios are much-discussed aspects of education and are among the determinants of the demand for teachers, along with students' instruction time (see Chapter D1), teachers' working time and the division of teachers' time between teaching and other duties (see Chapter D4). Together with teachers' salaries (see Chapter D3) and instruction time, class sizes and student-teacher ratios also have a considerable impact on the level of current expenditure on education through teacher salary costs.

The ratio of students to teaching staff is an indicator of how resources for education are allocated. Smaller student-teacher ratios often have to be weighed against measures such as higher salaries for teachers, investment in their professional development, greater investment in teaching technology, or more widespread use of assistant teachers whose salaries are often considerably lower than those of teachers.

Smaller classes are often seen as beneficial, because they allow teachers to focus more on the needs of individual students and reduce the amount of class time needed to deal with disruptions. Yet, while there is some evidence that targeted and intensive implementation of smaller classes has shown promise in narrowing scholastic performance gaps (Bouguen, Grenet and Gurgand, 2017[1]), overall evidence of the effect of class size on student performance is mixed (OECD, 2016[2]). Changes in class size over time can also highlight potential imbalances in the supply of teachers compared to student demand. Some countries face difficulties in recruiting new teachers to respond to a growing student base, while others face the opposite problem of adjusting the overall number of teachers as enrolments decline (OECD, 2019[3]).

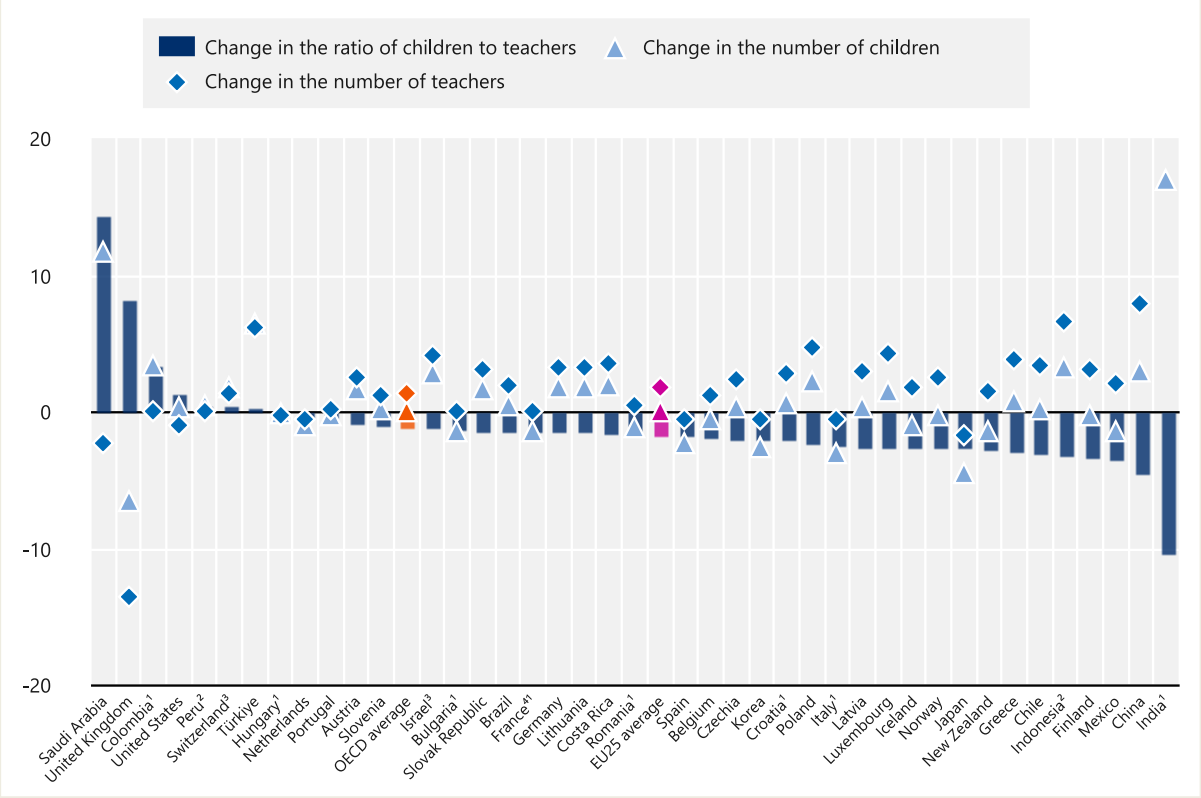
Schools are the central organisational unit of education systems and the environment in which students spend most of their time in education. They differ from each other in their size, organisation and available resources.

This is reflected in basic school attributes, such as class sizes and the range of subjects that are offered, and affects important policy-relevant outcomes, such as learning outcomes, the costs of education and student well-being.

Policy makers face important decisions on how many schools to operate and where to locate them, particularly in rural contexts. These decisions involve trade-offs between accessibility, quality and the cost of providing education. Although the geography of a country affects where schools are located, there are still large differences in school sizes across and within countries, even in urban settings where accessibility to nearby schools is generally less of a concern due to higher population densities. Such variation indicates that countries differ in how they approach policy choices around school size.

Figure D2.1. Annual change in the ratio of children to teachers, number of children and number of teachers in pre-primary education (2013 and 2022)

Average annual change in per cent



1. Year of reference differs from 2013. Refer to the source table for more details.
2. Year of reference differs from 2022. Refer to the source table for more details.
3. Public institutions only.
4. Excludes data from independent private institutions

Countries and other participants are ranked in descending order of the change over the period 2013-2022 in the ratio of children to teaching staff in pre-primary education.

See Table D2.1 for data and under Chapter D2 Tables section for StatLink. For more information see Source section *and Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Other findings

- Across OECD countries with available data in 2022, there were an average of 14 students per teacher at the primary level, falling to 13 students per teacher at the lower secondary level.

- Median student-teacher ratios in primary schools in metropolitan regions are generally higher than those in non-metropolitan regions across 9 countries with available school-level data, but the distributions of student-teacher ratios exhibit a diverse pattern within and across countries.

Note

Student-teacher ratios, class sizes and school sizes measure very different characteristics of the educational system. Student-teacher ratios provide information on the level of teaching resources available in a country relative to its student population and serve as a pivotal indicator reflecting the human resources allocated, whether directly or indirectly, to children's education. This ratio is of importance from both administrative and economic standpoints as it is closely related to the amount of money spent per student. In contrast, class sizes measure the average number of students that are grouped together in a classroom, which has greater significance from a psychological standpoint and is a more direct measure of the teaching resources brought to bear on a student's development. Meanwhile, school sizes measure the theoretical size of a specified level of education per school. Given these differences, it is possible for countries with similar student-teacher ratios to have different class sizes, or for countries with similar class sizes have different school sizes. A school can have small average class sizes but a large number of classes, resulting in a large school in terms of the number of students enrolled.

Note that the indicators discussed in the main analysis are calculated at the national level, whereas those in the boxes are calculated based on the school-level data collected through the ad-hoc survey on primary schools.

Analysis

Staffing of early childhood education

Staff working with young children

Early childhood education and care (ECEC) profoundly influences children's educational, cognitive, behavioural and social development both in the short and long term. It plays a crucial role in bridging the academic achievement gap between children from disadvantaged backgrounds and their peers.

The staffing landscape in ECEC is diverse. Those who have regular and direct contact with children, and whose roles involve education and/or care, can generally be categorised into four main groups: classroom teachers, teachers' aides, school-level management personnel, and staff providing pedagogical, health or social support. The qualifications and compensation structures for these staff members often vary based on their distinct roles.Typically, each OECD country has between 2 to 10 types of ECEC staff, which can be grouped into these 4 categories. For instance, in Austria's ECEC system, there are supportive specialists who are pedagogical staff and facilitate group activities. In Latvia, there are teacher assistants who oversee childcare and support teachers in facilitating learning. The Republic of Türkiye has counsellors, typically holding bachelor's degrees in psychological counseling and guidance, who operate in ECEC centres with high levels of enrolment.

Although classroom teachers are traditionally regarded as the core practitioners in ECEC, there is growing recognition of the invaluable contributions made by auxiliary staff. The research literature highlights that assistant teachers play a crucial role in children's development by facilitating learning, bridging gaps and providing caring support in various scenarios. (Van Laere, Peeters and Vandenbroeck, 2012[4]; Figueras-Daniel and Li, 2021[5]; Mowrey and Farran, 2021[6]; Webster and De Boer, 2019[7]). Teachers also benefit from the availability of support from other staff. Centre-based ECEC teachers and home-based providers who experience supportive relationships with co-workers and supervisors report less stress and depression (Smith and Lawrence, 2019[8]). Therefore, the composition of ECEC staffing has significant policy implications, not just for optimising teaching teams to deliver high-quality education to young children but also for strategic human resource allocation within the ECEC sector.

Child-staff ratio and child-teacher ratio

Child-staff ratios and child-teacher ratios are important indicators of the resources devoted to education. 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 early childhood education (ECE). On average in OECD countries, there are 15 children for every teacher working in pre-primary education in 2022, with wide variations across countries. The ratio of children to teaching staff, excluding teachers' aides, ranges from 6 or fewer children per teacher in New Zealand to more than 30 in Colombia and the United Kingdom (Table D2.1).

Lower child-staff ratios are particularly important for high-quality interactions with children under 3 (COFACE, 2023[9]). With the exception of Indonesia, Lithuania, and Romania, the child-to-teacher ratio in early childhood educational 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 New Zealand to 30 in the United Kingdom (Table D2.1).

Sensitive and responsive interactions between adults and children, enabled by lower child-staff ratios, bring benefits to both children and staff. Children develop personalised relationships with ECE 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[9]).

Low child-staff ratios may offer opportunities for stronger partnerships between parents and ECE staff. Having fewer children to take care of during the day allows caregivers and teachers more time to discuss children's activities and communicate and develop relationships with parents. This, in turn, can determine the quality of relationships between educators and children (COFACE, 2023[9]).

Some countries, such as Lithuania and the Netherlands, 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 9 percentage points. In Chile, however, the share of teachers' aides at pre-primary level is nearly twice that in early childhood development services, while the ratio of children to teaching staff (20:1) is well above the OECD average of 15:1 (Table D2.1).

Trends in child-teacher ratios

Between 2013 and 2022, the ratio of children to teaching staff at pre-primary level fell across most countries, from 16:1 to 15:1 on average in OECD countries. In most of these cases, the drop is due to the number of teachers growing faster than the number of children enrolled in pre-primary education (Figure D2.1). In Belgium, Mexico, New Zealand and Romania, the number of teachers increased despite a fall in the number of children enrolled over the period. Conversely, in Italy, Japan and Korea, both the number of children enrolled and the number of teachers fell at pre-primary level, but the drop in the number of children was greater than the drop in the number of teachers. The common factor in both scenarios is the overall fall in the number of children enrolled, which may be partly attributed to a general reduction in the population of 0-6 year-olds during this period.

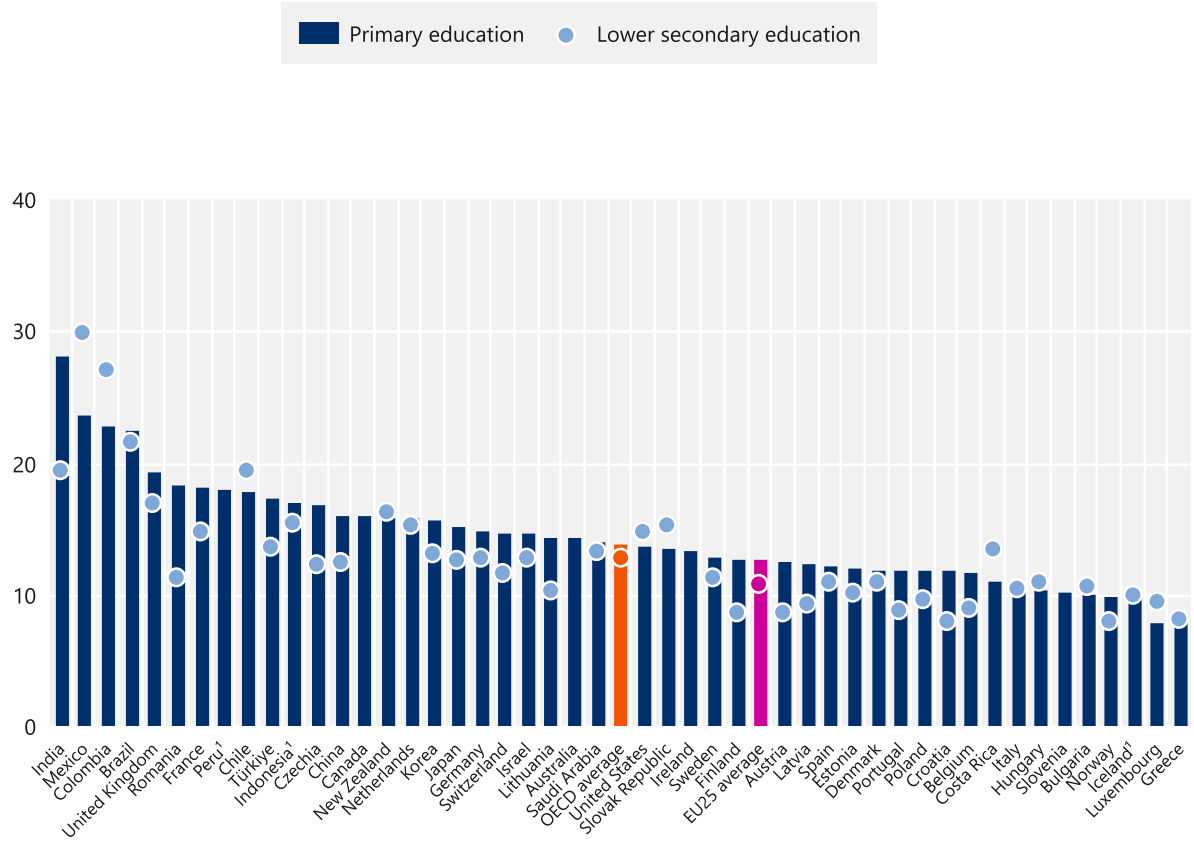
In contrast to the prevailing downward trend across OECD countries, the child-teacher ratio increased by an average of 14% per year in Saudi Arabia between 2013 and 2022. This was a combined effect of both an increase in the number of children enrolled in pre-primary educaion and a fall in the number of teachers (Figure D2.1). The increase in student enrolment can be largely attributed to increased participation among children of pre-primary age during the period (see Table B1.2 in Chapter B1). In parallel, Saudi Arabia faces a significant challenge due to a shortage of qualified kindergarten teachers (OECD, 2020[10]).

Staffing of primary and lower secondary education

On average across OECD countries, there are 14 students for every teacher at primary level, ranging from 8:1 in Greece and Luxembourg to 24:1 in Mexico. On average, there are fewer students per teacher at lower secondary level (13:1) than at primary level (14:1). This reduction in the student-teacher ratio between primary and lower secondary education may be due to differences in annual instruction time (as instruction hours tend to increase with the education level, so does the number of teachers (OECD, 2023[11])) or from differences in teaching hours (teaching time falls with the level of education as teacher specialisation increases (see Chapter D4)). Only Chile, Colombia, Costa Rica, Luxembourg, Mexico, the Slovak Republic and

the United States have a larger student to teacher ratio at lower secondary level than at primary level (Figure D2.2). Additionally, the student-teacher ratios exhibit regional variations within countries (Box D2.1).

Figure D2.2. Ratio of students to teaching staff in primary and lower secondary education (2022)

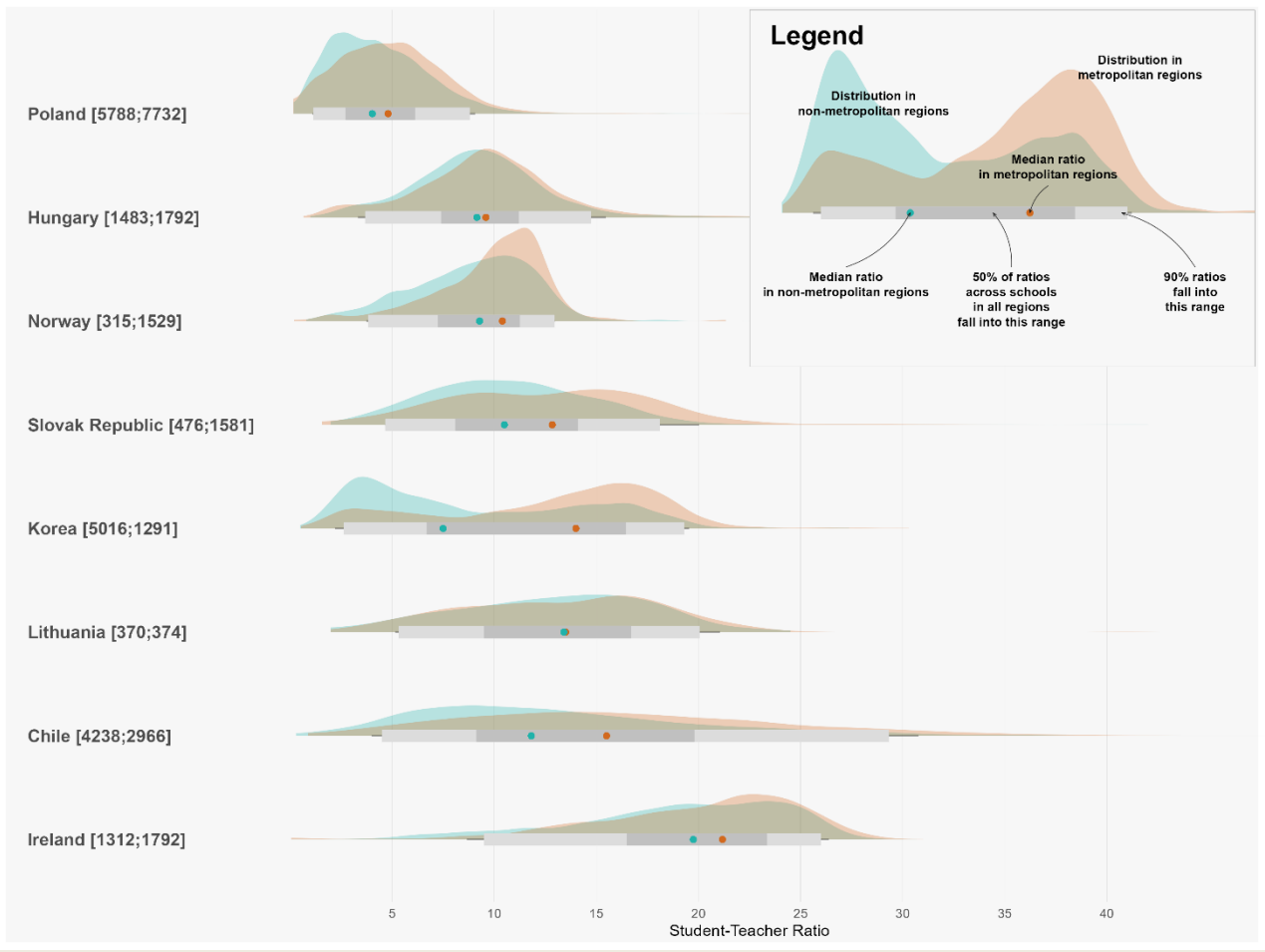


1. Year of reference differs from 2022. Refer to the source table for more details.
Countries are ranked in descending order of the ratio of students to teaching staff in primary education.
See Table D2.2 for data and under Chapter D2 Tables section for StatLink. For more information see Source section *and Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Box D2.1. Do student-teacher ratios differ between metropolitan and non-metropolitan regions?

As student-teacher ratios vary across countries, they also differ across subnational regions within countries. Among the eight OECD countries with available primary school-level data, the median student-teacher ratios in primary schools in metropolitan regions are generally higher than those in non-metropolitan regions (Figure D2.3). Notably, in Korea, the median in metropolitan regions is 7 students more per teacher than in non-metropolitan regions. In contrast, in the Slovak Republic, the difference is smaller, with metropolitan regions having 2 students more per teacher. Hungary and Lithuania show little difference in student-teacher ratios between metropolitan and non-metropolitan regions (Table D2.4).

Figure D2.3. Distribution of students to teaching staff, by regional typology (2022)



Note: The numbers in square brackets after the country names [a;b] indicates the number of schools, where 'a' is the number of schools in metropolitan regions and 'b' the number in non-metropolitan regions.
Countries are ranked in descending order of the median ratio in all regions.
See Table D2.4. for data and under Chapter D2 Tables section for StatLink. For more information see Source section *and Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

The distributions of student-teacher ratios fall within similar ranges across both metropolitan and non-metropolitan regions in Hungary and Poland (Figure D2.3). However, in Korea, the student-teacher ratio varies more widely in non-metropolitan primary schools than those in metropolitan regions. In non-metropolitan regions of Korea, 25% of schools have 4 or fewer students per teacher, while the schools in the top 25% have 14 or more students per teacher (Table D2.4).

Maintaining low student-teacher ratios in a large number of primary schools in rural areas can put considerable pressure on public resources, especially in systems where central funding for schools is tied to the number of students they serve. A low student-teacher ratio may require municipalities or other subnational levels of government to contribute more funds towards maintaining small local schools (OECD, 2018[12]). One primary contributing factor could be the high salary costs of teachers, which constitute the largest portion of education expenditures.

Low student-teacher ratios are crucial for fostering close teacher-student relationships, catering to individual learning needs effectively, and cultivating a supportive social environment conducive to student development (Ares Abalde, 2014[13]), which is particularly essential in disadvantaged rural areas. Nevertheless, the literature underscores unique challenges faced by small rural schools with low student-teacher ratios. Although the average number of students per teacher is lower, teachers often devote a significant amount of time to tasks other than teaching and class preparation due to the absence of additional administrative or professional support (Creagh et al., 2023[14]). Moreover, rural schools encounter difficulties in recruiting teachers for certain subjects and in preparing them with the necessary skills to teach effectively within rural contexts (Monk, 2007[15]). The evidence also highlights a low level of geographical mobility among teachers, with location preferences significantly influencing their job searches (Reininger, 2012[16]; Engel, Jacob and Curran, 2014[17]). This strong regional dimension of the teacher labour market can create supply shortages for schools in both rural and disadvantaged urban areas, which may further amplify regional disparities.

Staffing of higher levels of education

At the upper secondary level, the student-teacher ratio is about 13 students per teacher on average, which is slightly lower than in lower secondary education. However, at this level, the ratio can vary dramatically depending on the programme orientation. In about 40% of OECD countries with data, the ratio is greater in vocational programmes than in general ones. In Colombia, there are about 30 more students per teacher in vocational programmes than in general ones, while the difference is 9 more in Latvia and 6 more in Denmark. In other countries, such as Brazil and Mexico, the difference is reversed: there are over 9 more students per teacher in general programmes (Table D2.2). These differences could be attributed to a combination of the different nature of general and vocational programmes, and differences in country policies.

At tertiary level, there are on average 16 students per teaching staff member. The student-teacher ratio ranges from 4:1 in Luxembourg to 27:1 in Brazil and Indonesia (Table D2.2). The difference in student-teaching staff ratios across different levels of tertiary education also varies across countries with available data. These results should be interpreted with caution, however, as the student-teacher ratio remains a limited measure of the level of teaching resources at tertiary level, where research staff may make up a significant share of academic personnel. Moreover, the relatively low enrolment in short-cycle tertiary in some countries also limits comparability across tertiary levels.

Class size

At higher levels of education, students are often split into several different classes, depending on the subject area. This makes class sizes difficult to define and compare at these levels. Therefore, the indicator on class size is limited to primary and lower secondary education.

Average class size by level of education

At primary level, the average class in OECD countries has 21 students. There are fewer than 25 students per class in all the countries with available data, with the exception of Chile, Israel, Japan, and the United Kingdom. At lower secondary level, the average class in OECD countries has 23 students. Among all countries with available data, the number ranges from fewer than 20 students per class in Croatia, Estonia, Finland, Latvia, Luxembourg and Poland to 32 students or more per class in Chile, and Japan (Table D2.3).

The number of students per class tends to increase from primary to lower secondary education, which is the opposite trend to that seen with student-teacher ratios. In Costa Rica, the number of students per class increases by 15 students. On the other hand, in Australia and, to a lesser extent, Hungary and the United Kingdom, it falls between these two levels of education (Table D2.3) between 2013 and 2022, class sizes remained constant at primary and lower secondary levels on average across OECD countries, but this average masks considerable changes in individual countries. At primary level, class sizes fell by 3 students in Brazil on average and increased by 4 students in Mexico over this period. At lower secondary level, some

changes have been even more striking, with average class size falling by 7 students in Korea and increasing by 4 in the United Kingdom (Table D2.3.).

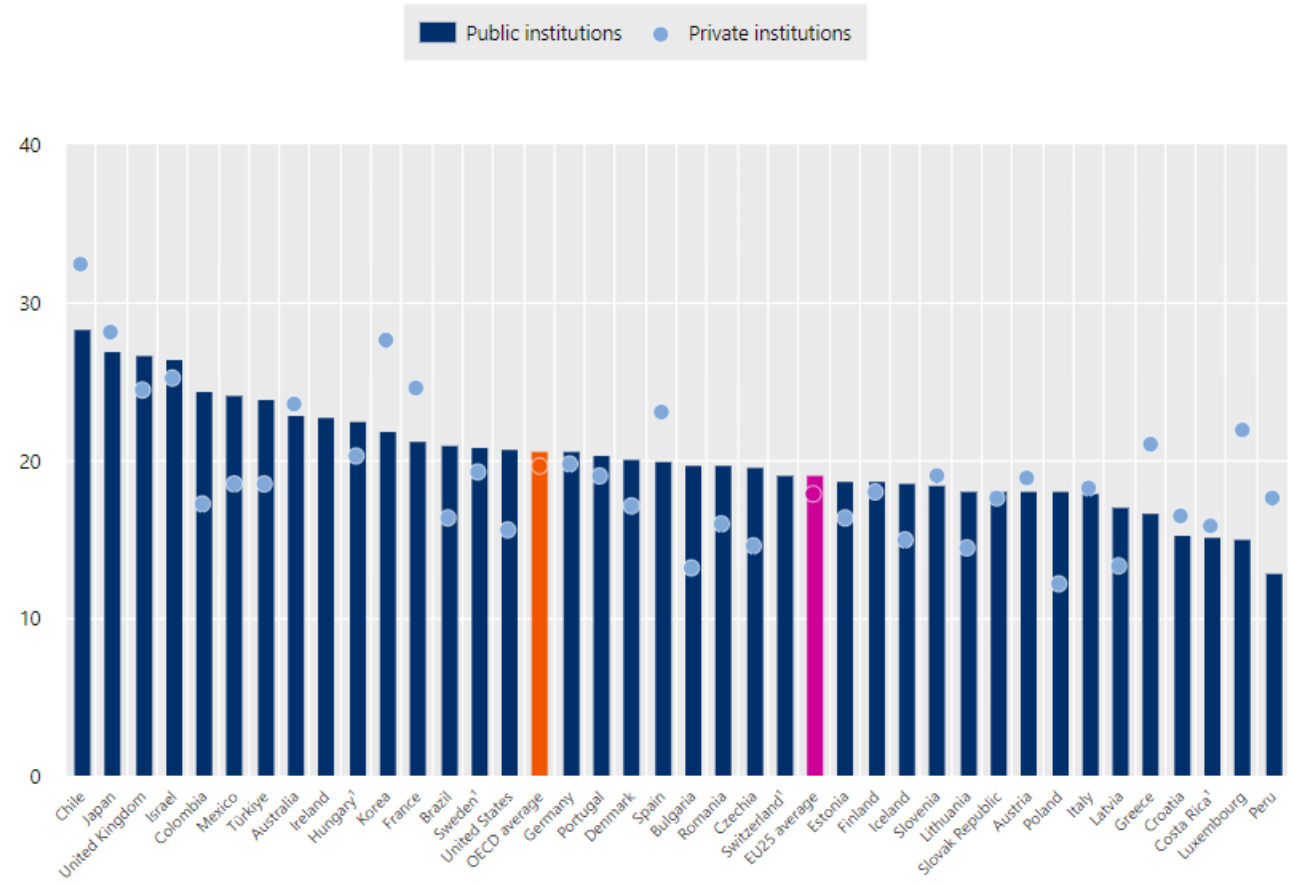
Class size by type of institution

Students in primary and lower secondary education are often assigned to their neighbourhood school. However, in recent decades, reforms in many countries have tended to give parents (and students) greater choice, enabling families to choose a school that meets their child's education needs or family preferences. When choosing between public and private institutions, parents evaluate a multitude of factors to determine the best educational environment for their children. Class size is one important factor as it allows for more individualised attention, better support and tailored instruction, enhancing the learning experience. However, other criteria such as the quality of education, school facilities and extracurricular activities are equally important. Practical considerations, such as location and cost, also play vital roles in the decision-making process, alongside the school's reputation and parental involvement.

At primary level, the average class size stands at 21 students in public institutions, while private institutions tend to have slightly smaller class sizes, of around 20 students per class across OECD countries in 2022 (Figure D2.4). This pattern persists at lower secondary level, where public institutions typically have 23 students per class compared to 21 students in private institutions (Table D2.2). On average across OECD countries, class size remained constant in both public and private lower secondary institutions between 2013 and 2022 (Table D2.3). This again masks more substantial changes in individual countries. For example, Estonia had some of the smallest average class sizes in both public and private institutions in 2013 and, although they still remain below the OECD average in 2022, they have increased over the period. Other countries, such as Korea, which had the highest average class size in 2013, saw class sizes fall by 2022, both for public and private institutions (Table D2.3).

Across countries with available data, the difference in average class sizes between government-dependent private institutions and independent private institutions remains consistent across primary and lower secondary education. In Chile, Costa Rica, France, Peru and the United Kingdom, independent private institutions maintain an average class size at least 9 students smaller than that of government-dependent private institutions at lower secondary in 2022 (Table D2.3).

Figure D2.4. Average class size in primary education, by type of institution (2022)



1. Year of reference differs from 2013. Refer to the source table for more details.
Countries are ranked in descending order of the average class size in private institutions.
See Table D2.3 for data and under Chapter D2 Tables section for StatLink. For more information see Source section *and Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Box D2.2. How large are primary schools?

Both across and within countries, primary schools vary widely in size, as measured by the number of students enrolled per primary grade. Notably, Australia, Korea and the United States stand out with the largest median primary school sizes. In Korea, the median primary school has 52 students per grade, with 5% of primary schools having 197 or more students per grade. Although the number of such large primary schools is limited, they are attended by a large number of students. Conversely, countries including Brazil, Costa Rica, Croatia, Estonia and Ireland show a notable peak in the density of schools with fewer students per grade, indicating a large number of smaller schools. In Costa Rica and Croatia, 25% of primary schools have 3 or fewer students per grade (Figure D2.3). These variations across and within countries can be attributed to factors such as school size policies, population density and resource allocation (Box D2.3).

Countries also differ in terms of how much school sizes vary within the country. In Belgium, Luxembourg and the Netherlands school sizes are concentrated within a narrow range. For example, in the Netherlands, the interquartile range spans from 15 to 36 students per grade (i.e. 50% of all schools fall within this range while 25% of schools have fewer students and 25% of schools have more students). In contrast, the interquartile range spans from 15 to 62 students per grade in Australia and 10 to 105 students per grade in Korea (Figure D2.5).

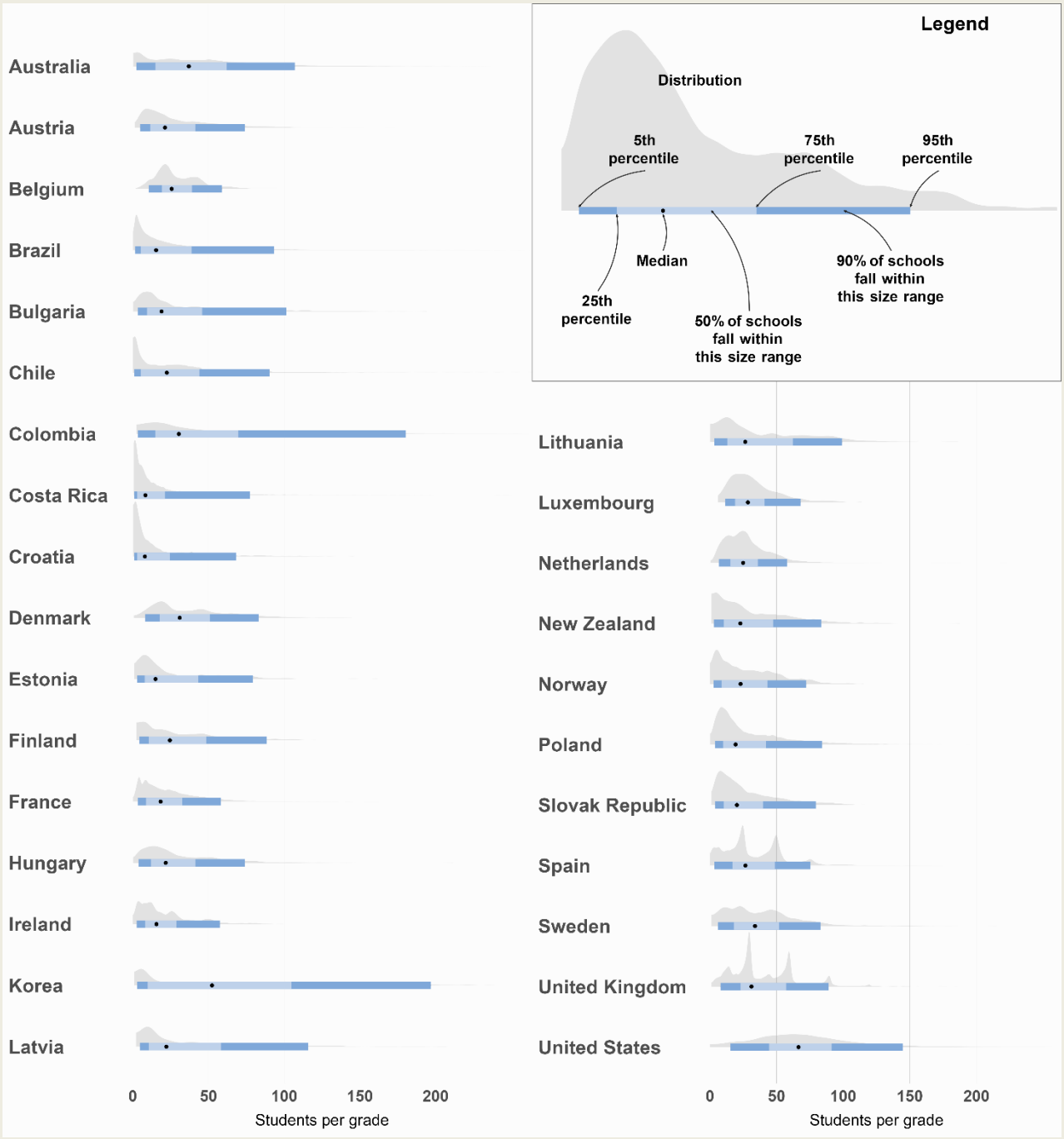
The impact of school size on educational indicators

Research indicates school size has a mixed impact on academic achievement, with both small and large schools having different advantages (Scheerens, Hendriks and Luyten, 2014[18]; Ares Abalde, 2014[13]). School size interacts with some meditating factors such as socio-economic background, school climate, curricular offerings, extracurricular activities, self-esteem, student-teacher relationships and home-school relationships, all influencing student outcomes (McCathern, 2004[19]). Some evidence points towards an inverted U-shaped relationship between school size and achievement, suggesting there is an optimal size for maximizing student performance (Borland and Howsen, 2003[20]; Slate and Jones, 2005[21]). However, the impact varies by grade and subgroup, with larger schools being potentially more detrimental in higher grades, particularly for socio-economically disadvantaged students and those with learning disabilities (Egalite and Kisida, 2016[22]; Gershenson and Langbein, 2015[23]).

Students in smaller schools are more engaged in extracurricular activities and have a stronger sense of belonging. Close student-teacher relationships in these schools help address individual needs and reduce dropout rates (Bard, Gardener and Wieland, 2006[24]; Slate and Jones, 2005[21]; Ares Abalde, 2014[13]; Cotton, 1996[25]). Teachers in small schools experience greater co-operation and parental involvement (Cotton, 1996[25]; Slate and Jones, 2005[21]; Leithwood and Jantzi, 2009[26]; Nguyen, Schmidt and Murray, 2007[27]; Duncombe and Yinger, 2001[28]).

Conversely, larger schools are more cost-efficient, benefiting from economies of scale, which reduce expenses while maintaining or enhancing efficacy (Ares Abalde, 2014[13]). This cost efficiency follows a U-shaped relationship, where initial economies of scale become diseconomies above a critical size (Slate and Jones, 2005[21]). Expenditure per student is highest in the smallest schools (Falch, Rønning and Strøm, 2008[29]; Andrews, Duncombe and Yinger, 2002[30]), which may be due to fixed costs associated with administrative work and constructing, running and maintaining school facilities. Larger schools also offer a more diverse curriculum and avoid multi-grade teaching (Ares Abalde, 2014[13]). They also allow for greater investment in administrative staff, reducing the administrative burden on teachers and allowing them to focus more on teaching (Bradley and Taylor, 1998[31]).

Figure D2.5. Distribution of primary schools by size (students per grade) (2022)



1. As per the Australian Education Act 2013, a primary school is defined as small if it has between 15 and 200 students.

Countries are listed in alphabetical order.

See Table D2.4 for data and under Chapter D2 Tables section for StatLink. For more information see Source section *and Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Box D2.3. How does the share of small schools vary across and within countries?

As Box D2.2 shows, primary schools vary significantly in size across countries. This variation is also found within countries with regional differences. Figure D2.6 illustrates the share of small primary schools in subnational regions in countries with available school-level data. A small school is defined as having 21 or fewer students per grade at primary level, which is the average class size in primary schools across OECD countries (Table D2.3).

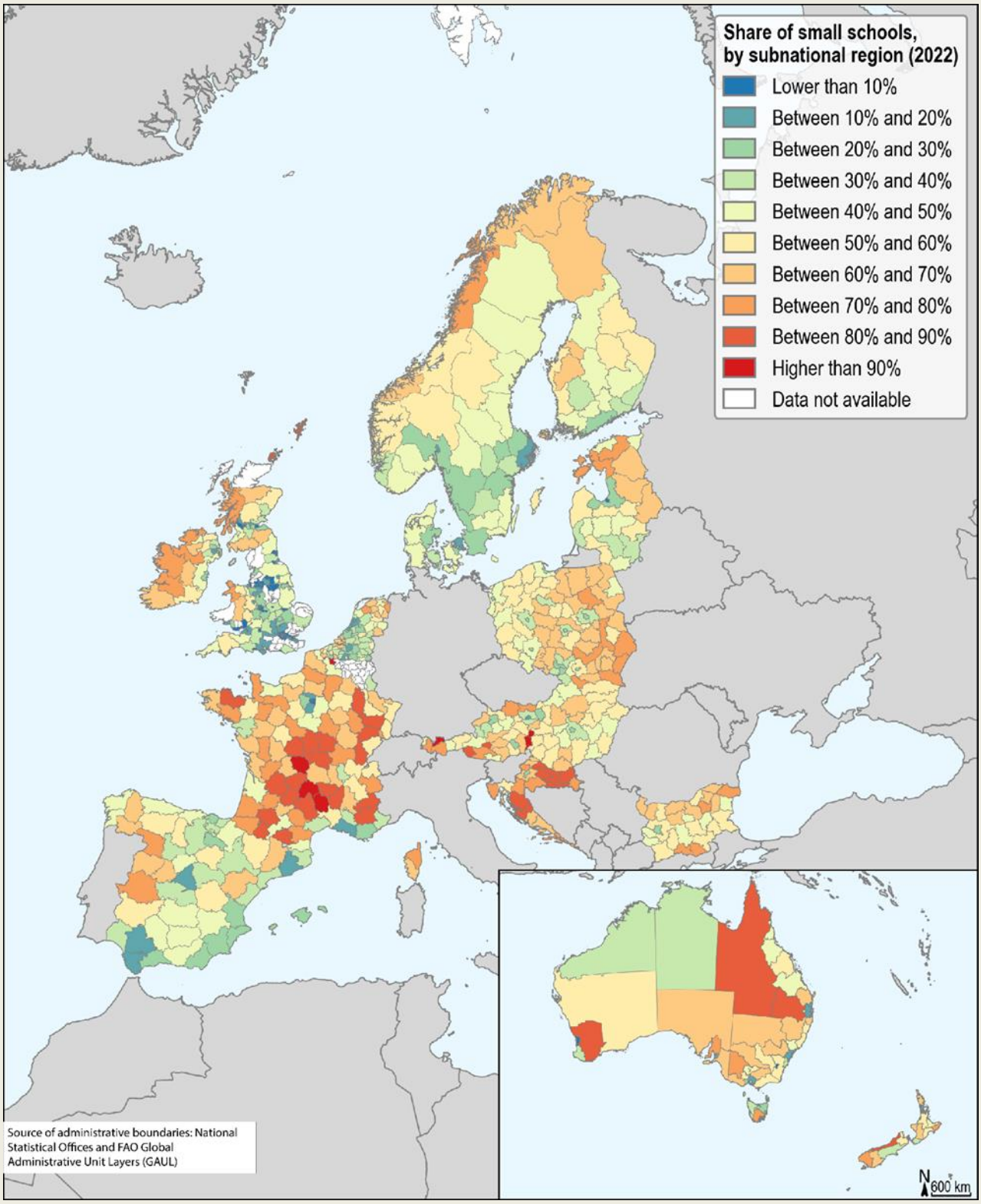
The distribution of small primary schools across the 27 countries with data available shows a highly diverse pattern. In the United States, for example, less that 10% of primary schools in southeastern and southwestern regions are small, while central northern regions have a higher share. In France, large primary schools are concentrated in and around Paris, as well as the southern coastal regions, such as Bouches-du-Rhône. These regions are typically metropolitan. Conversely, in inland rural regions that are remote from metropolitan areas, such as Cantal, Creuse and Lozère, the share of small schools exceeds 90%. In contrast, the share of small schools is lower even in very sparsely populated regions in the northern part of the Nordic countries, as well as in northern Australia. This may be explained by settlement patterns, as population in those regions may be concentrated in mid-sized towns rather than small villages (Figure D2.6).

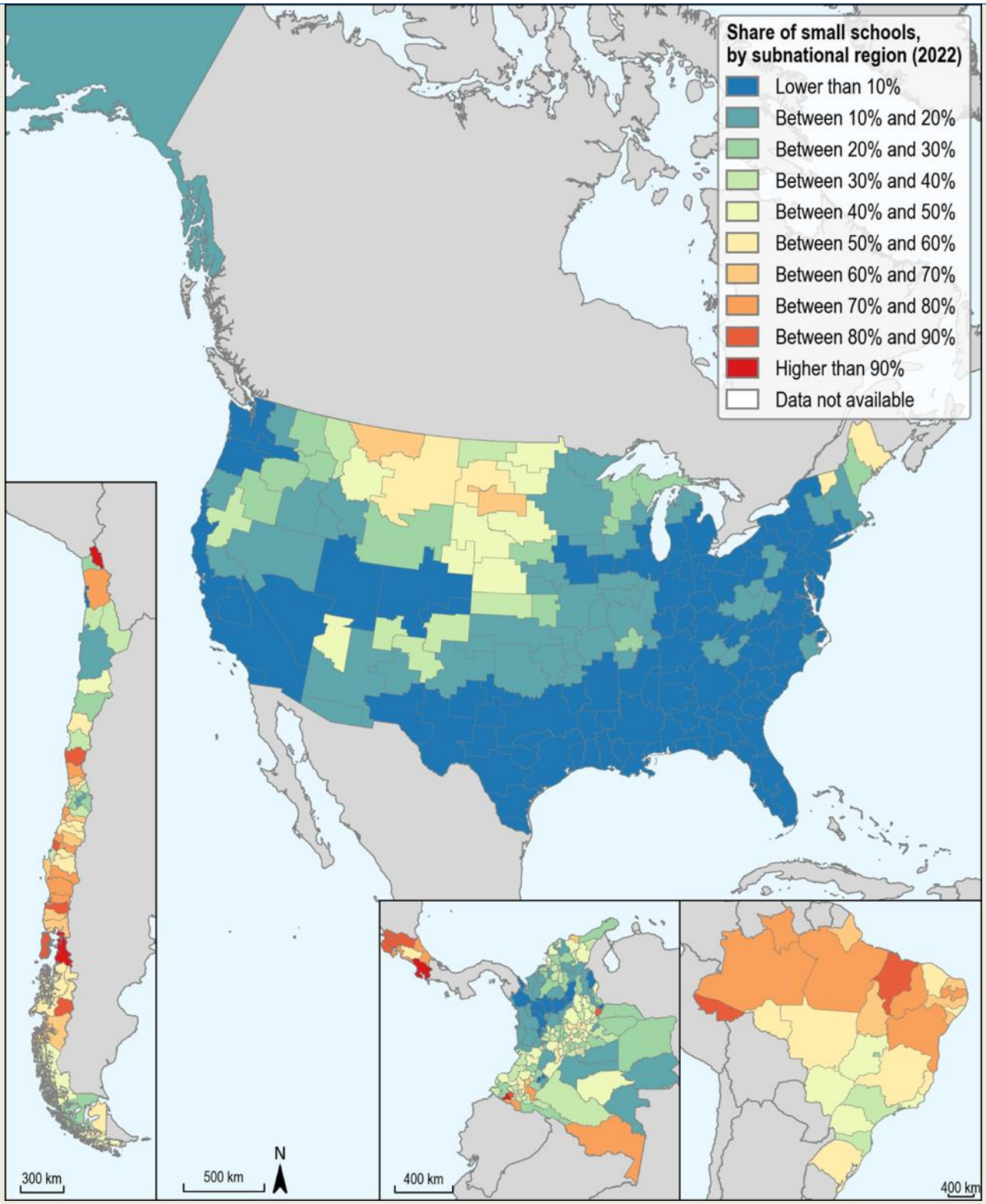
A general trend across all countries is that metropolitan regions tend to have a smaller share of small primary schools, while non-metropolitan regions tend to have a larger share. This pattern is also evident in Table D2.4, which shows that the median size of primary schools in metropolitan areas is larger than in non-metropolitan areas within each country with available school-level data. As discussed in Box D2.2, small rural schools face challenges due to their inefficiency related to their small size, including increased administrative workload for teachers and a less comprehensive educational offering. These limitations extend beyond academic issues to include supplementary services for struggling students and those with special learning needs in a rural context (OECD, 2018[12]).

Countries have developed school size policies based on their individual historical, geographical and socio-economic contexts. For instance, since the 1980s, Korea's education policy has aimed to maximise the efficiency of its education investments, leading to significant pressure to merge and close schools in rural regions. Schools with fewer than 180 students were advised to close, but many opted to become hub schools, linking two to four schools together, with one taking the lead in managing educational programmes and facilities (Ares Abalde, 2014[13]). This policy has softened since 2004, as the government has shifted its focus from maximising efficiency to improving the quality of education in rural areas. However, consolidation policies remain controversial: proponents argue that they ensure educational equity and resource efficiency through economies of scale and broader curricula. Opponents point to the negative impact on rural communities, where schools play crucial economic and social roles, symbolising autonomy, vitality, integration and tradition (Nitta, Holley and Wrobel, 2010[32]).

Despite their smaller average size, retaining rural schools is essential to ensuring every student has equitable access to educational resources. Additionally, since rural school networks are often less dense than those in urban or suburban areas, rural families have fewer options when choosing schools for their children. Although consolidation is often proposed to increase the size, resources and educational reach of the remaining rural schools, such measures may further reduce school diversity and limit parents' ability to choose between multiple providers or programmes (OECD, 2018[12]; Gronberg et al., 2015[33]). Beyond their educational role, small rural schools serve additional important functions by helping to attract and retain residents in areas that often face challenges related to population decline.

Figure D2.6. Share of small schools, by subnational region (2022)





1. As per the Australian Education Act 2013, a primary school is defined as small if it has between 15 and 200 students.
See under Chapter D2 Tables section for StatLink. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Definitions

Early childhood education (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 chapter. Therefore, the term of ECE excludes the programmes that do not meet the ISCED 2011 criteria.

Teachers' aides and teaching/research assistants include personnel or students who support teachers in providing instruction to students.

Teaching staff refers to personnel directly involved in teaching to students. The classification includes classroom teachers, special-education teachers and other teachers who work with a whole class of students in a classroom, in small groups in a resource room, or in one-to-one teaching situations inside or outside a regular class. At the tertiary level, **academic staff** include personnel whose primary assignment is instruction or research, or both. Teaching staff also include departmental chairs whose duties include some teaching, but exclude non-professional personnel who support teachers in providing instruction to students, such as teachers' aides and other paraprofessional personnel.

Class size is defined as the number of students who are following a common course of study, based on the highest number of common courses (usually compulsory studies), and excluding teaching in subgroups.

School size refers to the number of students enrolled in a given level of education per grade.

Methodology

The ratio of students to teaching staff is obtained by dividing the number of full-time equivalent students at a given level of education by the number of full-time equivalent teachers at that level and in similar types of institutions. At tertiary level, the student-teacher ratio is calculated using data on academic staff instead of teachers.

For the ratio of students to teachers to be meaningful, consistent coverage of personnel and enrolment data are needed. For instance, if teachers in religious schools are not reported in the personnel data, then students in those schools must also be excluded.

Class size is calculated by dividing the number of students enrolled by the number of classes. In order to ensure comparability among countries, special needs programmes are excluded. Data include only regular programmes at primary and lower secondary levels of education, and exclude teaching in subgroups outside the regular classroom setting.

In *Education at a Glance 2024*, school size analysis is restricted to primary level of education. **School size** is calculated by dividing the number of enrolled students in primary level by the theoretical duration of primary education in each country. For instance, the theoretical duration of primary education is 5 years in France. Therefore, the size of each school in the French dataset is calculated by dividing the number of enrolled students in primary education by 5, resulting in the number of enrolled students per grade in primary education. In cases where countries provide the information on the number of grades offered by each school, the school size (students per grade) is calculated by dividing the total number of students at primary level by the number of grades provided by the school. For example, if a school offers only grades 1 and 2 at the primary level, whereas the theoretical primary education duration in the country is 6 grades, the school size is calculated by dividing the total number of students enrolled in these two grades by 2.

In order to ensure comparability among countries, schools with zero students enrolled in primary education, schools that cannot be assigned to any TL3 region based on the OECD classification (Fadic et al., 2019[34]) and students enrolled in special education are excluded from the analysis. When the number of enrolled students is reported as "1-4" or "<5", the value is replaced with "2.5".

Following the OECD territorial grid and regional typologies, small (TL3) regions are classified based on their access to functional urban areas (FUAs) with over 50 000 inhabitants. According to this classification, TL3 regions fall into three groups: 1) metropolitan regions; 2) regions near a medium-sized or large FUA; and 3) regions far from a medium-sized or large FUA (Fadic et al., 2019[34]). In *Education at a Glance 2024*, these regions have been consolidated into two types of region: metropolitan and non-metropolitan (comprising regions near a medium-sized or large FUA and regions far from a medium-sized or large FUA). For further information, please refer to OECD Regions and Cities database at http://oe.cd/geostats.

Source

Data refer to the reference year 2022 (school year 2021/22) and are based on the UNESCO-UIS/OECD/Eurostat data collection on education statistics administered by the OECD in 2024. For more information see *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Data from Argentina, the People's Republic of China, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

Data on school size and student-teacher ratio at subnational level refer to the reference year 2023 (school year 2022/23) and were collected through a special survey undertaken in 2024. Data for some countries may have a different reference year. For more information see *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

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Chapter D2 Tables

Tables Chapter D2. What is the student-teacher ratio and how large are classes and schools?

StatLink https://stat.link/0qac5u

Cut-off date for the data: 14 June 2024. Any updates on data along with more breakdowns can also be found at Education and Skills-OECD Data Explorer (database) http://data-explorer.oecd.org/s/5q.

Table D2.1. Ratio of children to staff in early childhood education (ECE), by level (2013 and 2022)

Ratio of children to staff in full-time equivalents, by type of ECE service (public and private institutions)

	Early childhood educational development (ISCED 01)				Pre-primary (ISCED 02)				All ECE (ISCED 0)			
	Share of teachers' aides among contact staff	Children to contact staff (teachers and teachers' aides)	Children to teaching staff		Share of teachers' aides among contact staff	Children to contact staff (teachers and teachers' aides)	Children to teaching staff		Share of teachers' aides among contact staff	Children to contact staff (teachers and teachers' aides)	Children to teaching staff	
	2022	2022	2013	2022	2022	2022	2013	2022	2022	2022	2013	2022
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	43	5	9	9	37	8	14	13	39	7	13	12
Belgium	a	a	m	a	m	m	16	13	m	m	16	13
Canada	m	m	m	m	m	m	m	m	m	m	m	m
Chile	32	6	13	8	60	8	27	20	59	8	26	20
Colombia[1, 2]	m	m	m	m	m	m	33	40	m	m	m	m
Costa Rica	m	m	9	5	m	m	13	11	m	m	12	10
Czechia	a	a	a	a	10	10	14	12	10	10	14	12
Denmark	40	3	m	5	39	6	m	10	40	5	m	8
Estonia	m	m	x(11)	x(12)	m	m	x(11)	x(12)	m	m	9	8
Finland	m	m	m	m	m	m	10	8	m	m	10	8
France[1, 3]	a	a	a	a	39	13	24	22	39	13	24	22
Germany	10	4	5	5	11	8	10	9	10	6	8	7
Greece	m	m	m	m	a	9	12	9	m	m	m	m
Hungary[1]	a	11	10	11	a	13	12	13	a	13	12	13
Iceland	a	3	m	m	a	4	m	m	a	4	m	m
Ireland	x(9)	x(10)	a	x(12)	x(9)	x(10)	m	x(12)	2	3	m	3
Israel[4]	a	a	a	a	m	m	23	19	m	m	23	19
Italy[1]	a	a	a	a	a	11	13	11	a	11	13	11
Japan	a	a	a	a	10	11	15	12	10	11	15	12
Korea	m	m	5	5	m	m	15	12	m	m	9	8
Latvia	m	m	a	4	m	m	14	11	m	m	14	9
Lithuania	42	6	9	11	36	6	10	9	37	6	10	9
Luxembourg	a	a	a	a	a	9	11	9	a	9	11	9
Mexico	52	4	m	9	a	18	25	18	9	16	26	17
Netherlands	a	a	a	a	20	12	16	16	20	12	16	16
New Zealand	m	m	4	3	m	m	8	6	m	m	6	4
Norway	58	3	8	6	58	5	14	11	58	4	11	9
Poland	a	a	a	a	m	m	16	13	m	m	16	13
Portugal	m	m	m	m	m	m	17	16	m	m	m	m
Slovak Republic	a	a	a	a	3	11	13	11	3	11	13	11
Slovenia	51	5	13	10	51	9	20	18	51	7	17	14
Spain	m	m	9	9	m	m	15	13	m	m	13	11
Sweden	60	5	m	13	55	6	m	14	57	6	m	13
Switzerland[4]	a	a	a	a	m	m	17	18	m	m	17	18
Türkiye	m	m	m	m	m	m	17	18	m	m	m	m
United Kingdom[1]	91	3	16	30	86	5	18	33	88	4	18	32
United States	m	m	m	m	24	10	12	14	m	m	m	m
OECD average	48	5	9	9	36	9	16	15	33	8	15	12
Partner and/or accession countries												
Argentina	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	31	9	15	12	12	16	21	19	23	12	18	15
Bulgaria[1]	a	a	a	a	a	11	13	11	a	11	13	11
China	a	a	a	a	m	m	22	15	m	m	22	15
Croatia[1]	m	m	10	8	m	m	12	10	m	m	12	9
India[1]	a	a	a	a	m	m	20	9	m	m	20	9
Indonesia[5]	m	m	20	21	m	m	15	13	m	m	17	17
Peru[5]	m	m	m	11	m	m	m	20	m	m	18	19
Romania[1]	14	19	37	22	5	14	16	14	5	14	16	15
Saudi Arabia	m	m	m	m	m	m	10	23	m	m	m	m
South Africa	m	m	m	m	m	m	m	m	m	m	m	m
EU25 average	37	7	13	10	28	10	14	12	26	9	13	11
G20 average	44	5	12	13	m	m	17	16	m	m	17	15

Note: See under Chapter D2 Tables for StatLink and Box D2.4 for the notes related to this table.

Table D2.2. Ratio of students to teaching staff in educational institutions, by level of education (2022)

Calculations based on full-time equivalents

			Upper secondary					Tertiary		
	Primary	Lower secondary	General programmes	Vocational programmes	All programmes	All secondary	Post-secondary non-tertiary	Short-cycle tertiary	Bachelor's, master's and doctoral	All tertiary
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	14	x(3)	12[d]	m	12	m	m	m	20	20
Austria	13	9	10	10	10	9	11	9	15	14
Belgium[1]	12	9	10	8	9	9	14	17	23	22
Canada	16[d]	x(1)	x(5)	x(5)	12	x(5)	m	m	22	m
Chile	18	19	19	20	19	19	a	m	m	m
Colombia[2]	23	27	25	55	22	25	126	24	28	26
Costa Rica	11	13	14	13	14	14	a	m	m	m
Czechia	17	12	10	10	10	11	16	10	17	17
Denmark	12	11	11	17	13	12	a	26	15	16
Estonia	12	10	14	19[d]	16[d]	13[d]	x(5)	a	11	11
Finland	13	9	15	18	17	13	18	a	14	14
France	18	15	14	8	11	13	20	11	20	18
Germany	15	13	12	13	12	13	12	12	11	11
Greece	8	8	10	8	9	9	13	a	49	49
Hungary	11	11	11	11	11	11	11	x(10)	x(10)	11
Iceland	10	10	m	m	m	m	m	x(10)	x(10)	9
Ireland	13	x(3)	12[d]	a	12[d]	12	m	m	m	m
Israel	15	13	m	m	11	12	m	12	17	14
Italy	11	11	11	9[d]	10[d]	10[d]	x(5)	a	20	20
Japan	15	13	x(5)	x(5)	11[d]	12[d]	x(5)	m	m	m
Korea	16	13	11	8	10	12	a	m	m	m
Latvia	12	9	10	19	13	11	26	14	16	15
Lithuania	15	10	10	11	10	10	7	a	13	13
Luxembourg	8	10	8	9	9	9	7	9	4	4
Mexico	24	30	25	16	21	26	a	x(10)	x(10)	17
Netherlands	16	15	15	17	17	16	a	15	14	14
New Zealand	16	16	12	16	12	14	20	14	16	16
Norway	10	8	10	10	10	9	16	16	9	9
Poland	12	10	12	11	11	10	51	28	13	13
Portugal	12	9	x(5)	x(5)	9[d]	9[d]	x(5)	x(9)	15[d]	15
Slovak Republic	14	15	14	13	14	15	13	8	12	12
Slovenia	10[d]	x(1)	15	13	14	m	a	11	11	11
Spain	12	11	11	8	10	11	a	11	13	13
Sweden	13	11	x(5)	x(5)	14	12	11	11	10	10
Switzerland[3]	15	12	12	13[d]	12[d]	12[d]	x(5)	a	14	14
Türkiye	18	14	14	12	13	13	a	42	18	21
United Kingdom[4]	19	17	16	m	m	m	a	x(10)	x(10)	14
United States	14	15	15	a	15	15	x(10)	x(10)	x(10)	13[d]
OECD average	14	13	13	14	13	13	23	16	17	16
Partner and/or accession countries										
Argentina	m	m	m	m	m	m	a	m	m	m
Brazil	23	22	24	14	22	22	34	4	27	27
Bulgaria	10	11	11	13	12	11	2	a	12	12
China	16	13	m	m	14	13	m	25	19	21
Croatia	12	8	10	7	8	8	a	x(10)	x(10)	11
India	28	19	m	m	22	21	m	a	m	25
Indonesia[5]	17	15	m	m	15	15	a	m	m	27
Peru[5]	18	m	m	a	m	14	a	m	m	m
Romania	18	11	15	12	13	12	57	a	20	20
Saudi Arabia	14	13	m	m	15	14	30	81	18	19
South Africa[5]	m	m	m	m	m	30	74	m	m	m
EU25 average	13	11	12	12	12	11	18	14	16	15
G20 average	17	15	m	m	14	16	m	27	19	19

Note: See under Chapter D2 Tables for StatLink and Box D2.4 for the notes related to this table.

Table D2.3. Average class size, by level of education and type of institution (2013 and 2022)

Calculations based on number of students and number of classes

	Primary								Lower secondary							
			Private institutions								Private institutions					
	Public institutions		Government-dependent private institutions	Independent private institutions	All private institutions		All institutions		Public institutions		Government-dependent private institutions	Independent private institutions	All private institutions		All institutions	
	2013	2022	2022	2022	2013	2022	2013	2022	2013	2022	2022	2022	2013	2022	2013	2022
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Australia	23	23	24	a	25	24	24	23	23	22	19	a	25	19	24	20
Austria	18	18	x(6)	x(6)	19	19	18	18	21	21	x(14)	x(14)	22	21	21	21
Belgium	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Chile	29	28	34	26	31	32	30	31	31	30	35	26	31	33	31	32
Colombia	24	24	a	17	19	17	22	22	30	31	a	23	25	23	29	29
Costa Rica[1]	15	15	22	15	17	16	15	15	28	32	28	17	21	19	27	30
Czechia	20	20	15	a	15	15	20	19	22	22	15	a	19	15	22	22
Denmark	21	20	17	a	19	17	21	19	21	21	19	a	20	19	21	20
Estonia	18	19	16	a	16	16	18	19	18	19	16	a	14	16	18	19
Finland	19	19	18	a	17	18	19	19	20	19	21	a	20	21	20	19
France	23	21	25	a	23	25	23	22	25	25	27	13	26	27	25	26
Germany	21	21	x(6)	x(6)	21	20	21	21	24	23	x(14)	x(14)	24	22	24	23
Greece	17	17	a	21	19	21	17	17	22	21	a	24	23	24	22	21
Hungary[1]	21	22	21	17	20	20	21	22	21	21	21	19	21	21	21	21
Iceland	19	19	15	a	16	15	18	18	20	20	15	a	13	15	20	20
Ireland	25	23	a	m	m	m	m	m	m	m	a	m	m	m	m	m
Israel	28	26	25	a	24	25	27	26	29	29	24	a	24	24	28	28
Italy	19	18	a	18	20	18	19	18	22	20	a	21	22	21	22	20
Japan	27	27	a	28	30	28	27	27	32	32	a	33	34	33	33	32
Korea	24	22	a	28	29	28	24	22	33	26	25	a	32	25	33	26
Latvia	16	17	a	13	8	13	16	17	15	17	a	24	9	24	14	18
Lithuania	16	18	a	14	12	14	16	18	20	21	a	18	19	18	20	20
Luxembourg	15	15	17	22	19	22	15	16	19	18	18	23	18	21	19	18
Mexico	20	24	a	18	19	18	20	24	28	26	a	21	24	21	27	26
Netherlands	m	m	22	m	m	m	m	m	m	m	m	m	m	m	m	m
New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Norway	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
Poland	19	18	11	12	11	12	18	17	23	19	12	13	17	13	22	18
Portugal	21	20	21	19	21	19	21	20	22	21	24	22	23	23	22	21
Slovak Republic	18	18	18	a	17	18	18	18	19	20	19	a	18	19	19	20
Slovenia	19	19	19	a	22	19	19	19	20	21	17	a	19	17	20	21
Spain	21	20	24	19	24	23	22	21	25	24	27	23	26	26	25	25
Sweden[1]	18	21	19	a	16	19	18	21	20	22	22	a	21	22	20	22
Switzerland[1]	19	19	m	m	m	m	m	m	19	19	m	m	m	m	m	m
Türkiye	23	24	a	18	20	18	23	23	28	24	a	17	20	17	28	24
United Kingdom	27	27	28	13	18	24	25	26	20	25	26	12	19	23	19	24
United States	22	21	a	16	18	16	21	20	28	22	a	15	20	15	27	21
OECD average	21	21	21	19	20	20	21	21	23	23	22	20	22	21	23	23
Partner and/or accession countries																
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	25	21	a	16	18	16	23	20	28	26	a	23	24	23	28	26
Bulgaria	m	20	a	13	m	13	m	20	m	22	a	13	m	13	m	21
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia		15	a	16		16	m	15	m	18	a	17	m	17	m	18
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	13	26	17	m	18	m	14	m	22	30	20	m	21	m	22
Romania	m	20	a	16	m	16	m	20	m	20	a	16	m	16	m	20
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	19	19	19	17	18	18	19	19	21	21	20	19	20	20	21	21
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter D2 Tables for StatLink and Box D2.4 for the notes related to this table.

Table D2.4. Distribution of primary school size (students per grade) and student-teacher ratio, by region type and percentile

Average number of students enrolled per grade of primary education and student-teacher ratio at school level

	Primary school size (students per grade)											Student-teacher ratio				
	Metropolitan region			Non-metropolitan region			All regions					All regions				
	25th	Median	75th	25th	Median	75th	5th	25th	Median	75th	95th	5th	25th	Median	75th	95th
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Australia[1]	m	m	m	m	m	m	2	15	37	62	107	6	10	13	15	21
Austria	17	36	58	10	17	29	5	12	21	41	74	m	m	m	m	m
Belgium[2]	20	27	41	18	24	36	11	19	26	39	59	m	m	m	m	m
Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Chile	10	30	56	3	13	33	1	5	23	44	90	5	9	14	20	29
Colombia	13	29	77	16	31	64	3	15	30	70	180	m	m	m	m	m
Costa Rica	a	a	a	a	a	a	1	3	8	21	77	2	5	8	12	19
Czechia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Denmark	20	38	59	15	23	41	8	18	31	51	83	m	m	m	m	m
Estonia	12	23	52	7	12	36	3	8	15	43	79	m	m	m	m	m
Finland	17	38	62	9	20	41	4	11	25	49	89	m	m	m	m	m
France	12	25	39	6	13	23	3	9	18	33	58	m	m	m	m	m
Germany	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Greece	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Hungary	14	27	49	11	19	34	4	12	22	42	74	4	7	9	11	15
Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Ireland[3]	12	24	42	6	12	24	3	8	16	29	58	10	17	20	23	26
Israel	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Italy	m	m	m	m	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	m	m	m	m
Korea	16	64	111	6	11	53	3	10	52	105	197	3	7	13	16	19
Latvia[3]	37	63	96	9	14	38	5	11	22	58	116	m	m	m	m	m
Lithuania	13	29	68	13	25	57	3	13	27	62	99	5	10	14	17	20
Luxembourg	19	29	41	a	a	a	11	19	29	41	68	m	m	m	m	m
Mexico	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Netherlands	18	27	39	13	21	30	7	15	25	36	58	m	m	m	m	m
New Zealand	20	38	61	7	16	33	3	10	23	47	84	m	m	m	m	m
Norway	17	44	62	8	22	40	3	9	23	43	72	4	7	9	11	13
Poland	13	26	49	9	16	34	4	10	19	42	84	1	3	4	6	9
Portugal	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Slovak Republic	12	28	57	10	19	36	4	10	20	40	80	5	8	11	14	18
Slovenia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Spain	20	31	50	9	23	43	4	17	27	49	76	m	m	m	m	m
Sweden	22	41	57	14	27	46	6	18	34	52	83	m	m	m	m	m
Switzerland	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
United Kingdom[4]	27	38	59	14	27	43	8	23	31	57	89	m	m	m	m	m
United States[3]	48	69	94	31	53	79	16	45	67	91	145	m	m	m	m	m
OECD average	19	36	60	11	21	41	5	14	27	50	91	m	m	m	m	m
Partner and/or accession countries																
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	a	a	a	a	a	a	2	5	15	39	93	5	10	15	21	32
Bulgaria	13	27	68	8	15	37	3	9	19	46	102	m	m	m	m	m
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	5	16	48	3	7	17	1	3	8	25	68	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
Romania	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 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter D2 Tables for StatLink and Box D2.4 for the notes related to this table.

Box D2.4. Notes for Chapter D2 Tables

Table D2.1 Ratio of children to staff in early childhood education (ECE), by level (2013 and 2022)

1. Year of reference differs from 2013: 2014 for Bulgaria, Croatia, Denmark and the United Kingdom; 2015 for Hungary, Italy, India and Romania; and 2016 for Colombia and France.
2. Children to teaching staff is overestimated as it includes part of 3 to 5-year-old children enrolled in early childhood educational development programmes.
3. Excludes data from independent private institutions (and government-dependent private institutions for teachers' aides).
4. Public institutions only.
5. Year of reference differs from 2022: 2018 for Indonesia; and 2021 for Peru.

Table D2.2. Ratio of students to teaching staff in educational institutions, by level of education (2022)

1. Data for short-cycle tertiary refer to the Flemish Community only.
2. The student teacher ratio is overestimated as it considers only teachers who teach vocational subjects, excluding those who teacher general ones.
3. Public institutions only.
4. Upper secondary vocational programmes include vocational programmes at the lower secondary, bachelor's and master's levels.
5. Year of reference differs from 2022: 2018 for Indonesia; and 2021 for Peru and South Africa.

Table D2.3. Average class size, by level of education and type of institution (2013 and 2022)

1. Year of reference differs from 2013: 2014 for Hungary and Sweden; and 2015 for Costa Rica and Switzerland.

Table D2.4. Distribution of primary school size (students per grade) and student-teacher ratio, by region type and percentile

1. Data do not include combined schools which provide both primary and secondary level of education.
2. Data represent only the schools in the Flemish Community of Belgium.
3. Data represent only public schools.
4. Data represent only publicly funded schools.

See Definitions and Methodology sections and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en) for more information.

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/5q).

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

Chapter D3 How much are teachers and school heads paid?

Highlights

- In most OECD countries, the salaries of teachers increase with the level of education they teach. On average across OECD countries and other participants, the salaries of teachers with the most prevalent qualifications with 15 years of experience range from USD 52 631 at pre-primary level to USD 60 803 at upper secondary level.
- Between 2015 and 2023, the statutory salaries of teachers at primary and secondary levels increased by 28-29% in nominal terms on average across OECD countries. When adjusted for changes in prices, the rise in real salaries was much smaller, at 4-5%.
- On average, teachers' actual salaries at pre-primary, primary and general secondary levels of education are 81-88% of the earnings of tertiary-educated workers across OECD countries, whereas school heads' actual salaries are 22-38% higher than those of tertiary-educated workers.

Context

Pay and working conditions are important for attracting, developing and retaining skilled and high-quality teachers (see Chapter D5 for shortage of teachers in secondary education). Teachers' salaries, in absolute terms and relative to those of other professions, can have a direct impact on the attractiveness of teaching as a career, though other aspects can also be influential (e.g. opportunities for professional development, administrative workload and image of teachers) (OECD, 2023[1]). They can influence decisions on whether to enrol in teacher education, to become a (Nagler, Piopiunik and West, 2020[2]) and whether to remain in teaching (Qin, 2020[3]): in general the higher teachers' relative salaries are, the more attractive the profession. Salaries and career prospects can also have an impact on the decision to become and remain a school head. Relatively low salaries for school heads may discourage teachers from taking on the role (Pont, Nusche and Moorman, 2008[4]).

The salaries of school staff, and in particular teachers and school heads, represent the largest single cost in formal education (Chapter C6). While competitive salaries are a factor in improved learning outcomes of students (OECD, 2020[5]), they are not the only factor. As such, it is important for policy makers to carefully consider the salaries and career prospects of teachers and school heads to ensure both high-quality education systems and sustainable education budgets.

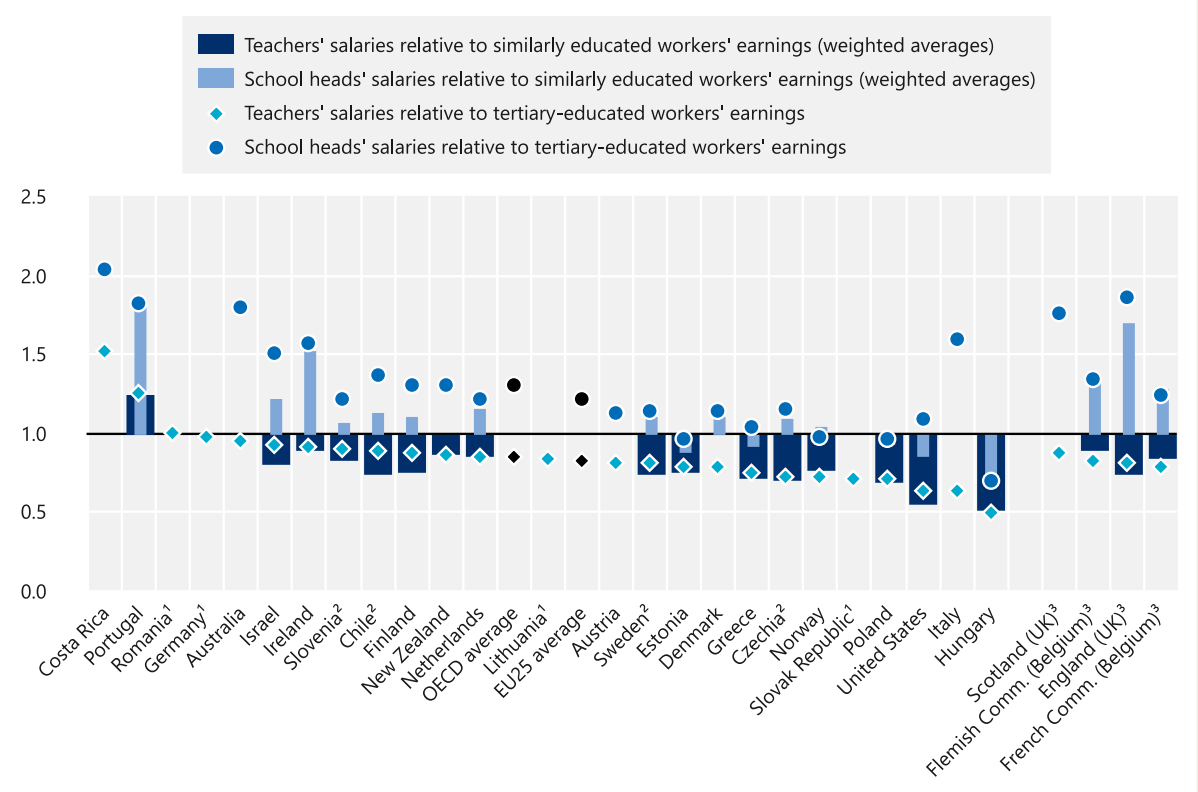
Other findings

- Teachers' salaries can range quite widely within countries, as different qualification levels can be associated with different salary scales. For lower secondary teachers, the average salary for teachers at the top of the scale and with the maximum qualifications is 78% higher than the average starting salary for those with the minimum qualifications.

- Between 2015 and 2023, on average across OECD countries with comparable data, 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 5% at upper secondary level (general programmes) in real terms.
- About one-third of OECD countries pay teachers specific allowances for teaching in remote areas, but allowances for teaching in socio-economically disadvantaged schools are rare.
- School heads' actual salaries are more than 50% higher on average than those of teachers across primary and secondary education in OECD countries.
- School heads are less likely than teachers to receive additional compensation for performing responsibilities over and above their regular tasks.

Figure D3.1. Actual salaries of lower secondary teachers and school heads relative to earnings of tertiary-educated workers (2023)

Ratio of salaries to the earnings of full-time, full-year workers aged 25-64



Note: Data refer to the ratio of 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 (or school heads) by qualification level (see Tables X2.9 and X2.10). As values close to one may be difficult to identify in the figure, please refer to the source table.

1. Data for school heads are missing.
2. Year of reference for salaries of teachers and school heads differs from 2023. Refer to the source table for more information.
3. Data on earnings for full-time, full-year workers with tertiary education refer to the whole country.

Countries and other participants are ranked in descending order of the ratio of teachers' salaries to earnings for tertiary-educated workers.

See Table D3.2. for data and under Chapter D3 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Note

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 their total remuneration. In addition, there are large differences in taxation and social benefits systems across OECD countries. There can also be substantial variation in salary scales of teachers and school heads 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 (see Box D3.1 of *Education at a Glance 2019* (OECD, 2019[6]), Box D3.2 of *Education at a Glance 2023* (OECD, 2023[7]) and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en), and the fact that the data collected only cover public educational institutions.

All figures expressed in USD are converted from national currencies based on exchange rates that are adjusted for differences in purchasing power across countries (see *Methodology* section).

Analysis

Teachers' salaries

Teachers' salaries can vary according to a number of factors, including their qualification levels, the level of education taught, and how much experience they have and what stage of their career they are in. They can also vary within countries if statutory salaries and compensation structures are defined at the subnational level (Box D3.1).

Statutory salaries

Teachers may enter the teaching profession with the minimum qualification or a higher qualification, which may be associated with a higher salary. In about three-fifths of OECD countries and other participants, teachers with the most prevalent qualification have the same salary range from those with the minimum qualification needed to become a teacher. In countries with different salary ranges for different qualifications level, very few teachers may hold the minimum or maximum qualifications (Table X2.8). For this reason, the comparative analysis on statutory salaries focuses on teachers who hold the most prevalent qualifications. Data on teachers' statutory salaries are collected for three qualification levels (minimum, most prevalent and maximum), available at the OECD Data Explorer (OECD, 2024[8]). Data on teachers' salaries at secondary level are collected only for teachers in general programmes although, exceptionally, the data for upper secondary teachers in vocational programmes were analysed in Box D3.3 in *Education at a Glance 2023* (OECD, 2023[7]).

Teachers' salaries vary according to years of experience. The OECD data collection on teachers' salaries gathers information on statutory salaries at four points on 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. The analysis usually concentrates on the salaries of teachers after 15 years of experience as a proxy for mid-career teachers.

Teachers' statutory salaries vary widely across countries. The salaries of lower secondary teachers in general programmes with the most prevalent qualifications after 15 years of experience range from USD 24 144 in the Slovak Republic to more than USD 100 000 in Germany and Luxembourg (Table D3.1).

Typically, teachers' salaries increase with the level of education they teach. On average across OECD countries and other participants, the salaries of teachers (with the most prevalent qualifications after 15 years of experience) range from USD 52 631 at pre-primary level to USD 56 753 at primary level, USD 58 596 at lower secondary level and USD 60 803 at upper secondary level (Table D3.1).

Differences in teachers' salaries between levels of education vary across countries. Notably, upper secondary teachers in Finland (with the most prevalent qualifications after 15 years of experience) earn 43% more than pre-primary teachers, and in Mexico, they earn 90% more. In Finland, these higher salaries at upper secondary level can be explained by the fact that upper secondary teachers need a higher qualification level than pre-primary teachers (for information on the most prevalent qualification see Table X3.D3.3 in *Education at a Glance 2024 Sources, Methodologies and Technical Notes* – https://doi.org/10.1787/e7d20315-en). In Mexico, the difference is mainly driven by the fact that teachers at upper secondary level have a different salary structure to those at other levels. In contrast, teachers in about one-quarter of OECD countries and other participants with available data earn the same salary irrespective of the level of education taught (Table D3.1).

Teachers' salaries usually increase with each year of experience. On average, it takes about 26 years for lower secondary teachers (with the most prevalent qualification to enter the profession in 2023) to progress from the starting level to the top of the salary scale. In Australia, Colombia, New Zealand and Scotland (United Kingdom), salary scales are compressed to at most 10 years from starting to top of scale salaries (that is, faster salary progression over a few years), while others have more extended salary scales which give more incentive for teachers to serve for longer. Different approaches mean teachers' salaries increase at different rates in different countries. For example, for lower secondary teachers in both Japan and the Netherlands, statutory salaries at the top of the salary scale are about double the starting salaries (for those with the most prevalent qualification to enter the profession in 2023) but it will take a teacher in Japan on average 36 years to reach the top of the scale, compared to only 12 years for their counterpart in the Netherlands (OECD, 2024[8]).

Box D3.1. Subnational variations in teachers' and school heads' salaries at pre-primary, primary and secondary levels

Teachers' statutory salaries can vary significantly within countries, especially in federal countries where salaries may be defined at the subnational level. 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 the 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 2023 in Belgium, for example, starting salaries for primary teachers differed by about 3% (USD 1 234), from USD 48 971 per year in the French Community to USD 50 205 in the Flemish Community. The largest differences were in Canada: starting salaries for primary school teachers varied by 59% (USD 25 575) across subnational entities, ranging from USD 43 083 in Quebec to USD 68 659 in Northwest Territories. Starting salaries in secondary education varied the least in Belgium (by 3%, from USD 48 971 in the French Community to USD 50 205 in the Flemish Community at lower secondary level) and the most in the United States (by 67% at lower secondary level, from USD 41 088 in North Carolina to USD 68 537 in New York) (OECD, 2024[9]).

In Belgium, the variation in statutory salaries between subnational entities remains relatively consistent across all levels of education and stages of teachers' careers (a range of 3-7%). In contrast, in both Canada and the United Kingdom, the 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 lower secondary level, starting salaries in the United Kingdom varied by 31% (USD 12 191) between subnational entities (from USD 39 677 to USD 51 868), but had narrowed to 6% (USD 3 590, from USD 61 511 to USD 65 102) 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 stages of teachers' careers and levels of education. 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 53 355 to USD 102 640 (a difference of 92%, or USD 49 285) rather than for salaries at the top of the scale. The variation of the salaries after 15 years of experience across subnational entities is the largest at primary level (a difference of 99%) and the smallest at upper secondary level (a difference of 83%) (OECD, 2024[9]).

There are also large subnational variations in the actual salaries of teachers and school heads across the three countries with available data in 2023 (Belgium, the United Kingdom and the United States). In Belgium, the subnational variation in actual salaries was less than 11% for all levels of education for both teachers and school heads, and greater for school heads than for teachers. For example, at upper secondary level, teachers' salaries in Belgium ranged from USD 84 604 in the French Community to USD 85 114 in the Flemish Community, a difference of less than 1%, or USD 510. In comparison, school heads' salaries ranged from USD 119 594 in the French Community to USD 132 704 in the Flemish Community, a difference of 11%, or USD 13 110. Subnational variations in actual salaries were slightly bigger for teachers at lower and upper secondary levels in the United Kingdom and much larger for both teachers and school heads in the United States, where the average salaries of upper secondary school heads ranged from USD 92 037 in Arkansas to USD 157 964 in New York, a difference of 72%, or USD 65 927 (OECD, 2024[9]).

The extent of the subnational variation in teachers' and school heads' actual salaries also varies according to level of education. In the United Kingdom, the subnational variation in salaries of school heads is largest at secondary level, while for teachers the variation is greater at pre-primary and primary levels. In the United States, subnational variation in the average actual salaries of school heads was greater at primary level than at lower and upper secondary levels (OECD, 2024[9]).

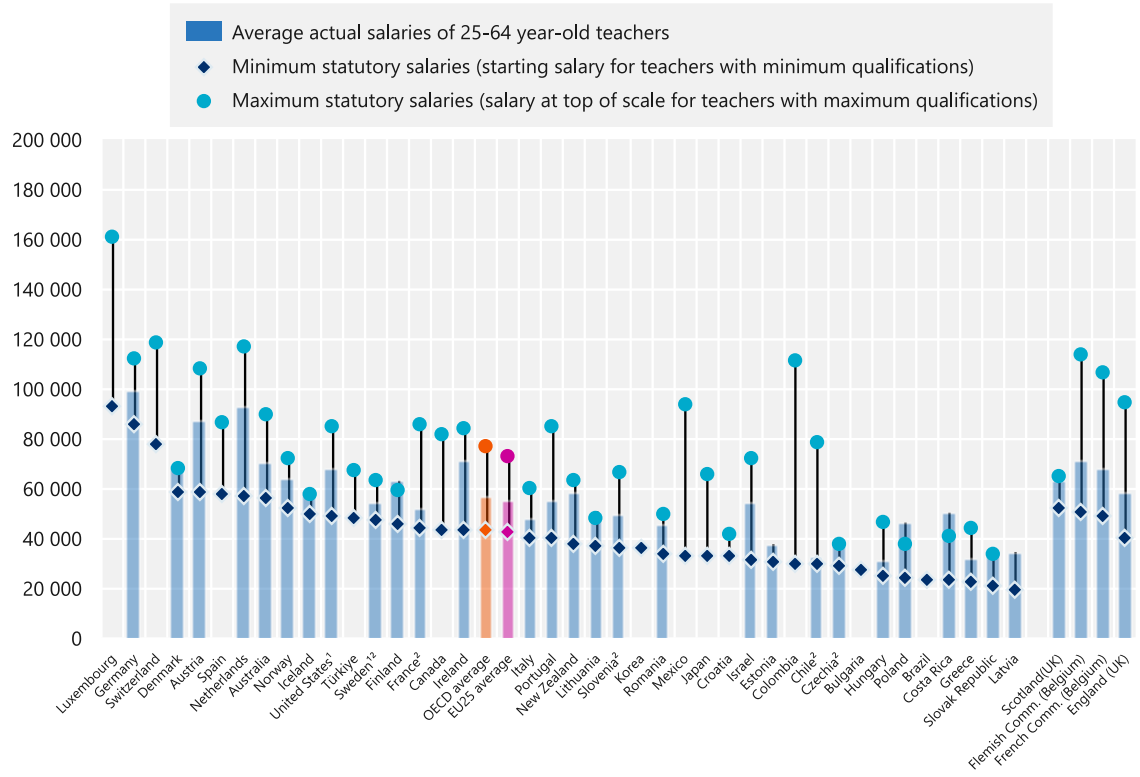
Looking at the range of statutory salaries (where the minimum is the starting salary for teachers with the minimum qualifications and the maximum is the salary at the top of the scale for teachers with the maximum qualifications), on average the maximum teacher's salary in lower secondary education is 78% higher than the minimum across OECD countries. However, the difference varies greatly across countries, from about 16% more in Denmark to more than three-folds in Colombia (Figure D3.2). These variations may signal differences in salary structures. For instance, Denmark has only one salary range irrespective of teachers' qualifications, while Colombia has different salary ranges for teachers with different qualification levels.

In most countries and other participants where minimum salaries are below the OECD average, the maximum salaries are also below the OECD average. At lower secondary level, a notable exception is Colombia, where starting salaries are 32% lower than the OECD average, but maximum salaries are 45% higher. These differences may reflect the different career paths available to teachers with different qualifications. Maximum salaries are at least double minimum salaries in 10 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 the salaries of teachers with the most prevalent qualifications and 15 years of experience, also varies across countries. At lower secondary level, the gap between these two groups is less than 10% in seven OECD countries and other participants, while it exceeds 60% in eight others (Figure D3.2and Table D3.1).

Figure D3.2. Lower secondary teachers' average actual salaries compared to the statutory minimum and maximum salaries (2023)

Annual salaries of teachers in public institutions, in equivalent USD converted using PPPs for private consumption



Note: Actual salaries include bonuses and allowances.
1. Actual salaries for minimum and maximum statutory salaries.
2. Year of reference for actual salaries differs from 2023. Refer to the source table for more information.
Countries and other participants are ranked in descending order of the starting salaries for teachers with the minimum qualifications.
See Table D3.3 and the OECD Data Explorer (http://data-explorer.oecd.org/s/5q) for data and under Chapter D3 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Actual salaries

Teachers' actual salaries include all work-related payments, such as the base salary (as defined in the statutory salary scale), results-related bonuses, extra pay for holidays, allowance for performing certain tasks and other additional payments (see *Definitions* section). Across OECD countries and other participants, in 2023, the average actual salaries of teachers aged 25-64 were USD 46 475 at pre-primary level, USD 54 052 at primary level, USD 56 462 in general programmes at lower secondary level and USD 59 978 in general programmes at upper secondary level (Table D3.3).

Bonuses and allowances can be a significant addition to statutory salaries. At lower secondary level, 30 countries and other participants have data available on both the statutory salaries of teachers with the most prevalent qualifications after 15 years of experience (a proxy for mid-career salaries) and the actual average salaries of 25-64 year-old teachers. In one-third of these countries, actual average salaries are at least 10% higher than statutory salaries, which may reflect the importance of bonuses and allowances in the compensation system for teachers in these countries (Table D3.1 and Table D3.3).

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. For example, at lower secondary level in Germany, the actual salaries of 25-64 year-old teachers are 16% higher than the minimum statutory salary, which is the smallest difference among countries with available data on both measures for the same reference year. This may be due to Germany's relatively small range of statutory salaries (Table D3.1), combined with smaller additional allowances than in other countries. Meanwhile in Costa Rica and Poland, actual salaries are 23-24% higher than the statutory salary at the top of the scale (the largest differences among countries with comparable data), suggesting that allowances are having a substantial effect on teachers' take-home pay (Figure D3.2 and Table D3.8, available on line).

Teacher salaries relative to other tertiary-educated workers

Education systems compete with other sectors of the economy to attract high-quality graduates as teachers and to retain them in the profession. Teachers' salaries relative to other occupations with similar education requirements, and their likely future earnings, may have an influence on whether individuals choose a teaching career (Nagler, Piopiunik and West, 2020[2]) or to stay in the profession (Qin, 2020[3]).

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 2024 Sources, Methodologies and Technical Notes* – https://doi.org/10.1787/e7d20315-en), meaning that the likely alternative to initial teacher education would be a similar tertiary programme. Thus, teachers' relative salary levels and labour-market conditions in different countries can be understood by comparing teachers' actual salaries with the average earnings of other tertiary-educated professionals.

Two comparisons can be made. First, with tertiary-educated workers: full-time, full-year 25-64 year-old workers with tertiary attainment (ISCED levels 5 to 8). Second, with similarly educated workers, weighted by the proportion of teachers at each level of tertiary attainment. This second method ensures that comparisons between countries take into account differences in the distribution of bachelor's, master's and 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. Box D3.2 of *Education at a Glance 2023* (OECD, 2023[7]) covers various comparability issues related to measuring teachers' relative salaries).

Young graduates may consider teacher's statutory salaries relative to earnings of similarly educated workers over the course of their careers when considering teaching as a lifelong career (for earnings by field of study in tertiary education see Indicator A4 in *Education at a Glance 2022* (OECD, 2022[10])). Data for lower secondary teachers with the most prevalent qualification to enter the profession in 2023 are available for 28 OECD countries and other participants. On average, teachers' starting salaries in these countries and other participants are 61% of the average earnings of similarly educated workers aged 25-64, while those at the top of the scale reach 99% of average earnings (Figure D3.3).

In very few countries and other participants do teachers' statutory salaries reach or exceed the earnings of similarly educated workers. In Korea, Luxembourg and Mexico, statutory salaries are at least 25% higher than the average earnings of similarly educated workers after 15 years of experience – and at least 60% higher for teachers at the top of the salary scale (Figure D3.3). In the countries where salaries do not exceed the average earnings of workers throughout teachers' career, the most prevalent qualifications are usually a master's degree (ISCED 7) (Table X3.D3.3 in *Education at a Glance 2024 Sources, Methodologies and Technical Notes* – https://doi.org/10.1787/e7d20315-en).

Where salary scales are compressed, teachers' pay may catch up with that of other professions more quickly. For example, for lower secondary teachers in New Zealand with the most prevalent qualification, statutory salaries start at 59% of the average earnings of similarly educated workers, but reach 94% of the average earnings after 8 years on average. In contrast, Ireland has more expanded salary scales: relative

starting salaries are similar in both countries (59%), but it takes 15 years to reach 94% of the average earnings of similarly educated workers, and teachers' salaries continue increasing until they have 35 years of experience in the profession (Figure D3.3).

Figure D3.3. Lower secondary teachers' statutory salaries at different stages of their career relative to earnings of similarly educated workers (2023)

Ratio of salaries of teachers with the most prevalent qualification at the time of entry in public institutions relative to the earnings of full-time, full-year workers aged 25-64 with similar educational attainment

Note: The number in square brackets refers to the average number of years to progress from the starting salary to the top of the salary scale.
1. Combination of different salary scales for the same ISCED qualification requirement.
2. Weighted average of the statutory salaries across different subnational entities.
3. Starting salary is relative to the earnings of workers who have attained a bachelor's degree or equivalent (ISCED 6). Salaries after 15 years of experience and at the top of the salary scale are relative to the earnings of workers with a master's degree or equivalent (ISCED 7) or higher attainment.
4. In practice, many teachers obtain higher tertiary degrees during their service and are placed in a higher salary range.
Countries and other participants are ranked in descending order of relative starting salaries.
See the OECD Data Explorer (http://data-explorer.oecd.org/s/5q) for data and under Chapter D3 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Similarly to statutory salaries, teachers' average actual salaries, which reflect their total earnings, can be compared against either the earnings of similarly educated workers or all tertiary-educated workers. However, the data available only allow for the computation of averages of relative salaries when actual salaries of teachers are compared to earnings of tertiary-educated workers. Box D3.2 analyses teachers' relative salaries by age group and by gender.

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. On average, primary

teachers' actual salaries amount to 81% of the full-time, full-year earnings of tertiary-educated 25-64 year-olds. Lower secondary teachers earn 84% of this benchmark and upper secondary teachers 88%. The lowest relative salaries are at pre-primary level in Hungary (47% of average earnings of tertiary-educated workers) (Table D3.2).

There are a few countries where teachers' actual salaries reach or exceed those of tertiary-educated or similarly educated workers on average. Teachers earn more than tertiary-educated workers at all levels of education in Costa Rica and Portugal, and at upper secondary level in Germany. In Portugal, the actual salaries of teachers are at least 25% higher than the weighted average of earnings of similarly educated workers in Portugal (Table D3.2 and Figure D3.1).

Box D3.2. Relative salaries of teachers by age group and gender

The ratio of teachers' average actual salaries to the average earnings of tertiary-educated workers (hereafter, relative salaries) by age group and gender provides insight into potential differences in the competitiveness of teachers' salaries for different groups of teachers. This analysis focuses on lower secondary teachers (in general programmes) but the general trends are similar for pre-primary, primary and upper secondary levels (in general programmes) (Table D3.5, available on line).

Relative teachers' salaries by age group

Teachers' average actual salaries increase with age, except in Norway, Poland and Sweden where they are similar between the age groups 45-54 and 55-64. However, relative salaries across age groups show a different picture (OECD, 2024[8]).

In about two-thirds of the 22 countries and other participants with data by age group in 2023, the relative actual salaries of teachers aged 35-44, 45-54 and 55-64 were lower than those of teachers aged 25-34. This suggests that teachers' salaries grow more slowly than the earnings of other tertiary-educated workers. The difference is the largest in Norway, where relative salaries fell by 14 percentage points between the 25-34 year-old and the 35-44 year-old age groups, and then continued to fall for older age groups. In contrast, in Poland, Romania and Slovenia, relative salaries for the three older age groups are all higher than for the youngest age group. Relative salaries of teachers increase as their age increases only in Romania, where the relative salaries for the oldest age group are 25 percentage points higher than for the youngest. In five countries, there is no clear pattern in relative salaries as the age increases (Table D3.5, available on line).

Comparing relative salaries of lower secondary teachers for 2015 and 2023 (or the latest available year), the 17 OECD countries and other participants with comparable data for both years show contrasting results. The relative salaries of 25-64 year-old teachers fell in all of them except Australia, Chile and Czechia. This trend is also generally true for the individual age groups. However, in four countries, relative salaries increased for some age groups over this period, most notably for 55-64-year-olds in Austria (by 10 percentage points) and Portugal (by 13 percentage points). Among the three countries where relative salaries of 25-64 year-old lower secondary teachers increased between 2015 and 2023, relative salaries only decreased for 55-64 year-old teachers in Chile (Table D3.2c in *Education at a Glance 2017* (OECD, 2017[11]) and Table D3.5, available on line).

Relative teachers' salaries by gender

In most OECD countries, there are only small differences in the actual salaries of male and female teachers in public educational institutions. On average across OECD countries, the actual salaries of female teachers are 2% higher than those of male teachers at pre-primary level, less than 1% lower at primary and upper secondary level, and 0.1% at lower secondary level. Differences across countries

and levels of education may result from differences in the distribution of teachers by qualification level or experience. At lower secondary level, female teachers' actual salaries are 3% lower than their male counterparts in France, but 3% higher in Israel (OECD, 2024[8]).

However, the earnings gap between male and female workers is still wide in other professions, where women earned 88% of men on average across OECD countries in 2022 (OECD, 2023[12]). Consequently, teaching might be a more attractive career option for women than for men as this earnings gap means female teachers earn higher relative salaries than male teachers.

Across 22 countries and other participants with available data for 2023, the analysis of relative salaries of teachers by gender bears this out. At lower secondary level, the average actual salaries of male teachers (aged 25-64) are 75% of the average earnings of male full-time full-year tertiary-educated workers of the same age, while the value is 97% for female teachers (OECD, 2024[8]). Relative salaries are at least 10 percentage points higher for women than for men in all countries except Costa Rica (primary and secondary levels), the Flemish and French Communities of Belgium (primary), and Greece (pre-primary and primary levels). The gender difference in relative salaries is over 30 percentage points in favour of women in Ireland (primary and secondary levels), Israel (pre-primary, primary and lower secondary levels) and Portugal (Table D3.5, available on line).

On average across the 18 OECD countries and other participants where it is possible to compare data for 2015 and 2023 (or the latest available year), the increase in actual average salaries of lower secondary teachers was similar (in real terms) for women and men (by 7% for women and 5% for men). Despite this, in about three-quarters of these countries, the relative salaries of female lower secondary teachers fell further than for male teachers over this period. The relative salaries of female teachers fell by 42 percentage points in Greece, resulting in their average salaries falling below the average earnings of tertiary-educated female workers in this country. Czechia, Italy, the Netherlands and Sweden are exceptions to the trend, as both male and female teachers experienced similar falls in relative salaries. These reductions in relative salaries may mean the teaching profession has become less attractive to women in recent years. However, given both male and female teachers enjoyed similar increases in actual salaries, the greater fall in relative salaries for women shows that earnings of tertiary-educated workers increased more for women than for men during this period (see Chapter A4 for analysis on earning advantages of tertiary-educated adults by gender). This may reflect an overall improvement in the equality of earnings between men and women (Table D3.2c in *Education at a Glance 2017* (OECD, 2017[11]) and Table D3.5, available on line).

Note: The trend analysis uses data based on teachers' actual salaries data in 2015 and 2022 for Chile, Czechia and Sweden. Denmark, Israel and Slovenia are excluded from the trend analysis due to a break in methodology in either data on teachers' actual average salaries or data on average earnings of workers between 2015 and 2023.
Source: Table D3.2c in *Education at a Glance 2017* (OECD, 2017[11]) and Table D3.5, available on line.

Salary trends for teachers since 2015

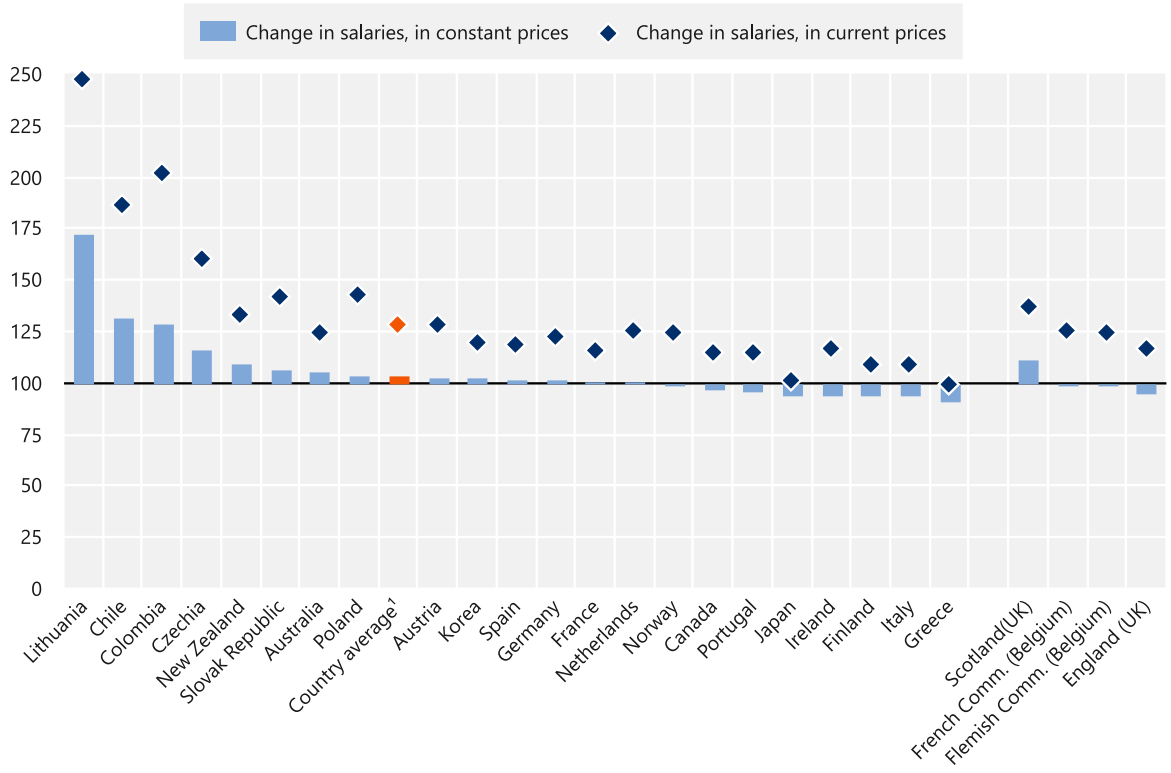
Trends in statutory salaries

Nearly two-thirds of OECD countries have comparable data on the statutory salaries of teachers for both 2015 and 2023 for at least one level of education, based on teachers with the most prevalent qualifications after 15 years of experience. During this period, teachers' statutory salaries increased in real terms (that is, in constant 2015 prices) in one-half to three-fifths of these countries depending on the level of education. On average across OECD countries, statutory salaries increased by about 5% at primary level, 4% at lower secondary level (general programmes) and 5% at upper secondary level (general programmes) (Table D3.6, available on line).

There were large changes in statutory salaries over this period in some countries. At lower secondary level, they grew by more than 20% in real terms in Chile, Colombia and Lithuania. The nominal increases were even larger, but inflation has cancelled out some of the nominal wage gains over the period (OECD, 2022[13]). In contrast, in 11 countries and other participants, real statutory salaries of lower secondary teachers have fallen since 2015. The largest decrease was in Greece where salaries fell by 9% in real terms. However, in nominal terms (that is, in current prices, not considering inflation), salaries remained stable between 2015 and 2023 (Figure D3.4 and Table D3.6, available on line).

Figure D3.4. Change in lower secondary teachers' statutory salaries between 2015 and 2023

Index of change in annual salaries of teachers with most prevalent qualifications after 15 years of experience (2015 = 100)



Note: The change in constant prices refers to the change in salaries assuming the same level of purchasing power between 2015 and 2023 (that is, in 2015 prices), whereas change in current prices refers to the nominal change in salary amount between 2015 and 2023.
1. Excludes Australia, Chile and Colombia as data for some years are missing between 2015 and 2023.
Countries and other participants are ranked in descending order of the change in salaries in constant prices.
See Table D3.6 and Table X2.5 for data and under Chapter D3 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Trends in actual salaries

Over the period 2015 to 2023, nearly half of OECD countries and other participants have comparable time series data for actual salaries at primary and secondary levels of education (for pre-primary level it is about one-third of OECD countries and other participants). On average across OECD countries and other participants with comparable data for all the reference years between 2015 and 2023, actual salaries in real terms increased by about 12% at primary level, 13% at lower secondary level and 13% at upper secondary level. About two-thirds of these countries showed an increase (in real terms) for all levels of

education. The increase exceeded 20% in Estonia, Iceland (at pre-primary level), Israel (at upper secondary level), Latvia and the Slovak Republic, and it reached 90% in Lithuania. These differences may result from the combination of changes in the amounts of statutory salary or allowances that teachers received as well as changes in teachers' characteristics (for example, more experienced teachers may earn higher salaries) (Table D3.7, available on line).

In four OECD countries and other participants with comparable time series data, the actual salaries of teachers in all levels of education fell in real terms. They decreased by at least 5% in Austria (at secondary levels), England (United Kingdom), the Flemish Community of Belgium (at upper secondary level), Finland (at primary and secondary levels) and Italy (at pre-primary and primary levels). As most countries showed increases in nominal terms, these falls were driven by the rate of inflation outstripping increases in actual salaries (Table D3.7, available on line).

School heads' salaries

School heads' responsibilities may include educational activities (including teaching) as well as other administrative, staff management and financial responsibilities (see Chapter D4 in *Education at a Glance 2022* (OECD, 2022[10]) for more details, including differences in the nature of the work carried out and the hours worked by school heads compared to teachers). Similarities and differences in the tasks and responsibilities expected of school heads and teachers may explain differences in the compensation of school heads compared to teachers.

Statutory salaries

Some countries have specific salary scales for school heads, who may or may not receive a school-head allowance on top of their statutory salaries. In other countries, heads 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 may be teachers who have taken on management responsibilities of a school (that may have been accompanied by a reduction in their teaching responsibilities). In 13 out of the 36 countries and other participants with data available, lower secondary school heads (of general programmes) are paid according to teachers' salary scales with a school-head allowance, while they have a specific salary range in the other 23. Of these, 16 countries and other participants have no specific school-head allowance and 7 include a school-head allowance in the salary (Table D3.12, available on line).

The amounts payable to school heads (through statutory salaries and/or school-head allowances) may vary according to the characteristics of the school or schools they lead, such as the size of the school based on the number of students or teachers. 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 (for the determinants of statutory salary and school-head allowance, see Table X3.D3.5 in *Education at a Glance 2024 Sources, Methodologies and Technical Notes* – https://doi.org/10.1787/e7d20315-en).

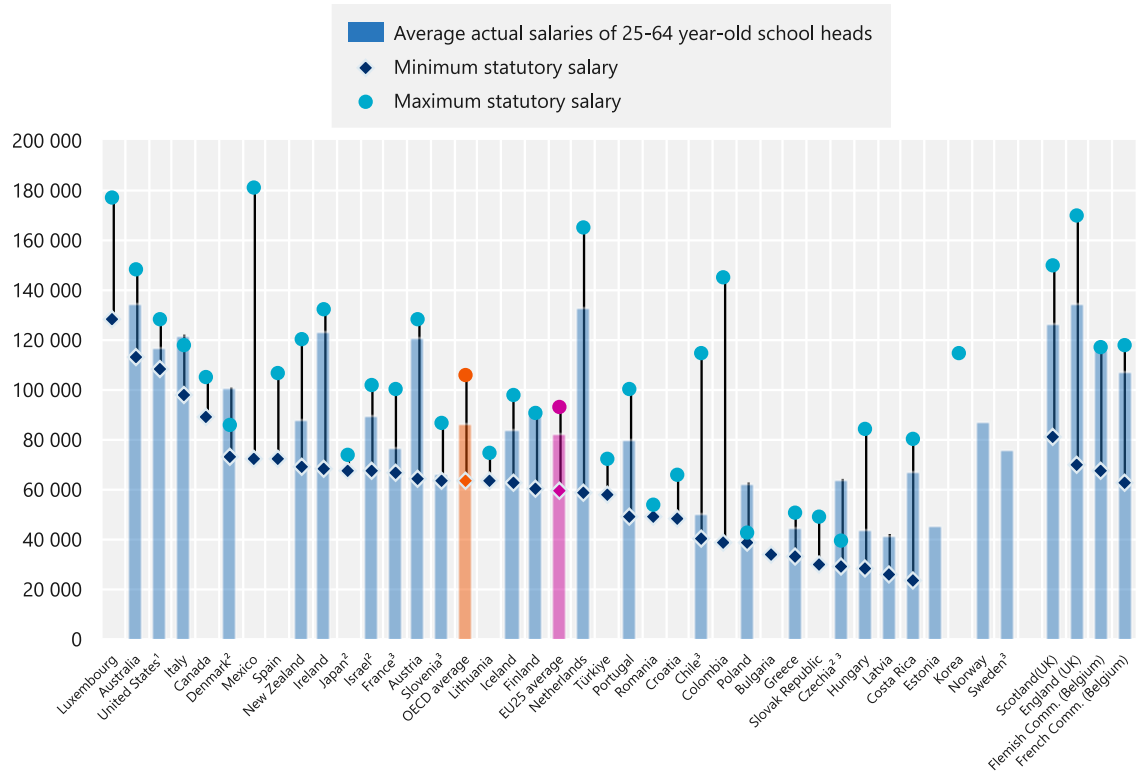
Considering the large number of criteria involved in the calculation of their salaries, the statutory salary data for school heads focus on those related to the minimum qualification requirements to become a school head, and Table D3.4 (available on line) shows only the minimum and maximum salaries (see the minimum qualification requirements in Table X3.D3.6 in *Education at a Glance 2024 Sources, Methodologies and Technical Notes* – https://doi.org/10.1787/e7d20315-en). Caution is therefore necessary when interpreting these values because minimum and maximum statutory salaries may refer to school heads in different types of schools and few school heads may earn these amounts in practice.

As with teachers, school heads' salaries also vary widely across countries and levels of education. 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. The

similar salaries at primary and lower secondary levels may result from the fact that school heads in many of these countries are in charge of schools providing both primary and lower secondary education (Table D3.4, available on line).

Figure D3.5. Lower secondary school heads' average actual salaries compared to the statutory minimum and maximum salaries (2023)

Annual salaries of school heads in public institutions, in equivalent USD converted using PPPs for private consumption



Note: Actual salaries include bonuses and allowances.
1. Actual base salaries for statutory minimum and maximum salaries.
2. Data exclude management allowances that are considered a part of school heads' statutory salaries.
3. Year of reference for actual salaries differs from 2023. Refer to the source tables for more information.
Countries and other participants are ranked in descending order of school heads' minimum statutory salary.
See Table D3.3 and Table D3.4, available on line, for data and under Chapter D3 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

At lower secondary level, the minimum salary for school heads is USD 63 398 on average across OECD countries and other participants, ranging from USD 23 228 in Costa Rica to USD 128 103 in Luxembourg. The maximum salary is USD 105 480 on average, ranging from USD 42 554 in Poland (in Czechia the maximum of USD 38 889 excludes management allowances) to USD 180 633 in Mexico (Figure D3.5).

On average across OECD countries and other participants, the maximum statutory salary of a school head with the minimum qualifications is 80-85% higher than the minimum at primary and secondary levels. In 12 countries and other participants 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 Colombia and Costa Rica, they

can even expect to earn more than three times the minimum salary at all levels of education (Table D3.4, available on line).

The difference between teachers' and school heads' salaries may provide incentives for teachers to become school heads (Pont, Nusche and Moorman, 2008[4]). 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 nearly all OECD countries and other participants: on average, minimum school heads' salaries are 46% higher than teachers' at primary level, 52% higher at lower secondary level and 51% higher at upper secondary level. The two exceptions are Colombia (at pre-primary and primary levels) and Costa Rica, where the minimum qualification requirement for school heads is lower than the most prevalent qualification for teachers starting out. The minimum statutory salary for school heads can also be higher than the top-of-scale salary for teachers. At lower secondary level, this is the case in about two-fifths of OECD countries and other participants (Table D3.1 and Table D3.4, available on line).

Similarly, the maximum statutory salaries for school heads are higher than the maximum salaries for teachers in all OECD countries and other participants with available data. At lower secondary level, the maximum statutory salary of a school head is 60% higher on average than the maximum for teachers (with the most prevalent qualifications). In Chile, Colombia, England (United Kingdom), Mexico and Scotland (United Kingdom), school heads' maximum salaries are more than twice statutory teachers' salaries at the top of the scale (Figure D3.2 and Figure D3.5).

Actual salaries

Across OECD countries and other participants, average actual salaries for school heads (aged 25-64) ranged from USD 80 511 at primary level to USD 86 706 at lower secondary level and USD 92 714 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 across OECD countries and other participants with data for both teachers and school heads, school heads' actual salaries in 2023 were 50% higher than teachers' at primary level, 54% higher at lower secondary level and 55% higher at upper secondary level (Table D3.3).

The premiums vary widely across countries and levels of education, however. The largest difference was in Slovenia at pre-primary level, where school heads' actual salaries are 95% higher than those of 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). In 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 are paid according to the teachers' salary scale 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 secondary level, but a smaller difference at primary level. For example, in Ireland, school heads' actual salaries are 42% higher than teachers' at primary level, but 72% higher at lower and upper secondary level. In Costa Rica, Estonia, Poland and Slovenia, the difference is at least 5 percentage points more at pre-primary level than at primary and lower secondary levels (Table D3.3; see Box D3.1 for variations at the subnational level).

The career prospects of school heads and their relative salaries are also a signal to teachers of their potential career progression pathway and the associated compensation in the longer term. Not only do school heads earn more than teachers, they also, unlike teachers, typically earn more than similarly educated workers. A notable exception is Hungary, where school heads at all levels of education earn about 70% of the average earnings of similarly educated workers, the lowest among OECD countries (Figure D3.1 and Table D3.2).

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 them additional payments, such as allowances, bonuses or other rewards. These may take the form of financial remuneration and/or reductions in the number of teaching hours. Decisions on the criteria used for the formation of the base salary and additional payments are taken at different levels of authority.

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. Teachers may also be required to take on other responsibilities or perform some tasks without additional compensation although doing so often entails some sort of financial incentive (see Chapter D4 for the tasks and responsibilities of teachers and associated financial or other incentives).

At lower secondary level, teachers who participate in school or other management activities in addition to their teaching duties receive extra financial compensation in nearly two-thirds 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, or performing special tasks such as training student teachers (Table D3.8, 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 base salary. 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 (see Box D3.3 for more information on such allowances).

There are also criteria for additional payments for school heads, but fewer tasks or responsibilities lead to additional payments compared to teachers. Central/state government or top-level authorities and local authorities are the two main decision-making authorities on the entitlement criteria and the amounts of the allowances for school heads across countries (Tables D3.9 and D3.11, available on line).

Box D3.3. Allowances for performance and for teaching in challenging circumstances

Equitable access for all students to high-quality teachers is fundamental for an effective education system delivering high-quality education. Rewarding teachers for their performance and their efforts to improve their skills through continuing professional development can be ways to develop and maintain high-quality teachers.

Providing additional compensation to teachers teaching in challenging circumstances (such as in schools in remote areas or socio-economically disadvantaged schools) may also help to avoid disparities in the availability and quality of educational services within a country when combined with other measures. The literature shows that such allowances on their own have mixed effectiveness at filling teaching positions in remote or socio-economically disadvantaged schools (OECD, 2019[14]).

Allowance for performance

In 22 out of 38 OECD and accession countries and other participants with data, lower secondary teachers receive allowances for outstanding performance in teaching (Figure D3.6). This allowance can take various forms, usually some progression in the salary scale (i.e. a step increment) or a regular or occasional payment. The entitlement criteria for these allowances are set either at central/state level (in 9 countries and other participants), at provincial/regional level (in Japan), or through collective

agreements (in Finland). In six countries, local or school level authorities have the power to determine the entitlement criteria as well as the amount of the allowance. In the remaining countries, more than one authority levels are involved in deciding the entitlement criteria and the amount of allowance (Tables D3.8 and D3.10, available on line).

Across OECD countries, financial rewards for successfully completing professional development activities are less common than those for outstanding performance. There are only 13 countries with data available which offer lower secondary teachers an allowance for successfully completing profession development activities (Figure D3.6). The fact that fewer countries provide an incentive for continuing professional development could be explained by the fact that it is required in most countries (Indicator D7 in *Education at a Glance 2021* (OECD, 2021[15]) and so considered a statutory duty (e.g. in Croatia, Latvia, Slovenia and Switzerland). However, even when the successful completion of professional development does not directly result in a financial reward, it can be one of the criteria considered in advancing to a higher salary level (e.g. Colombia) (Table D3.8 available on line).

Allowance for teaching in challenging circumstances

Data are available on allowances for three types of potentially challenging circumstances: teaching in remote areas, teaching in socio-economically disadvantaged schools and teaching in high-cost areas.

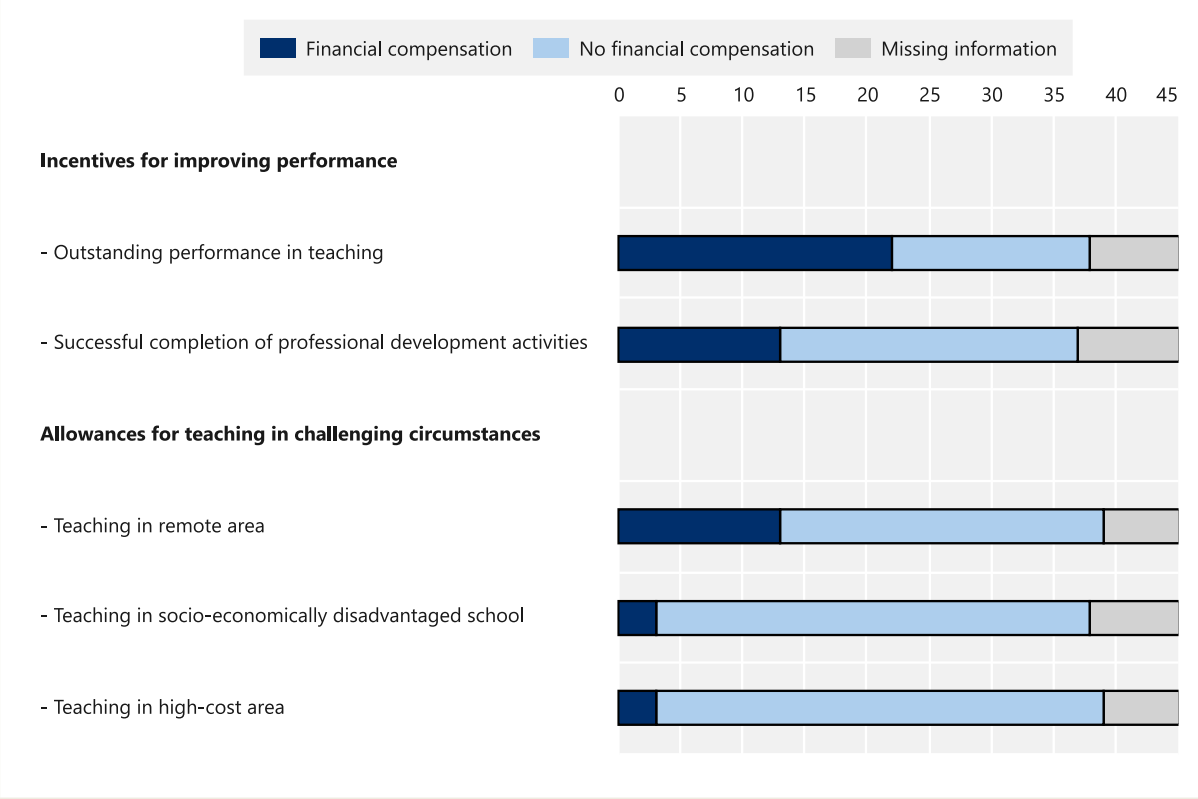
In most countries and other participants, the central or state authorities set the entitlement criteria and the amount of allowance (or the provincial/regional authorities in Japan). In Australia, Finland and Scotland (United Kingdom) there are collective agreements on statutory salaries which also detail the entitlement criteria for this allowance. Local authorities in Norway may decide to offer additional payments in areas where it is difficult to recruit teachers (Table D3.10, available on line).

As Figure D3.6 shows, lower secondary teachers receive allowances for teaching in remote areas in about one-third of the countries and other participants with available data (13 out of 39). In addition to the geographical disadvantages of living in remote areas, teaching in these areas entails additional challenges due to the constraints imposed by small schools (OECD, 2021[16]). Therefore, the allowances for teaching in remote areas are usually intended not just to make it easier to recruit teachers and but also to retain high-quality teachers in these areas (e.g. Israel, Japan and Norway).

On average across the OECD, about one in five teachers in schools with high concentrations of students from socio-economically disadvantaged homes are novice teachers (OECD, 2019[17]), who tend to move to other schools when they gain more experience (OECD, 2019[14]). Therefore, compensating experienced teachers for teaching in socio-economically disadvantaged schools can be key to provide incentives for them to stay in these schools and ensuring or improving equity in the education system.

Figure D3.6. Lower secondary teachers' incentives for improving performance or allowance for teaching in challenging circumstances (2023)

Number of countries and other participants



Note: Information is displayed by country in Figure X3.D3.1 in *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).
See Table D3.8, available on line, for data and under Chapter D3 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Allowances for teaching in socio-economically disadvantaged schools are available for lower secondary teachers in Chile, France and Hungary. In France and Hungary, this is a fixed amount (a percentage of the base salary in Hungary, and a fixed amount complemented by a further amount depending on work-related objectives in France). In Chile, teachers are compensated by moving up the salary scale, a permanent increase that remains in place even if the teacher moves to another school (Figure D3.6 and Table D3.8 available on line).

Allowances for teaching in high-cost area serve a different purpose to the other allowances for teaching in challenging circumstances, as they aim to ensure that teachers' salaries are competitive in that area. Three countries and other participants have such an allowance for lower secondary teachers. In Denmark and Finland, statutory salaries are supplemented by an additional payment (a regular payment and a percentage of the base salary respectively). In England (United Kingdom), teachers are moved to a pay range that is associated to one of four geographic regions with different costs of living. In Japan, there is an allowance for teaching in areas with high private-sector wages, which serves a similar purpose to the allowance for teaching in high-cost area, although it is not reported as such (Figure D3.6 and Table D3.8 available on line).

Definitions

Teachers refer to professional personnel directly involved in teaching students. The classification includes classroom 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 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: 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 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 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 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). Statutory salaries also include additional payments that all teachers or school heads receive and that constitutes a regular part of the annual salary, such as 13th month pay. In case of school heads, statutory salaries include the management allowance that all school heads receive for managing the school where applicable.

Methodology

Data on teachers' salaries at lower and upper secondary level refer only to general programmes.

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).

The period of reference for teachers' salaries is the school year 2022/23 where the school year begins on the second half of the calendar year 2022 and ends in the first half of the calendar year 2023, or otherwise, the school year 2023 where the school year starts in the first half of the calendar year 2023. For easier reference in the publication, the reference school year is noted as 2023.

Salaries were converted into equivalent USD using purchasing power parities (PPPs) for private consumption from the OECD Data Explorer on national accounts (OECD, 2024[18]). These PPPs refer to the calendar year and have been adjusted to refer to January 2023 for the conversion of salaries. Tables with salaries in national currency are included in Annex 2 (see Tables X2.3, X2.4, X2.5 and X2.6). To calculate the index of change in teachers' salaries compared to 2015, the deflator for private consumption is used to convert salaries to 2015 prices. Reference statistics used in the calculation (PPPs and deflators for private consumption) are available in Table X2.7 in Annex 2. For more information, please see the methodology section of *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

In Table D3.2, the ratios of teacher salaries to earnings for similarly educated full-time, full-year workers 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 2023 reference year used for salaries of teachers or school heads, a deflator has been used to adjust earnings data to 2023. For all other ratios in Table D3.2 and those in Table D3.5 (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[19]) and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en) for country-specific notes.

Source

Data on salaries for teachers and school heads are collected from the 2023 joint OECD/Eurydice data collection on salaries of teachers and school heads. Data refer to the school year 2022/23 (or the school year 2023) and are reported in accordance with formal policies for public institutions. Data on earnings of workers are based on the regular data collection by the OECD Labour Market and Social Outcomes of Learning Network.

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Chapter D3 Tables

Tables Chapter D3. How much are teachers and school heads paid?

StatLink https://stat.link/8azbg4

Cut-off date for the data: 14 June 2024. Any updates on data and more breakdowns can be found at the OECD Data Explorer – Education and Skills (http://data-explorer.oecd.org/s/5q).

Table D3.1. Teachers' statutory salaries, based on the most prevalent qualifications at different points in teachers' careers (2023)

Annual salaries of full-time teachers in public institutions, in equivalent USD converted using PPPs for private consumption, by level of education

	Pre-primary				Primary				Lower secondary, general programmes				Upper secondary, general programmes			
	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	56 558	79 746	79 855	90 645	55 640	79 498	79 578	89 530	55 605	79 339	79 423	89 632	55 605	79 339	79 423	89 632
Austria	m	m	m	m	58 310	61 816	69 200	101 752	58 310	64 742	72 491	108 057	58 310	70 249	78 599	119 745
Canada	m	m	m	m	46 354	77 248	80 631	80 631	46 354	77 248	80 631	80 631	46 354	77 248	80 631	80 631
Chile	29 453	36 347	44 215	54 513	29 453	36 347	44 215	54 513	29 453	36 347	44 215	54 513	30 457	37 686	45 755	56 520
Colombia	29 473	53 749	53 749	53 749	29 473	53 749	53 749	53 749	29 473	53 749	53 749	53 749	29 473	53 749	53 749	53 749
Costa Rica	25 667	30 150	32 391	39 115	25 921	30 449	32 713	39 505	26 713	31 382	33 717	40 722	26 713	31 382	33 717	40 722
Czechia	26 796	27 579	28 275	31 494	28 449	30 189	31 581	37 236	28 449	30 276	31 581	37 497	28 449	30 276	31 581	37 410
Denmark	50 628	57 388	57 388	57 388	58 351	64 835	67 218	67 218	58 609	65 534	67 762	67 762	54 345	70 625	70 625	70 625
Estonia	a	a	a	a	30 183	a	a	a	30 183	a	a	a	30 183	a	a	a
Finland[1]	38 034	41 472	41 867	41 867	42 176	48 350	51 740	54 844	45 306	51 938	55 579	58 914	47 570	57 120	59 971	63 569
France[2]	40 068	44 531	46 886	67 423	40 068	44 531	46 886	67 423	43 698	48 161	50 516	71 408	43 698	48 161	50 516	71 408
Germany	m	m	m	m	77 547	89 029	93 943	100 771	85 732	97 360	102 337	111 932	89 027	100 419	105 777	120 571
Greece	22 284	27 099	29 507	43 955	22 284	27 099	29 507	43 955	22 284	27 099	29 507	43 955	22 284	27 099	29 507	43 955
Hungary	24 950	24 950	25 084	32 576	24 950	24 950	25 084	32 576	24 950	24 950	25 084	32 576	24 950	25 332	25 884	36 196
Iceland	49 914	50 390	52 608	53 760	49 914	50 390	52 608	53 760	49 914	50 390	52 608	53 760	45 311	53 547	57 553	57 553
Ireland	a	a	a	a	42 015	58 078	70 337	81 127	43 442	59 518	71 026	81 816	43 442	59 518	71 026	81 816
Israel	35 198	43 981	48 538	78 756	31 049	37 612	43 341	68 969	31 201	38 549	44 762	68 969	31 416	36 824	44 456	63 705
Italy	37 565	41 171	45 134	54 768	37 565	41 171	45 134	54 768	40 374	44 573	49 041	60 099	40 535	45 629	50 404	62 794
Japan	m	m	m	m	32 686	45 871	53 226	65 848	32 686	45 871	53 226	65 848	32 686	45 871	53 226	67 582
Korea	36 639	55 357	64 699	103 014	36 639	55 357	64 699	103 014	36 639	55 357	64 699	103 014	36 639	55 357	64 699	103 014
Latvia	20 524	a	a	a	19 043	a	a	a	19 043	a	a	a	19 043	a	a	a
Lithuania	37 004	38 193	42 525	48 388	37 004	38 193	42 525	48 388	37 004	38 193	42 525	48 388	37 004	38 193	42 525	48 388
Luxembourg	81 768	105 753	119 381	144 457	81 768	105 753	119 381	144 457	92 670	115 838	127 831	161 083	92 670	115 838	127 831	161 083
Mexico	26 462	32 897	40 831	50 982	26 462	32 897	40 831	50 982	33 062	41 304	51 610	63 939	58 710	67 738	77 757	77 757
Netherlands	57 206	82 007	93 308	116 941	57 206	82 007	93 308	116 941	56 993	86 693	99 348	116 942	56 993	86 693	99 348	116 942
New Zealand	m	m	m	m	39 307	63 230	63 230	63 230	39 307	63 230	63 230	63 230	39 307	63 230	63 230	63 230
Norway	47 780	55 148	55 148	55 981	58 676	59 551	59 551	63 766	58 676	59 551	59 551	63 766	60 602	65 046	65 046	71 915
Poland	24 309	29 404	35 806	37 324	24 309	29 404	35 806	37 324	24 309	29 404	35 806	37 324	24 309	29 404	35 806	37 324
Portugal	39 908	48 306	51 177	85 031	39 908	48 306	51 177	85 031	39 908	48 306	51 177	85 031	39 908	48 306	51 177	85 031
Slovak Republic	16 933	19 310	19 775	22 121	20 968	23 567	24 144	27 004	20 968	23 567	24 144	27 004	20 968	23 567	24 144	27 004
Slovenia	36 246	42 876	53 849	62 081	36 246	44 413	55 825	66 784	36 246	44 413	55 825	66 784	36 246	44 413	55 825	66 784
Spain	51 280	55 803	59 476	73 536	51 280	55 803	59 476	73 536	57 427	62 521	66 558	82 112	57 427	62 521	66 558	82 112
Sweden[3, 4, 5]	45 519	48 011	48 954	52 971	45 912	51 028	52 640	60 903	47 552	52 471	54 439	62 965	48 536	52 471	54 832	62 965
Switzerland	64 918	81 510	m	99 900	70 049	87 412	m	106 485	77 234	98 873	m	118 032	87 327	112 472	m	133 256
Türkiye	47 928	49 999	49 488	52 064	47 928	49 999	49 488	52 064	48 356	50 427	49 917	52 492	48 356	50 427	49 917	52 492
United States[5]	48 807	54 144	73 220	81 806	47 809	64 877	70 399	83 086	48 899	68 216	73 787	83 980	51 204	66 973	74 001	80 747
Other participants																
Flemish Comm. (Belgium)	50 205	62 957	70 878	89 362	50 205	62 957	70 878	89 362	50 205	62 957	70 878	89 362	62 635	79 831	91 037	113 449
French Comm. (Belgium)	48 971	61 180	68 853	84 200	48 971	61 180	68 853	84 200	48 971	61 180	68 853	84 200	60 868	77 526	88 381	106 473
England (UK)	39 677	a	61 511	61 511	39 677	a	61 511	61 511	39 677	a	61 511	61 511	39 677	a	61 511	61 511
Scotland (UK)	51 868	65 102	65 102	65 102	51 868	65 102	65 102	65 102	51 868	65 102	65 102	65 102	51 868	65 102	65 102	65 102
OECD average	40 167	49 481	52 631	64 556	42 060	53 338	56 753	68 924	43 484	55 349	58 596	71 334	44 831	57 681	60 803	73 930
Partner and/or accession countries																
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	23 018	m	m	m	23 018	m	m	m	23 018	m	m	m	23 018	m	m	m
Bulgaria	26 907	27 757	28 828	m	26 907	27 757	28 828	m	26 907	27 757	28 828	m	26 907	27 757	28 828	m
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	34 959	36 524	37 394	41 742	34 959	36 524	37 394	41 742	34 959	36 524	37 394	41 742
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	33 267	41 662	43 565	49 703	33 267	41 662	43 565	49 703	33 267	41 662	43 565	49 703	33 267	41 662	43 565	49 703
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	38 039	45 544	49 508	61 600	40 810	49 415	54 111	67 285	42 327	51 459	56 184	69 994	42 911	53 063	57 888	72 597
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter D3 Tables for StatLink and Box D3.4. for the notes related to this Table.

Table D3.2. Teachers' and school heads' actual salaries relative to earnings of tertiary-educated workers (2023)

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, by level of education

		All teachers								All school heads							
		Actual salaries, relative to earnings for full-time, full-year similarly educated workers (weighted averages, 25-64 year-olds)				Actual salaries, relative to earnings for full-time, full-year workers with tertiary education (ISCED 5 to 8, 25-64 year-olds)				Actual salaries, relative to earnings for full-time, full-year similarly educated workers (weighted averages, 25-64 year-olds)				Actual salaries, relative to earnings for full-time, full-year workers with tertiary education (ISCED 5 to 8, 25-64 year-olds)			
	Year of reference of latest available data on earnings of tertiary-educated workers	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Australia	2022	m	m	m	m	m	0.94	0.94	0.94	m	m	m	m	m	1.54	1.79	1.79
Austria	2022	m	m	m	m	m	0.74	0.81	0.88	m	m	m	m	m	1.06	1.12	1.34
Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Chile[1]	2022	0.73	0.73	0.74	0.77	0.87	0.87	0.89	0.92	1.13	1.12	1.14	1.26	1.35	1.34	1.37	1.50
Colombia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Costa Rica	2022	m	m	m	m	1.16	1.19	1.51	1.51	m	m	m	m	1.89	1.75	2.03	2.03
Czechia[1]	2022	0.77	0.72	0.71	0.74	0.58	0.73	0.72	0.76	1.07	1.10	1.10	1.18	0.84	1.15	1.15	1.23
Denmark	2022	m	m	m	0.78	0.64	0.77	0.78	0.91	0.93	1.11	1.11	1.26	0.84	1.13	1.13	1.47
Estonia	2022	0.67	0.77	0.76	0.74	0.61	0.79	0.79	0.79	0.77	0.89	0.88	0.87	0.83	0.96	0.96	0.96
Finland[2]	2021	0.68	0.69	0.76	0.84	0.62	0.80	0.88	0.98	0.84	0.95	1.11	1.15	0.79	1.11	1.30	1.35
France	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Germany	2021	m	m	m	m	m	0.89	0.98	1.02	m	m	m	m	m	m	m	m
Greece	2018	0.70	0.70	0.72	0.72	0.70	0.70	0.75	0.75	0.90	0.90	0.92	0.92	0.95	0.95	1.04	1.04
Hungary	2022	0.54	0.52	0.52	0.45	0.47	0.49	0.49	0.53	0.70	0.71	0.71	0.70	0.62	0.69	0.69	0.73
Iceland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Ireland	2021	a	0.84	0.89	0.89	a	0.86	0.91	0.91	a	1.20	1.53	1.53	a	1.22	1.57	1.57
Israel	2021	0.81	0.80	0.81	0.83	0.86	0.87	0.92	0.92	a	1.25	1.22	1.34	a	1.53	1.50	1.57
Italy	2021	m	m	m	m	0.59	0.59	0.63	0.67	a	m	m	m	a	1.60	1.60	1.60
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	2022	m	m	m	m	0.84	0.84	0.84	0.84	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	2022	0.83	0.83	0.86	0.86	0.78	0.78	0.85	0.85	1.08	1.08	1.16	1.16	1.08	1.08	1.22	1.22
New Zealand	2022	m	0.87	0.87	0.91	m	0.85	0.86	0.91	m	m	m	m	m	1.24	1.30	1.45
Norway	2022	0.72	0.77	0.77	0.77	0.65	0.72	0.72	0.78	0.92	1.05	1.05	1.15	0.83	0.97	0.97	1.17
Poland	2022	0.58	0.68	0.69	0.71	0.59	0.70	0.71	0.72	0.86	0.93	0.93	0.99	0.89	0.96	0.96	1.02
Portugal	2022	1.39	1.27	1.25	1.35	1.39	1.28	1.25	1.35	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82
Slovak Republic	2022	m	m	m	m	0.56	0.71	0.71	0.75	m	m	m	m	m	m	m	m
Slovenia[1, 2]	2022	0.69	0.82	0.84	0.83	0.64	0.88	0.89	0.92	1.24	1.08	1.08	1.13	1.25	1.21	1.21	1.26
Spain	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Sweden[1]	2022	0.75	0.78	0.75	0.74	0.69	0.78	0.81	0.82	1.11	1.11	1.11	1.08	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	2022	0.53	0.53	0.55	0.56	0.60	0.61	0.63	0.65	0.83	0.84	0.86	0.89	1.04	1.05	1.09	1.12
Other participants																	
Flemish Comm. (Belgium)[3]	2021	0.94	0.92	0.90	0.94	0.83	0.82	0.82	0.98	1.37	1.37	1.37	1.40	1.23	1.23	1.33	1.53
French Comm. (Belgium)[3]	2021	0.92	0.89	0.84	0.90	0.82	0.80	0.78	0.98	1.26	1.28	1.29	1.30	1.13	1.15	1.23	1.38
England (UK)[3]	2022	0.68	0.68	0.74	0.74	0.72	0.72	0.81	0.81	1.25	1.25	1.70	1.70	1.31	1.31	1.86	1.86
Scotland (UK)[3]	2022	m	m	m	m	0.87	0.87	0.87	0.87	m	m	m	m	m	1.35	1.75	1.75
OECD average		m	m	m	m	m	0.81	0.84	0.88	m	m	m	m	m	1.22	1.31	1.38
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	2022	m	m	m	m	0.96	0.99	1.00	1.02	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	0.72	0.80	0.82	0.87	m	m	m	m	m	1.15	1.21	1.28
G20 average		m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter D3 Tables for StatLink and Box D3.4. for the notes related to this Table.

Table D3.3. Teachers' and school heads' average actual salaries (2023)

Annual average salaries (including bonuses and allowances) of teachers and school heads in public institutions, in equivalent USD converted using PPPs for private consumption, by level of education

	25-64 year-old teachers				25-64 year-old school heads			
	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Australia	m	70 412	70 741	70 797	m	115 778	134 329	134 291
Austria	m	79 113	87 333	94 060	m	114 004	120 668	143 437
Canada	m	m	m	m	m	m	m	m
Chile[1]	32 003	32 124	32 705	34 077	50 040	49 616	50 499	55 560
Colombia	m	m	m	m	m	m	m	m
Costa Rica	38 337	39 303	50 107	50 107	62 646	57 953	67 381	67 381
Czechia[1]	32 103	40 483	40 329	42 690	47 075	63 954	63 954	68 780
Denmark	56 707	68 837	69 237	80 633	74 851	100 600	100 600	130 402
Estonia	29 074	37 506	37 506	37 506	39 331	45 910	45 910	45 910
Finland[2]	44 090	57 012	62 889	70 485	56 722	79 569	92 978	96 877
France[1]	47 622	46 410	51 896	57 185	56 949	56 949	77 071	77 071
Germany	m	90 323	99 340	103 949	m	m	m	m
Greece	30 404	30 404	32 243	32 243	41 146	41 146	44 795	44 795
Hungary	30 145	31 407	31 407	33 632	39 653	43 920	43 920	46 390
Iceland[2]	56 123	59 086	59 086	76 346	75 753	83 859	83 859	102 279
Ireland	a	67 665	71 569	71 569	a	96 064	122 987	122 987
Israel	51 147	51 556	54 430	54 525	a	91 094	89 427	93 480
Italy	44 940	44 940	47 829	50 734	a	121 805	121 805	121 805
Japan	m	m	m	m	m	m	m	m
Korea	m	m	m	m	m	m	m	m
Latvia	26 844	31 786	34 357	37 681	37 725	43 287	41 837	51 438
Lithuania	50 660	50 660	50 660	50 660	m	m	m	m
Luxembourg	m	m	m	m	m	m	m	m
Mexico	m	m	m	m	m	m	m	m
Netherlands	85 103	85 103	92 974	92 974	117 979	117 979	132 986	132 986
New Zealand	m	58 107	58 477	62 156	m	84 343	88 151	98 605
Norway	58 200	64 345	64 345	69 746	74 088	86 944	86 944	104 908
Poland	38 280	45 622	46 154	47 229	57 851	62 479	62 479	66 563
Portugal	61 126	56 090	55 071	59 551	80 137	80 137	80 137	80 137
Slovak Republic	27 364	34 675	34 675	36 439	m	m	m	m
Slovenia[1, 2]	35 497	48 497	49 350	51 071	69 379	66 796	66 796	69 942
Spain	m	m	m	m	m	m	m	m
Sweden[1]	46 087	52 273	54 404	55 214	68 873	76 081	76 081	77 423
Switzerland	m	m	m	m	m	m	m	m
Türkiye	m	m	m	m	m	m	m	m
United States	64 207	65 977	68 324	70 599	112 738	113 806	117 176	120 673
Other participants								
Flemish Comm. (Belgium)	72 095	71 086	70 878	85 114	106 408	106 408	115 606	132 704
French Comm. (Belgium)	71 169	69 077	67 731	84 604	98 066	100 019	106 947	119 594
England (UK)	52 332	52 332	58 213	58 213	94 825	94 825	134 293	134 293
Scotland (UK)	63 079	63 079	63 079	63 079	m	97 200	126 313	126 313
OECD average	46 475	54 052	56 462	59 978	m	80 511	86 706	92 714
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	43 672	45 203	45 602	46 432	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	44 520	53 052	55 435	58 895	m	77 288	82 722	88 417
G20 average	m	m	m	m	m	m	m	m

Note: See under Chapter D3 Tables for StatLink and Box D3.4. for the notes related to this Table.

Box D3.4. Notes for Chapter D3 Tables

Table D3.1. Teachers' statutory salaries, based on the most prevalent qualifications at different points in teachers' careers (2023)

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. The minimum and the most prevalent qualifications are described in Table X3.D3.3 in OECD (2024) *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

1. Data on teachers in pre-primary education include salaries of kindergarten teachers (the majority).
2. Data includes the average of fixed bonuses for overtime hours for lower and upper secondary teachers.
3. Year of reference 2022.
4. Data excludes the social security contributions and pension-scheme contributions paid by the employees.
5. Actual salaries: Sweden (including teachers of general subjects within vocational programmes) and the United States (excluding bonuses and allowances).

Table D3.2. Teachers' and school heads' actual salaries relative to earnings of tertiary-educated workers (2023)

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. Reference year differs from 2023 for salaries of teachers and school heads: 2022 for Chile, Czechia, Slovenia and Sweden.
2. Data on teachers in pre-primary education include the data for teachers in early childhood education and care.
3. Data on earnings for full-time, full-year workers with tertiary education refer to the whole country: Belgium for the Flemish and the French Community of Belgium, and the United Kingdom for England and Scotland.

Table D3.3. Teachers' and school heads' average actual salaries (2023)

Where the year of reference for the earnings of tertiary-educated workers and the salaries of teacher differ, the earnings of tertiary-educated workers have been adjusted using deflators for private final consumption expenditure.

1. Reference year differs from 2023: 2022 for Chile, Czechia, Slovenia and Sweden; and 2021 for France.
2. Data on teachers in pre-primary education include the data for teachers in early childhood education and care.

See Annex 2, *Definitions* and *Methodology* sections and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en) for more information.

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/5q).

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

Chapter D4. How much time do teachers spend teaching and working?

Highlights

- Based on official regulations or agreements, teachers in public schools in OECD countries and other participants are required to teach on average 1 007 hours per year at pre-primary level, 773 hours at primary level, 706 hours at lower secondary level (general programmes) and 679 hours at upper secondary level (general programmes).
- The way teachers' total working time is divided between teaching and non-teaching activities, and the distribution of working hours taking place within the school or elsewhere, varies widely across countries.
- Non-teaching tasks are part of teachers' workloads and there is wide variation across countries as to which tasks are mandatory or voluntary for teachers. Tasks and activities that were considered voluntary in a larger proportion of countries were also those for which teachers were provided an allowance or additional payment in a larger proportion of countries. For example, few countries require teachers to mentor new teachers; and an allowance or additional payment is generally offered to teachers for volunteering to do so.

Context

Although statutory working and teaching hours only partly determine teachers' actual workloads, they do offer valuable insights into the demands placed on teachers in different countries. Teaching hours and the extent of non-teaching duties may also affect the attractiveness of the teaching profession (see Chapter D5). Together with salaries (see Chapter D3) and average class sizes (see Chapter D2), this chapter presents some key measures of the working lives of teachers.

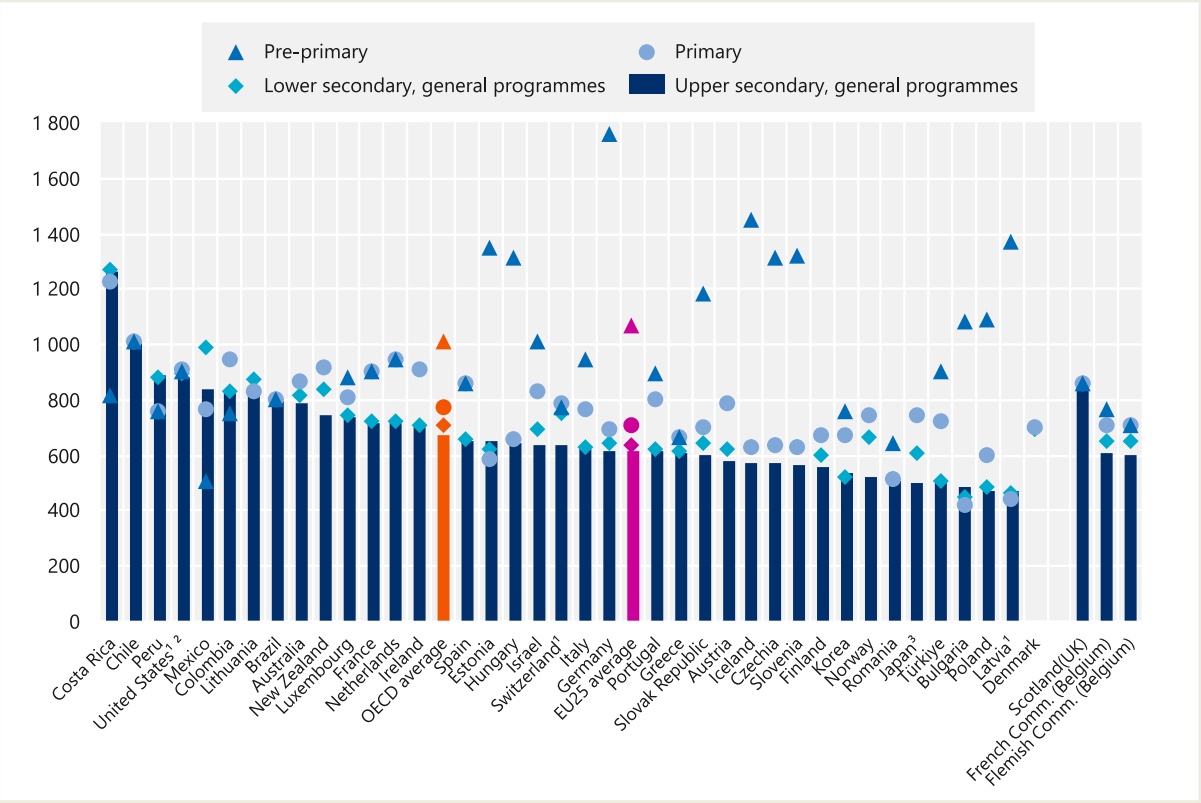
The proportion of teachers' statutory working time spent teaching provides information about how much time they have available for non-teaching activities, such as lesson preparation, correction, in-service training and staff meetings. A greater share of statutory working time spent teaching may indicate that a lower proportion of working time is devoted to tasks such as assessing students and preparing lessons, as stated in regulations. It could also indicate that teachers perform these tasks in their own time and hence work more hours than required by their statutory working hours.

In addition to class sizes and the ratio of students to teaching staff (see Chapter D2), students' hours of instruction (see Chapter D1 of *Education at a Glance 2023* (OECD, 2023[1])) and teachers' salaries (see Chapter D3), the amount of time teachers spend teaching also has implications for the financial

resources that countries need to allocate to education (see Chapter C7 of *Education at a Glance 2023* (OECD, 2023[1])).

Figure D4.1. Teaching time of teachers, by level of education (2023)

Net statutory teaching time in hours per year, in public institutions



1. Actual teaching time (in Latvia except for pre-primary level).
2. Reference year differs from 2023. Refer to the source table for details.
3. Average planned teaching time in each school at the beginning of the school year.

Countries and other participants are ranked in descending order of the number of teaching hours per year in general upper secondary education.

See Table D4.1 for data and Chapter D4 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Other findings

- Across OECD countries and other participants, the required teaching time in public schools varies more widely at the pre-primary level than at any other level, ranging from 505 hours in Mexico to 1 755 hours in Germany.
- At the upper secondary level, teachers spend 43% of their working time on teaching on average, ranging from less than 32% in Japan, Norway and the Republic of Türkiye, to 61% or more in Luxembourg, Peru and Scotland (United Kingdom). Teachers in most countries are required to perform various non-teaching tasks during their working time, such as lesson planning/preparation, marking students' work and communicating or co-operating with parents or guardians.

- In 21 OECD countries and other participants, teachers' statutory working time includes working during students' school holidays in at least one level of education. In most of these countries, working time during school holidays is required to be spent on specific activities, such as preparation for the next school term, or individual and/or collective professional development activities.

Analysis

Teaching time of teachers

At pre-primary, primary and secondary levels, countries vary considerably in their annual statutory teaching time – the number of teaching hours per year required of a full-time teacher in a public school. Differences in how teaching time is regulated and/or reported across countries may explain some of the differences in statutory teaching time between countries (for more information see *Education at a Glance 2024 Sources, Methodologies and Technical Notes*).

Statutory teaching time in public schools varies more at the pre-primary level than at any other level among OECD countries and other participants with data available. On average, pre-primary teachers are required to teach 1 007 hours per year, spread over 40 weeks or 194 days. The number of teaching days ranges from 162 days per year in France to 227 days in Sweden. Annual teaching hours range from 505 hours or less per year in Mexico to 1 755 hours in Germany. These large variations across countries and other participants result from the combination of differences in the length of the school year and in the number of teaching hours per day. For example, pre-primary teachers teach an average of 2.7 hours per day over 190 days in Mexico, but 7.8 hours per day over 225 days in Germany (Table D4.1 and Figure D4.1).

Primary school teachers are required to teach an average of 773 hours per year in public institutions. In most countries and other participants with available data, daily teaching time ranges from about 2.5 to 6 hours a day, with an OECD average of more than 4 hours per day. There is no set pattern to how teaching time is distributed throughout the year. For example, primary school teachers in Colombia teach 940 hours per year, 86 hours more than in Spain (854 hours). However, as teachers teach on more days per year in Colombia than in Spain (188 days compared to 176 days), teachers in both countries teach nearly 5 hours a day on average (Table D4.1).

Lower secondary school teachers in general programmes in public institutions are required to teach an average of 706 hours per year. Teaching time ranges from under 600 hours in Bulgaria, Finland, Korea, Poland, Romania and Türkiye, to over 1 000 hours in Chile and Costa Rica (Table D4.1). However, reported hours refer to the minimum time teachers are required to teach in Finland and Korea, while they refer to the maximum teaching time in Chile (see Table X3.D4.3 in *Education at a Glance 2024 Sources, Methodologies and Technical Notes* - https://doi.org/10.1787/e7d20315-en).

A teacher in general upper secondary education in public institutions has an average teaching workload of 679 hours per year. Teaching time ranges from fewer than 500 hours per year in Bulgaria and Poland to more than 1 000 hours in Chile and Costa Rica. Teachers in Bulgaria, Japan, Korea, Norway, Poland and Türkiye teach for less than 3 hours per day, on average, compared to 6 hours or more in Costa Rica (Table D4.1).

In some countries teaching time requirements may change at the subnational level (Box D4.1), or throughout a teacher's career, or according to their qualification level (Box D4.2). In several countries, some new teachers have a reduced teaching workload during their induction programmes. Some countries also encourage older teachers to stay in the profession by reducing their teaching hours. For example, in

Chile and Portugal, teachers may have a reduced teaching workload based on their number of years in the profession and/or age.

Box D4.1. Teaching and working time at the subnational level (2023)

There are regional differences in teachers' statutory teaching and working time in the four countries reporting subnational data (Belgium, Canada, the United Kingdom and the United States). The number of weeks of teaching (at pre-primary, primary and lower and upper secondary levels) is the same across subnational entities with available data in Belgium and the United Kingdom but varies across provinces in Canada (ranging from 36 to 40 weeks in 2023) and states in the United States (from 34 to 37 weeks in 2021). However, equal number of weeks of teaching at the subnational level can mask differences in teaching time in terms of days or hours of teaching at the subnational level (OECD, 2024[2]).

The four countries show different patterns of variation at the subnational level. In Canada and the United Kingdom, the number of days of teaching varies by less than 6% between subnational entities with available data (by 10 days in Canada and 3 days in the United Kingdom), but teaching hours vary widely between subnational entities. In Canada, teaching time varies by 25% at the primary level (from 700 hours in New Brunswick to 874 hours in Saskatchewan) and the difference rises to 48% for upper secondary general programmes (from 615 hours in Québec to 910 hours in New Brunswick). In the United Kingdom teaching time is 46% longer in Wales (1 252 hours) than in Northern Ireland (855 hours). In Belgium, neither the number of days of teaching nor the number of hours vary much (in relative terms) between the Flemish and French communities, except for teaching time at the pre-primary level (a difference of 9%, from 704 hours in the Flemish community to 766 hours in the French community). In contrast, in the United States, the number of days of teaching varies by 6-8% across the different states, depending on the level of education (from 167 days at the pre-primary level to 183 days in general programmes at the upper secondary level), but teaching hours vary much more. At the primary level, teaching time in Michigan (993 hours), the state with the longest teaching hours, is 29% higher than teaching time in Maine (770 hours), the state with the shortest teaching time. For lower and upper secondary general programmes, the difference reaches 37-38% (from less than 760 hours in New Hampshire at lower secondary level and in Oregon at upper secondary level, to 1 038 hours in Mississippi at lower secondary level and Alabama at upper secondary level) and exceeds 50% at the pre-primary level (from 665 hours in Oregon to 1 018 hours in Alabama) (OECD, 2024[2]).

However, caution is necessary when comparing information at the subnational level due to the following considerations: potential differences in the regulations between countries and between subnational regions within countries, differences in how data are reported for the different subnational regions, and varying data availability for subnational regions within countries. For example, typical or minimum teaching time is reported for the subnational regions of Belgium, but estimated teaching time (based on self-reported information from teachers) is reported for the different states in the United States (OECD, 2024[2]).

Differences in teaching time by level of education

Teaching time tends to decrease as the level of education increases. In most countries and other participants, the number of statutory teaching hours (in public institutions) at the pre-primary level is greater than at the upper secondary level (general programmes). The exceptions are Brazil, Chile and Scotland (United Kingdom), where teachers are required to teach the same number of hours at all levels of education, and Colombia, Costa Rica, Mexico and Peru, where upper secondary school teachers are required to teach more hours than pre-primary school teachers (Table D4.1).

The largest difference in teaching time requirements is between the pre-primary and primary levels of education. On average across countries and other participants with data for both levels, pre-primary teachers are required to spend about 42% more time in the classroom than primary teachers. In Bulgaria, Czechia, Estonia, Germany, Iceland, Latvia and Slovenia, pre-primary school teachers are required to teach more than twice the number of hours per year as primary school teachers (Table D4.1).

Primary school teachers teach 9% more hours per year on average than lower secondary school teachers. The difference reaches or exceeds 30% in the Netherlands, Portugal, Spain and Türkiye, while there is no difference in Brazil, Chile, Czechia, Hungary, Iceland, Scotland (United Kingdom), Slovenia and Romania. In contrast, the teaching workload for primary school teachers is 3-7% lighter than for lower secondary school teachers in Bulgaria, Costa Rica, Estonia, Latvia and Lithuania; 14% lighter in Peru and 23% lighter in Mexico (Table D4.1).

In most countries and other participants, the teaching hours in lower and upper secondary levels are similar (equal or less than 5% different). However, lower secondary teachers teach at least 25% more hours per year than their upper secondary counterparts in Norway (Table D4.1).

Box D4.2. Teaching time of teachers: Interpretation and comparability issues

In this chapter, data on the working conditions of teachers refer to full-time fully qualified teachers in the reference year, as defined in each country. Although there are minimum qualification requirements (usually a tertiary qualification) to enter the teaching profession and become fully qualified teachers (see Chapter D6 in *Education at a Glance 2023* (OECD, 2023[1])), some countries set other (higher or lower) qualification levels (see Chapter D3). In some countries, teachers' qualifications may have an influence on their teaching hours. In these cases, the data on teaching time refer to typical qualification levels, that it to say the most prevalent qualification teachers hold. For example in France, general secondary teachers can have two different tertiary qualifications (*certification* or *agrégation*) which have different teaching requirements, and the teaching time cited for secondary teachers refers to those with *certification*, the most prevalent qualification at this level.

Data on teaching time refer to net contact time as stated in the regulations of each country. This international data collection exercise ensures that similar definitions and methodologies are used when compiling data from all countries. For example, teaching time is converted into hours (of 60 minutes) to avoid differences resulting from the varying length of teaching periods between countries.

Official documents might regulate teaching time as a minimum, typical or maximum time, and these differences may explain some of the differences reported between countries. Although most data refer to typical teaching time, about one-third of countries report either maximum or minimum values for teaching time. Some other countries report an average. For example, teaching time for the Flemish Community of Belgium is reported as a minimum for pre-primary and primary levels and as a weighted average at secondary level.

Statutory teaching time in this international comparison excludes preparation time and periods of time formally allowed for breaks between lessons or groups of lessons. However, at pre-primary and primary levels, short breaks (of ten minutes or less) are included in the teaching time when the classroom teacher is responsible for the class during these breaks (for example at the primary level in Austria, Italy, Korea, the Netherlands, Peru, Poland, the Slovak Republic, Spain and Switzerland).

Data comparability is also enhanced by excluding professional development days (including attending conferences) and student examination days from teaching hours. At each level of general education, about two-thirds of the countries and other participants with available information were able to exclude the number of days spent on these activities when reporting statutory teaching time. However, in the

rest of the countries, regulations do not always specify the number of days devoted to some of these activities and/or whether teachers are required to conduct these activities outside of scheduled teaching times, making it difficult to estimate and exclude them from teaching time.

Less than one-third of countries and other participants cannot exclude professional development days from reported teaching time at all levels of general education. In these countries, the regulations specify some days of professional development activities for all teachers, but the impact on reported teaching time is difficult to estimate as the number of days and how they are organised during the school year may vary across schools or subnational entities. About one-quarter of countries and other participants with available information cannot exclude student examination days from teaching time at each level of general education. In many of these countries, the regulations include some guidelines about the number of student examination days, but they are not clear about whether scheduled teaching time is reduced by the time devoted to examinations, or by how much. Overall, not excluding the time devoted to professional development and student examination may result in annual teaching time being overestimated by a few days in these countries.

Some professional development activities and student examinations may result in the overestimation of teaching time, even if countries are not asked to exclude them from teaching hours. Examples include professional development activities required for specific groups of teachers only (when regulations do not explicitly forbid them from participating during their scheduled teaching time) and compulsory standardised student assessments which are conducted for only a few hours of the school day. The complexity of estimation and the fact that only some teachers participate in these activities make it difficult to standardise reporting practices across all countries in order to exclude these activities from teaching time.

More detailed information on the reporting practices on teaching time and working time for all countries and other participants is available in *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Actual teaching time

Statutory teaching time, as reported by most of the countries in this chapter, refers to teaching time as defined in regulations. However, individual teachers' teaching time may differ from the regulations, for example because of overtime. Actual teaching time, which is the annual average number of hours that full-time teachers spend teaching a group or a class of students, including overtime and other activities ranging from keeping order to administrative tasks, provides a clearer picture of teachers' actual teaching workload.

While only a few countries were able to report both statutory and actual teaching time, these data suggest that actual teaching time can differ from the statutory requirements. For example, upper secondary teachers in Colombia actually taught 8% more hours in 2022 than their 2021 statutory teaching time, while the difference was up to 25% more hours in Poland (see Table X3.D4.6 in *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en), and the OECD Data Explorer (OECD, 2024[2])).

Differences between statutory and actual teaching time may result from overtime due to teacher absences or shortages. The nature of the data can also contribute to differences, as figures on statutory teaching time refer to official requirements and agreements, whereas actual teaching time is based on administrative registers, statistical databases, representative sample surveys or other representative sources (for more details, see *Education at a Glance 2024 Sources, Methodologies and Technical Notes* - https://doi.org/10.1787/e7d20315-en).

Working time of teachers

In the majority of countries, teachers' working time is partly determined by the statutory teaching time specified in working regulations. In addition, teachers in most countries are formally required to work a specific number of hours per year, as stipulated in collective agreements or other contractual arrangements. This may be specified either as the number of hours teachers must be available at school for teaching and non-teaching activities, or as the total number of working hours. Both correspond to official working hours as specified in contractual agreements, and countries differ in how they allocate time for each activity.

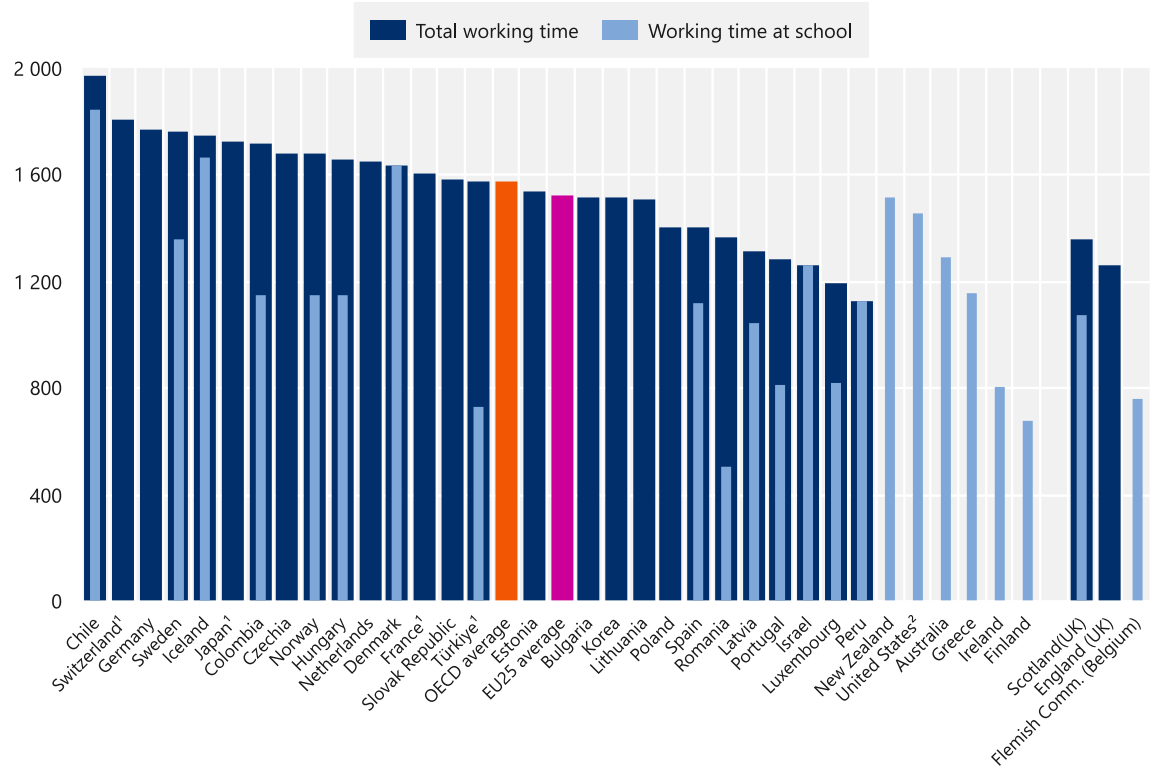
More than half of countries and other participants specify the length of time teachers are required to be available at school, for both teaching and non-teaching activities, for at least one level of education. In nearly half of the 17 countries with available data on the length of time teachers are required to be available at school at both pre-primary and upper secondary levels, the number of hours teachers are required to be available at school differs by less than 5% between these levels. Among the remaining countries and other participants, pre-primary teachers are required to be available at school for at least 20% more hours than upper secondary school teachers in the Flemish Community of Belgium, Hungary, Luxembourg, Portugal, Sweden and Türkiye, and the difference exceeds 40% in Latvia and Romania. Israel and Peru are the only countries where upper secondary teachers are required to be working at school at least 10% more hours than their pre-primary counterparts (Table D4.2). In contrast, despite large differences in working time required at schools between pre-primary and upper secondary levels, total statutory working time is the same for both levels in Hungary, Romania and Türkiye.

In some countries, the regulations specify teachers' total annual statutory working time (at school and elsewhere), but not the allocation of time spent at school and time spent elsewhere. This is the case for all levels of education in about one-quarter of the OECD countries and other participants (Bulgaria, Czechia, England [United Kingdom], Germany, Japan, Korea, Lithuania, the Netherlands, Poland, the Slovak Republic and Switzerland) and for some of the levels of education in Estonia (primary and secondary education), France (secondary education) and the French Community of Belgium (pre-primary and primary education) (Table D4.2 and (Figure D4.2).

The variations across countries in teachers' annual working hours can be partly due to whether their total working time covers the periods when students are on school vacations. For example, at general upper secondary level, total working time is 1 269 hours for teachers in Israel, where they are not required to work during school vacations, and 1 810 hours in Switzerland, where they work up to 8 weeks during school vacations (Figure D4.2). In 21 countries and other participants, teachers' statutory working time includes working during students' school holidays in at least one level of education. In most, teachers are required to spend the working time during school holidays on specific activities, such as preparation for the next term, or individual and/or collective professional development activities (see Table X3.D4.5 in *Education at a Glance 2024 Sources, Methodologies and Technical Notes* - https://doi.org/10.1787/e7d20315-en).

Figure D4.2. Working time of teachers in general upper secondary education (2023)

Statutory working time in hours per year, in public institutions



1. Teachers' working time requirements refer to those of civil servants.
2. Reference year differs from 2023. Refer to the source table for details.

Countries and other participants are ranked in descending order of teachers' total working hours and then working hours at school in general upper secondary education.

See Table D4.2 and under Chapter D4 Tables for data for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

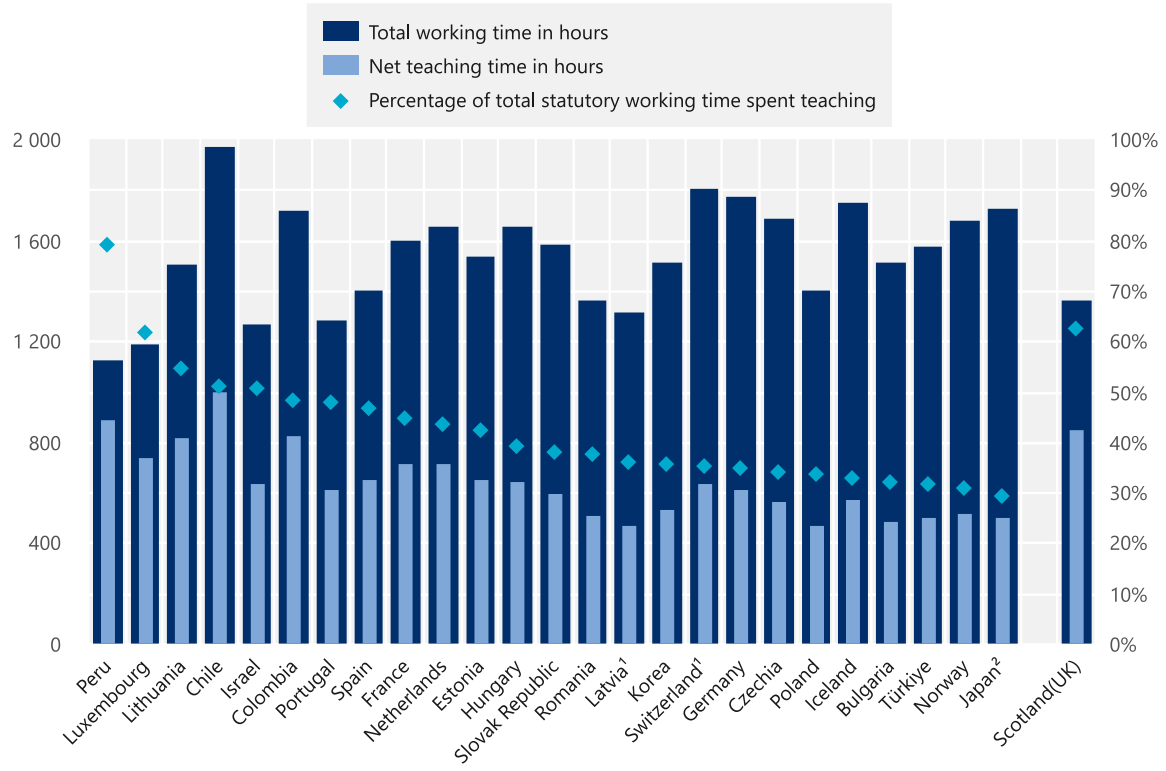
Non-teaching time

Although teaching time is a substantial component of teachers' workloads, other activities such as assessing students, preparing lessons, correcting students' work, in-service training and staff meetings should also be taken into account when analysing the demands placed on teachers in different countries. The amount of time available for these non-teaching activities varies across countries; a larger share of statutory working time spent teaching may indicate that a smaller share of time is devoted to these activities.

Even though teaching is a core activity for teachers, they spend most of their working time on activities other than teaching in many countries. In the 26 countries and other participants with data for both teaching and total working time for upper secondary teachers, 43% of teachers' working time is spent on teaching on average, with the proportion ranging from less than 32% in Japan, Norway and Türkiye, to 61% or more in Luxembourg, Peru and Scotland (United Kingdom) (Figure D4.3).

Figure D4.3. Number of hours of teaching and percentage of working time spent teaching for upper secondary teachers (2023)

Annual net teaching and total statutory working hours in general programmes in public institutions



Note: Please refer to source tables for information on whether the data refer to typical, minimum or maximum hours.
1. Actual teaching time.
2. Average planned teaching time in each school at the beginning of the school year.
Countries and other participants are ranked in descending order of the percentage of total statutory working time spent teaching.
See Table D4.1 and Table D4.2 for data and under Chapter D4 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Although the proportion of working time spent teaching tends to increase with the number of teaching hours per year, there are some differences among countries. For example, Luxembourg and the Netherlands have a similar number of teaching hours at upper secondary level (739 hours per year in Luxembourg and 720 hours in the Netherlands), but 62% of teachers' working time is spent on teaching in Luxembourg, compared to 43% in the Netherlands. In some other countries, teachers devote similar proportions of their working time to teaching, despite having considerably different teaching hours. For example, in both Colombia and Portugal, upper secondary teachers spend about 48% of their working time teaching, but teachers teach for 616 hours per year in Portugal, compared to 827 hours in Colombia (Figure D4.3).

A few countries and other participants have no formal requirements about the amount of time teachers spend on non-teaching activities, at least at some levels of education. This is the case in countries that only define the number of teaching hours per year, and not the annual number of working hours (at school or elsewhere), such as Austria (primary and secondary levels), Brazil, Costa Rica, the French Community of Belgium (lower and upper secondary levels), Italy, Mexico and Slovenia (Table D4.2). However, this does not mean that teachers are given total freedom to carry out other tasks. In Italy, teachers are required to perform up to 80 hours of scheduled non-teaching collegial work at school per year. Of these 80 hours,

up to 40 hours are dedicated to meetings of the teachers' assembly, staff planning meetings and meetings with parents, with the remaining 40 compulsory hours dedicated to class councils (Table X3.D4.5 in *Education at a Glance 2024 Sources, Methodologies and Technical Notes* - https://doi.org/10.1787/e7d20315-en).

Non-teaching tasks and responsibilities

Non-teaching tasks are a part of teachers' workloads and working conditions. The non-teaching activities required by legislation, regulations or agreements between stakeholders (e.g. teachers' unions, local authorities and school boards) do not necessarily reflect teachers' actual participation in non-teaching activities, but they provide an insight into the breadth and complexity of teachers' roles.

Individual teachers often have no choice about whether or not to perform certain tasks related to teaching. According to regulations for general upper secondary teachers, individual planning or preparing lessons, marking and correcting student work, and communicating and co-operating with parents are three non-teaching tasks that are mandatory for teachers during their statutory working time in at least 37 out of the 43 countries and other participants with available data. General administrative work and teamwork, and dialogue with colleagues are also required in at least 31 countries, and can be decided at the school level in at least 5 other countries with available data (Table D4.3, available on line).

Responsibilities such as being class/form teacher, participating in mentoring programmes and/or supporting new teachers in induction programmes, or participating in school or other management in addition to teaching duties are widely distributed among general upper secondary teachers (as they are either mandatory for teachers or mandatory at the discretion of schools in more than half of countries). Of the various responsibilities teachers might take on, full-time classroom teachers in general upper secondary education are either required or asked to perform student counselling in nearly three out of four countries and other participants with available information (Box D4.3). However, in some countries, not all teachers are eligible to perform student counselling. For example, in Israel, only teachers with a master's degree or higher can perform this duty (Table D4.4, available on line).

Teachers can also take on responsibilities voluntarily. At upper secondary level (in general programmes), in at least 22 countries and other participants, individual teachers decide to take on tasks such as engaging in extracurricular activities or training student teachers. Teaching more classes or hours than their full-time contract requires is also a voluntary decision by teachers in nearly half of countries and other participants (Table D4.4, available on line).

Participation in professional development activities is considered an important responsibility of teachers at all levels of education, as it is mandatory for all teachers at all levels in at least 26 countries and other participants and is required at the discretion of individual schools in at least 9 countries. Only three countries (Israel, Norway and Portugal) allow teachers to participate in professional development activities at their own discretion at all levels (Table D4.4, available on line). Regardless of these requirements, a large majority of teachers in OECD countries participate in professional development activities (OECD, 2019[3]).

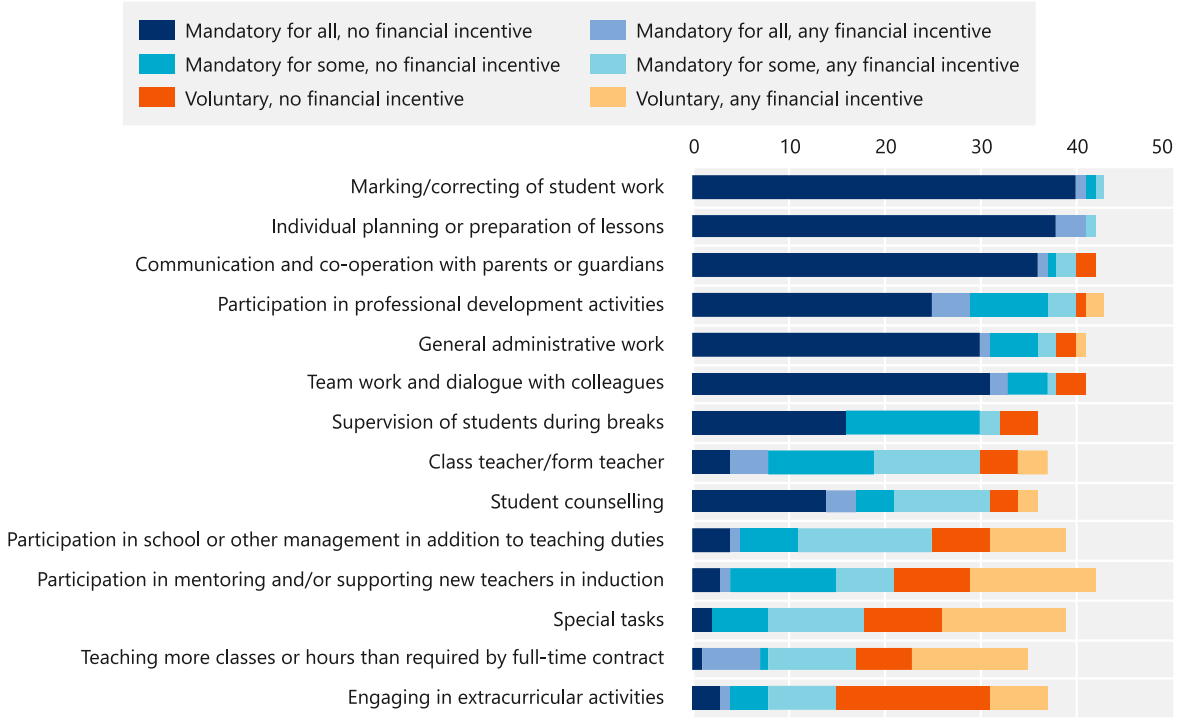
In general, requirements to perform certain tasks and responsibilities do not vary much between levels of education. However, there can be some differences reflecting the changing needs of students at different levels of education. For example, supervising students during breaks is mandatory for teachers in more countries at pre-primary level (26 countries), than at primary (24 countries), lower secondary (17 countries) and upper secondary (16 countries) (Table D4.3, available on line).

Differences in tasks' requirements between countries could help to explain the differences in the proportion of statutory working time spent on non-teaching tasks and responsibilities. For example, Japan is one of the 10 countries where engaging in extracurricular activities is mandatory at the discretion of schools at lower secondary level (Table D4.4, available on line) and lower secondary teachers in Japan reported

spending the highest proportion of actual working time on this responsibility (13%) among OECD countries (OECD, 2019[3])

Figure D4.4. Requirements and incentives for tasks and responsibilities of upper secondary teachers (2023)

Number of countries and other participants, in public institutions



Note: "Mandatory for some" indicates that the specified task or responsibility is mandatory at the discretion of individual schools or in some subnational entities. "Financial incentive" indicates the task results in an allowance or additional payments for teachers.
Tasks and responsibilities are listed in decreasing order of the number of countries and other participants where the specified item is mandatory to some extent.
See Tables D4.3 and D4.4, available online, for data and under Chapter D4 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Regardless of whether they are mandatory or not, teachers may receive some compensation for performing additional tasks and responsibilities, either in the form of reduced teaching time or through allowances or additional remuneration on top of their base salaries according to different criteria (see Chapter D3 for the criteria for additional payments). At upper secondary level, as at other levels of education, the number of countries awarding teachers an allowance or additional payments varies depending on the tasks and responsibilities concerned. Tasks and activities that were considered voluntary in a larger proportion of countries were also those for which teachers were provided an allowance or additional payment in a larger proportion of countries. For example, few countries require teachers to mentor new teachers; and an allowance or additional payment is generally offered to teachers for volunteering to do so (Figure D4.4).

Tasks related to teaching such as individual planning or preparing lessons, marking and correcting student work, and communicating and co-operating with parents are rarely compensated. At upper secondary

level, performing these tasks results in an additional payment or allowance in 5 countries or less (less than 12% of the countries where these tasks are either mandatory or voluntary). However, more than two-thirds of countries and other participants (where tasks are mandatory or voluntary) offer financial compensation to teachers at upper secondary level for teaching more classes or hours than their full-time contract requires (Figure D4.4 and Table D4.4, available on line). This may be explained by the fact that this task is directly related to teachers' main role and that the status of teachers clearly defines the number of hours they are expected to teach, so they need to be compensated for any additional hours of teaching.

Participation in school or other management activities can result in additional compensation for teachers in more than half of the countries and other participants with available data. In some, their teaching time might be reduced to balance the workload between teaching and other responsibilities, in addition to financial compensation (Figure D4.4 and Table D4.4, available on line).

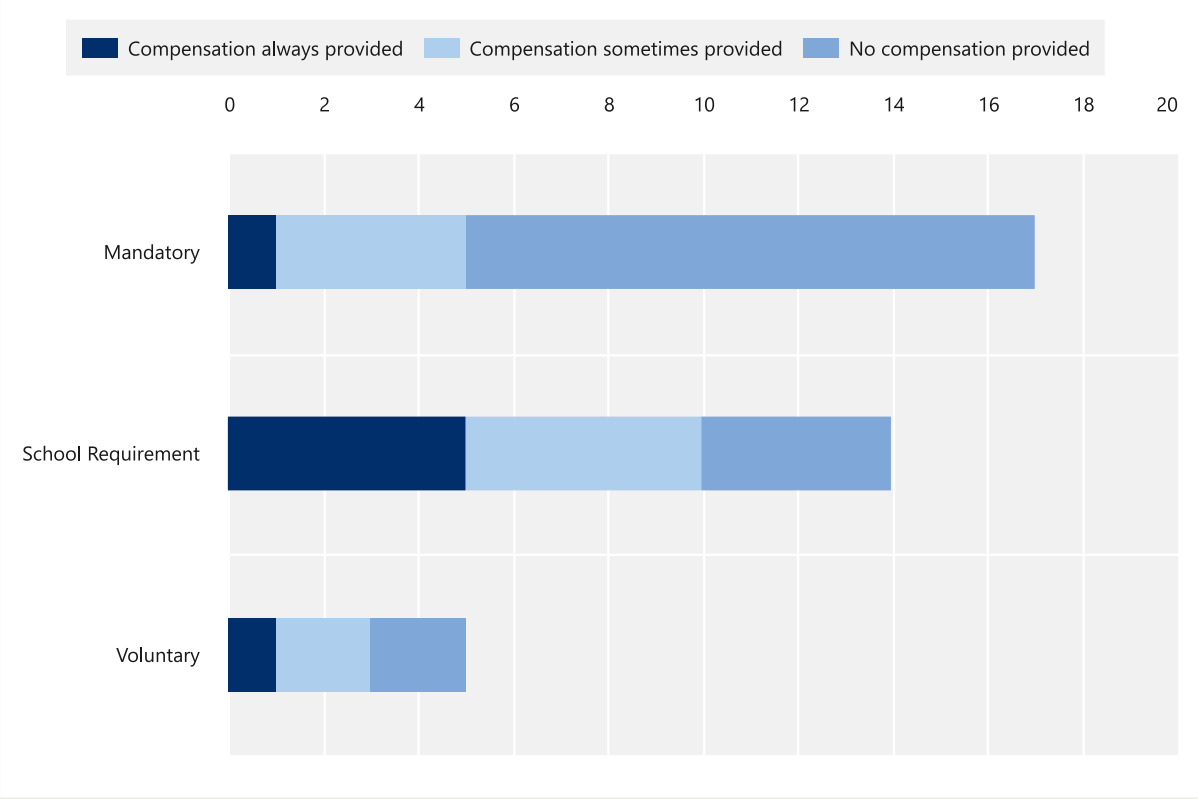
Box D4.3. Requirements and incentives for teachers to engage in student counselling in upper secondary education

Student counselling – encompassing student supervision, virtual counselling, career guidance and delinquency prevention – is a common responsibility of teachers in OECD countries and other participants, and many studies support its role in promoting access to educational and professional opportunities to students of all backgrounds (OECD, 2022[4]). Whether or not teachers are compensated (through reduced teaching time or financial incentives) for taking on this responsibility, teachers must have adequate and high-quality training if student counselling is to deliver on its potential to improve educational equity (OECD, 2022[4]).

As with all non-teaching activities and responsibilities of teachers, education systems differ in whether they require teachers to engage in student counselling and whether or how they are compensated for doing so. Among countries and other participants with available data and where teachers can engage in student counselling, this task is either mandatory for all teachers or mandatory at the discretion of schools at pre-primary level in at least two-thirds of them, and in upper secondary schools in nearly three-quarters of them (Figure D4.5 and Table D4.4, available online).

Figure D4.5. Requirements and incentives for upper secondary teachers to participate in student counselling (2023)

Number of countries and other participants, in public institutions



Note: Countries and other participants with missing data or for which student counselling is not required or not voluntary are excluded. "Mandatory" indicates that student counselling is a task/responsibility required for all teachers. "School requirement" indicates that student counselling is a task/responsibility required for teachers at the discretion of individual schools or in some subnational entities. "Voluntary" indicates that student counselling is not required for teachers but teachers can volunteer for this task/responsibility. Reductions in teaching time or allowances/additional payments granted to teachers for counselling students are considered "compensation".
See Table D4.4, available online, for data and under Chapter D4 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Education systems differ in their provision of student counselling at upper secondary level. In the Flemish Community of Belgium, Iceland, Ireland, Poland and Türkiye, teachers are neither required nor incentivised (through financial allowances or reduced teaching time) to participate in student counselling, although these services are frequently made available to students via other means. In Türkiye for example, psychological counselling and guidance services are available in schools at every education level. Similarly, in Ireland, there are no student counselling requirements on teachers, but enhancing the availability of guidance counselling in schools with high concentrations of disadvantage is an important element in programmes aiming at improving equity (OECD, 2012[5]).

Participation in student counselling is voluntary for teachers in the French Community of Belgium, Czechia, Germany, Mexico and the Slovak Republic, but incentives to take on this activity vary between countries. In Czechia and Germany, teachers may benefit from reduced teaching hours or financial compensation under specific circumstances (for example when they complete the required professional training in Czechia), while no such incentives exist in the French Community of Belgium or Mexico. In

the Slovak Republic, teachers who volunteer to engage in student counselling are entitled to reduced teaching time and schools have the option to provide direct financial compensation (Table D4.4, available on line).

Schools decide whether to include student counselling in teachers' responsibilities in 14 countries and other participants. Whether teachers are offered compensation for this responsibility also varies in these countries. In 4 of them (Australia, Austria, Israel and Romania) schools have to provide some financial compensation to teachers who are required to participate in student counselling. In another 17 countries and other participants, student counselling is explicitly one of the tasks required of teachers, and they receive no compensation for carrying it out in 12 of them (Bulgaria, Colombia, Estonia, Finland, Greece, Japan, Latvia, Portugal, Scotland [United Kingdom], Peru, Slovenia and Switzerland). In four countries (Costa Rica, Korea, Luxembourg and Spain), student counselling is an obligation for teachers, and schools have the autonomy to decide whether and how to compensate teachers for this responsibility. France is the only country where student counselling is both a core responsibility of teachers and contributes to teachers' entitlement to fixed annual salary bonuses (the *Indemnité de suivi et d'accompagnement des élèves* for pre-primary and primary teachers and the *Indemnité de suivi et d'orientation des élèves* for secondary teachers) (Table D4.4, available online).

Definitions

Actual teaching time is the annual average number of hours that full-time teachers teach a group or class of students. It includes all extra hours, such as overtime. Data on these hours can be sourced from administrative registers, statistical databases, representative sample surveys or other representative sources.

The **number of teaching days** is the number of teaching weeks multiplied by the number of days per week a teacher teaches, minus the number of days on which the school is closed for holidays.

The **number of teaching weeks** refers to the number of weeks of instruction excluding holiday weeks.

Statutory teaching time is defined as the scheduled number of 60-minute hours per year that a full-time teacher teaches a group or class of students, as set by policy, their employment contracts or other official documents. Teaching time can be defined on a weekly or annual basis. Annual teaching time is normally calculated as the number of teaching days per year multiplied by the number of hours a teacher teaches per day (excluding preparation time). It is a net contact time for instruction, as it excludes periods of time formally allowed for breaks between lessons or groups of lessons and the days that the school is closed for holidays. At pre-primary and primary levels, short breaks between lessons are included if the classroom teacher is responsible for the class during these breaks.

Total statutory working time refers to the number of hours that a full-time teacher is expected to work as set by policy. It can be defined on a weekly or annual basis. It does not include paid overtime. According to a country's formal policy, working time can refer to:

- the time directly associated with teaching and other curricular activities for students, such as assignments and tests.
- the time directly associated with teaching and other activities related to teaching, such as preparing lessons, counselling students, correcting assignments and tests, professional development, meetings with parents, staff meetings, and general school tasks.

Working time required at school (of teachers) refers to the time teachers are required to spend working at school, including teaching and non-teaching time.

Methodology

In interpreting differences in teaching hours among countries, net contact time, as used here, does not necessarily correspond to the teaching load. Although contact time is a substantial component of teachers' workloads, preparing for classes and necessary follow-up, including correcting students' work, also need to be included when making comparisons. Other relevant elements, such as the number of subjects taught, the number of students taught and the number of years a teacher teaches the same students, should also be taken into account.

For more information please see the OECD Handbook for Internationally Comparable Education Statistics 2018 (OECD, 2018[6]) and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en) for country-specific notes.

Source

Data are from the 2023 OECD-INES-NESLI Survey on Working Time of Teachers and refer to the school year 2022/23 (statutory information) or school year 2021/22 (actual data), unless otherwise indicated.

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Chapter D4 Tables

Tables Chapter D4. Teachers, the learning environment and the organisation of schools

StatLink https://stat.link/st4pzh

Cut-off date for the data: 14 June 2024. Any updates on data and more breakdowns can be found on the OECD Data Explorer (http://data-explorer.oecd.org/s/5q).

Table D4.1. Organisation of teachers' teaching time (2023)

Number of statutory teaching weeks, teaching days and net teaching hours in public institutions over the school year

	Number of weeks of teaching					Number of days of teaching					Net teaching time, in hours				
	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Upper secondary, vocational programmes	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Upper secondary, vocational programmes	Pre-primary	Primary	Lower secondary, general programmes	Upper secondary, general programmes	Upper secondary, vocational programmes
OECD countries	(1)	(2)	(3)	(5)	(6)	(7)	(8)	(9)	(11)	(12)	(13)	(14)	(15)	(17)	(18)
Australia[1]	m	41	40	41	m	m	197	197	196	m	m	861	813	794	m
Austria[1]	m	37	37	37	37	m	178	178	178	178	m	783	619	582	582
Canada	m	37	37	37	m	m	184	184	184	m	m	m	m	m	m
Chile[2]	38	38	38	38	38	180	180	180	180	180	1 006	1 006	1 006	1 006	1 006
Colombia[1]	40	40	40	40	40	188	188	188	188	188	752	940	827	827	827
Costa Rica[1]	42	42	42	42	42	198	198	198	198	198	812	1 228	1 267	1 267	1 267
Czechia[1]	44	39	39	39	39	211	191	191	191	191	1 308	630	630	573	573
Denmark[1]	a	a	a	a	a	a	a	a	a	a	a	698	690	m	m
Estonia[1]	46	35	35	35	40	225	172	172	172	197	1 350	585	619	654	a
Finland[3]	m	38	38	38	a	m	187	187	187	a	m	673	595	561	a
France[1]	36	36	36	36	36	162	162	a	a	a	900	900	720	720	720
Germany[1]	46	40	40	40	40	225	193	193	193	193	1 755	691	642	620	617
Greece[2]	36	36	36	36	36	174	174	175	175	175	661	661	613	613	613
Hungary[2]	43	38	38	38	38	205	183	183	180	183	1 312	659	659	648	659
Iceland[1]	46	36	36	36	36	219	180	180	180	180	1 445	624	624	576	576
Ireland[1]	m	36	33	33	m	m	181	165	165	m	m	905	704	704	m
Israel[1]	36	36	35	35	35	179	179	173	173	173	1 011	829	692	643	643
Italy[3]	42	39	39	39	39	189	174	174	174	174	945	766	626	626	626
Japan[4]	m	40	40	39	39	m	202	202	196	196	m	745	606	507	507
Korea[3]	36	38	38	38	38	180	190	190	190	190	757	671	517	539	526
Latvia[5]	39	33	35	35	44	190	160	170	170	215	1 368	439	457	475	1 090
Lithuania[2]	a	35	37	35	a	a	172	182	172	a	a	826	874	826	a
Luxembourg[1]	36	36	36	36	36	176	176	176	176	176	880	810	739	739	739
Mexico[1]	42	42	42	36	36	190	190	190	172	172	505	760	988	843	688
Netherlands[2]	40	40	40	40	40	200	200	200	200	200	940	940	720	720	m
New Zealand[1]	m	39	38	38	m	m	191	190	188	m	m	917	834	752	m
Norway[2]	a	38	38	38	38	a	190	190	190	190	a	741	663	523	595
Poland[2]	45	37	37	37	37	218	178	178	176	176	1 090	601	481	475	475
Portugal[2]	38	38	36	36	36	178	178	168	168	168	890	801	616	616	616
Slovak Republic[1]	44	38	38	38	38	211	183	183	183	183	1 182	695	641	604	604
Slovenia[1]	46	38	38	38	38	220	190	190	190	190	1 320	627	627	570	570
Spain[1]	37	37	37	37	37	176	176	176	176	176	854	854	656	656	656
Sweden	47	a	a	a	a	227	a	a	a	a	m	a	a	a	a
Switzerland[5]	39	39	39	39	39	188	188	188	188	188	769	788	750	638	713
Türkiye[1]	36	36	36	36	36	180	180	180	180	180	898	718	503	503	951
United States[5, 6]	36	36	36	36	a	178	178	179	178	a	900	908	893	888	a
Other participants															
Flemish Comm. (Belgium)[3]	37	37	37	37	37	176	176	178	178	178	704	704	646	604	633
French Comm. (Belgium)[1]	37	37	37	37	37	177	177	177	177	177	766	708	646	612	646
England (UK)	38	38	38	38	a	190	190	190	190	a	a	a	a	a	a
Scotland (UK)[2]	38	38	38	38	a	190	190	190	190	a	855	855	855	855	a
OECD average	40	38	38	37	38	194	183	183	182	185	1 007	773	706	679	695
Partner and/or accession countries															
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil[3]	42	42	42	42	42	200	200	200	200	200	800	800	800	800	800
Bulgaria[1]	36	33	34	35	35	180	160	165	170	170	1 080	414	444	490	491
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	39	39	39	39	m	168	168	168	168	m	756	756	882	890	m
Romania[2]	36	36	36	36	37	171	171	171	171	176	641	513	513	513	704
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	41	37	37	37	38	196	178	179	178	183	1 067	703	632	618	646
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter D4 Tables for StatLink and Box D4.4 for the notes related to this Table.

Table D4.2. Organisation of teachers' working time (2023)

Teachers' statutory working time at school and total working time in public institutions over the reference year

	Working time required at school, in hours					Total statutory working time, in hours				
OECD countries	Pre-primary (1)	Primary (2)	Lower secondary, general programmes (3)	Upper secondary, general programmes (5)	Upper secondary, vocational programmes (6)	Pre-primary (7)	Primary (8)	Lower secondary, general programmes (9)	Upper secondary, general programmes (11)	Upper secondary, vocational programmes (12)
Australia	m	1 301	1 298	1 298	m	a	a	a	a	m
Austria	m	a	a	a	a	m	a	a	a	a
Canada	m	m	m	m	m	m	a	a	a	a
Chile	1 848	1 848	1 848	1 848	1 848	1 980	1 980	1 980	1 980	1 980
Colombia	1 152	1 152	1 152	1 152	1 152	1 720	1 720	1 720	1 720	1 720
Costa Rica	a	a	a	a	a	a	a	a	a	a
Czechia	a	a	a	a	a	1 688	1 688	1 688	1 688	1 688
Denmark	1 643	1 643	1 643	1 643	1 643	1 643	1 643	1 643	1 643	1 643
Estonia	1 610	a	a	a	a	1 610	1 540	1 540	1 540	1 540
Finland	m	811	733	680	1 125	a	a	a	a	1 500
France[1]	954	954	a	a	a	1 607	1 607	1 607	1 607	1 607
Germany	a	a	a	a	a	1 778	1 778	1 778	1 778	1 778
Greece	1 110	1 110	1 158	1 158	1 158	a	a	a	a	a
Hungary	1 476	1 171	1 171	1 152	1 171	1 664	1 664	1 664	1 664	1 712
Iceland	1 704	1 650	1 650	1 672	1 672	1 704	1 704	1 704	1 752	1 752
Ireland	m	1 067	806	806	m	a	a	a	a	a
Israel	1 047	1 216	1 177	1 269	1 269	1 047	1 216	1 177	1 269	1 269
Italy	a	a	a	a	a	a	a	a	a	a
Japan[1]	a	a	a	a	a	1 728	1 728	1 728	1 728	1 728
Korea	a	a	a	a	a	1 440	1 520	1 520	1 520	1 520
Latvia	1 560	1 050	1 050	1 050	1 320	1 760	1 320	1 320	1 320	1 320
Lithuania	a	a	a	a	a	a	1 512	1 512	1 512	1 512
Luxembourg	1 068	998	827	827	827	1 508	1 402	1 197	1 197	1 197
Mexico	a	a	a	a	a	a	a	a	a	a
Netherlands	a	a	a	a	a	1 659	1 659	1 659	1 659	1 659
New Zealand	m	1 536	1 528	1 520	m	a	a	a	a	a
Norway	a	1 300	1 225	1 150	1 150	a	1 688	1 688	1 688	1 688
Poland	a	a	a	a	a	1 744	1 424	1 424	1 408	1 408
Portugal	1 045	956	816	816	816	1 342	1 342	1 292	1 292	1 292
Slovak Republic	m	m	m	m	m	1 590	1 590	1 590	1 590	1 590
Slovenia	m	m	m	m	m	m	m	m	m	m
Spain	1 137	1 137	1 126	1 126	1 126	1 406	1 406	1 406	1 406	1 406
Sweden	1 792	1 360	1 360	1 360	1 360	a	1 767	1 767	1 767	1 767
Switzerland[1]	a	a	a	a	a	1 810	1 810	1 810	1 810	1 810
Türkiye[1]	978	798	733	733	1 181	1 584	1 584	1 584	1 584	1 584
United States[2]	1 448	1 443	1 453	1 459	a	m	m	m	m	a
Other participants										
Flemish Comm. (Belgium)	915	950	811	761	795	a	a	a	a	a
French Comm. (Belgium)	a	a	a	a	a	962	962	a	a	a
England (UK)	a	a	a	a	a	1 265	1 265	1 265	1 265	a
Scotland (UK)	1 080	1 080	1 080	1 080	a	1 365	1 365	1 365	1 365	a
OECD average	m	m	m	m	m	1 578	1 560	1 572	1 577	1 587
Partner and/or accession countries										
Argentina	m	m	m	m	m	m	m	m	m	m
Brazil	m	m	m	m	m	a	a	a	a	a
Bulgaria	a	a	a	a	a	1 520	1 520	1 520	1 520	m
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	968	968	1 129	1 129	m	968	968	1129	1129	a
Romania	749	513	513	513	704	1 368	1 368	1 368	1 368	1 368
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	m	m	m	m	1 553	1 511	1 528	1 527	1 529
G20 average	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter D4 Tables for StatLink and Box D4.4 for the notes related to this Table.

Box D4.4. Notes for Chapter D4 Tables

Table D4.1. Organisation of teachers' teaching time (2023)

Data on vocational programmes at lower secondary level (Columns 4, 10 and 16) are available for consultation on line (see StatLink).

1. Typical teaching time (teaching time required from most teachers when no specific circumstances apply to teachers).
2. Maximum teaching time.
3. Minimum teaching time.
4. Average planned teaching time in each school at the beginning of the school year.
5. Actual teaching time (in Latvia except for pre-primary level).
6. Year of reference 2021.

Table D4.2. Organisation of teachers' working time (2023)

Data on vocational programmes at lower secondary level (Columns 4 and 10) are available for consultation on line (see StatLink).

1. Total working time requirements refer to those of civil servants.
2. Year of reference 2021.

See *Definitions* and *Methodology* sections and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en) for more information.

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/5q).

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

Chapter D5. Who are the teachers, and where do countries stand in terms of teacher shortages?

Highlights

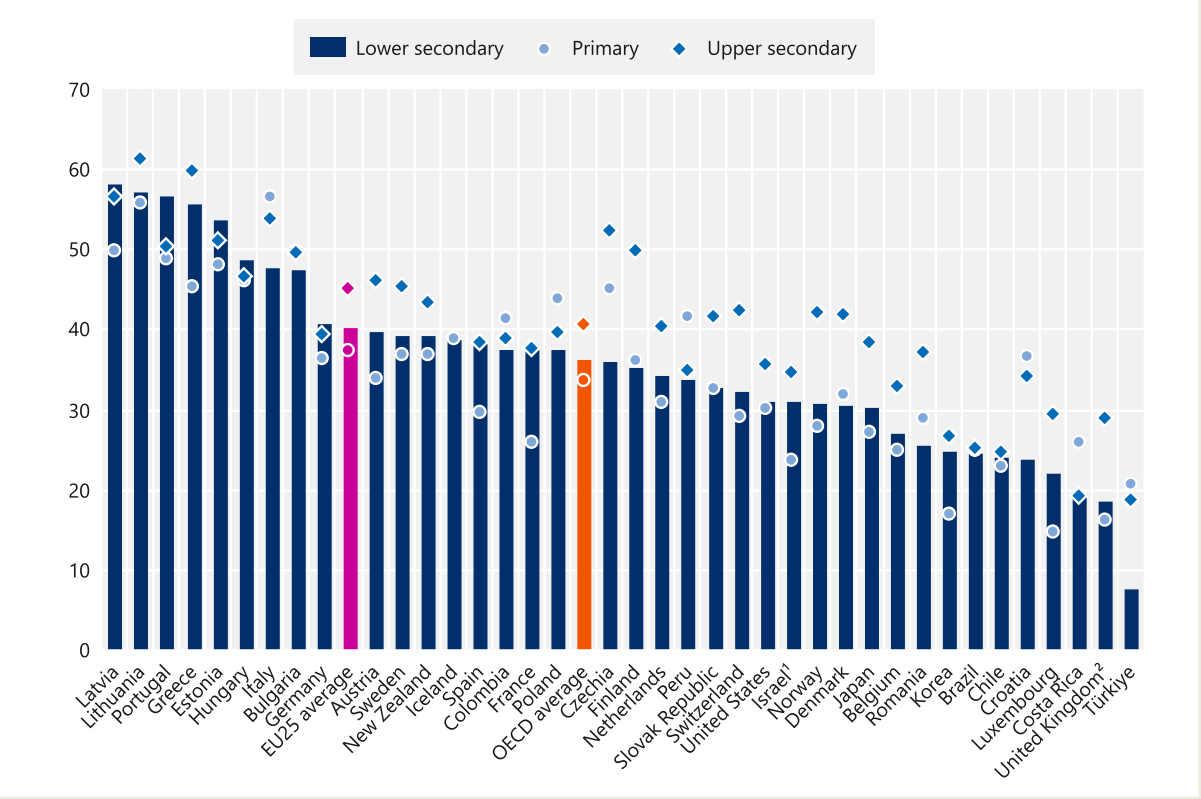
- Of the 21 countries with available data, 18 reported that they faced teacher shortages at the start of the 2022/23 academic year, with only Greece, Korea and Türkiye not reporting any shortages.
- The ageing of the teaching workforce is more pronounced in secondary schools than in primary education. On average across OECD countries, the share of older teachers (aged 50 and over) increases with the education level: from 34% in primary education to 36% in lower secondary and 41% in upper secondary education.
- Men are more likely to teach in secondary education than at early stages of education. On average, less than 5% of teachers in early childhood education are men, rising to 17% at primary level, 32% at lower secondary level and 40% at upper secondary level.

Context

Teacher recruitment problems have become a major concern in OECD countries, with most countries reporting frequent teacher shortages at the start of the school year. Shortages in education can be more difficult to resolve than in other sectors, due to the specific nature of the teaching profession. These shortages result from the declining attractiveness of the teaching profession, partly due to low salaries, high stress levels, increased administrative burdens and limited opportunities for career advancement (OECD, 2020[1]). The ageing population adds to the challenge as many teachers are nearing retirement, increasing the need to recruit new teachers to maintain standards and performance. Recruitment difficulties are especially acute in rural and disadvantaged areas, leading to disparities in educational quality (OECD, 2023[2]). Gender imbalances in the teaching profession is another issue. Men are under-represented in early childhood and primary education, while women are under-represented in higher education and leadership roles. This affects the diversity of role models for students and reflects broader gender equity issues in the workplace. This chapter examines all these questions and tries to highlight some of the educational policies being implemented to meet these challenges. This chapter also covers the teacher selection process, which might also have a bearing on shortage.

Figure D5.1. Share of teachers aged 50 and over, by level of education (2022)

In per cent, public and private institutions



1. Values for lower secondary and upper secondary education include only public institutions.
2. Upper secondary vocational programmes include vocational programmes at other levels of education.
Countries are ranked in descending order of the share of teachers aged 50 and over in lower secondary education.
See Table D5.3. for data and under Chapter D5 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Other findings

- Students intending to become secondary school teachers obtain a master's degree in around 60% of countries. Candidates have to pass a competitive examination at the end of the initial teacher education programme in around a third of countries.
- More than half of OECD and partner countries have seen a decline in the share of young teachers since 2013. In 2022, young teachers made up 11% of the teaching workforce from primary to upper secondary levels of education.
- Of the nine countries which reported teacher shortages in only some fields of study, all face a shortage of mathematics teachers, while there are no shortages of history and geography teachers.
- Most countries are opting to employ non-qualified teachers to offset the effects of teacher shortages. Nevertheless, the proportions are still low, accounting for less than 5% of all primary and secondary school teachers in around two thirds of countries with data, and only exceeding 20% in Denmark and Sweden.

- On average, 7% of fully qualified teachers resigned or retired from the profession in 2022/23 across the 15 OECD countries and other participants with data available.

Note

Teacher shortages mean either some vacancies were not filled by fully qualified teachers at the beginning of the academic year or, in countries with competitive examinations, that the number of available teaching positions exceeded the number of successful candidates in the competitive examination conducted at the end of the preceding academic year. The fact that certain positions are unfilled at the beginning of the year does not necessarily mean that they remain vacant throughout the school year. The number of vacant posts may also have differing impacts on countries, since this chapter does not account for the overall size of the education system or workforce. This chapter does not account for teacher absenteeism throughout the year or the mechanisms for their replacement. These factors can disrupt the continuity of education for students and challenge schools in maintaining quality teaching.

Analysis

Pathways to becoming a fully qualified teacher in secondary education

Countries exhibit significant differences in the qualifications required to become a teacher, the selectiveness of their teacher education programmes, how rigorously candidates are assessed during and at the end of their studies and how they are assigned to public schools.

Qualification level

In all countries except Japan, students intending to become secondary school teachers in public schools leave the initial teacher education programme with a bachelor's or master's degree, which is the standard requirement for teaching. In the Flemish Community of Belgium and Japan, some teachers can also teach at the lower secondary level with a short-cycle tertiary degree. Globally, in about half of the 32 countries and other participants with data, all secondary teachers are required a master's degree, while a bachelor's degree is sufficient in the remaining 40%. A few OECD countries and other participants require different qualifications for teachers lower and upper secondary education. For instance, in Denmark, the Netherlands and Romania, teachers in lower secondary education usually need a bachelor's degree, whereas those wishing to teach in upper secondary education need a master's degree. This differentiation aims to ensure that teachers at the upper secondary level, who are preparing students for tertiary education, have a deeper subject knowledge and advanced pedagogical skills (Table D5.1.).

There is no clear correlation between teachers' qualification requirements and the proportion of unfilled teaching vacancies at the start of 2022/23. However, only a bachelor's degree is required in the three countries with no teacher shortages at the start of that academic year – Greece, Korea and Türkiye – while out of the nine countries which faced unfilled teaching vacancies in all fields of study, this is only true for Latvia and Lithuania, all remaining countries require a master's degree for all, or part, of their secondary teachers. These figures need to be interpreted with caution, as shortages of teachers are also influenced by factors such as salary, working conditions and how valued the teaching profession is in society. So, although requiring higher qualifications may contribute to teacher shortages and make it difficult to replace those leaving the profession, the impact is strongly moderated by other factors in countries' education systems and labour markets (Table D5.1. and Figure D5.5.).

Selection process

The selection process for aspiring teachers varies widely between countries, reflecting different educational philosophies and priorities. However, some trends can be identified. In about three quarters of countries with data, there is a selection process for entry into initial teacher education programmes. This process may take the form of competitive examinations, standardised test results, grade point averages in secondary education, or interviews (see Chapter D6 of *Education at a Glance 2022* (OECD, 2022[3])). For example, in Estonia and Finland, prospective teachers must pass a competitive exam before being admitted to initial teacher education programmes, ensuring that only those with the required academic skills can enrol (Table D5.1.).

Selection can also take place at the end of the programme. In around one-third of countries with data, – Argentina, Brazil, Denmark (for upper secondary only), France, Japan, Korea, Romania, Spain and Türkiye – candidates must take a competitive examination or take part in a selective procedure (in the case of Greece) at the end of the initial teacher education programme to determine who is eligible for a teaching position in public schools. In all of these countries, with the exception of Argentina (data are missing) and France, there is also a selection process at the entrance to the programme, making preparation for a teaching career very demanding from start to finish (Table D5.1.). In France, students can complete their initial teacher education programme without any selection process at entry or during their studies but they must pass a state examination to be certified. This approach allows a broader pool of candidates to enter initial teacher education programmes, while ensuring that only the most competent are certified to teach (Table D5.1.).

A few countries –, Greece, Korea, Romania, Spain and Türkiye – have multiple stages of selection: at entry, during the programme and at the end. In Korea, for example, students must obtain a bachelor's degree in education to qualify for Level 2 teacher and must pass a competitive examination to be appointed by the Office of Education. Then, after more than three years' teaching experience, they can undergo intensive training and assessment to meet the high standards required for the teaching profession. At the end of this process, they take a comprehensive certification exam to achieve Level 1 teacher qualification. This multi-tiered approach aims to maintain high standards throughout the teacher preparation process, ensuring that only the best candidates enter the profession. In Spain, the second stage of initial secondary teacher education is a master’s degree in education. All prospective teachers, in order to access this master, must accredit a minimum B1 level in a foreign language according to the Common European Framework of Reference for Languages (Table D5.1.).

Assignment of teachers to schools

The procedure for assigning certified teachers to schools also varies widely, with some countries granting more autonomy to schools than others when it comes to hiring teachers. In general, the countries with a competitive examination certifying teachers at the end of the training process also have a national or regional education authority overseeing the assignment of teachers to schools, according to criteria which vary across countries. Only Argentina, Denmark and Japan do things differently among this group. In Denmark, teachers often apply directly to schools for open positions. In Argentina, teachers apply for positions in public secondary schools and the selection is made based on their credentials and past performances while in Japan, teachers are selected through exam in each prefecture and ordinance-designated city, and assigned to schools by municipal boards of education. (Table D5.1.).

In countries with no competitive examination at the end of the process, the placement of teachers in schools is often decentralised, with teachers applying directly to the school or through the local government authority. However, the way in which teachers are assigned to schools is different across countries. In Latvia, for instance, qualified individuals typically apply for teaching positions through job advertisements and the teachers are selected by the school head. In Austria, teachers are employed by the regional

education authorities (*Bildungsdirektionen*) but the school management has full autonomy over their selection. In New Zealand, there is no central agency responsible for staff placement. Teaching vacancies at national level are advertised by the Ministry of Education via an online platform called the Education Gazette and applications for teaching jobs are made directly to the schools (Table D5.1.).

In a few countries – such as Germany, Switzerland and the United States – the assignment of teachers to schools varies significantly between subnational regions. In Switzerland, the employment conditions for teachers differ between cantons. Although in all cantons a recognised diploma is a general requirement for a teaching position (with exceptions when there are teacher shortages), other employment conditions, such as salary or number of teaching hours, vary across cantons. In the United States, school districts and states have different procedures for applications for teaching positions and the assignment of teachers to schools. Teachers may apply directly to schools or districts for open positions, or they may use online job boards and recruitment websites. The recruitment and hiring process of teachers is centralised only in some states in the United States, as it is in some *Bundesländer* in Germany (Table D5.1.).

Start in the teaching profession

Countries also differ over whether teachers can begin their teaching careers immediately after graduation or must undergo further training or probationary periods. Additional steps might include acquiring a credential or licence for teaching (in addition to the relevant academic qualifications), passing examinations and/or successfully completing an induction or probation period.

In more than one-third of the 31 countries with data, newly certified teachers are required to undergo a probationary period before they can teach independently (Table D5.1). This probationary period serves as an induction phase, allowing new teachers to gain practical experience and further develop their teaching skills under supervision. For example, in Australia, new teachers often go through a provisional registration phase, where they work under the guidance of experienced colleagues before gaining full registration.

In contrast, other countries allow certified teachers to begin teaching directly without a formal probationary period (Table D5.1Table D5.1.). This does not necessarily mean that they do not receive any support at the start of their career. In Finland, for example, teachers who have undergone a rigorous initial teacher education programme, which includes gaining extensive practical teaching experience, are fully qualified to start teaching independently as soon as they obtain the certificate, while still receiving support to continue learning the fundamentals of the profession during their first years.

Teaching workforce

Teachers by age

The average age of teachers and the proportion of young and older teachers are key measures of a country's ability to renew its teaching workforce. A higher average age and a larger share of older teachers implies an impending wave of retirements, which could worsen existing teacher shortages. Meanwhile a low percentage of young teachers who have just entered the profession may indicate challenges in attracting new talent, leading to concerns about whether an adequate teaching workforce can be sustained.

Data show that the average age of teachers ranges from 42 in early childhood education and care to 46 in upper secondary education. The average age of the teaching workforce has increased at all levels of education in all but six countries since 2013, with largest changes observed in Hungary, Lithuania (increase of 2 years) and Portugal (5 years) (see Data Explorer, personnel data by age).

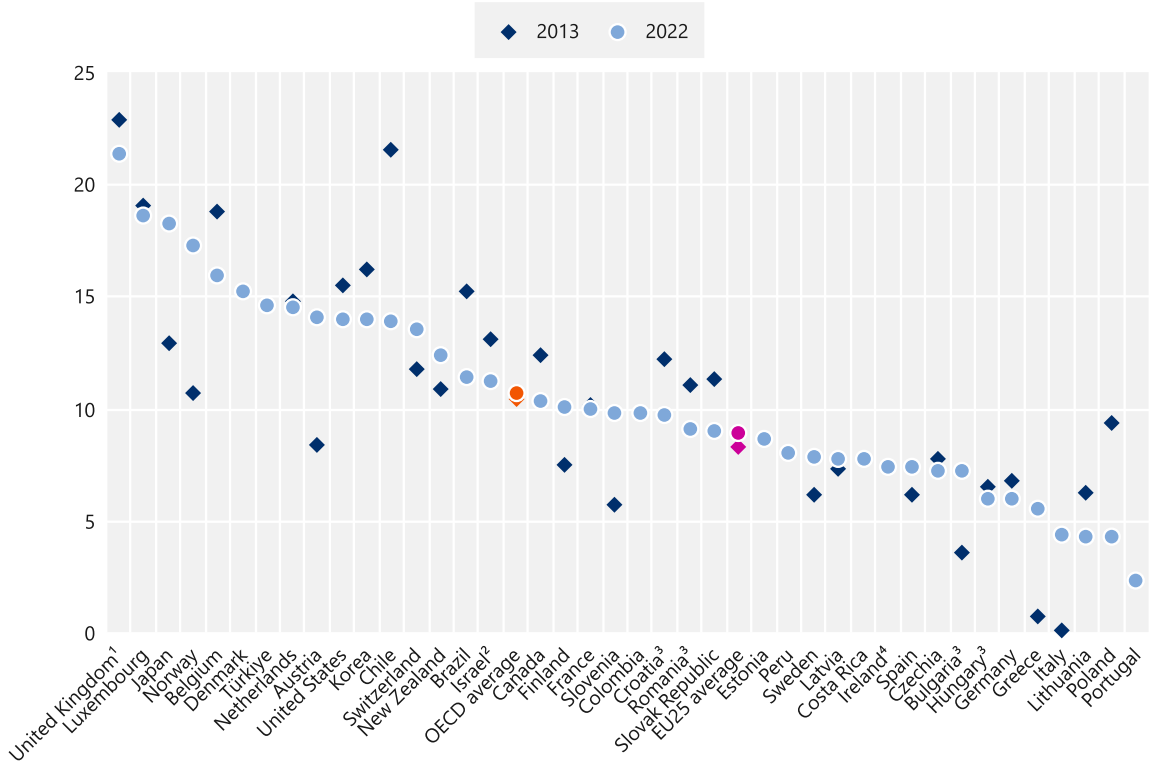
Young teachers

Young teachers – aged under 30 – make up only a small proportion of the teaching workforce, only 11% on average at all levels of education. The proportion of young teachers is highest in early childhood education and care (18%) and lowest in upper secondary vocational education, where young teachers account for just 7% of all teachers. At upper secondary level, around 70% of countries have a higher proportion of young teachers in general programmes than in vocational programmes.

Since 2013, more than half of OECD and partner countries (i.e. 21 out of 34) experienced a decline in the share of young teachers from primary to upper secondary levels. Chile saw the sharpest decline, by 7 percentage points from 21% to 14%. However, in Austria, Japan and Norway, the share of young teachers increased by 5 or more percentage points since 2013 (Figure D5.2.). The share of young teachers is particularly low at tertiary level. This is partly because the qualifications required to work are often higher at tertiary education compared to other levels of education. In Japan and Korea, teachers aged under 30 account for almost half of the teachers at pre-primary level, but less than 3% at tertiary level (Table D5.2.).

Figure D5.2. Trends in the share of teachers aged under 30 in primary to upper secondary education (2013 and 2022)

In per cent, public and private institutions



1. Upper secondary vocational programmes include vocational programmes at other levels of education.
2. Values for lower secondary and upper secondary include only public institutions.
3. Year of reference differs from 2013. Refer to the source table for more details.
4. Values for all levels include only public institutions.

Countries are ranked in descending order of the share of teachers aged under 30 in 2022.

See Table D5.2 for data and under Chapter D5 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Young teachers at the beginning of their careers often face several difficulties. Many young teachers leave the profession early due to burnout, balancing high workloads and parenting responsibilities, low self-efficacy regarding class management, and feelings of isolation (Hogan and White, 2021[4]). Due to low salaries, especially at the beginning of their careers, young teachers struggle to manage childcare and parenting along with their work. This may lead to teachers leaving the profession at a young age, exacerbating teacher shortages (Diliberti, Schwartz and Grant, 2021[5]).

Older teachers

A larger share of older teachers – aged 50 and older – implies a large number of imminent retirements, which could worsen current shortages. Conversely, a declining share of older teachers may indicate either that more teachers are leaving the profession early, or that a large cohort of older teachers have just been replaced by new teachers.

On average for all levels of education, teachers aged 50 and over make up over one-third of the entire teaching profession. More specifically, 34% of teachers are aged 50 and over in primary education, 36% in lower secondary, and over 40% in upper secondary and tertiary education. In Japan and Korea, while the share of older teachers is less than 15% at pre-primary level, it reaches around 50% at tertiary level. However, some countries show different trends. In Germany for instance, less than 30% of teachers are 50 or more at both early childhood education and care and tertiary level, while almost half of post-secondary non-tertiary teachers are older (Table D5.3. and Figure D5.1).

The proportion of older teachers has increased at all levels of education between 2013 and 2022 in 11 of the 19 countries with comparable data for both years (See Data Explorer, personnel data by age). This trend is particularly marked in pre-primary and upper secondary education, where the share has increased in all countries except for seven countries. The trend especially in pre-primary education can be linked to the decline in the population of children of pre-primary age in recent decades. If total enrolment declines, the age of teachers is likely to increase as fewer new teachers are needed to replace retirees. In Portugal, for example, a country with an ageing population and a low birth rate, the number of children enrolled has fallen sharply, especially among the under 5-year-olds. This partly explains why the proportion of pre-primary teachers aged 50 and over has risen from 26% to 30%, while the proportion of teachers aged under 30 has fallen from 21% to 18% between 2013 and 2022 (Table D5.2, Table D5.3. and Data Explorer on personnel data by age).

Beyond the need to replace retiring teachers, the age of the teaching workforce has other important policy implications especially for secondary and tertiary level of education. For example, younger teachers are more likely to have the skills to use information and communication technologies (ICT) effectively in the classroom. Older teachers who may not be as familiar with ICT, may struggle to use it in their teaching without sufficient technical support or professional development (Diliberti, Schwartz and Grant, 2021[5]). To overcome these difficulties, countries need to adjust their professional development programmes to suit the characteristics of their teaching workforce.

Teachers by gender

Women make up a large majority of teaching staff across OECD and partner countries. This can be problematic not just because of the effects that an unbalanced distribution of teachers' gender can have on students, but also because a lack of male applicants can worsen teacher shortages. On average, women make up 70% of teaching staff at all levels of education. The share ranges from 49% in Japan and 52% in Saudi Arabia to more than 80% in Estonia (82%), Latvia (83%) and Lithuania (82%) (Table D5.4.).

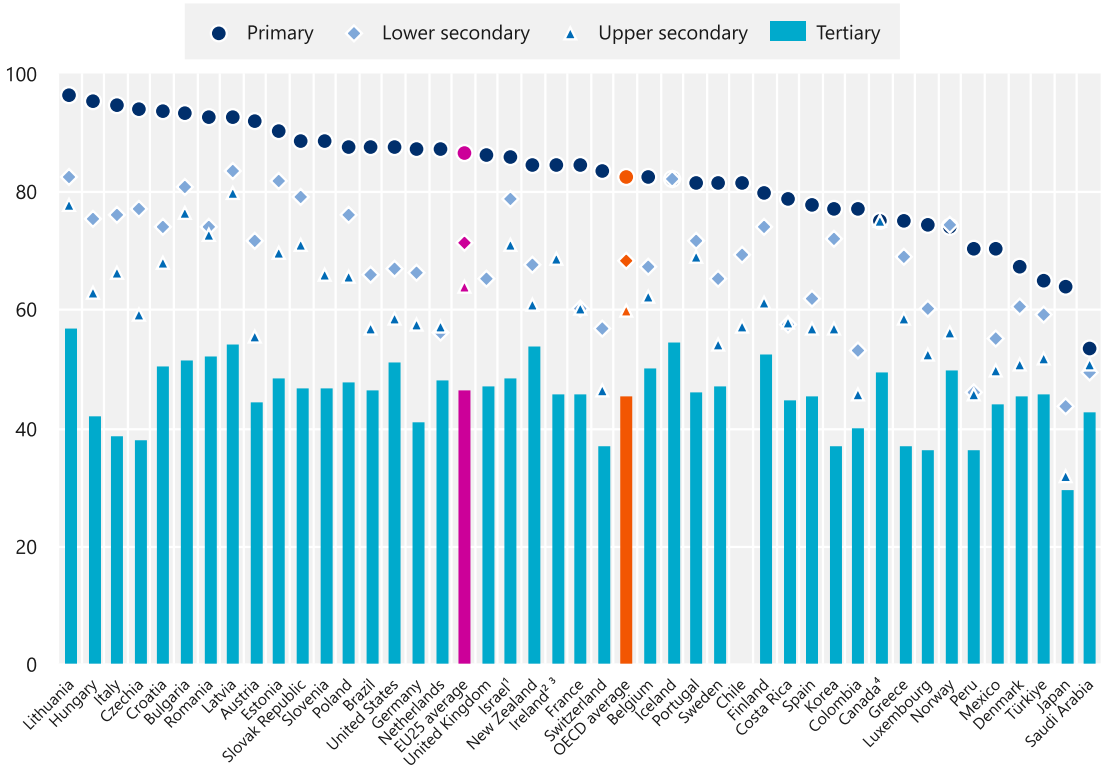
The gender balance of teaching staff varies across different levels of education. Women are particularly over-represented in early childhood education. Less than 5% of teachers in early childhood education are

men. Countries are therefore making efforts to increase the number of male teachers in early childhood education and care environment (ECEC), leading to an increase of male staff over the years. Germany implemented the *Mehr Männer in Kitas* (More men in day-care centres) programme in 2011 to 2013 and *Quereinstieg – Männer und Frauen in Kitas* (Lateral entry – Men and women in day-care centres) programme in 2015 to 2020, which helped increase ECEC staff (UNESCO, 2022[6]). This has led to an increase of the share of male staff at ECEC level, almost doubling from 3.5% in 2013 to 5.9% in 2022 (Table D5.4. and Data Explorer on personnel data by institution).

The over-representation of female teachers is also noticeable in primary and secondary education. Women account for over 70% of primary teachers in all countries except Denmark, Japan and Türkiye. In secondary education, although they continue to dominate, the proportion of female teachers is smaller. Women make up 68% of lower secondary teachers on average across OECD countries, with values ranging from 44% in Japan to 83% in Latvia. At upper secondary level the share of female teachers falls to 60% on average across OECD countries, with significant variations across countries, from 32% in Japan to 80% in Latvia (Figure D5.3.).

Figure D5.3. Share of female teachers, by level of education (2022)

Percentage of women among teaching staff in public and private institutions



1. Values for lower secondary, upper secondary and all tertiary include only public institutions.
2. Values for all levels include only public institutions.
3. Year of reference differs from 2022. Refer to the source table for more details.
4. Tertiary includes only public institutions.

Countries are ranked in descending order of the share of female teachers in primary education.

See Table D5.4. for data and under Chapter D5 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

In contrast, gender ratios at tertiary level are close to parity across the OECD. On average, female teachers are slightly under-represented, at 46%, compared to a high share of female students enrolled at tertiary level (Figure D5.3). This relatively low share of female teachers at higher levels of education may indicate that some countries still have a glass ceiling for female faculty in senior positions. The slight under-representation of women among doctoral students, a qualification often required to teach in tertiary education, also partly explains this trend (see Chapter B4).

Teachers by type of contracts

As well as differences in the age structure and gender balance of their teaching populations, countries also differ in the way teachers are employed. In all OECD countries, at least three-quarters of fully qualified teachers typically have open-ended contracts, providing them with long-term job stability and security. This is standard practice for all teachers in countries such as France, Latvia, and Lithuania, where teachers, once certified, generally enjoy permanent positions (Table D5.5.).

However, it is also common in some countries for teachers to start their careers on fixed-term contracts, particularly when filling temporary vacancies or during probationary periods after graduation. On average, around 12% of secondary school teachers have a fixed-term contract in the countries for which data are available. This proportion even exceeds 20% in Austria, Romania and the Slovak Republic (Figure D5.4). In Austria, there are many fully qualified teachers with fixed-term contracts, particularly for substitute teachers or for specific project-based roles. These temporary contracts are generally used for temporary positions or when there is a specific end date for the employment period. The reasons are different in the Slovak Republic, where the long probationary period before newly hired teachers become eligible for permanent positions increases the prevalence of fixed-term contracts. Whether a teacher receives a fixed-term or open-ended contract is often at the discretion of the school head. According to labour legislation, a fixed-term employment contract in the Slovak Republic can last a maximum of two years and may not be extended or re-agreed within this period more than twice, although the law does allow some exceptions.

In an effort to attract more individuals to the teaching profession, some countries have recently reformed their contract policies. The Flemish Community of Belgium and the Netherlands, for example, have reduced the length of time before a teacher has to be made permanent. This change aims to provide greater job security and make teaching a more appealing career choice, addressing concerns about recruitment and retention in the education sector.

Another common factor is the prevalence of non-fully qualified teachers among the teaching staff in primary and secondary education. Most countries, except Hungary, Ireland, Japan and Korea, employ teachers who are not fully qualified. In about two thirds of these countries, they make up less than 5% of all teachers in secondary education. However, the share exceeds 20% in Denmark, for primary and lower secondary education, and in Sweden for secondary education (Table D5.5.).

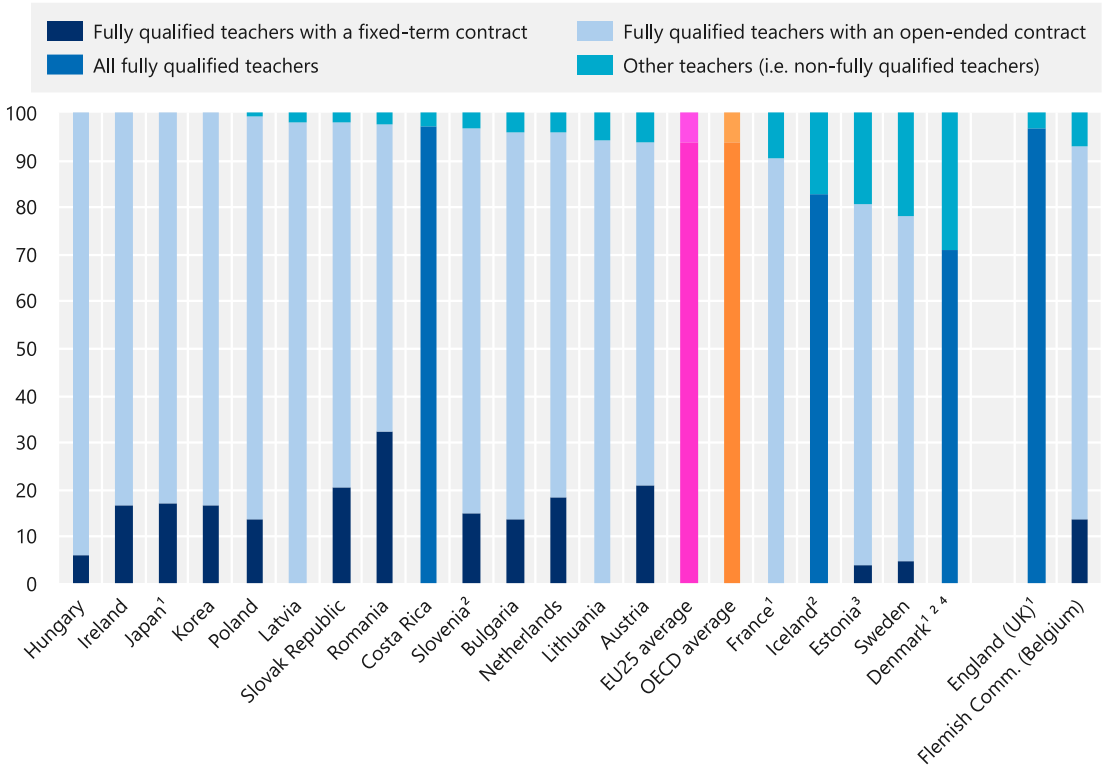
The reasons for this high percentage differ between the two countries. In Denmark, many of these teachers are students taking a sabbatical year from their studies to work as teachers. They often work part time, unlike fully qualified teachers, many of whom work full time. This situation arises due to a combination of factors including teacher shortages and flexibility within the Danish education system that allows for such arrangements. Although these students help to meet immediate staffing needs, they also raise the issue of the need to properly train them. Even if many of them only work part-time, it is essential to maintain the quality of teaching provided to students. In Sweden, the situation is due to a significant wave of retirements among the current teaching workforce, leading to a rise in the employment of non-fully qualified teachers. Unlike in Denmark, Sweden's approach involved a broader range of individuals than students, including those with partial qualifications, substitute teachers and individuals transitioning from other professions.

There is no uniform pattern to the presence of non-fully qualified teachers at different levels of education. In some countries, such as Costa Rica and Lithuania, non-fully qualified teachers are more numerous in

primary education, while in others, such as France and Sweden, they are more common in secondary education. However, over the last decade, the proportion of non-fully qualified teachers has generally increased in most countries and, although their share remains relatively low, it is a growing concern in many education systems, reflecting wider challenges in maintaining a fully qualified teaching workforce across different subjects, regions and levels of education (Table D5.5.).

Figure D5.4. Distribution of secondary teachers, by type of contract and qualification status (2022/23)

Full-time and part-time, public institutions



1. Reference year: academic year 2021/22 for Denmark, France, Japan and England (UK).
2. Primary and lower secondary education combined instead of secondary education.
3. Including primary education.
4. Many teachers in the "other teachers" category work part-time.

Countries are ranked in descending order of the share of fully qualified teachers.

See Table D5.5. for data and under Chapter D5 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Teacher shortages

Shortage of fully qualified teachers in secondary education

Teacher shortages are a growing concern in many countries. The 2022 Programme for International Student Assessment (PISA) found that, in more than half of the education systems surveyed, school principals were more likely to report teacher shortages in their schools in 2022 than their counterparts were in 2018. On average, the percentage of students in schools whose principals reported that instruction is hindered by a lack of teaching staff increased by 21 percentage points, from 26% in 2018 to 47% in 2022.

In Australia, Belgium, Chile, France, Latvia, the Netherlands, Poland and Portugal, the increase exceeded 30 percentage points. However, it is important to note that these measures are based on principals' perceptions, and are not objective measures of staff shortages. Principals in different countries may have different perceptions of what constitutes a shortage of teaching or support staff in their schools (OECD, 2023[2]).

In contrast, Figure D5.5 uses quantitative data to examine the issue of teacher shortages at two points in time: the start of the academic year 2014/15 and 2022/23. For this analysis, a teacher shortage is considered to exist if some of the vacant posts at the start of the year are not filled by fully qualified teachers or, for countries with competitive examinations, if the number of available teaching posts is greater than the number of successful applicants selected to fill these posts (see Definitions section). This approach is intended to provide a clearer picture of the immediate staffing challenges facing schools and the implications for continuity and quality of teaching, although it does not show whether the situation improved or deteriorated over the course of the school year, with some posts, such as those in rural areas, sometimes taking longer to fill.

Among the 21 countries included in the analysis, only Greece, Korea and Türkiye were not experiencing teacher shortages at the start of the 2022/23 academic year, mirroring their situation in 2014/15. Of the remaining countries, nine faced shortages across all subjects, while in the other nine the shortages were limited to certain fields of education. Notably, this is a relatively new issue in Austria, the Flemish Community of Belgium, Hungary and Slovenia, as they were not experiencing shortages in 2014/15. Conversely, in the other countries with comparable data, teacher shortages were already a reality a decade ago. However, the fact that certain positions are unfilled at the beginning of the year does not necessarily mean that they remain vacant throughout the school year. In addition, the number of vacant posts may also have differing impacts on countries, since this chapter does not account for the overall size of the education system or workforce (Figure D5.5).

In a subset of countries where the data allow for comparisons between 2021/22 and 2022/23, Germany (for lower secondary education), Latvia, the Netherlands and New Zealand experienced a worsening situation, with unfilled vacancies increasing by at least 5% between the two years. However, Romania bucked this trend; although they were still experiencing shortages in 2022/23, the situation was improved relative to 2021/22. In Austria, Costa Rica, Hungary, Iceland and Slovenia, the situation is not improving but has remained stable over time, with minimal variation in the percentage of unfilled vacancies between 2021/22 and 2023/24 (Ad-hoc survey on teacher shortages). In addition, countries that are hosting a large number of refugees from Ukraine face an increased demand for teachers and are also affected by the shortage of teachers. 15 out of 23 European Union Member States reported challenges in teacher shortage especially below secondary level (European Commission, 2024[7]), while 8% of Ukrainian households in the Multi-Sector Needs Assessment (MSNA) survey from UNHCR reported a lack of capacity in host country schools as a reason for non-enrolment (UNHCR, 2024[8]).

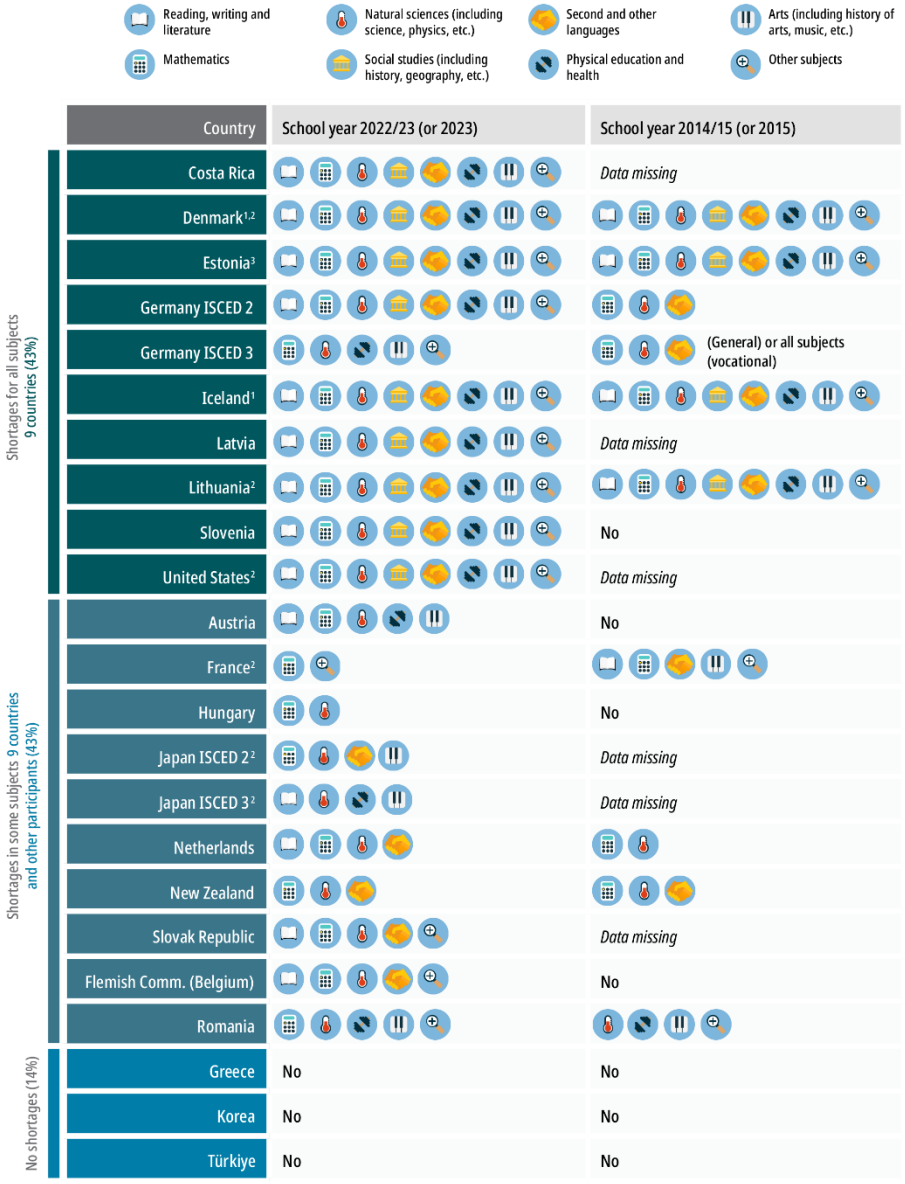
Among the nine countries with shortages in only some fields of study in 2022/23, a common pattern emerges. All of them face a shortage of mathematics teachers, highlighting the global challenge in attracting and retaining educators in this critical subject. Similarly, all of them except France lack adequate numbers of science teachers. However, none report shortages of teachers in social studies such as history and geography, suggesting a relative abundance of fully qualified teachers in these subjects compared to STEM fields (Figure D5.5).

Teacher shortages are less severe in subjects like history and geography than in STEM fields for several reasons. One key factor is gender differences in fields of study within tertiary education. Women are generally less represented in STEM fields in tertiary education and are over-represented in the teaching profession (see Chapter B4). This means there is a smaller pool of individuals with STEM backgrounds entering the teaching profession. History and geography also benefit from a larger pool of graduates, increasing the supply of potential teachers in these subjects. Furthermore, graduates from STEM fields

also have more lucrative career alternatives outside of teaching, which further reduces the number of individuals entering the teaching profession in these subjects.

Figure D5.5. Trends in teacher shortages in secondary education, by subject (2014/15 and 2022/23)

Public institutions



Note: Teacher shortages mean either some vacancies were not filled by fully qualified teachers at the beginning of the academic year or, in countries with competitive examinations, that the number of available teaching positions exceeded the number of successful candidates in the competitive examination conducted at the end of the preceding academic year. The fact that certain positions are unfilled at the beginning of the year does not necessarily mean that they remain vacant throughout the school year. The number of vacant posts may also have differing impacts on countries, since this chapter does not account for the overall size of the education system or workforce.

1. Primary and lower secondary education combined instead of secondary education.
2. Reference years differ from 2014/15 and 2022/23. Refer to Table D5.5. for more details.
3. Including primary education.

See under Chapter D5 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en

Several countries have implemented measures to address the challenge of shortage of fully qualified teachers. For example, Australia has introduced financial incentives, such as scholarships for teacher education, to attract teachers to the profession. The Netherlands has invested in professional development and mentorship programmes to support new teachers and improve retention rates. The government in the Flemish Community of Belgium has invested in attracting second career teachers (side-entrants) into the profession. To this end, it enabled second-career teachers to retain part of their seniority when moving from the private sector to the education sector, making the latter financially more attractive.

These measures aim to enhance the attractiveness of the teaching profession and ensure a stable supply of fully qualified teachers across various regions and subjects. However, improving the overall prestige of the teaching profession also remains a crucial challenge, as greater societal value and recognition could attract more individuals to this vital career. There is still a long way to go on this point, as the latest Teaching and Learning International Survey (TALIS) results found that only 26% of teachers in lower secondary education felt valued by society in 2018.

Teachers leaving the profession

Teacher attrition is a significant issue in the education sector, with substantial implications for educational quality and stability if countries are not able to replace teaching staff who leave. An important percentage of teachers leave the profession each year in some OECD countries: about 7% of fully qualified teachers on average in the 15 countries and other participants with available data. Figures range from less than 5% of teachers in six of the countries, to over 8% in Denmark, the Flemish Community of Belgium, England (United Kingdom), Estonia, Lithuania and New Zealand. These departures are generally due to a combination of resignations and retirement. Resignation is the main driver of attrition in eight countries and other participants, namely Austria, Denmark, Estonia, England (United Kingdom), the Flemish Community of Belgium, Poland, the Slovak Republic and Sweden. By contrast, in France, Greece, Ireland and Türkiye, retirement is the main driver of attrition in 2022/2023 while the data for Lithuania, New Zealand and the United States do not distinguish between resignations and retirement (Figure D5.6.).

Although retirements are an inevitable part of the career lifecycle, too many resignations are concerning as they often indicate underlying problems in the profession. However, they may also reflect differences in the usual length of employment in all occupations in some countries. For example, in New Zealand, less than 25% of all workers stay in one job for more than a decade, compared to over 50% in Greece. The higher turnover rate observed among New Zealand's teachers may reflect the particular dynamics of their labour market (see OECD employment statistics by job tenure intervals).

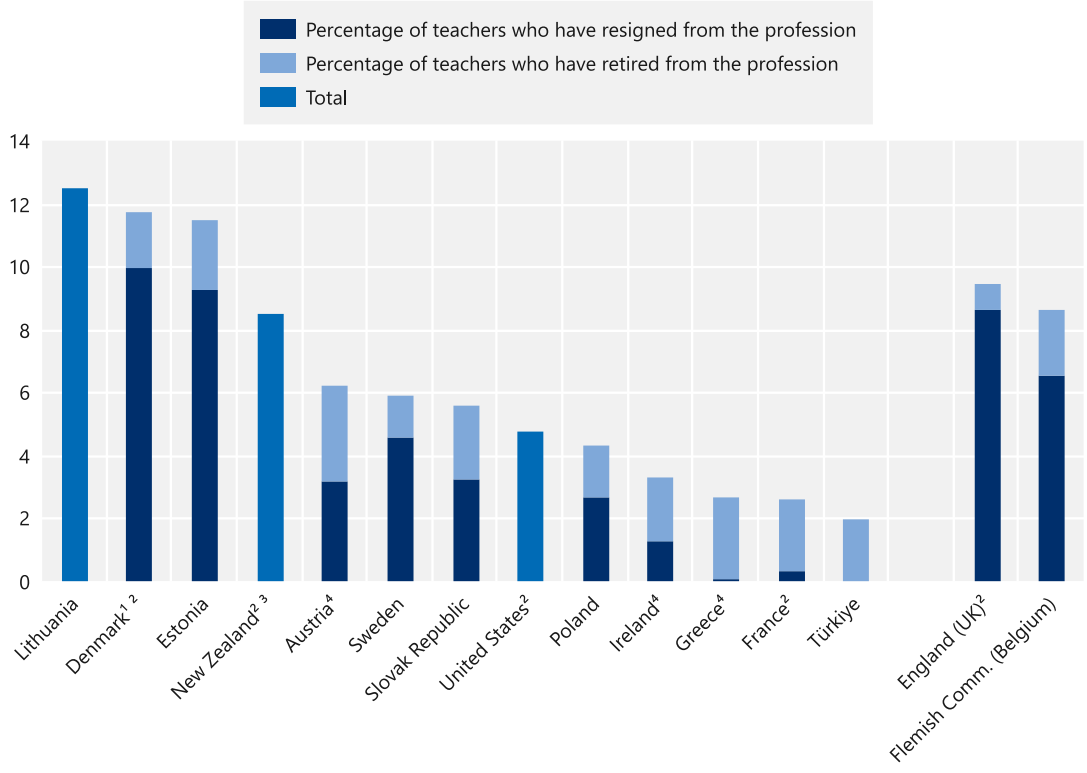
Other factors contributing to teacher resignations include high levels of job-related stress, insufficient support, lack of professional development opportunities and relatively low compensation. These challenges can lead to dissatisfaction, prompting teachers to seek alternative careers (OECD, 2020[1]). Addressing the reasons behind teachers' resignations and understanding labour-market dynamics are crucial for building a stable, effective and satisfied teaching workforce.

Some countries have taken steps to combat teacher attrition. For instance, New Zealand has implemented several targeted strategies. One notable initiative is the Teacher Supply Package, which includes measures such as financial incentives, additional support for new teachers and initiatives to attract overseas teachers. In Lithuania, the focus was on improving teachers' working conditions and providing better professional support to reduce attrition, while in Denmark, the emphasis has been on improving teachers' working conditions through better school leadership and more collaborative working environments.

Although the share of teachers resigning from the profession may appear relatively small in many countries, Figure D5.6. does not necessarily capture the full picture. One significant factor which is often overlooked is absenteeism among teachers and the mechanisms in place for their replacement. While a teacher may not have formally resigned, frequent absences can also disrupt the continuity of education for students and create challenges for schools in maintaining quality teaching. Moreover, the process of replacing absentee teachers, especially at short notice, can strain resources and impact the overall educational environment (OECD, 2016[9]). Therefore, although low resignation rates may seem positive, it is essential to delve deeper into absenteeism rates and their implications for educational continuity and quality. In addition, the relatively small number of countries with data could have an impact on the results/conclusions. It will be interesting to develop new analyses on this question and increase the number of participating countries in the future.

Figure D5.6. Share of fully qualified teachers who left the profession by resigning or retiring in pre-primary, primary and secondary education in 2022/23

Full-time and part-time, public institutions



Note: Due to lack of data, this chart does not take into account teachers who left the profession because they are appointed to other positions in the education sector. These data would increase the percentages, for example from 4.8% to 7.9% in the United States. Data do not include teachers who move out of public institutions to private institutions or out of private institutions into public institutions. Other teachers (i.e. non-fully qualified teachers) are not taken into account in this chart.
1. Excluding upper secondary education.
2. Reference year differs from 2022/23: academic year 2021/22 for Denmark, France, the United States and England (UK), and calendar year 2021 for New Zealand.
3. Including unqualified teachers.
4. Excluding pre-primary education.
Countries are ranked in descending order of the share of fully qualified teachers who left the profession in 2022/23.
See under Chapter D5 Tables for StatLink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Definitions

Centralised/decentralised system: Having a centralised system for certifying new teachers and assigning them to schools means that this process is managed at central (national) government level. In a centralised system, the national government is responsible for certifying teachers and assigning them to schools, whereas in a decentralised system, these responsibilities are assumed by regional authorities (lander, districts, states etc.) or local ones (schools, municipalities, etc.).

Competitive examinations refer to examinations organised by local, regional or national authorities in order to select the applicants with the best results to fill a limited and fixed number of places for student teachers and/or for teachers in the public education system.

Fully qualified teachers refer to teachers who have fulfilled all the training requirements for teaching (a certain subject) and meet all other administrative requirements according to the formal policy in a country. The administrative requirements can comprise formal qualifications and attainment level, specific training or practical experience, succeeding in competitive examinations, and the successful completion of a probation period or induction programmes.

Other teachers (i.e. non-fully qualified teachers) refer to teachers entering the profession through alternative pathways. In most cases and in most, but not all, countries, these teachers are hired on a temporary basis, instead of having a permanent contract. Even though they are not fully qualified teachers, they are usually employed by the government.

A **leaving teacher** refers to any teacher who is leaving the profession in the reference year and who is not expected to come back the year after (i.e. someone who is permanently leaving the profession). Teachers who left both by resigning or retiring are counted as leaving teachers. Teachers leaving an ISCED level to teach at another level of education are not considered to be leaving teachers for the purposes of calculating attrition. A teacher temporarily not at work (e.g. for reasons of illness or injury, maternity or parental leave, holiday or vacation, or early leave before retirement) is not considered a leaving teacher.

In this chapter, **teacher shortages** are defined as the lack of fully qualified teachers at the start of the academic year 2022/23. This shortage can be either because some vacancies remain unfilled by fully qualified teachers at the beginning of the academic year or, in countries with competitive examinations, because the number of available teaching positions for the year 2022/23 exceeded the number of successful applicants from the competitive examination conducted at the end of the 2021/22 academic year. This chapter provides a national overview, but it is important to note that teacher shortages can be more pronounced in certain regions or in rural areas. Additionally, a shortage at the start of the year does not necessarily imply that the situation will not improve as the year progresses. In some cases, the assignment of fully qualified teachers to rural areas can take time, or a country may hire non-fully qualified teachers to compensate for the lack of fully qualified staff. It should also be noted that this chapter does not cover teacher absenteeism, which is an important issue in many countries and can lead to shortages for part of the academic year.

Some of the **fields of study** included in Figure D5.5 are defined as follows:

- Natural sciences include subjects such as science, physics, chemistry, biology, environmental sciences and ecology.
- Social studies include subjects such as history, geography and all related studies. May also include community studies, social and political instruction, philosophy or civics education.
- Arts includes subjects such as arts, history of arts, music, visual arts, drama, music and dance performance, photography, and creative handicrafts.

Methodology

The number of teachers in the chapter are reported in headcounts. It refers to the total count of individuals employed teachers, encompassing both those working on a full-time basis and those working on a part-time basis.

The share of teachers in the population corresponds to the proportion of teachers in a given age group (e.g. below the age of 30 or above the age of 50) among the total population of the same age group.

For more information, please see the OECD *Handbook for Internationally Comparative Education Statistics 2018* (OECD, 2018[10]).

Source

Data on teachers by age and gender refer to the academic year 2021/22 and are based on the UNESCO-UIS/OECD/EUROSTAT data collection on education statistics administered by the OECD in 2023. They cover both public and private institutions.

Data included in Table D5.5 and Figures D5.4., D5.5. and D5.6. refer to the academic year 2022/23 and are based on the INES special data collection on teacher shortages administered by the OECD in 2024. Qualitative information from this ad hoc survey has been used to include country examples throughout the chapter. This questionnaire covers public institutions from pre-primary to upper secondary education. The scope of the questionnaire is focused on initial education and does not include adult education (second chance education or any other form of lifelong learning activities) or special education programmes and schools for children with disabilities.

Data in Table D5.1. are from the OECD-INES-NESLI survey on pathways to becoming teachers and school heads and refer to the academic year 2022/23. This table also includes information from the teacher shortages survey.

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Chapter D5 Tables

Tables Chapter D5. Who are the teachers, and where do countries stand in terms of teacher shortages?

StatLink https://stat.link/dj257i

Cut-off date for the data: 14 June 2024. Any updates on data and more breakdowns can be found on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

Table D5.1. Pathways to becoming a fully qualified teacher in secondary education (2022/23)

Public institutions only, general subjects

	Qualification level	Selectiveness at the entry and during studies		Selectiveness for certifying new teachers			
	ISCED qualification awarded at the end of initial teacher education	Existence of selective criteria for entry into initial teacher education	Existence of selective criteria to progress in initial teacher education	Competitive examination for a limited and fixed number of places	Centralised/ decentralised process	Graduates from initial teacher education can start teaching directly	How teachers are assigned to schools once they have been certified
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Australia	ISCED 6	Yes	No	No	Decentralised	No	Teachers typically apply for positions through centralised education departments or online platforms. Schools then review the applications. Teachers may have the opportunity to express preferences for specific geographic locations or types of schools, but final assignments are often based on the availability of positions and staffing requirements.
Austria	ISCED 7	Yes	No	No	Decentralised	Yes	Teachers often apply directly to schools. Teachers are employed by the regional education authorities (Bildungsdirektionen). Assignments to schools are typically based on factors such as teacher preferences, school staffing needs, and available positions. They are selected in full autonomy by the school management.
Costa Rica	ISCED 7	No	No	No	Centralised	No	Teachers often apply directly to schools. In Costa Rica, teachers are typically employed by public schools under the Ministry of Public Education or by private educational institutions. School assignments are often based on factors such as teacher qualifications, school staffing needs and available positions.
Denmark[1,2]	ISCED 6 for lower secondary, ISCED 7 for upper secondary	Yes	a	No for lower secondary, Yes for upper secondary	Centralised	Yes	Teachers often apply directly to schools for open positions, or they may use centralised recruitment systems managed by education authorities. In upper secondary education, a newly appointed teacher must take a pedagogy course (Pædagogikum) in the first year.
Estonia	ISCED 7	Yes	Yes	No	m	Yes	Teachers typically apply for positions through online platforms or directly to schools, depending on the preference of the school or municipality. Once applications are received, schools or local education authorities review candidates' qualifications and conduct interviews to assess their suitability for the position. While teachers can express preferences for certain schools or locations, the final decision on teacher assignments is often made by school principals
Finland	ISCED 7	Yes	a	No	Decentralised	Yes	Teacher assignments are typically co-ordinated through a decentralised system where municipalities and individual schools have significant autonomy in hiring decisions. Teachers generally apply directly to schools or through municipal job portals, where vacancies are advertised. Once applications are received, school principals or hiring committees review candidates. Interviews and demonstration lessons may be part of the selection process.
France	ISCED 7	No	No	Yes	Centralised	No	Teachers are appointed through a centralised recruitment process. Teachers are assigned to an academy according to different criteria (ranking according to a number of points). The academy then assigns them to a school.
Germany	ISCED 7	Yes	No	No	Centralised	Yes, after graduating from the preparatory service	Teachers either apply to the school authority or to the individual school, it depends on the application and employment procedure of the individual German states.
Greece	ISCED 6	Yes	Yes	Yes	Centralised	No	Teachers are appointed through a centralised recruitment process. Teachers can apply for positions in secondary schools. Final decision is taken by the education authority which assigns them to the school.
Hungary	ISCED 7	Yes	a	No	Decentralised	Yes	The assignment of teachers to schools in Hungary is typically managed by local government authorities, such as municipal education departments or regional educational offices. Schools may advertise teaching vacancies, and applicants submit their applications directly to the schools or through centralised systems managed by local authorities.
Iceland	ISCED 7	m	m	m	Centralised	No	m
Ireland	ISCED 7	Yes	Yes	No	Decentralised	Yes	Teachers are typically employed by schools or educational institutions and assigned to schools based on factors such as teacher qualifications, subject expertise and school staffing needs. School assignments are managed by school principals or boards of management.
Japan[2]	ISCED 5, 6, 7 for lower secondary, ISCED 6, 7 for upper secondary	Yes	a	Yes	Decentralised	No	Teachers are selected through exam in each prefecture and ordinance-designated city, and assigned to schools by municipal boards of education.
Korea	ISCED 6	Yes	a	Yes	Centralised	Yes	Teachers are appointed through a centralised recruitment process. Teachers can apply for positions in secondary schools. Final decision is taken by the education authority which assigns them to the school.

	Qualification level	Selectiveness at the entry and during studies		Selectiveness for certifying new teachers			
	ISCED qualification awarded at the end of initial teacher education	Existence of selective criteria for entry into initial teacher education	Existence of selective criteria to progress in initial teacher education	Competitive examination for a limited and fixed number of places	Centralised/ decentralised process	Graduates from initial teacher education can start teaching directly	How teachers are assigned to schools once they have been certified
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Latvia	ISCED 6	Yes	Yes	No	Decentralised	Yes	The assignment of teachers to schools is typically managed by schools themselves or/ and local government authorities, such as municipal education departments or regional educational centres. Qualified individuals typically apply for teaching positions through job announcements. The teachers are selected by the school head.
Lithuania[2]	ISCED 6	Yes	Yes	No	Decentralised	Yes	The assignment of teachers to schools is typically managed by local government authorities, such as municipal education departments or regional educational centres. Applicants who meet the required criteria are invited for an interview with the school head. Three representatives of the school council can observe the job interview. The school head makes their decision following the interview.
Netherlands	ISCED 6 for lower secondary, ISCED 7 for upper secondary	No	a	No	Decentralised	Yes	Schools have autonomy in hiring decisions, so teachers typically apply directly to schools for open positions. Schools may advertise teaching vacancies on their websites or through job boards.
New Zealand	ISCED 6	Yes	No	No	Centralised	No	Teachers are directly employed by schools. There is no central agency responsible for staff placement. Teaching vacancies at a national level are advertised centrally by the Ministry of Education via an online "Education Gazette". Applications for teaching jobs are made directly to the employing school.
Norway	ISCED 7	Yes	a	No	Centralised	Yes	Schools have autonomy in hiring decisions, so teachers typically apply directly to schools for open positions. Schools may advertise teaching vacancies on their websites, through job boards, or through municipal or county education authorities.
Poland	ISCED 7	No	No	No	Centralised	Yes	Teachers often apply directly to schools. They can also apply through regional educational authorities or online job portals where schools advertise vacancies. Once applications are received, school administrators or hiring committees review the candidates' qualifications, experience, and suitability for the position.
Slovak Republic	ISCED 7	Yes	a	No	Decentralised	Yes	Teachers apply directly to schools. Teachers are typically employed by school principals based on factors such as teacher qualifications, subject expertise, school staffing needs and others.
Slovenia[1]	ISCED 7	Yes	No	No	Centralised	Yes	Qualified teachers typically apply for positions through job announcements posted by schools or through the ministry's online portal. Once applications are received, school administrators or hiring committees review candidates' qualifications and suitability for the position. Interviews and teaching demonstrations may be part of the selection process.
Spain	ISCED 7	Yes	Yes	Yes	Decentralised	No	Teachers are selected through a competitive exam process conducted by regional governments, in accordance with nationally established requirements. The assignment of teachers to schools is managed by regional education authorities based on accumulated experience and teacher preferences.
Sweden	ISCED 7	Yes	a	No	Centralised	Yes	The assignment of teachers to schools is typically managed by municipal or regional education authorities. Teachers may apply directly to schools for open positions, or they may use centralised recruitment systems managed by education authorities.
Switzerland	ISCED 7	No	No	No	Decentralised	Yes	Each canton is responsible for its own education policies and practices. The employment conditions for teachers however differ between the cantons. While in all cantons a recognised diploma is a general requirement for a teaching position (exceptions are possible in times of teacher shortages), other employment conditions, like salary, number of teaching hours etc. vary between cantons.
Türkiye	ISCED 6	Yes	Yes	Yes	Centralised	No	Teachers are appointed through a centralised recruitment process. Teachers can apply for positions in secondary schools. Final decision is taken by the education authority which assigns them to the school.
United States[2]	ISCED 6 or ISCED 7	m	m	No	Decentralised	m	The requirements for applying to teaching positions and the assignment of teachers to schools varies by district and state. Teachers may apply directly to schools or districts for open positions, or they may use online job boards and recruitment websites. Some states have centralised systems for teacher recruitment and hiring.
Other participants							
Flemish Comm. (Belgium)	ISCED 5 (for vocational education), ISCED 6, 7	No	a	No	Decentralised	Yes	Teachers are hired into schools through an open recruitment procedure organised at the school board level and with considerable involvement of the school principal. Schools boards have autonomy in teacher recruitment, selection and appointment, and therefore act as the employers.
England (UK)[2]	ISCED 6	Yes	No	No	Decentralised	Yes	Schools, academies and local authorities are responsible for their own recruitment. Recruitment decisions may be based on factors such as candidates' qualifications, subject expertise and school staffing needs.

Partner and/or accession countries	Qualification level	Selectiveness at the entry and during studies		Selectiveness for certifying new teachers		Graduates from initial teacher education can start teaching directly	How teachers are assigned to schools once they have been certified
	ISCED qualification awarded at the end of initial teacher education	Existence of selective criteria for entry into initial teacher education	Existence of selective criteria to progress in initial teacher education	Competitive examination for a limited and fixed number of places	Centralised/ decentralised process		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Argentina	ISCED 6	m	m	Yes	Decentralised	Yes	Teachers are appointed through a centralised recruitment process at the provincial level. In the public education sector, teachers apply for positions in secondary schools through a public merit-based selection process based on their credentials and past performance. School assignments are based on factors such as teacher qualifications and available school positions.
Brazil	ISCED 6	Yes	a	Yes	Decentralised	No	Teachers are appointed through a centralised recruitment process. Teachers can apply for positions in secondary schools. Final decision is taken by the education authority which assigns them to the school.
Bulgaria	m	m	m	No	Decentralised	m	Teachers apply directly to schools and are typically employed by the schools head upon a consultation with the regional education authority concerned. School assignments are often based on factors such as teacher qualifications, school staffing needs and available positions.
Romania	ISCED 6 for lower secondary, ISCED 7 for upper secondary	Yes	Yes	Yes	Centralised	No	Teachers are appointed through a centralised recruitment process. Teachers can apply for positions in secondary schools. Final decision is taken by the education authority which assigns them to the school.

Note: See under Chapter D5 Tables for StatLink and Box. D5.1 for the Notes related to this Table/.

Table D5.2. Share of teachers below the age of 30, by level of education (2022)

Public and private institutions

	Early childhood educational development	Pre-primary	Primary	Lower secondary	Upper secondary			Post-secondary non-tertiary	Tertiary	All levels of education	Primary to upper secondary	
					General programmes	Vocational programmes	All programmes				2013	2022
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	36	29	19	15	11	5	8	4	10	15	8	14
Belgium	a	16	20	16	12	12	12	6	5	15	19	16
Canada[1]	m	x(3)	10[d]	x(3)	x(7)	x(7)	10	m	5	m	12	10
Chile	17	14	14	14	15	12	14	a	m	m	21	14
Colombia	m	25	11	10	x(7)	x(7)	8	13	5	10	m	10
Costa Rica	7	6	7	8	9	8	8	a	4	7	m	8
Czechia	a	17	8	9	5	5	5	m	m	m	8	7
Denmark	12	11	18	19	6	5	6	a	19	15	m	15
Estonia	x(2)	10[d]	10	8	8	6[d]	7[d]	x(7)	4	8	9[d]	9[d]
Finland	m	17	12	13	7	3	4	3	12	12	8	10
France	a	11	12	9	9	9	9	12	12	10	10	10
Germany	22	22	8	5	6	3	5	3	23	13	7	6
Greece	m	7	10	2	1	3	1	6	1	5	1	5
Hungary[2]	13	15	8	5	5	m	5	m	5	7	7	6
Iceland	37	37	7	7	m	m	m	m	14	m	m	m
Ireland[1]	m	m	12	x(7)	1[d]	a	1[d]	4	m	m	m	7
Israel[1]	m	12	13	9	x(7)	x(7)	9	m	11	m	13	11
Italy	a	4	4	4	5	5[d]	5[d]	x(7)	1	4	0	4[d]
Japan	a	49	21	18	x(7)	x(7)	13[d]	x(7, 9)	2[d]	17	13[d]	18[d]
Korea	22	47	16	14	11	14	11	a	1	14	16	14
Latvia	12	12	9	7	6	8	7	8	5	8	7	8
Lithuania	12	11	6	4	3	3	3	6	5	6	6	4
Luxembourg	a	21	27	14	8	11	9	9	28	20	19	19
Mexico	m	m	m	m	m	m	m	a	m	m	m	m
Netherlands	a	17	15	16	16	10	12	a	19	16	15	14
New Zealand	25	25	13	13	11	9	11	8	11	14	11	12
Norway	19	19	21	19	9	9	9	12	25	19	11[d]	17
Poland	a	16	5	4	4	4	4	6	4	6	9	4
Portugal	m	3	2	2	x(7)	x(7)	3[d]	x(7)	5	3	2	2[d]
Slovak Republic	a	17	10	10	11	6	7	5	4	10	11	9
Slovenia	10	10	10[d]	x(3)	6	6	6	a	5	8	6	10
Spain	10	10	9	7	6	6	6	a	4	7	6	7
Sweden	10	9	9	7	x(7)	x(7)	5	6	6	8	6	8
Switzerland	a	16	20	11	5	5[d]	5[d]	x(7)	2	11	12[d]	14[d]
Türkiye	m	28	15	17	14	9	12	a	10	15	m	15
United Kingdom[3]	23	20	25	22	22	9[d]	17[d]	a	6	18	23	21[d]
United States	m	m	15	14	11	a	11	m	m	m	15	14
OECD average	18	18	12	11	8	7	8	7	9	11	10	11
Partner and/or accession countries												
Argentina	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	16	14	11	12	11	10	11	11	4	11	15	11
Bulgaria[2]	a	9	7	7	7	7	7	3	5	7	4	7
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia[2]	18	18	9	11	9	9	9	a	9	10	12	10
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	14	13	7	10	9	a	9	a	4	8	m	8
Romania[2]	10	20	11	11	5	6	5	7	3	10	11	9
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	15	14	11	9	7	6	6	6	8	10	8	9
G20 average	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter D5 Tables for StatLink and Box. D5.1 for the Notes related to this Table/.

Table D5.3. Share of teachers aged 50 and over, by level of education (2013 and 2022)

Public and private institutions

	Early childhood educational development		Pre-primary		Primary		Lower secondary		Upper secondary				Post-secondary	Tertiary		All levels of education
									General programmes	Vocational programmes	All programmes					
	2013	2022	2013	2022	2013	2022	2013	2022	2022	2022	2013	2022	2022	2013	2022	2022
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Australia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Austria	20	16	22	22	37	34	48	40	39	51	42	46	53	36	40	38
Belgium	m	a	15	29	22	25	29	27	32	34	31	33	46	37	38	30
Canada[1]	m	m	x(5)	x(6)	26[d]	29[d]	x(5)	x(6)	x(12)	x(12)	26	29	m	45	49	m
Chile	11	15	17	21	28	23	31	24	23	31	31	25	a	m	m	m
Colombia	m	m	m	27	m	41	m	38	x(12)	x(12)	m	39	22	m	33	37
Costa Rica	31	26	32	26	31	26	24	19	19	19	23	19	a	36	32	24
Czechia	a	a	37	40	31	45	32	36	52	52	45	52	m	m	m	m
Denmark	m	37	m	38	33	32	32	31	39	49	40	42	a	41	34	35
Estonia	x(3)	x(4)	39	47	38	48	50	54	52	50[d]	50[d]	51[d]	x(12)	m	40	48
Finland	m	m	27	33	30	36	30	35	41	56	44	50	56	46	42	39
France	a	a	25	31	22	26	30	38	38	38	31	38	41	m	40	34
Germany	27	29	28	29	45	36	50	41	36	50	45	39	49	24	30	35
Greece	m	m	12	37	49	45	38	56	66	50	40	60	30	47	53	49
Hungary[2]	20	26	41	40	38	46	41	49	47	m	34	47	m	41	41	45
Iceland	22	20	22	21	36	39	36	39	m	m	m	m	m	m	38	m
Ireland[1]	m	m	m	m	22	16	x(11)	x(12)	40[d]	a	29[d]	40[d]	51	m	m	m
Israel[1]	m	m	27	26	21	24	28	31	x(12)	x(12)	35	35	m	m	42	m
Italy	a	a	57	51	57	57	63	48	55	53[d]	73	54[d]	x(12)	53	56	53
Japan	a	a	9	11	31	27	27	30	x(12)	x(12)	34[d]	38[d]	x(12,15)	44[d]	47[d]	33
Korea	6	13	2	7	16	17	23	25	25	31	28	27	a	m	53	30
Latvia	a	41	28	41	36	50	45	58	58	52	47	56	53	50	47	50
Lithuania	41	47	41	48	39	56	43	57	62	59	48	61	49	39	40	52
Luxembourg	a	a	14	15	19	15	17	22	32	28	30	29	39	m	14	19
Mexico	m	m	m	m	m	m	m	m	m	m	m	m	a	m	m	m
Netherlands	a	a	35	30	36	31	42	34	34	43	51	40	a	33	30	33
New Zealand	25	25	25	25	39	37	42	39	42	50	44	43	51	46	44	38
Norway	14	19	14	19	33	28	33	31	42	42	45	42	44	39	31	31
Poland	a	a	20	25	23	44	22	38	40	39	29	40	37	m	40	37
Portugal	m	m	31	55	34	49	33	57	x(12)	x(12)	29	50[d]	x(12)	35	47	51
Slovak Republic	a	a	37	35	27	33	36	33	28	47	40	42	49	45	41	36
Slovenia	19	26	22	26	27	32[d]	33	x(6)	49	49	34	49	a	51	45	35
Spain	30	28	30	28	33	30	34	38	38	38	34	38	a	41	47	37
Sweden	35	36	36	38	37	37	38	39	x(12)	x(12)	44	45	43	43	44	40
Switzerland	a	a	29	31	35	29	36	32	38	44[d]	41[d]	42[d]	x(12)	44	49	37
Türkiye	m	m	m	3	m	21	m	8	18	20	m	19	a	19	26	16
United Kingdom[3]	m	19	19	22	16	16	22	19	19	44	29	29	a	40	37	25
United States	m	m	m	m	31	30	30	31	36	a	34	36	m	m	m	m
OECD average	23	27	26	30	32	34	35	36	39	43	38	41	44	41	40	37
Partner and/or accession countries																
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	12	19	13	21	17	25	19	25	25	24	21	25	24	31	35	26
Bulgaria[2]	a	a	52	40	42	50	48	48	49	50	48	50	42	54	48	47
China	a	a	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia[2]	29	25	29	25	27	37	28	24	34	34	33	34	a	33	34	30
India	a	a	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	29	m	25	m	42	m	34	35	a	m	35	a	m	42	37
Romania[2]	13	29	33	22	30	29	25	26	36	38	32	37	35	32	38	30
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	26	31	31	34	33	37	37	40	43	46	40	45	45	41	40	39
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter D5 Tables for StatLink and Box. D5.1 for the Notes related to this Table/.

Table D5.4. Gender distribution of teachers, by level of education (2022)

Percentage of female teachers in public and private institutions

					Upper secondary				Tertiary			
	Early childhood educational development	Pre-primary	Primary	Lower secondary	General programmes	Vocational programmes	All programmes	Post-secondary non-tertiary	Short-cycle tertiary	Bachelor's, master's and doctoral or equivalent	All tertiary	All levels of education
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Australia	m	m	m	m	m	m	m	m	m	49	m	m
Austria	98	97	92	72	64	50	56	71	52	44	45	67
Belgium	a	96	83	67	64	61	62	47	84	49	50	71
Canada[1]	m	x(3)	75[d]	x(3)	x(7)	x(7)	75	m	53	45	50	m
Chile	99	99	81	69	59	49	57	a	m	m	m	m
Colombia	m	97	77	53	x(7)	x(7)	46	65	41	40	40	60
Costa Rica	84	94	79	58	58	57	58	a	64	45	45	69
Czechia	a	99	94	77	59	59	59	41	59	38	38	76
Denmark	93	93	67	61	53	46	51	a	44	46	46	63
Estonia	x(2)	99[d]	90	82	77	60[d]	70[d]	x(7)	a	49	49	82
Finland	m	97	80	74	69	56	61	56	a	53	53	74
France	a	91	84	60	60	59	60	42	56	43	46	69
Germany	94	94	87	66	60	51	57	60	32	41	41	67
Greece	m	98	75	69	59	57	58	55	a	37	37	68
Hungary	99	99	95	75	69	58	63	58	x(11)	x(11)	42	75
Iceland	91	91	82	82	m	m	m	m	x(10)	55	55	m
Ireland[1]	x(2)	98[d]	85	x(7)	68[d]	a	68[d]	65	x(11)	x(11)	46	78
Israel[1]	m	99	86	79	x(7)	x(7)	71	m	57	47	49	m
Italy	a	99	95	76	69	64[d]	66[d]	x(7)	a	39	39	77
Japan	a	97	64	44	x(7)	x(7)	32[d]	x(7,11)	50[d]	25[d]	30[d]	49
Korea	100	99	77	72	58	51	57	a	47	35	37	63
Latvia	99	99	93	83	83	73	80	68	64	53	54	83
Lithuania	99	99	96	82	80	70	78	67	a	57	57	82
Luxembourg	a	93	74	60	56	49	52	30	49	36	37	66
Mexico	95	96	70	55	51	48	50	a	x(11)	x(11)	44	60
Netherlands	a	88	87	56	56	57	57	a	53	48	48	67
New Zealand	97	97	85	68	62	53	61	53	54	54	54	73
Norway	90	90	74	74	56	56	56	46	46	50	50	67
Poland	a	98	88	76	70	62	65	75	63	48	48	76
Portugal	m	99	81	72	x(7)	x(7)	69[d]	x(7)	x(10)	46[d]	46	71
Slovak Republic	a	100	89	79	73	70	71	64	61	47	47	79
Slovenia	97	96	88[d]	x(3)	66	66	66	a	39	48	47	78
Spain	98	93	78	62	59	53	57	a	52	44	46	65
Sweden	97	96	81	65	x(7)	x(7)	54	47	46	47	47	70
Switzerland	a	97	84	57	49	45[d]	46[d]	x(7)	a	37	37	62
Türkiye	m	94	65	59	53	50	52	a	43	46	46	59
United Kingdom	95	92	86	65	65	m	m	a	x(11)	x(11)	47	m
United States	m	93	87	67	58	a	58	x(11)	x(11)	x(11)	51[d]	70
OECD average	96	96	83	68	63	57	60	56	53	45	46	70
Partner and/or accession countries												
Argentina	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	97	94	87	66	58	50	57	48	44	47	47	70
Bulgaria	a	99	93	81	80	72	76	39	a	52	52	80
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	99	99	94	74	68	68	68	a	x(11)	x(11)	51	73
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	98	98	70	46	46	a	46	a	27	37	37	60
Romania	99	100	93	74	75	71	73	79	a	52	52	79
Saudi Arabia	m	100	53	49	x(7)	x(7)	51	18	27	43	43	52
South Africa	m	m	m	m	m	m	m	m	m	m	m	m
EU25 average	97	97	86	71	67	61	64	57	54	46	47	73
G20 average	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter D5 Tables for StatLink and Box. D5.1 for the Notes related to this Table/.

Table D5.5. Share of teachers by ISCED level, type of contract, experience and qualification status (2014/15 and 2022/23)

Full-time and part-time, public institutions only.

	2022/23												2014/15		
	Pre-primary education				Primary education				Secondary education				Share of other teachers (i.e. non-fully qualified teachers)		
	Fully qualified teachers and new teachers who will be fully qualified after completion of probation period or induction programmes	Of which: % of teachers with less than 5 years of experience	Of which: % of teachers with a fixed-term contract (temporary)	Other teachers (i.e. non-fully qualified teachers)	Fully qualified teachers and new teachers who will be fully qualified after completion of probation period or induction programmes	Of which: % of teachers with less than 5 years of experience	Of which: % of teachers with a fixed-term contract (temporary)	Other teachers (i.e. non-fully qualified teachers)	Fully qualified teachers and new teachers who will be fully qualified after completion of probation period or induction programmes	Of which: % of teachers with less than 5 years of experience	Of which: % of teachers with a fixed-term contract (temporary)	Other teachers (i.e. non-fully qualified teachers)	Pre-primary education	Primary education	Secondary education
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	m	m	m	m	94.7	24.6	18.9	5.3	94.0	25.9	21.3	6.0	m	1.2	3.1
Costa Rica	90.3	m	m	9.7	94.0	m	m	6.0	97.5	m	m	2.5	12.4	6.9	3.8
Denmark[1, 2]	63.2	3.0	m	36.8	71.2	15.0	m	28.8	m	m	m	m	22.6	24.8	m
Estonia	85.3	15.9	1.0	14.7	x(9)	x(10)	x(11)	x(12)	80.9[d]	16.0[d]	4.3[d]	19.1[d]	17.6	x(15)	7.6[d]
France[2, 3]	x(5)	x(6)	x(7)	x(8)	98.7[d]	15.0[d]	0.0[d]	1.3[d]	90.9	13.3	0.0	9.1	x(14)	0.4[d]	7.7
Hungary	100.0	m	9.8	0.0	100.0	m	8.7	0.0	100.0	m	6.5	0.0	0.0	0.0	0.0
Iceland[1]	21.8	31.5	m	78.2	83.1	22.1	m	16.9	80.2	21.2	m	19.8	71.5	4.5	16.3
Ireland	m	m	m	m	100.0	14.7	12.7	0.0	100.0	14.7	17.1	0.0	m	m	m
Japan[2]	100.0	m	23.4	0.0	100.0	m	13.6	0.0	100.0	m	17.5	0.0	0.0	0.0	0.0
Korea	100.0	27.7	32.9	0.0	100.0	15.7	5.8	0.0	100.0	22.9	17.1	0.0	0.0	0.0	0.0
Latvia	94.0	m	a	6.0	m	m	a	m	98.5	m	a	1.5	m	m	m
Lithuania[3]	80.6	7.4	0.0	19.4	92.5	8.5	0.0	7.5	94.5	8.9	0.0	5.5	16.2	6.0	4.9
Netherlands	x(5)	x(6)	x(7)	x(8)	98.1[d]	28.6[d]	10.6[d]	1.9[d]	96.1	31.1	18.7	3.9	m	m	6.0
New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Poland	99.9	16.0	19.4	0.1	99.9	9.7	14.5	0.1	99.4	9.0	13.9	0.6	m	m	m
Slovak Republic	97.8	20.7	18.2	2.2	97.1	12.4	21.3	2.9	98.1	13.1	20.8	1.9	m	m	m
Slovenia[1]	m	m	m	m	96.9	12.6	15.3	3.1	m	m	m	m	m	1.4	m
Sweden	88.2	30.9	3.5	11.8	83.7	17.9	4.3	16.3	78.4	12.5	5.2	21.6	m	m	m
Switzerland	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
United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
OECD average	85.1	19.1	13.5	14.9	94.0	16.4	10.5	6.0	93.9	17.2	11.9	6.1	m	m	m
Other participants															
Flemish Comm. (Belgium)	96.8	m	19.0	3.2	97.3	m	17.9	2.7	93.1	m	15.0	6.9	m	m	m
England (UK)[2]	98.4	m	m	1.6	98.2	m	m	1.8	97.2	m	m	2.8	2.9	1.9	3.7
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	95.7	26.8	15.3	4.3	97.0	17.7	12.6	3.0	96.2	21.4	14.1	3.8	0.3	1.2	2.1
Romania	97.4	1.9	24.7	2.6	98.5	1.1	18.4	1.5	98.0	0.8	33.4	2.0	2.5	1.5	1.4
EU25 average	90.3	15.7	12.4	9.7	94.6	15.0	11.8	5.4	94.1	15.3	13.0	5.9	m	m	m
G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See under Chapter D5 Tables for StatLink and Box. D5.1 for the Notes related to this Table/.

Box D5.1. Notes for Chapter D5 Tables

Table D5.1 Pathways to becoming a fully qualified teacher in secondary education (2022/23)

Selectiveness at the entry into initial teacher education and during studies, where it exists, may take the form of competitive examinations, standardised test results, grade point averages in secondary school or upper secondary school examinations, or interviews. In some countries, several of these criteria are used to select students.

1. Primary and lower secondary education combined.
2. Reference year differs from 2022/23: academic year 2021/22 for Denmark, Japan, United States and England (UK) and calendar year 2021 for New Zealand.

Table D5.2 Share of teachers below the age of 30, by level of education (2022)

All levels of education exclude early childhood educational development.

1. For Canada, tertiary level values include only public institutions. For Ireland, values for all levels except pre-primary education include only public institutions. For Israel, values for pre-primary, lower secondary, upper secondary and all tertiary include only public institutions.
2. Year of reference differs from 2013: 2014 for Bulgaria and Croatia; and 2015 for Hungary and Romania.
3. Upper secondary vocational programmes include vocational programmes at other levels of education.

Table D2.3. Average class size, by level of education and type of institution (2013 and 2022)

Share of teachers aged 50 and over, by level of education (2013 and 2022)

1. For Canada, tertiary level values include only public institutions. For Ireland, values for all levels except pre-primary education include only public institutions. For Israel, values for pre-primary, lower secondary, upper secondary and all tertiary include only public institutions.
2. Year of reference differs from 2013: 2014 for Bulgaria and Croatia; and 2015 for Hungary and Romania.
3. Upper secondary vocational programmes include vocational programmes at other levels of education.

Table D5.4 Gender distribution of teachers by level of education (2022)

1. For Canada, tertiary level values include only public institutions. For Ireland, values for all levels except pre-primary education include only public institutions. For Israel, values for pre-primary, lower secondary, upper secondary, short-cycle tertiary and all tertiary include only public institutions.

Table D5.5 Share of teachers by type of contract, experience and work status, by ISCED levels (2022/23)

1. Primary and lower secondary education combined.
2. Reference year: academic year 2021/22 for Denmark, France, Japan and England (UK).
3. Reference year for trends: academic year 2012/13 for the United States, 2015/16 for France and 2018/19 for Lithuania.

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

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

Chapter D6 How are the views of parents and students formally represented in the education system?

Highlights

- Although formal requirements regarding parent representation on school governing boards are common in public schools and government-dependent private schools, they are less common in independent private schools.
- Student participation or representation on school governing boards is less frequently required than for parents and requirements on student representation vary widely by education level, generally increasing at higher levels of education.
- Over two-thirds of countries and other participants report equity as a rationale for having students participate in decisions made by public schools; in over half of countries, students' sense of belonging and self-efficacy are also cited as rationales behind such participation.

Context

Parents and legal guardians of children have long been at the centre of research into the influence external actors can have on decisions taken within education systems. Over time, the scope of enquiry has expanded to include students. Today opportunities for students to be heard by and to influence decision makers had become a significant subject of discussion (OECD, 2024[1]). Analysing the role of outside influences on decision making in education systems thus requires both parents' and students' voices to be considered.

Opportunities for parents and students to influence decision making in education are evolving. In addition to gradual changes in how parents and legal guardians can participate in and influence decisions affecting students' education (see Box D6.1 on changes between 2008 and 2023), it is increasingly important to consider the lens through which society and policy makers view parent and student agency and voice in education. In particular, international conventions dealing with the rights of children, national education law and cross-country studies suggest that there are important links between the right of children to express their views and opinions and the pursuit of equity in education and beyond (see Box D6.2).

The data and analysis presented in this chapter are based on the text of official documents, formal policies and regulations of countries and other participants. Although this approach makes it easier to make international comparisons of qualitative data, it may not capture some forms of voice, participation

and expression in easily comparable categorical form. To give a fuller picture of parent and student participation in OECD countries and other participants, the chapter supplements the analysis with few country-specific examples.

Figure D6.1. Parental and student involvement in school governing boards (2023)

Public schools at primary and secondary levels of education

Parents				Students		
Primary	Lower secondary	Upper secondary		Primary	Lower secondary	Upper secondary
m	m	m	Australia	m	m	m
			Austria	o		
			Brazil			
			Bulgaria	o	o	o
			Chile[1]	•		
			Colombia			
			Costa Rica			
			Czechia[2]	x	x	•
		x	Denmark			
			Estonia	•	o	
			Finland			
			France	x		
			Germany			
			Greece	x	x	o
			Iceland			
			Ireland	x	x	x
•	•	•	Israel			
			Italy	x	x	
			Japan[3]	•	•	•
			Korea	o	o	o
			Latvia			
			Lithuania[4]	•	•	•
			Luxembourg	x		
			Netherlands	x		
			New Zealand	x		
			Norway[3]			
			Peru			
			Poland			
			Romania			
			Slovak Republic	x	x	x
			Slovenia	x	x	
			Spain	o		
			Sweden			
			Switzerland			
•	•	•	Türkiye			
			United States			
			Flemish Comm. (Belgium)	x		
			French Comm. (Belgium)			
			England (UK)	x	x	x

Legend

	Board required, participation required
o	Board required, participation optional
x	Board required, participation not required
	Board not required, but may exist
	Board does not exist
•	Other

Note: Regulations may differ between states, provinces or regions in federal states or countries with highly decentralised school systems.
1. Other refers to student participation through the representation of the president of the student council.
2. Other refers to differences in student participation depending on the age of students (above or below the age of 18).

3. Other refers to the fact that school governing boards (school councils) are required but student participation requirements are decided at school level.
See Table D6.1 and Table D6.2 for data and under Chapter D6 Tables for Statlink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Other findings

- Parent associations are active in all 39 countries, while the vast majority of them have at least one type of advisory body involving students; in fact, all but 2 countries and other participants have student boards or councils. In contrast, student unions are found in slightly over half, and parent-teacher associations in just one-quarter of these countries.
- Parents' influence, as expressed through governing and advisory bodies, is most commonly exercised in the areas of school budgets and disciplinary action. The types of decisions and degree of influence that students can exercise over different areas vary between countries but are generally more limited than those of parents.
- The typical grievance mechanism most countries and other participants use to address and resolve concerns about education is a formal complaints process. Fewer countries report having a designated agency for receiving complaints, while a designated ombudsperson is the least commonly used channel for challenging decisions.

Analysis

This chapter examines the ways in which parents and students can express their views or take part in decision making in education. These could be through governing and advisory bodies within schools or at different levels of government, i.e. through formal bodies recognised in regulations or policies at the central or national level. It is also common for parents and students to express their views informally, especially by directly communicating with teachers and school administrators.

Even among countries with similar regulations and similar mechanisms to enable parents and students to take part in school decisions, there are likely to be wide differences in the extent to which parents and students make use of these formal mechanisms. This chapter reviews the differences in formal mechanisms across countries but does not cover the actual participation and roles of parents and students in practice.

The involvement of students and parents has relevance not just for equity (see *Context* Section and Box D6.2), but also for student well-being (OECD, 2023[2]) and educational attainment (see Chapter A1). Students' involvement in the life of the school or in the education systems may also ease their future involvement in the labour market (see Chapter A3 for information on labour market outcomes).

Participation of parents and students in governing boards

Existence of governing boards

Governing boards are school-level groups that have a direct role in decisions about the school's budgets, hiring and firing of staff, curriculum, and other aspects of school management. They play a key role in setting policies and decision making in schools. The first and foundational way of investigating parents' and students' participation in decision making in education is to look at whether schools are formally required to install a governing board, and what the opportunities are for parents and students to take part in such a board or have their views considered by it.

Schools have governing boards in most of the 38 countries and other participants with available data, with no difference in the existence of – or requirement to set up – governing boards at different levels of education. Only Australia lacks information about requirements for governing boards (for all types of institutions and at any level of education), as state and territory-level government are charged with setting the relevant regulations. The similarities across education levels may result from the fact that schools may cover several levels of education, with governing bodies established at school level taking decisions for all levels of education served by the school (Figure D6.1).

However, there are notable differences in the requirements to set up governing boards by type of educational institution. Public institutions are required to install governing boards in 28 countries and other participants, or roughly three-quarters of the aforementioned 38 countries. A lower proportion of countries require private schools to set up governing boards: among countries where government-dependent private institutions for a given education level exist, requirements to install governing boards exist in around two-thirds of them, ranging from 62% at primary level (13 out of 21 countries) to 65% at lower secondary level (15 out of 23 countries). Central government policies requiring the installation of governing boards are least common for independent private schools, with less than half of countries requiring them for any level of education (Table D6.1).

Governing board participation requirements

Information on the requirements for the representation of parents and students in governing boards is only available when governing boards are required in the schools. The analysis that follows therefore focuses on countries and other participants with such requirements.

Participation requirements for parents

When governing boards are required in schools, parents' participation in these governing boards is also required. This is true for public and government-dependent and independent private institutions at all levels of education in nearly all countries where governing boards are required. The only exception is Denmark, where there is no requirement for parent representation in the governing boards that public upper secondary schools are required to have. Comparing across educational institution types, parent representation is required in (required) governing boards in slightly less than three-quarter of countries with public institutions, in less than two-thirds of the countries with government-dependent private schools and available data, and also in about one-third of countries with independent private institutions (Table D6.1).

In some countries, the regulations requiring the representation of parents on governing boards indicate a minimum (and maximum) number of seats for parents. For public institutions, 16 countries set a minimum number of seats for each level of education (3 additional countries report a minimum at some levels only). This number is usually similar for all levels of education, ranging from one seat (Chile, and Greece) to five seats (Costa Rica, Denmark and Israel). A higher minimum of 6 seats is even set at lower secondary level in France. However, in a few countries, the minimum representation varies by level of education. For example, in Iceland, parent representatives have a minimum of two seats on the governing boards of schools at primary and lower secondary schools, but only one seat at upper secondary level. A few countries express these minimums as a share of the overall number of seats (Czechia, Estonia, Korea, Latvia and Spain) or based on the number of classes in the school (France). Nearly three-quarters of the countries (14 out of 19) which set a minimum also set a maximum for parents' representation in governing boards of public schools. It is usually higher than the minimum (up to 17 seats in Israel), but in Colombia, Costa Rica, England (United Kingdom), Greece, Ireland, the Slovak Republic and Slovenia there is simply a fixed number of seats for parents, rather than a range (Table D6.3, available on line). The countries which have private schools and require them to have boards with parental representation usually also set the minimum and maximum numbers of seats for parents on these boards (Table D6.3, available on line).

Participation requirements for students

Contrary to parents, the participation of students in governing boards is not necessarily required when governing boards are required in public schools. For example, at the lower secondary level, among the 28 countries and other participants where public schools are required to have governing boards, student participation is required in 17 of them (63%) and is optional in Bulgaria, Estonia and Korea (11%). In the remaining 8 countries (26%), student participation is not required by regulations set at the central level of government, but may be established at local or regional level, such as in Lithuania (Figure D6.1). In private schools (government-dependent and independent), a similar pattern is observed. Among the countries where a governing board is required, the representation of students in this board is required or optional in about three-quarters of them (Table D6.2).

Student participation in governing boards is more often required at higher levels of education. Among the 38 countries with available data on public schools, the share of countries reporting that public schools are obliged to install a governing board in which students can participate (whether it is required or optional), varies by level of education from 34% at primary level (13 out of 38 countries), to half at lower secondary level (20 out of 38 countries), and 55% at upper secondary level (21 out of 38 countries). At primary level, although students are young, their representation is required in 9 of the 13 countries, whereas it is required in 17 of the 20 countries at lower secondary level and 20 of the 23 countries at the upper secondary level. For example, in Italy and Slovenia, student representation is only required at upper secondary level. No country requires student participation at the lowest levels without also requiring it at higher levels. In other countries not requiring a governing board in public schools, these boards may exist, though information on student participation in such boards is not available. This is the case in an additional 13 countries at primary level and 8 countries at both lower and upper secondary level (Table D6.2).

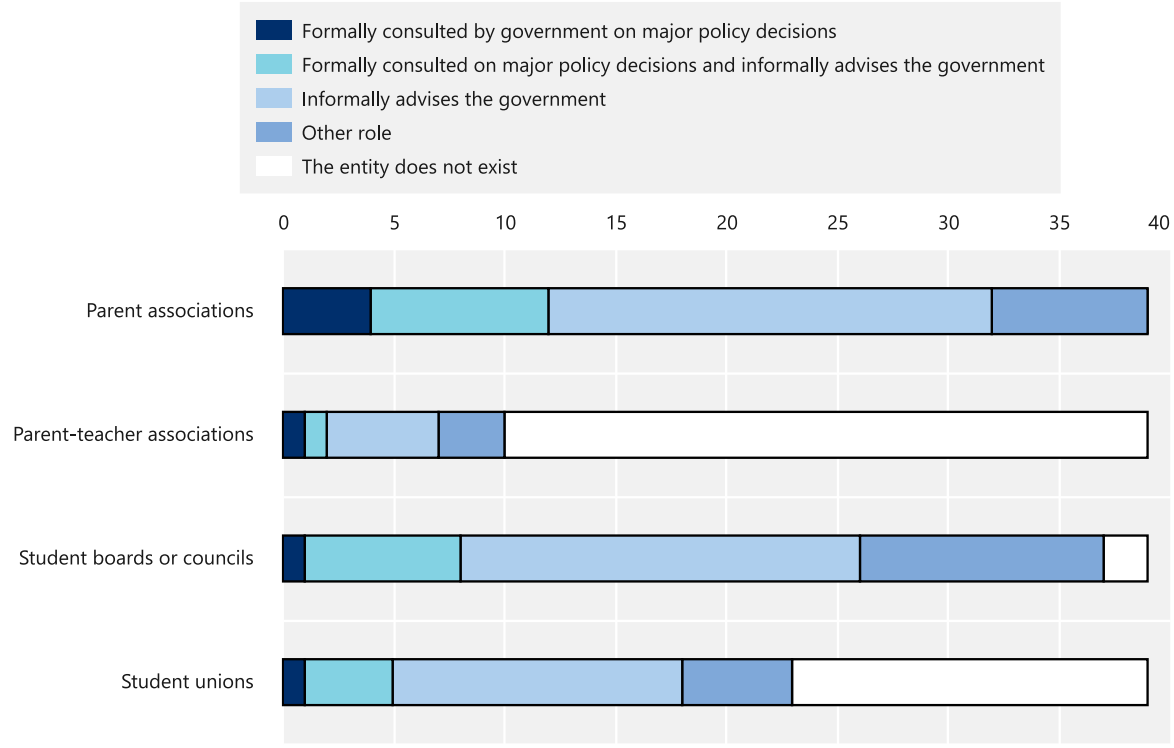
As well as differences between education levels, governing board participation requirements also differs between parents and students. While parents representation in governing boards of public schools is required or optional in more than 70% of countries at each level of education (27 to 28 out of 38 countries depending on the level of education), this is only the case for student representation in about one-third of countries (varying between levels of education, from 13 out of 38 or 34% of countries at primary level to 23 out of 38 or 61% of countries at upper secondary level). Furthermore, unlike for parents, whose participation is always required when schools are formally obliged to install a governing board, student participation on these boards may only be optional (Table D6.1 and Table D6.2).

Participation of parents and students in advisory bodies

Parents and students also influence education system decision makers through advisory bodies, whose main roles are to monitor, advise and relay information from governing bodies. This section discusses two types of advisory bodies involving parents (parent associations and parent-teacher associations) and two types involving students (students unions and student boards or councils). A common characteristic of parent and student advisory bodies is that they lack decision-making authority at the level of the education institution; otherwise, these entities vary very widely across countries in terms of their roles and the level of governance at which they operate.

Figure D6.2. Roles of advisory bodies in which parents or students can take part (2023)

Number of countries and other participants at primary and secondary levels



Note: Advisory bodies do not exercise decision-making power; they have a formal role (being consulted by government), an informal role (advising the government), both a formal and informal role, or provide information to their members. This distinction is not made in the figure. Advisory bodies with "other roles" can either have no defined role or only provide information to their members.
See Tables D6.5, D6.6, D6.7 and D6.8, available online for data and under Chapter D6 Tables for Statlink. For more information see *Source* section and *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Some types of advisory body operate at all governance levels in a country. In Germany and Spain for example, parent associations and student boards (or councils) can be found from the national and regional levels to the local and school levels, for both public and government-dependent private institutions. In other countries, these entities might only exist at some education levels: in Chile, for example, parent associations and student boards (or councils) only operate at school level.

Advisory bodies also vary in terms of the type of role they play (Figure D6.2). For instance, they can wield sizeable influence in countries where decision makers are formally obliged to consult them on significant policy decisions. Their roles range from being primarily informational (raising awareness among parents or students of new developments affecting education) to informal (advising government, even though governments are not required to consult them), to formal (government must consult them in the development of major policies). The specific types of advisory bodies available to parents and students, as well as the roles they play, thus vary widely across countries.

Advisory bodies for parents

Parent associations exist in more than three times as many countries as parent-teacher associations. For public schools, parent associations exist in all 38 countries and other participants with data. Parent-teacher associations, on the other hand, are only found in 8 of 37 countries and other participants with available

data. Both parent and parent-teacher associations also exist for private institutions, with parent associations more prevalent than parent-teacher associations. For government-dependent private institutions, 25 countries and other participants have parent associations, and 3 of them also have parent-teacher associations. For independent private schools, 23 countries have parent associations, and 6 of these also have parent-teacher associations (Tables D6.5 and D6.6, available on line).

The roles of parent associations vary from country to country (specification by institution type within countries is not available). Parent associations have an exclusively formal role (government must consult them in the development of major policies) in Ireland, Latvia, Lithuania and Peru, and both a formal and an informal role in Colombia, the Flemish Community of Belgium, France, Iceland, Norway, Poland, Romania and Spain. Their role may change from formal to informal depending on the level of government at which they are consulted. Taken together, these 12 countries and other participants account for just under one-third of countries in which parent associations exist and play a consultative role. In another 20 countries where parent associations have a consultative role, it is only informal. Finally, in seven countries (Australia, Brazil, Chile, Costa Rica, Estonia, the Slovak Republic and Türkiye), parent associations play other roles. For example, in Brazil, parent associations (at the school level) inform parents about relevant developments in education, and usually play an important role at this governance level (Figure D6.2 and Table D6.5, available online).

The roles of parent-teacher associations are similarly diverse, but this type of advisory body only exists in public institutions of 8 out of 37 countries and other participants with available data. Parent-teacher associations in Poland have both formal and informal roles, while in Latvia, they only have a formal consultative role (and also a role in informing parents). In Denmark, England (United Kingdom), Japan, New Zealand and the United States, parent-teacher associations have an informal role, while in Brazil and Romania they have no role advising government but may provide information to parents (Table D6.6, available on line).

Box D6.1. Trends in parents' opportunities to exercise their voice

Information on the way parents can express their views or take part in decision making in education through governance and advisory bodies was first collected and published in *Education at a Glance 2010* (OECD, 2010[3]). At the time, parent voice was presented alongside the topic of school choice, the two being seen as the options available to consumers when facing deteriorating quality of goods or services (Hirschman, 1970[4]). Presented as substitutes for one another, having different ways to express their views was considered to reduce the likelihood of parents opting for school choice. Conversely, scarcity of school choice made it more likely parents would exercise their voice.

This chapter covers similar themes to those in *Education at a Glance 2010*. Themes common to both include the existence of governing boards and requirements for parents to be able to participate.

Among the 39 countries and other participants providing data for 2023, 30 provided comparable data for 2008 (Hungary, Mexico and Scotland [United Kingdom] participated in the 2008 data collection, but not in the latest round). Of these 30, the requirement for schools to install a governing board changed in 4 countries and other participants, increasing the opportunities for parents to express their views. In Brazil, parent representation on governing boards is now required, whereas schools were not even obliged to have a governing board before 2008. In comparison, school governing boards were already required in 2008 in the French Community of Belgium, Luxembourg and the Netherlands but all three countries have since made it a requirement that parents can participate in them.

Changes in the prevalence of parent associations in public schools have been more limited: the Slovak Republic is the only country to report the presence of such advisory bodies in 2023 but not in 2008. However in some cases the roles of parent associations have changed over this period:

England (United Kingdom), the Flemish Community of Belgium and Korea each report that parent associations have at least an informal role in 2023 in providing advice to government. The opposite trend was observed in Brazil and Sweden: parent associations are reported to have an informal advisory role in 2008, but this is no longer the case in 2023.

The availability of formal complaint processes for parents (as provided for in regulations) has also remained almost unchanged between 2008 and 2023 among countries with available information for both years. Korea is the only country to report the existence of regulations providing a formal process for parents to file complaints in 2023 but not in 2008. In contrast, Estonia and Sweden are the only countries which reported having a formal complaints process for parents in 2008 but not in 2023.

Source: OECD (2010[3]), *Education at a Glance 2010*, https://doi.org/10.1787/eag-2010-en.

Advisory bodies for students

In most countries with available information, students in public school can participate in at least one advisory body, either a student board/council or a student union. While the existence of student boards/councils is broadly consistent for all education levels in a given country, student unions frequently do not exist at all levels of education. Student boards (or councils) exist (at all or some levels of education) in most countries (in all 39 countries and other participants except for Colombia and Costa Rica); whereas student unions exist (at all or some levels of education) in less than two-thirds of countries (23 out of 38 countries with available data). Similar trends can be observed in government-dependent and independent private schools. However, based on available data, it is not possible to distinguish the different roles these bodies might play for public or private institutions (Tables D6.7 and D6.8, available on line).

In public schools, student boards (or councils) and student unions can each be found in at least half of countries and other participants. Among the other 37 countries and participants where the student boards (or councils) exist, they usually have an informal role (at the school level or at the local, regional or central level of government). In Bulgaria, Denmark, France, Iceland, Latvia, Romania and Spain these boards also have a formal role, requiring the government to consult them on major policy decision. They have only a formal role (at the regional level) in the Flemish Community of Belgium (Table D6.7, available on line).

Student unions are also widespread, with well over half of countries and other participants (23 of 38 countries) reporting that they exist in public schools. In almost three-quarters of the countries where they exist, student unions have either an informal or a formal role advising government, or both. Although less common than student boards (or councils), they are more likely to have some kind of formal or informal role (or both) advising government, according to official documents (Table D6.8, available on line).

Impact and policy relevance

The specific areas of decision making that are addressed by governance and advisory bodies (for example budgets, disciplinary actions, and school day timetables, among others), adds important nuance when considering the potential impact that parents and students can have through these bodies (when they participate). This impact also depends on whether parents and students have a decision role (the power to block or approve decisions), or only an advisory role.

Information on the role of parents and students in decision making on different areas is only available for the participation of students and parents in all types of governance and advisory bodies combined. It is not possible to distinguish the extent of the decision power in specific bodies.

Areas of impact

Among the seven categories of decision making considered (disciplinary actions, school day timetable, content of curriculum, regulation of assessments and examinations, budgets, hiring and firing, and other areas), budget issues and disciplinary actions are the most common areas where parents have a decision role in public schools. Parents play this role in at least one of these two decision-making areas in 9-13 countries and other participants (depending on the decision-making area). In eight of them (Bulgaria, Colombia, Denmark, England [United Kingdom], France, Ireland, New Zealand and Slovenia), they have decision power over both categories. In the other areas, parents play a decision role in two countries (on regulation of assessments and examinations) to six countries (on school day timetable) (Table D6.9, available on line).

Through governance and advisory bodies of public institutions, parents also have a formal advisory role (meaning governments have to consult them) on budget issues in a further 12 countries. This area is also that for which parents are more often formally consulted. This falls to nine countries (for decisions about school day timetables) and fewer still for other types of decision. Considering both decision and formal advice roles together, budget issues and disciplinary action are the two areas where parents play some role in the most countries (Table D6.9, available on line).

The role and influence of students though their participation in governance and advisory bodies also vary by subject area. Like parents, students on these bodies can either have a decision role or can be formally consulted by government on major policy decisions. The most widespread area where students play a decision role is around decisions related to disciplinary actions (in eight countries). Students may be most widely involved in decisions on these areas as these are typically students' issues. Students are also involved in decisions related to the school day timetable in four countries (Austria, Denmark, Germany and the Netherlands), and on budgetary issues in four countries (Colombia, Costa Rica, Denmark and New Zealand). For other areas, they only take part in decisions in one or two countries each (Table D6.10, available on line).

Students play a formal advisory role through participation in governance and advisory bodies over all areas in a handful of countries. They contribute to formal advice related to disciplinary actions, school day timetable, the content of curriculum, the regulation of assessments and examinations, or budget issues in 6-8 countries. Hiring and firing is the one area in which they are less involved, playing a decision role in only one country, and not playing an advisory role in any (Table D6.10, available on line).

Participation in decisions and student development

Policies providing for student participation in decisions at school can be connected to areas of student development that matter to parents and policy makers. In fact, research finds that the meaningful participation of children in decision-making processes brings them benefits ranging from increased well-being to greater motivation and achievement (OECD, 2024[1]).

Among the 37 countries with available data, information collected supports these findings, showing that governments consider equity among students to be relevant when developing policies on student participation. Nearly three-quarters of countries and other participants with available data (27 out of 37) report equity as a basis for student participation in the decision making of public schools for at least one levels of education. Of these, 19 (70%) consider equity as a rationale for student participation in decision making at all levels. In five others, equity is considered at secondary level (in France, Greece, Norway and Poland) or at upper secondary only (in Italy) (Table D6.12, available on line). Box D6.2 considers how equity and participation can be embedded into national legislation with an example from Czechia.

Box D6.2. Equity and participation in decision making

Opportunities for parents and students to participate in policy development promote a shared understanding amongst relevant stakeholders about the goals, means and concepts that education systems adopt (OECD, 2023[1]).

Principles for both equity and stakeholder participation in education governance can be found in international treaties, declarations and conventions. Adopted in 2019, the Abidjan Principles compile and provide guidance to governments about the obligation of countries to provide public education (Abidjan Principles, 2019[5]). Notably, Principle 32 addresses stakeholder participation in educational governance and specifies the requirement for education to be "accountable, participatory, inclusive and transparent" (OECD, 2023[2]).

Although having parents participate in decisions related to the education of their children is not new, there is an increasing focus on students' ability to influence their education and on the relevance to equity of such a participatory approach to decision making.

Legislation and regulations at national government level also reflect the link between equity and participation in decision making. In Czechia, for example, the main law governing education establishes "equal access […] to education without any discrimination on the grounds of race, colour, sex, language, faith and religion, nationality, ethnic or social origin, property, birth and health or any other status…" among the principles and goals of education (Ministry of Education, Youth and Sports, 2004[6]). The legislation then sets out the rights and duties that may give effect to such objectives. Those for pupils and students explicitly entitle students of legal age to be elected to the School Board, to establish self-governing bodies, the opinions and comments of which head teachers are obliged to address, and to "express their opinions on all decisions concerning essential matter of their education, whilst their opinions must be devoted attention appropriate to their age and development level" (Ministry of Education, Youth and Sports, 2004[6]). The link between students' participation and self-expression and equity in education law in Czechia demonstrates how principles and entitlements expressed in international agreements and conventions can relate to the design of education policy at national level, recalling the "right to express […] views freely in all matters affecting the child, the views of the child being given due weight in accordance with the age and maturity of the child" set forth in the *Convention on the Rights of the Child* (UN, 1989[7]).

Source: The Abidjan Principles (2019[5]) , *Abidjan Principles on the Right to Education*, https://www.abidjanprnciples.org (accessed 02 June 2024).

Students' sense of belonging and self-efficacy are also factored into considerations of policies on student participation in decision making in public schools. These two rationales were less frequently cited than equity but over half of countries and other participants (23 out of 39) indicated that fostering a sense of belonging was a rationale for policies enabling student participation, while just over half (20 out of 39) reported the same for self-efficacy (Table D6.12, available on line).

More than one-third of the countries and other participants cited all three areas (equity, sense of belonging and self-efficacy) at all levels in public education as a rationale for enabling student participation in decision making. In Türkiye, all three areas are cited, although self-efficacy is only specified as applying in secondary education. All three also serve as a basis for policies in France, Greece and Poland, but only at secondary level (Table D6.12, available on line).

The results for government-dependent and independent private schools are similar to those for public schools. Equity is most often cited as the basis for participation policies for government-dependent private institutions (in 14 countries) and independent private institutions (in 12 countries). However, students' sense of belonging and self-efficacy together come a close second. For both types of educational institutions, sense of belonging and self-efficacy are cited as part of the basis for involving students in decisions in 10 or 11 countries (Table D6.12, available on line).

Formal processes and mechanisms available to file complaints or appeal decisions

Channels and mechanisms

Education systems differ in the channels and mechanisms available to parents and students with grievances about education. Systems to file complaints and grievances can include the recourse to a formal process, or a designated ombudsperson or agency to receive complaints. Whether and how students participate in grievance actions initiated by parents may also vary across countries.

Parents can file complaints related to public schools through formal processes in over three-quarters of countries and other participants (33 countries), while the use of a designated agency is reported in nearly two-thirds of countries (25 countries). A designated ombudsperson to deal with complaints, is also available to parents in half of countries (20 out of 39 countries) (Table D6.11, available on line).

Among countries where a formal channel to lodge complaints is available to parents, at least two-thirds provide for student participation in the corresponding channel. When there is a formal process for parents to lodge complaints related to public institutions, 21 out of 33 countries require or allow student participation in this process. Student participation is optional or required in 14 out of 20 countries with designated ombudspersons and in 17 out of 25 countries with agencies for complaints filed by parents about public schools (Table D6.11, available on line).

The prevalence of the three different mechanisms to file complaints related to private institutions, whether government dependent or independent, is similar to that of public institutions. A formal process to file complaints is available in most countries (in 19 or 22 countries, depending on the type of private school). A designated agency can receive complaints in 13 or 18 countries, while a designated ombudsperson is available to receive complaints in 11 or 13 countries. Student participation is less often required for private institutions than for public institutions. Across the three different complaints mechanisms, student participation is required in a maximum of three countries for complaints related to government-dependent or independent private institutions. However, as with public institutions, student participation is either required or optional for both types of private institutions in more than 45% of countries (Table D6.11, available on line).

Areas of decision making that can be appealed

Parents may have the right to appeal some types of education decisions. Which types of decision can be challenged varies by country, ranging from disciplinary actions to decisions about special needs provision, or a school's refusal to enrol a student. In addition, the level of governance responsible for receiving and addressing complaints can vary significantly. Among the 37 countries and other participants with available data on public institutions, parents can appeal decisions made by schools in at least one area of decision making in all these countries except Japan. Parents can challenge disciplinary actions (such as expulsion or suspension of students) taken by public schools in 35 of the 36 countries where parental access to appeal generally exists (Denmark is the only exception). Decisions related to special needs provision or refusal to enrol are also subject to appeal by parents in a large number of countries (32 countries or more). Access to appeal in other areas, such as school fees and the regulation of assessments and examinations are less widespread. Nevertheless, even these two types of decisions can be appealed by parents in at

least one half of countries. The type of decision that is least frequently open to appeal is on school fees and voluntary financial contributions, with parents able to appeal in just 20 countries (Table D6.13, available on line).

Among countries with available data on government-dependent or independent private institutions, decisions by private schools can be appealed by parents in at least in one area of decisions in all countries except in Denmark. For government-dependent private schools, decisions related to disciplinary actions are open to challenge by parents in most countries. This is not the case for independent private schools, where decisions concerning special needs provision can be appealed by parents in all 20 countries where parental appeal is possible. Decisions related to special needs provision, school fees and voluntary financial contributions, regulation of assessments and examinations, disciplinary actions and to refusal to enrol can be appealed in 14 to 21 countries when these decisions take place in government-dependent private institutions, and in 14 to 20 countries when they take place in independent private schools (Table D6.13, available on line).

Definitions

Equity refers to student participation creating the opportunity for all students to have a say in what, when and how they learn, regardless of their background or socio-economic status or that of their family.

Sense of belonging refers to students' "need to form and maintain at least a minimum number of interpersonal relationships" based on trust, acceptance, love and support.

Self-efficacy refers to the extent to which individuals believe in their own ability to engage in certain activities and perform specific tasks, especially when facing adverse circumstances.

Governance as a form of voice occurs when parents or students serve on boards or councils with a direct role in making decisions about, *inter alia*, budgets, hiring and firing, curriculum, and school policies.

Advising (non-governance) as a form of voice occurs when parents or students participate in associations, boards, councils or unions through which they may express their wants, needs or desires to those with direct decision-making authority.

Complaint/grievance as a form of voice occurs when parents or students can express their concerns about education with a representative of an education institution or education authorities, in a formal complaint, or submitted in request for appeal of a decision affecting the education of a student. Such acts usually occur on the initiative of parents but may enable or require the participation of student. Regulations may provide for students having reached the age of legal majority before they can initiate such action independently.

Methodology

For country-specific notes, see *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (OECD, 2024).

Source

Data are from the 2023 OECD-INES-NESLI survey on student/parent voice and refer to the school year 2022/23 (or 2023).

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Chapter D6 Tables

Tables Chapter D6. How are the views of parents and students formally represented in the education system?

StatLink https://stat.link/p2yozs

Cut-off date for the data: 14 June 2024.

Table D6.1. Requirement for schools to have a governing board in which parents can take part (2023)

By level of education and type of institution

	Primary			Lower secondary			Upper secondary		
	Public schools	Government-dependent private schools	Independent private schools	Public schools	Government-dependent private schools	Independent private schools	Public schools	Government-dependent private schools	Independent private schools
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Australia	m	m	a	m	m	a	m	m	a
Austria	Y (par. req.)	Y (par. req.)	m	Y (par. req.)	Y (par. req.)	m	Y (par. req.)	Y (par. req.)	m
Canada	m	m	m	m	m	m	m	m	m
Chile	Y (par. req.)	Y (par. req.)	N (may exist)	Y (par. req.)	Y (par. req.)	N (may exist)	Y (par. req.)	Y (par. req.)	N (may exist)
Colombia	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a	Y (par. req.)
Costa Rica	Y (par. req.)	N	N	Y (par. req.)	N	N	Y (par. req.)	N	N
Czechia	Y (par. req.)	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a
Denmark	Y (par. req.)	Y (par. req.)	N (may exist)	Y (par. req.)	Y (par. req.)	N (may exist)	Y (par. not req.)	m	m
Estonia	Y (par. req.)	Y (par. req.)	Y (par. req.)	Y (par. req.)	Y (par. req.)	Y (par. req.)	Y (par. req.)	Y (par. req.)	Y (par. req.)
Finland	N (may exist)	N (may exist)	a	N (may exist)	N (may exist)	a	N (may exist)	N (may exist)	a
France	Y (par. req.)	N (may exist)	N (may exist)	Y (par. req.)	N (may exist)	N (may exist)	Y (par. req.)	N (may exist)	N (may exist)
Germany	Y (par. req.)	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a
Greece	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a	Y (par. req.)
Hungary	m	m	m	m	m	m	m	m	m
Iceland	Y (par. req.)	Y (par. req.)	Y (par. req.)	Y (par. req.)	Y (par. req.)	Y (par. req.)	Y (par. req.)	Y (par. req.)	Y (par. req.)
Ireland	Y (par. req.)	a	N (may exist)	Y (par. req.)	Y (par. req.)	N (may exist)	Y (par. req.)	Y (par. req.)	N (may exist)
Israel	Other	Other	a	Other	Other	a	Other	Other	a
Italy	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a	Y (par. req.)
Japan	N (may exist)	a	N (may exist)	N (may exist)	a	N (may exist)	N (may exist)	a	N (may exist)
Korea	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a
Latvia	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a	Y (par. req.)
Lithuania	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a	Y (par. req.)
Luxembourg	Y (par. req.)	N (may exist)	N (may exist)	Y (par. req.)	N (may exist)	N (may exist)	Y (par. req.)	N (may exist)	N (may exist)
Mexico	m	m	m	m	m	m	m	m	m
Netherlands	Y (par. req.)	Y (par. req.)	N (may exist)	Y (par. req.)	Y (par. req.)	N (may exist)	Y (par. req.)	Y (par. req.)	N (may exist)
New Zealand	Y (par. req.)	a	N (may exist)	Y (par. req.)	a	N (may exist)	Y (par. req.)	a	N (may exist)
Norway	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)
Poland	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)
Portugal	m	m	m	m	m	m	m	m	m
Slovak Republic	Y (par. req.)	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a
Slovenia	Y (par. req.)	m	m	Y (par. req.)	m	m	Y (par. req.)	m	m
Spain	Y (par. req.)	Y (par. req.)	N (may exist)	Y (par. req.)	Y (par. req.)	N (may exist)	Y (par. req.)	Y (par. req.)	N (may exist)
Sweden	N (may exist)	N (may exist)	m	N (may exist)	N (may exist)	m	N (may exist)	N (may exist)	m
Switzerland	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)
Türkiye	Other	a	Other	Other	a	Other	Other	a	Other
United States	N (may exist)	a	N (may exist)	N (may exist)	a	N (may exist)	N (may exist)	a	N (may exist)
Other participants									
Flemish Comm. (Belgium)[1]	Y (par. req.)	Y (par. req.)	Other	Y (par. req.)	Y (par. req.)	Other	Y (par. req.)	Y (par. req.)	Other
French Comm. (Belgium)	Y (par. req.)	Y (par. req.)	m	Y (par. req.)	Y (par. req.)	m	Y (par. req.)	Y (par. req.)	m
England (UK)	Y (par. req.)	Y (par. req.)	N (may exist)	Y (par. req.)	Y (par. req.)	N (may exist)	Y (par. req.)	Y (par. req.)	N (may exist)
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	Y (par. req.)	a	N (may exist)	Y (par. req.)	a	N (may exist)	Y (par. req.)	a	N (may exist)
Bulgaria	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a	Y (par. req.)	Y (par. req.)	a	Y (par. req.)
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	N	a	Other	N	a	Other	N	a	Other
Romania	Y (par. req.)	a	m	Y (par. req.)	a	m	Y (par. req.)	a	m
Saudi Arabia	m	m	m	m	m	m	m	m	m
South Africa	m	m	m	m	m	m	m	m	m

Are schools required to have a governing board and should parents be represented on them?

Y (par. req.) – Yes, governing board is required and some parent representation is required
Y (par. opt.) – Yes, governing board is required and parent representation is optional
Y (par. not req.) – Yes, governing board is required, but without requirement on parent representation.
N (may exist) – No, governing board not required, although they may exist
N – No such governing boards exist

Note: See under Chapter D6 Tables for statlink and Box D6.3. for the notes related to this Table.

Table D6.2. Requirement for schools to have a governing board in which students can take part (2023)

By level of education and type of institution

	Primary			Lower secondary			Upper secondary		
	Public schools	Government-dependent private schools	Independent private schools	Public schools	Government-dependent private schools	Independent private schools	Public schools	Government-dependent private schools	Independent private schools
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Australia	m	m	a	m	m	a	m	m	a
Austria	Y (stud. opt.)	Y (stud. opt.)	m	Y (stud. req.)	Y (stud. req.)	m	Y (stud. req.)	Y (stud. req.)	m
Canada	m	m	m	m	m	m	m	m	m
Chile[1]	Other	Other	N (may exist)	Y (stud. req.)	Y (stud. req.)	N (may exist)	Y (stud. req.)	Y (stud. req.)	N (may exist)
Colombia	Y (stud. req.)	a	Y (stud. req.)	Y (stud. req.)	a	Y (stud. req.)	Y (stud. req.)	a	Y (stud. req.)
Costa Rica	Y (stud. req.)	N	N	Y (stud. req.)	N	N	Y (stud. req.)	N	N
Czechia[2]	Y (stud. not req.)	Y (stud. not req.)	a	Y (stud. not req.)	Y (stud. not req.)	a	Other	Other	a
Denmark	Y (stud. req.)	Y (stud. opt.)	N (may exist)	Y (stud. req.)	Y (stud. opt.)	N (may exist)	Y (stud. req.)	Y (stud. opt.)	m
Estonia	Other	Other	Other	Y (stud. opt.)	Y (stud. opt.)	Y (stud. opt.)	Y (stud. req.)	Y (stud. req.)	Y (stud. opt.)
Finland	N (may exist)	N (may exist)	a	N (may exist)	N (may exist)	a	N (may exist)	N (may exist)	a
France	Y (stud. not req.)	N (may exist)	N (may exist)	Y (stud. req.)	N (may exist)	N (may exist)	Y (stud. req.)	N (may exist)	N (may exist)
Germany	Y (stud. req.)	Y (stud. req.)	a	Y (stud. req.)	Y (stud. req.)	a	Y (stud. req.)	Y (stud. req.)	a
Greece	Y (stud. not req.)	a	Y (stud. not req.)	Y (stud. not req.)	a	Y (stud. not req.)	Y (stud. opt.)	a	Y (stud. opt.)
Hungary	m	m	m	m	m	m	m	m	m
Iceland	Y (stud. req.)	Y (stud. req.)	Y (stud. req.)	Y (stud. req.)	Y (stud. req.)	Y (stud. req.)	Y (stud. req.)	Y (stud. req.)	Y (stud. req.)
Ireland	Y (stud. not req.)	a	N (may exist)	Y (stud. not req.)	Y (stud. not req.)	N (may exist)	Y (stud. not req.)	Y (stud. not req.)	N (may exist)
Israel	N (may exist)	N (may exist)	a	N (may exist)	N (may exist)	a	N (may exist)	N (may exist)	a
Italy	Y (stud. not req.)	a	Y (stud. not req.)	Y (stud. not req.)	a	Y (stud. not req.)	Y (stud. req.)	a	Y (stud. req.)
Japan[3]	Other	a	Other	Other	a	Other	Other	a	Other
Korea	Y (stud. opt.)	a	Y (stud. opt.)	Y (stud. opt.)	Y (stud. opt.)	a	Y (stud. opt.)	Y (stud. opt.)	a
Latvia	Y (stud. req.)	a	Y (stud. req.)	Y (stud. req.)	a	Y (stud. req.)	Y (stud. req.)	a	Y (stud. req.)
Lithuania[4]	Other	a	Other	Other	a	Other	Other	a	Other
Luxembourg	Y (stud. not req.)	N (may exist)	N (may exist)	Y (stud. req.)	N (may exist)	m	Y (stud. req.)	N (may exist)	m
Mexico	m	m	m	m	m	m	m	m	m
Netherlands	Y (stud. not req.)	Y (stud. not req.)	N (may exist)	Y (stud. req.)	Y (stud. req.)	N (may exist)	Y (stud. req.)	Y (stud. req.)	N (may exist)
New Zealand	Y (stud. not req.)	a	N (may exist)	Y (stud. req.)	a	N (may exist)	Y (stud. req.)	a	N (may exist)
Norway[3]	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)
Poland	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)
Portugal	m	m	m	m	m	m	m	m	m
Slovak Republic	Y (stud. not req.)	Y (stud. not req.)	a	Y (stud. not req.)	Y (stud. not req.)	a	Y (stud. not req.)	Y (stud. not req.)	a
Slovenia	Y (stud. not req.)	m	m	Y (stud. not req.)	m	m	Y (stud. req.)	m	m
Spain	Y (stud. opt.)	Y (stud. opt.)	N (may exist)	Y (stud. req.)	Y (stud. req.)	N (may exist)	Y (stud. req.)	Y (stud. req.)	N (may exist)
Sweden	N (may exist)	N (may exist)	N	N (may exist)	N (may exist)	N	N (may exist)	N (may exist)	N
Switzerland	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)	N (may exist)
Türkiye	N	a	N	N	a	N	N	a	N
United States	N (may exist)	a	N (may exist)	N (may exist)	a	N (may exist)	N (may exist)	a	N (may exist)
Other participants									
Flemish Comm. (Belgium)[5]	Y (stud. not req.)	Y (stud. not req.)	Other	Y (stud. req.)	Y (stud. req.)	Other	Y (stud. req.)	Y (stud. req.)	Other
French Comm. (Belgium)	Y (stud. req.)	Y (stud. req.)	m	Y (stud. req.)	Y (stud. req.)	m	Y (stud. req.)	Y (stud. req.)	m
England (UK)	Y (stud. not req.)	Y (stud. not req.)	N (may exist)	Y (stud. not req.)	Y (stud. not req.)	N (may exist)	Y (stud. not req.)	Y (stud. not req.)	N (may exist)
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	Y (stud. req.)	a	N (may exist)	Y (stud. req.)	a	N (may exist)	Y (stud. req.)	a	N (may exist)
Bulgaria	Y (stud. opt.)	a	m	Y (stud. opt.)	a	m	Y (stud. opt.)	a	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	N	a	Other	N	a	Other	N	a	Other
Romania	Y (stud. req.)	a	m	Y (stud. req.)	a	m	Y (stud. req.)	a	m
Saudi Arabia	m	m	m	m	m	m	m	m	m
South Africa	m	m	m	m	m	m	m	m	m

Are schools required to have a governing board and should students be represented on them?

Y (stud. req.) – Yes, governing board is required and some student representation is required
Y (stud. opt.) – Yes, gorverning board is required and student representation is optional
Y (stud. not req.) – Yes, governing board is required, but without requirement on student representation
N (may exist) – No, governing board is not required, although they may exist
N – No such governing boards exist

Note: See under Chapter D6 Tables for statlink and Box D6.3. for the notes related to this Table.

Box D6.3. Notes for Chapter D6 Tables

Table D6.1. Requirement for schools to have a governing board in which parents can take part (2023)

Regulations may differ between states, provinces or regions in federal states or countries with highly decentralised school systems. See *Definitions* and *Methodology* sections for more information.

1. Other for independent private schools refers to the fact that there is no regulation for parent participation.

Table D6.2. Requirement for schools to have a governing board in which students can take part (2023)

Regulations may differ between states, provinces or regions in federal states or countries with highly decentralised school systems. See *Definitions* and *Methodology* sections for more information.

1. Other refers to student participation through the representation of the president of the student council.

2. Other refers to differences in participation depending on the age of students (above or below 18 year-old).

3. Governing boards may exist: no provision exists for student participation therein, while parent participation is possible.

4. Other refers to the fact that school governing boards (school councils) are required but student participation requirements are decided at school level.

5. Other refers to the fact that in independent private schools there is no regulation for student participation in governing boards.

See *Definitions* and *Methodology* sections and *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en) for more information.

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

Annexes

Annex 1. Characteristics of education systems

Annex 1 Tables

Tables Annex 1. Characteristics of education systems

StatLink https://stat.link/9oyndp

Cut-off date for the data: 14 June 2024. Any updates on data and more breakdowns can be found on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

Table X1.1. Typical graduation ages, by level of education (2022)

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.

	Upper secondary		Post secondary non-tertiary		Tertiary								
					Short-cycle tertiary		Bachelor's or equivalent			Master's or equivalent			
	General programmes	Vocational programmes	General programmes	Vocational programmes	General programmes	Vocational programmes	First degree (3-4 years)	Long first degree (more than 4 years)	Second or further degree (following a bachelor's or equivalent programme)	Long first degree (at least 5 years)	Second or further degree (following a bachelor's or equivalent programme)	Second or further degree (following a master's or equivalent programme)	Doctoral or equivalent
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	22-35	a	23-27	29-44	26-35
Austria	17-18	16-18	a	19-33	a	18-19	21-24	a	a	24-27	24-28	a	28-33
Belgium	18-20	18-20	a	19-23	a	21-25	21-25	a	22-25	a	23-25	24-32	28-32
Canada	17-18	19-35	m	m	a	20-24	22-24	22-24	22-29	22-26	24-29	24-29	28-34
Chile	17-17	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	18-18	a	a	20-25	20-25	22-29	23-31	a	29-40	a	a	30-48
Czechia	19-20	19-20	19-33	a	a	21-23	22-24	a	23-35	25-26	24-26	25-38	29-33
Denmark	18-19	19-25	a	24-39	a	21-25	22-25	a	a	a	24-26	25-35	28-32
Estonia	18-18	18-18	a	20-31	a	a	21-24	a	a	23-25	23-28	a	27-34
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	23-38
Hungary	17-19	16-17	a	18-19	a	20-22	21-24	a	27-42	23-26	23-26	a	27-34
Iceland	18-19	18-26	22-38	20-36	a	21-37	22-25	a	26-44	25-26	24-32	a	28-35
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	19-30	24-29	27-31	24-38	a	27-36	a	31-38
Italy	18-19	18-19	a	19-24	a	20-22	21-24	m	25-31	24-26	24-26	27-33	27-33
Japan	17-17	17-17	18-18	18-18	20-20	20-21	22-22	a	a	24-24	23-23	m	26-26
Korea	18-18	18-18	a	a	a	20-22	22-24	m	a	a	24-31	a	28-35
Latvia	18-19	20-21	a	20-25	a	21-28	22-24	23-25	24-39	24-29	23-27	a	30-40
Lithuania	17-18	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	21-23	22-24	a	a	a	23-28	25-31	28-32
Mexico	17-18	17-18	a	a	a	20-22	20-24	m	a	a	23-26	a	24-28
Netherlands	16-18	18-21	a	a	a	20-27	21-23	a	a	a	23-26	a	28-31
New Zealand	17-18	17-33	18-27	18-31	18-39	18-29	20-22	22-23	21-28	a	22-28	a	26-34
Norway	18-18	18-23	a	22-37	22-27	21-26	21-24	a	a	24-26	23-27	24-33	28-35
Poland	19-19	19-20	a	21-29	a	22-32	22-23	a	25-36	24-25	24-25	a	29-32
Portugal	17-17	17-18	a	19-26	a	20-22	21-22	a	a	23-24	23-26	a	28-37
Slovak Republic	18-18	18-19	a	19-28	a	19-22	21-22	a	a	24-25	23-24	25-30	26-30
Slovenia	18-18	17-19	a	a	a	21-25	21-23	a	a	24-25	24-26	a	27-33
Spain	17-17	17-21	a	18-39	a	19-23	21-23	a	a	22-25	22-26	27-32	27-36
Sweden	18-18	18-18	19-23	19-33	20-28	20-30	22-27	a	a	24-27	24-29	a	28-34
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	18-18	a	a	a	19-23	22-24	a	a	23-25	24-30	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	17-17	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	18-29	m	18-20	21-27	a	m	24-31	a	a	28-35
Bulgaria	19-19	19-19	a	21-21	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	25-31	21-23	a	a	24-26	24-26	26-40	30-40
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	18-21	18-35	a	21-35	a	a	21-23	a	a	24-26	23-26	a	28-35
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 under Annex 1 Tables for StatLink and Box X1.1 for the notes related to this Table. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

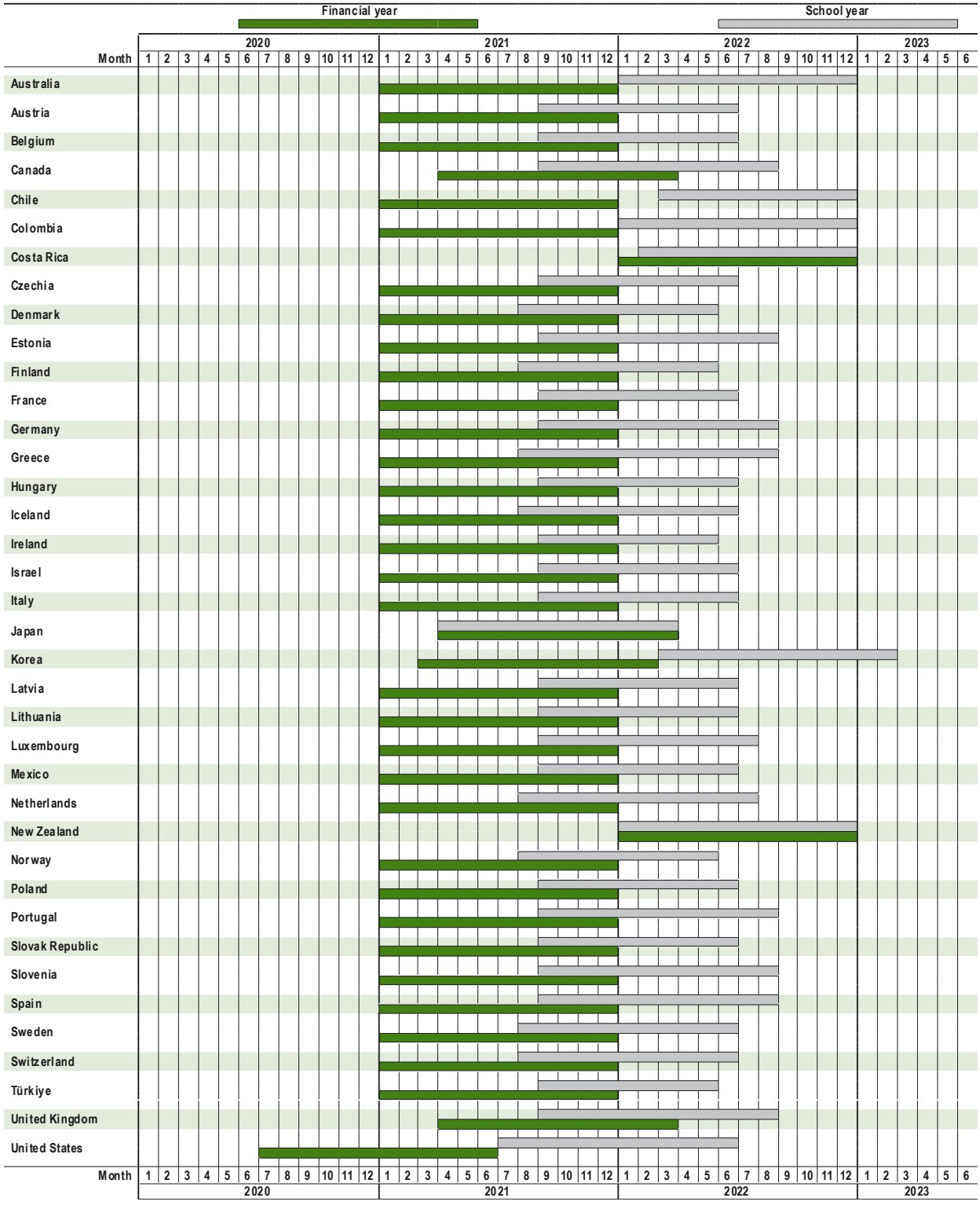
Table X1.2. Typical age of entry, by level of tertiary education (2022)

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	18-20	18-20	21-25	24
Canada	17-20	18-19	21-27	24-29
Chile	18-21	18-19	18-31	25-33
Colombia	17-22	17-20	24-34	30-42
Costa Rica	18-20	18-19	25-34	25-43
Czechia	19-21	19-20	22-24	24-28
Denmark	19-27	20-22	23-25	24-28
Estonia	a	19-20	19-25	24-30
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	18-18	22-27	23-29
Hungary	19-21	19-20	19-23	24-28
Iceland	19-34	19-21	22-29	24-31
Ireland	18-32	18-19	22-28	22-28
Israel	18-25	20-25	24-33	25-33
Italy	18-20	19-19	19-23	23-27
Japan	18-18	18-18	22-23	24-28
Korea	18-18	18-18	22-27	23-31
Latvia	19-25	19-22	19-25	24-31
Lithuania	a	19-19	22-26	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	m
New Zealand	18-29	18-19	21-28	22-29
Norway	20-25	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	19-21	19-20	22-23	24-27
Slovenia	19-21	19-19	22-24	24-28
Spain	18-20	18-18	18-24	23-30
Sweden	19-27	19-22	19-24	24-30
Switzerland	20-29	18-25	22-26	24-30
Türkiye	18-22	18-21	22-30	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	23	25-33
China	m	m	m	m
Croatia	18-20	18-22	21-24	24-40
India	m	m	m	m
Indonesia	m	m	m	m
Peru	17-22	17-20	m	m
Romania	a	19-20	22-26	25-30
Saudi Arabia	m	m	m	m
South Africa	m	m	m	m

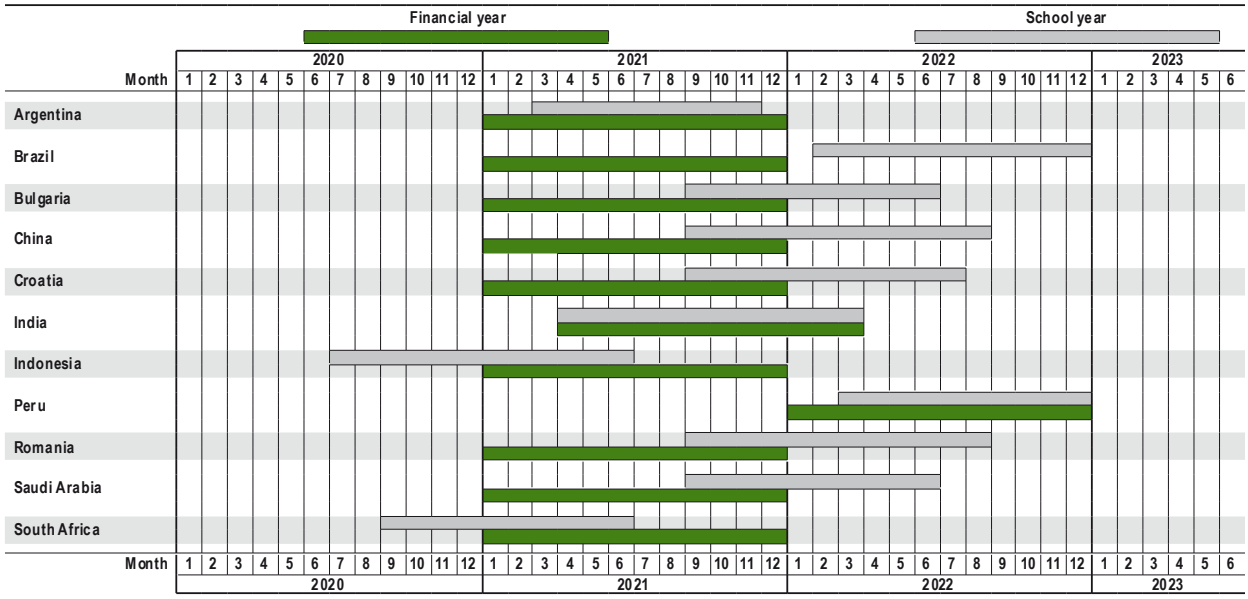
Note: See under Annex 1 Tables for StatLink and Box X1.1 for the notes related to this Table. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Table X1.3. School year and financial year used for the calculation of indicators, OECD countries



Note: See under Annex 1 Tables for StatLink and Box X1.1 for the notes related to this Table. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Table X1.4. School year and financial year used for the calculation of indicators, partner and accession countries



Note: See under Annex 1 Tables for StatLink and Box X1.1 for the notes related to this Table. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Table X1.5. Theoretical starting age and duration of education levels (2022)

Ages refer to the age of the students at the beginning of the school year

	Early childhood educational development		Pre-primary education		Primary education		Lower secondary education		Upper secondary education	
	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)
Australia	0	3	3	2	5	7	12	4	16	2
Austria	0	3	3	3	6	4	10	4	14	4
Belgium[1]	0	3	3	3	6	6	12	2	14	4
Canada[2]	0-2	1-2	3-5	1-2	6	6	12	3	15	2-3
Chile	3 mo.	3	3	3	6	6	12	2	14	4
Colombia	0	3	3	3	6	5	11	4	15	2
Costa Rica	0	4	4	2	6	6	12	3	15	2
Czechia	a	a	3	3	6	5	11	4	15	4
Denmark	0	3	3	3	6	7	13	3	16	3
Estonia	x(3)	x(4)	0[d]	7[d]	7	6	13	3	16	3
Finland	9 mo.	2	3	4	7	6	13	3	16	3
France	a	a	3	3	6	5	11	4	15	3
Germany[3]	0	3	3	3	6	4	10	6	16	3
Greece	0	4	4	2	6	6	12	3	15	3
Hungary	0	3	3	3	6	4	10	4	14	4
Iceland	0	3	3	3	6	7	13	3	16	3-4
Ireland	0	3	3	2	5	8	13	3	16	2
Israel	0	3	3	3	6	6	12	3	15	3
Italy	a	a	3	3	6	5	11	3	14	5
Japan	a	a	3	3	6	6	12	3	15	3
Korea	0	3	3	3	6	6	12	3	15	3
Latvia	1.5	1.5	3	4	7	6	13	3	16	3
Lithuania	0	3	3	4	7	4	11	6	17	2
Luxembourg	a	a	3	3	6	6	12	3	15	4
Mexico	0	3	3	3	6	6	12	3	15	3
Netherlands	0	4	4	2	6	6	12	3	15	3
New Zealand	0	3	3	2	5	6	11	4	15	3
Norway[4]	x(3)	x(4)	1[d]	5[d]	6	7	13	3	16	3
Poland	a	a	3	4	7	4	11	4	15	4
Portugal	0	3	3	3	6	6	12	3	15	3
Slovak Republic	a	a	3	3	6	4	10	5	15	4
Slovenia	11 mo.	2	3	3	6	6	12	3	15	4
Spain	0	3	3	3	6	6	12	3	15	3
Sweden	1	2	3	4	7	6	13	3	16	3
Switzerland	a	a	4	2	6	6	12	3	15	4
Türkiye	0	3	3	3	6	4	10	4	14	4
United Kingdom	0	3	3	2	4-5	6-7	11-12	3	14-15	3-4
United States	0	3	3	3	6	6	12	3	15	3
Partner and/or accession countries										
Argentina	0	3	3	3	6	6	12	3	15	3
Brazil	0	3	4	2	6	5	11	4	15	3
Bulgaria	a	a	3	4	7	4	11	3	14	5
China	0	m	3	3	6	6	12	3	15	3
Croatia	0	3	3	4	7	4	11	4	15	4
India	0	m	3	3	6	5	11	3	14	4
Indonesia	0	5	5	2	7	6	13	3	16	3
Peru	0	3	3	3	6	6	12	3	15	2
Romania	0	3	3	3	6	5	11	4	15	4
Saudi Arabia	2	1	3	3	6	6	12	3	15	3
South Africa	0	3	3	4	7	7	14	2	16	3

Note: See under Annex 1 Tables for StatLink and Box X1.1 for the notes related to this Table. For more information see Source section and Education at a Glance 2024 Sources, Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en).

Box X1.1. Notes for Chapter X1 Tables

Table X1.1. Typical graduation ages, by level of education (2022)

The range of typical ages is the range encompassing at least 50% of the share of graduation rates.

1. Year of reference differs from 2022: 2021 for Argentina and South Africa; 2018 for Indonesia.

Table X1.2. Typical age of entry, by level of tertiary education (2022)

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

No note.

Table X1.4. School year and financial year used for the calculation of indicators, partner countries and accession countries

No note.

Table X1.5. Theoretical starting age and duration of education levels (2022)

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. Theoretical starting and ending ages for early childhood development refer to the Flemish Community only.
2. The length of study at the secondary level differs in Quebec, with the final grade of secondary schools in the province being Grade 11. For the remaining provinces and territories, the final grade of secondary schools is Grade 12.
3. In Berlin and Brandenburg, primary education lasts for 6 years. In addition, the duration of lower secondary education varies between 4 and 6 years depending on the qualification aspired and Federal Land. Most programmes leading to the first school leaving certificate last 9 school years, while programmes leading to the intermediate school leaving certificate last 10 school years. There are also differences in the length of schooling up to the Abitur (12 or 13 school years). The starting age for upper secondary education also varies and can be 15. In Berlin, upper secondary education at the gymnasium lasts 2 years.
4. The theoretical duration may vary from 3 to 4.5 years for upper secondary vocational programmes.

See Definitions and Methodology sections and Education at a Glance 2024 Sources Methodologies and Technical Notes (https://doi.org/10.1787/e7d20315-en) for more information.

Data and more breakdowns are available on the OECD Data Explorer (http://data-explorer.oecd.org/s/4s).

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

Annex 2. Reference statistics

Annex X2 Tables

Tables Annex X2. Reference statistics

Table X2.1	Basic reference statistics in current prices (reference period: calendar year, 2012, 2015, 2020, 2021, 2022)
Table X2.2	Basic reference statistics (reference period: calendar year, 2012, 2015, 2020, 2021, 2022)
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 (2023)
Table X2.4	Secondary teachers' statutory salaries, in national currencies, based on the most prevalent qualifications at different points in teachers' careers (2023)
Table X2.5	Trends in teachers' statutory salaries, in national currencies (2000 and 2005 to 2023)
Table X2.6	Trends in teachers' average actual salaries, in national currencies (2000, 2005 and 2010 to 2023)
Table X2.7	Reference statistics used in calculating salaries of teachers and school heads (2000 and 2005 to 2023)
Table X2.8	Distribution of teachers, by minimum or most prevalent qualifications and level of education (2023)
Table X2.9	Distribution of teachers aged 25-64, by educational attainment and level of education (2023)
Table X2.10	Distribution of school heads aged 25-64, by educational attainment and level of education (2023)

StatLink https://stat.link/fmogu2

Cut-off date for the data: 14 June 2024. Any updates on data and more breakdowns can be found at the OECD Data Explorer (http://data-explorer.oecd.org/s/5q).

Table X2.1. Basic reference statistics in current prices (reference period: calendar year, 2012, 2015, 2020, 2021, 2022)

	Gross domestic product (GDP) (in millions of local currency, current prices)					Total government expenditure (in millions of local currency, current prices)				
	2012	2015	2020	2021	2022	2012	2015	2020	2021	2022
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	1 519 149	1 641 835	2 036 750	2 211 061	2 447 225	556 932	620 217	918 045	921 542	955 086
Austria	318 653	344 269	380 888	405 241	447 218	163 192	176 030	216 367	227 664	237 757
Belgium	386 175	416 701	460 748	507 930	554 044	218 102	223 851	270 704	278 574	294 508
Canada	1 845 963	1 999 215	2 294 676	2 591 165	m	762 378	812 749	1 182 045	1 164 320	1 175 671
Chile	129 973 394	158 622 903	201 428 894	240 371 473	262 593 356	30 010 137	39 700 059	58 541 291	80 480 313	70 302 223
Colombia	666 507 000	804 692 000	997 742 000	1 192 586 000	1 462 522 400	260 997 000	363 651 000	515 230 000	576 625 000	m
Costa Rica	23 752 869	30 171 919	36 495 246	40 326 626	44 810 031	7 344 679	9 683 753	13 537 362	17 223 718	16 953 392
Czechia	4 088 912	4 625 378	5 709 131	6 108 717	6 786 742	1 826 725	1 939 612	2 695 782	2 841 006	3 026 225
Denmark	1 895 002	2 036 356	2 320 912	2 550 606	2 831 644	1 098 247	1 110 377	1 241 147	1 270 324	1 273 555
Estonia	17 917	20 631	27 465	31 445	36 181	7 032	8 155	12 308	13 056	14 324
Finland	201 037	211 385	238 038	250 664	268 411	111 456	119 415	136 128	139 882	143 133
France	2 088 804	2 198 432	2 317 832	2 502 118	2 639 092	1 192 859	1 248 656	1 421 915	1 477 680	1 538 921
Germany	2 745 310	3 026 180	3 403 730	3 617 450	3 876 810	1 233 138	1 335 789	1 717 583	1 842 603	1 918 143
Greece	188 381	176 369	165 016	181 500	206 620	107 688	96 036	99 332	104 704	109 252
Hungary	28 996 631	34 965 213	48 425 421	55 198 927	66 075 190	14 241 938	17 615 370	24 900 786	26 712 905	32 270 778
Iceland	1 845 160	2 310 848	2 920 473	3 250 399	3 796 567	880 735	1 004 612	1 496 813	1 622 675	1 804 920
Ireland	175 218	263 507	375 250	434 070	506 282	74 666	76 417	101 970	105 889	107 576
Israel	1 013 797	1 176 638	1 417 344	1 581 860	1 763 806	409 073	450 990	644 356	643 077	660 155
Italy	1 624 359	1 655 355	1 661 240	1 822 345	1 946 479	821 764	832 927	946 814	1 026 036	1 091 530
Japan	502 531 175	539 615 375	542 999 000	554 356 075	m	201 286 500	208 962 800	248 419 300	243 475 000	242 553 100
Korea	1 440 111 400	1 658 020 400	1 940 726 200	2 080 198 500	2 161 773 900	443 590 700	504 008 400	740 039 900	785 208 600	882 951 900
Latvia	21 924	24 572	30 109	33 349	38 870	8 509	9 507	12 799	14 891	15 713
Lithuania	33 410	37 346	49 873	56 478	67 399	12 088	13 133	21 309	21 151	24 510
Luxembourg	46 526	54 142	64 524	72 361	77 529	19 454	21 861	30 301	31 014	34 024
Mexico	16 529 124	19 228 615	24 081 766	26 619 086	29 452 832	4 521 483	5 307 315	10 869 283	7 122 898	7 986 980
Netherlands	652 966	690 008	796 530	870 587	958 549	307 043	309 465	380 991	400 161	416 921
New Zealand	216 373	252 173	326 462	350 394	380 311	92 159	99 646	152 746	161 796	165 049
Norway[1]	2 293 776	2 614 238	3 067 339	3 288 436	3 570 859	1 283 758	1 533 194	1 994 429	2 035 860	2 187 940
Poland	1 612 739	1 798 471	2 337 672	2 631 302	3 067 495	700 438	750 622	1 127 866	1 160 188	1 346 561
Portugal	168 296	179 713	200 519	216 053	242 341	82 278	86 707	98 743	102 534	106 874
Slovak Republic	73 649	80 126	93 444	100 256	109 645	30 276	36 508	41 804	45 460	46 335
Slovenia	36 253	38 853	47 045	52 279	57 038	17 893	18 925	24 161	25 861	26 899
Spain	1 031 104	1 078 092	1 119 010	1 222 290	1 346 377	510 092	474 881	580 771	611 470	637 831
Sweden	3 743 086	4 260 470	5 038 538	5 486 558	5 984 786	1 909 096	2 102 806	2 625 286	2 696 400	2 841 010
Switzerland	643 646	668 006	696 620	743 330	781 460	210 402	224 542	267 037	265 845	257 644
Türkiye	1 581 479	2 350 941	5 048 568	7 256 142	15 011 776	525 252	746 115	1 810 867	2 262 703	4 212 111
United Kingdom	1 730 627	1 935 250	2 149 236	2 339 555	m	780 466	812 983	1 101 750	1 104 983	1 173 271
United States	15 926 851	17 951 579	21 422 173	22 458 491	24 669 070	6 515 364	6 910 981	10 049 089	10 569 448	10 085 798
Partner and/or accession countries										
Argentina	2 637 914	5 954 511	27 195 699	46 282 066	82 650 240	971 317	2 463 163	11 558 522	17 509 344	30 728 237
Brazil	4 814 760	5 995 787	7 609 597	8 898 727	9 915 317	2 018 496	2 946 929	3 798 351	3 870 217	4 598 958
Bulgaria	82 643	89 571	120 492	138 979	167 809	28 312	36 173	50 016	57 922	69 397
China	53 858 000	68 885 820	101 356 700	114 923 700	120 472 400	15 178 679	21 837 060	36 310 049	37 434 933	40 247 994
Croatia	44 641	45 838	50 569	58 408	67 993	21 051	21 834	27 313	28 360	30 537
India	99 440 131	137 718 739	198 299 271	234 710 117	272 407 122	27 210 645	37 265 268	61 585 922	69 179 841	77 968 005
Indonesia	8 615 704 500	11 526 332 800	15 443 353 200	16 976 751 400	19 588 089 900	1 622 837 246	2 014 591 077	2 865 856 172	3 086 211 672	3 435 854 916
Peru	508 131	604 416	705 795	868 149	930 536	103 357	136 509	193 262	206 445	219 982
Romania	621 269	712 544	1 066 781	1 189 090	1 401 345	224 650	256 573	445 877	475 885	563 692
Saudi Arabia	2 781 937	2 510 566	2 753 517	3 278 085	4 157 143	917 198	1 001 292	1 075 734	1 038 933	1 173 016
South Africa	3 566 385	4 420 792	5 567 974	6 208 786	6 628 550	1 020 652	1 333 492	1 925 042	2 023 277	2 152 012

Note: See under Annex X2 Tables for StatLink and Box X2.1 for the notes related to this Table.

Table X2.2. Basic reference statistics (reference period: calendar year, 2012, 2015, 2020, 2021, 2022)

	Purchasing power parity for GDP (PPP) (USD = 1)					Gross domestic product (GDP) per capita (local currency)					GDP deflator (2015 = 100)				
	2012	2015	2020	2021	2022	2012	2015	2020	2021	2022	2012	2015	2020	2021	2022
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Australia	1.5	1.5	1.4	1.4	1.4	66 824	68 938	79 389	86 073	94 138	100	100	115	123	131
Austria	0.8	0.8	0.7	0.7	0.7	37 816	39 894	42 716	45 271	49 401	94	100	109	112	118
Belgium	0.8	0.8	0.7	0.7	0.7	34 769	36 961	39 930	43 840	47 435	97	100	109	112	119
Canada	1.2	1.2	1.2	1.2	1.2	53 176	55 996	60 375	67 785	m	97	100	108	116	125
Chile	347.2	391.2	409.8	423.0	426.1	7 451 111	8 826 396	10 351 819	12 215 014	13 243 186	88	100	125	134	143
Colombia	1 215.7	1 289.3	1 270.7	1 316.3	1 345.7	15 233 653	17 744 641	m	m	m	94	100	122	131	150
Costa Rica	343.9	354.0	328.0	330.1	330.4	5 107 576	6 247 222	m	m	m	87	100	111	113	121
Czechia	13.3	12.9	12.2	12.0	12.3	389 076	438 718	533 556	571 051	634 993	95	100	114	118	128
Denmark	7.6	7.3	6.4	6.2	6.2	338 938	358 387	398 098	435 703	479 452	98	100	106	109	118
Estonia	0.5	0.5	0.5	0.5	0.6	13 520	15 710	20 668	23 642	27 167	92	100	114	121	141
Finland	0.9	0.9	0.8	0.8	0.8	37 133	38 570	43 039	45 234	48 302	94	100	106	109	115
France	0.8	0.8	0.7	0.7	0.7	31 817	33 019	34 085	36 669	38 547	98	100	106	108	111
Germany	0.8	0.8	0.7	0.7	0.7	34 135	37 046	40 929	43 481	46 264	95	100	109	112	118
Greece	0.7	0.6	0.5	0.5	0.5	17 056	16 299	15 424	17 058	19 548	104	100	99	100	108
Hungary	125.6	132.6	141.8	147.1	156.9	2 922 941	3 552 282	4 966 634	5 684 814	6 823 312	91	100	123	131	150
Iceland	137.0	142.0	143.3	141.9	138.3	5 753 538	6 985 634	7 968 549	8 725 904	9 938 657	89	100	115	123	134
Ireland	0.8	0.8	0.8	0.8	0.7	38 112	56 116	75 346	86 492	98 986	91	100	105	106	113
Israel	4.0	3.9	3.7	3.7	3.5	128 211	140 459	153 820	168 870	184 673	95	100	104	106	111
Italy	0.7	0.7	0.6	0.6	0.6	26 987	27 484	27 949	30 818	32 984	97	100	106	107	110
Japan	104.3	103.5	100.7	98.7	94.9	3 939 814	4 245 263	4 319 512	4 417 109	m	97	100	102	102	102
Korea	854.9	857.5	829.4	827.3	810.4	28 687 478	32 500 645	37 439 737	40 200 957	41 872 122	95	100	106	108	110
Latvia	0.5	0.5	0.5	0.5	0.5	10 781	12 427	15 840	17 710	20 607	96	100	115	119	134
Lithuania	0.5	0.4	0.4	0.4	0.5	11 182	12 856	17 844	20 111	23 802	98	100	115	122	142
Luxembourg	0.9	0.9	0.8	0.8	0.8	87 538	95 087	102 243	112 881	118 315	93	100	109	114	120
Mexico	7.9	8.3	9.8	9.9	9.7	143 715	161 516	190 545	208 589	229 059	91	100	130	136	145
Netherlands	0.8	0.8	0.7	0.7	0.7	38 971	40 732	45 667	49 654	54 152	98	100	109	113	119
New Zealand	1.5	1.5	1.4	1.5	1.5	48 979	54 369	64 049	68 521	74 164	94	100	111	116	122
Norway[1]	9.0	9.9	9.6	9.0	8.4	457 019	503 707	570 243	608 069	654 363	93	100	112	116	123
Poland	1.8	1.8	1.7	1.7	1.8	41 852	46 768	60 950	68 951	81 093	98	100	111	117	129
Portugal	0.6	0.6	0.5	0.5	0.5	16 006	17 350	19 473	20 987	23 531	95	100	109	111	117
Slovak Republic	0.5	0.5	0.5	0.5	0.5	13 623	14 777	17 113	18 427	19 976	100	100	108	110	119
Slovenia	0.6	0.6	0.5	0.5	0.5	17 626	18 830	22 373	24 803	27 050	97	100	108	111	118
Spain	0.7	0.7	0.6	0.6	0.6	22 048	23 230	23 630	25 824	28 276	99	100	106	108	113
Sweden	8.7	8.9	8.4	8.3	8.4	393 207	434 778	486 653	526 753	570 689	95	100	111	114	121
Switzerland	1.4	1.2	1.1	1.0	1.0	80 487	80 654	80 644	85 396	88 988	102	100	99	100	103
Türkiye	1.0	1.2	2.1	2.7	4.6	21 037	30 056	60 545	86 232	176 651	81	100	183	236	462
United Kingdom	0.7	0.7	0.7	0.6	0.7	27 166	29 723	32 039	34 905	m	96	100	114	113	119
United States	1.0	1.0	1.0	1.0	1.0	50 606	55 731	64 566	67 575	73 949	96	100	108	113	121
Partner and/or accession countries															
Argentina	3.2	6.9	28.8	42.4	67.2	63 209	138 053	599 330	1 010 331	1 787 619	45	100	528	814	1 381
Brazil	1.6	2.0	2.4	2.6	2.6	24 278	29 467	35 936	44 049	48 829	80	100	130	145	157
Bulgaria	0.7	0.7	0.7	0.7	0.7	11 312	12 479	17 377	20 207	25 956	96	100	124	133	154
China	3.6	3.9	4.2	4.2	4.0	39 624	49 800	71 776	81 356	85 336	97	100	111	116	119
Croatia	0.5	0.5	0.4	0.4	0.4	10 457	10 893	12 495	14 758	17 399	99	100	106	108	118
India	16.2	19.2	21.8	22.6	22.9	80 518	107 341	146 301	171 498	192 219	89	100	120	130	140
Indonesia	3 569.9	4 353.3	4 671.3	4 738.9	4 850.7	35 105 215	45 097 404	57 154 442	62 258 309	71 029 554	87	100	112	119	130
Peru	1.6	1.7	1.8	1.9	1.8	16 861	19 402	21 072	25 663	27 235	94	100	116	125	131
Romania	1.6	1.7	1.6	1.6	1.7	30 970	35 947	55 285	62 170	73 565	12	12	12	12	12
Saudi Arabia	1.7	1.6	1.6	1.8	1.9	95 966	80 587	78 416	106 487	129 204	124	100	108	123	144
South Africa	5.1	5.8	7.0	7.1	7.0	68 223	81 216	95 892	105 608	111 372	85	100	129	138	144

Note: See under Annex X2 Tables for StatLink and Box X2.1 for the notes related to this Table.

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 (2023)

Annual salaries of full-time teachers in public institutions, by level of education

	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	81 409	114 785	114 943	130 473	80 088	114 428	114 544	128 868
Austria	m	m	m	m	42 586	45 147	50 539	74 314
Canada	m	m	m	m	57 163	95 262	99 433	99 433
Chile	14 222 364	17 551 279	21 350 502	26 322 888	14 222 364	17 551 279	21 350 502	26 322 888
Colombia	45 596 745	83 155 219	83 155 219	83 155 219	45 596 745	83 155 219	83 155 219	83 155 219
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
Czechia	369 600	380 400	390 000	434 400	392 400	416 400	435 600	513 600
Denmark	372 904	422 697	422 697	422 697	429 785	477 550	495 097	495 097
Estonia	a	a	a	a	19 640	a	a	a
Finland[1]	31 953	34 841	35 173	35 173	35 432	40 619	43 467	46 075
France	29 512	32 800	34 535	49 661	29 512	32 800	34 535	49 661
Germany	m	m	m	m	56 372	64 718	68 291	73 255
Greece	13 104	15 936	17 352	25 848	13 104	15 936	17 352	25 848
Hungary	4 406 112	4 406 112	4 429 704	5 752 858	4 406 112	4 406 112	4 429 704	5 752 858
Iceland	7 666 324	7 739 428	8 080 080	8 256 952	7 666 324	7 739 428	8 080 080	8 256 952
Ireland	a	a	a	a	39 838	55 068	66 692	76 923
Israel	135 071	168 774	186 262	302 221	119 150	144 335	166 317	264 664
Italy	25 195	27 614	30 271	36 733	25 195	27 614	30 271	36 733
Japan	m	m	m	m	3 431 000	4 815 000	5 587 000	6 912 000
Korea	33 991 680	51 356 940	60 023 220	95 570 180	33 991 680	51 356 940	60 023 220	95 570 180
Latvia	11 640	a	a	a	10 800	a	a	a
Lithuania	19 441	20 066	22 342	25 422	19 441	20 066	22 342	25 422
Luxembourg	74 637	96 531	108 971	131 859	74 637	96 531	108 971	131 859
Mexico	282 519	351 213	435 915	544 293	282 519	351 213	435 915	544 293
Netherlands	44 394	63 641	72 411	90 751	44 394	63 641	72 411	90 751
New Zealand	m	m	m	m	59 305	95 400	95 400	95 400
Norway	459 100	529 900	529 900	537 900	563 800	572 200	572 200	612 700
Poland	46 085	55 743	67 880	70 758	46 085	55 743	67 880	70 758
Portugal	23 430	28 360	30 046	49 921	23 430	28 360	30 046	49 921
Slovak Republic	9 744	11 112	11 380	12 730	12 066	13 562	13 894	15 540
Slovenia	21 508	25 442	31 954	36 839	21 508	26 355	33 127	39 630
Spain	32 906	35 808	38 165	47 187	32 906	35 808	38 165	47 187
Sweden[2, 3, 4]	416 400	439 200	447 828	484 572	420 000	466 800	481 548	557 130
Switzerland	75 900	95 300	m	116 800	81 900	102 200	m	124 500
Türkiye	290 770	303 337	300 238	315 862	290 770	303 337	300 238	315 862
United States[4]	48 807	54 144	73 220	81 806	47 809	64 877	70 399	83 086
Other participants								
Flemish Comm. (Belgium)	38 597	48 401	54 491	68 700	38 597	48 401	54 491	68 700
French Comm. (Belgium)	37 649	47 034	52 934	64 732	37 649	47 034	52 934	64 732
England (UK)	28 989	a	44 942	44 942	28 989	a	44 942	44 942
Scotland (UK)	37 896	47 565	47 565	47 565	37 896	47 565	47 565	47 565
Partner and/or accession countries								
Argentina	m	m	m	m	m	m	m	m
Brazil	58 941	m	m	m	58 941	m	m	m
Bulgaria	20 508	21 156	21 972	m	20 508	21 156	21 972	m
China	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	17 116	17 882	18 308	20 437
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	64 776	81 124	84 828	96 780	64 776	81 124	84 828	96 780
Saudi Arabia	m	m	m	m	m	m	m	m
South Africa	m	m	m	m	m	m	m	m

Note: See under Annex X2 Tables for StatLink and Box X2.1 for the notes related to this Table.

Table X2.4. Secondary teachers' statutory salaries, in national currencies, based on the most prevalent qualifications at different points in teachers' careers (2023)

Annual salaries of full-time teachers in public institutions, by level of education

	Lower secondary, general programmes				Upper secondary, general programmes			
OECD countries	Starting salary (1)	Salary after 10 years of experience (2)	Salary after 15 years of experience (3)	Salary at top of scale (4)	Starting salary (5)	Salary after 10 years of experience (6)	Salary after 15 years of experience (7)	Salary at top of scale (8)
Australia	80 038	114 199	114 320	129 015	80 038	114 199	114 320	129 015
Austria	42 586	47 283	52 943	78 918	42 586	51 306	57 404	87 454
Canada	57 163	95 262	99 433	99 433	57 163	95 262	99 433	99 433
Chile	14 222 364	17 551 279	21 350 502	26 322 888	14 707 068	18 197 874	22 093 941	27 292 296
Colombia	45 596 745	83 155 219	83 155 219	83 155 219	45 596 745	83 155 219	83 155 219	83 155 219
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
Czechia	392 400	417 600	435 600	517 200	392 400	417 600	435 600	516 000
Denmark	431 690	482 692	499 103	499 103	400 281	520 190	520 190	520 190
Estonia	19 640	a	a	a	19 640	a	a	a
Finland	38 062	43 633	46 692	49 493	39 964	47 987	50 382	53 405
France[1]	32 186	35 473	37 208	52 596	32 186	35 473	37 208	52 596
Germany	62 322	70 774	74 393	81 368	64 717	72 999	76 894	87 648
Greece	13 104	15 936	17 352	25 848	13 104	15 936	17 352	25 848
Hungary	4 406 112	4 406 112	4 429 704	5 752 858	4 406 112	4 473 552	4 570 992	6 392 064
Iceland	7 666 324	7 739 428	8 080 080	8 256 952	6 959 380	8 224 232	8 839 584	8 839 584
Ireland	41 191	56 434	67 345	77 576	41 191	56 434	67 345	77 576
Israel	119 733	147 928	171 772	264 664	120 556	141 312	170 598	244 464
Italy	27 079	29 895	32 892	40 309	27 187	30 603	33 806	42 116
Japan	3 431 000	4 815 000	5 587 000	6 912 000	3 431 000	4 815 000	5 587 000	7 094 000
Korea	33 991 680	51 356 940	60 023 220	95 570 180	33 991 680	51 356 940	60 023 220	95 570 180
Latvia	10 800	a	a	a	10 800	a	a	a
Lithuania	19 441	20 066	22 342	25 422	19 441	20 066	22 342	25 422
Luxembourg	84 589	105 736	116 683	147 036	84 589	105 736	116 683	147 036
Mexico	352 982	440 972	550 997	682 622	626 806	723 184	830 149	830 149
Netherlands	44 229	67 278	77 098	90 752	44 229	67 278	77 098	90 752
New Zealand	59 305	95 400	95 400	95 400	59 305	95 400	95 400	95 400
Norway	563 800	572 200	572 200	612 700	582 300	625 000	625 000	691 000
Poland	46 085	55 743	67 880	70 758	46 085	55 743	67 880	70 758
Portugal	23 430	28 360	30 046	49 921	23 430	28 360	30 046	49 921
Slovak Republic	12 066	13 562	13 894	15 540	12 066	13 562	13 894	15 540
Slovenia	21 508	26 355	33 127	39 630	21 508	26 355	33 127	39 630
Spain	36 850	40 119	42 709	52 691	36 850	40 119	42 709	52 691
Sweden[2, 3, 4]	435 000	480 000	498 000	576 000	444 000	480 000	501 600	576 000
Switzerland	90 300	115 600	m	138 000	102 100	131 500	m	155 800
Türkiye	293 369	305 936	302 837	318 461	293 369	305 936	302 837	318 461
United States[4]	48 899	68 216	73 787	83 980	51 204	66 973	74 001	80 747
Other participants								
Flemish Comm. (Belgium)	38 597	48 401	54 491	68 700	48 153	61 373	69 988	87 218
French Comm. (Belgium)	37 649	47 034	52 934	64 732	46 795	59 601	67 946	81 855
England (UK)	28 989	a	44 942	44 942	28 989	a	44 942	44 942
Scotland (UK)	37 896	47 565	47 565	47 565	37 896	47 565	47 565	47 565
Partner and/or accession countries								
Argentina	m	m	m	m	m	m	m	m
Brazil	58 941	m	m	m	58 941	m	m	m
Bulgaria	20 508	21 156	21 972	m	20 508	21 156	21 972	m
China	m	m	m	m	m	m	m	m
Croatia	17 116	17 882	18 308	20 437	17 116	17 882	18 308	20 437
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	64 776	81 124	84 828	96 780	64 776	81 124	84 828	96 780
Saudi Arabia	m	m	m	m	m	m	m	m
South Africa	m	m	m	m	m	m	m	m

Note: See under Annex X2 Tables for StatLink and Box X2.1 for the notes related to this Table.

Table X2.5. Trends in teachers' statutory salaries, in national currencies (2000 and 2005 to 2023)[1]

Annual statutory teachers' salaries in public institutions for teachers with 15 years of experience and the most prevalent qualifications, by level of education

	Pre-primary						Primary					
	2000	2005	2010	2015	2020	2023	2000	2005	2010	2015	2020	2023
OECD countries	(1)	(2)	(7)	(12)	(17)	(20)	(21)	(22)	(27)	(32)	(37)	(40)
Australia	m	62 240	74 125	91 291	106 583	114 943	m	62 240	75 382	91 805	102 380	114 544
Austria[1]	m	31 050	35 526	m	m	m	25 826	31 050	35 526	38 225	46 156	50 539
Canada	m	m	m	m	m	m	m	m	m	87 202	93 640	99 433
Chile	m	m	9 154 829	11 449 961	17 528 510	21 350 502	m	m	9 154 829	11 449 961	17 528 510	21 350 502
Colombia	m	m	m	41 239 431	63 276 168	83 155 219	m	m	m	41 239 431	63 276 168	83 155 219
Costa Rica	m	m	m	m	11 790 217	11 790 217	m	m	m	m	11 907 513	11 907 513
Czechia	m	m	m	251 160	358 800	390 000	m	m	m	272 200	399 600	435 600
Denmark	m	m	m	m	397 756	422 697	m	m	m	m	465 241	495 097
Estonia	m	m	m	a	a	a	3 068	4 379	7 728	m	a	a
Finland	19 956	23 333	28 331	30 900	31 966	35 173	24 961	30 791	37 769	39 769	40 824	43 467
France	27 151	28 290	29 610	30 140	32 583	34 535	27 151	28 290	29 610	30 140	32 583	34 535
Germany	m	m	m	m	m	m	m	43 320	47 647	56 267	63 484	68 291
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	751 668	1 739 076	1 780 884	2 884 041	3 178 980	4 429 704	897 168	1 944 576	1 916 568	2 884 041	3 178 980	4 429 704
Iceland	m	2 821 586	3 901 395	m	6 676 644	8 080 080	m	3 100 440	4 264 973	m	6 630 444	8 080 080
Ireland	m	m	m	m	a	a	33 370	48 206	57 390	57 390	62 072	66 692
Israel	72 174	82 076	99 707	145 012	158 912	186 262	75 912	82 179	115 299	130 922	138 394	166 317
Italy	m	25 234	27 645	27 845	29 162	30 271	20 849	25 234	27 645	27 845	29 162	30 271
Japan	m	m	m	m	m	m	6 645 000	6 236 000	5 555 000	5 535 000	5 619 000	5 587 000
Korea	m	38 608 000	42 003 257	50 422 920	57 579 740	60 023 220	m	39 712 000	42 003 257	50 422 920	57 579 740	60 023 220
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	22 342	m	m	m	9 031	16 727	22 342
Luxembourg	m	62 139	93 182	106 536	98 391	108 971	m	62 139	93 182	106 536	98 391	108 971
Mexico	110 833	159 128	208 871	272 901	364 137	435 915	110 833	159 128	208 871	272 901	364 137	435 915
Netherlands	m	m	m	49 002	60 939	72 411	m	m	m	49 002	60 939	72 411
New Zealand	m	m	m	m	m	m	m	m	m	69 099	83 000	95 400
Norway	m	287 000	353 700	419 500	500 000	529 900	m	327 500	386 000	460 850	536 800	572 200
Poland	m	31 216	40 120	47 645	58 441	67 880	m	31 216	40 120	47 645	58 441	67 880
Portugal	m	24 759	27 038	26 321	28 857	30 046	m	24 759	27 038	26 321	28 857	30 046
Slovak Republic	m	m	6 136	7 160	10 036	11 380	m	m	7 492	9 794	12 258	13 894
Slovenia	m	m	26 635	24 607	28 275	31 954	14 123	21 465	27 164	25 550	29 333	33 127
Spain	m	28 122	33 889	32 389	35 339	38 165	m	28 122	33 889	32 389	35 339	38 165
Sweden[2]	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	4 560	16 464	27 701	42 367	77 517	300 238	4 560	16 464	27 701	42 367	77 517	300 238
United States[2, 3]	36 758	41 500	m	m	62 193	73 220	38 046	51 413	52 742	60 705	62 102	70 399
Other participants												
Flemish Comm. (Belgium)	29 586	35 417	40 042	43 842	46 673	54 491	29 586	35 417	40 042	43 842	46 673	54 491
French Comm. (Belgium)	28 485	33 428	38 610	42 425	45 056	52 934	28 485	33 428	38 610	42 425	45 056	52 934
England (UK)	30 018	33 978	35 929	38 584	41 687	44 942	30 018	33 978	35 929	38 584	41 687	44 942
Scotland (UK)	14 022	29 827	33 666	34 887	40 206	47 565	22 743	29 827	33 666	34 887	40 206	47 565
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	21 972	m	m	m	m	m	21 972
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	18 308
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	84 828	m	m	m	m	m	84 828
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	2023	2000	2005	2010	2015	2020	2023
OECD countries	(41)	(42)	(47)	(52)	(57)	(60)	(61)	(62)	(67)	(72)	(77)	(80)
Australia	m	62 384	75 382	91 903	96 709	114 320	m	62 384	75 382	91 903	102 467	114 320
Austria[1]	26 916	33 635	38 451	41 334	48 325	52 943	29 728	34 265	41 382	44 500	52 635	57 404
Canada	m	m	m	87 202	93 640	99 433	m	m	m	87 202	93 640	99 433
Chile	m	m	9 154 829	11 449 961	17 528 510	21 350 502	m	m	9 700 782	11 694 832	18 137 514	22 093 941
Colombia	m	m	m	41 239 431	63 276 168	83 155 219	m	m	m	41 239 431	63 276 168	83 155 219
Costa Rica	m	m	m	m	12 272 960	12 272 960	m	m	m	m	12 272 960	12 272 960
Czechia	m	m	m	272 200	400 800	435 600	m	m	m	272 200	400 800	435 600
Denmark	m	m	m	m	469 723	499 103	m	m	m	m	496 731	520 190
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	46 692	31 115	36 550	43 168	46 363	47 584	50 382
France	28 249	29 433	30 803	32 231	35 121	37 208	28 249	29 433	30 803	32 231	35 121	37 208
Germany	m	46 842	52 784	61 058	69 508	74 393	m	53 096	57 150	64 767	71 880	76 894
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	4 429 704	1 128 996	2 432 388	2 262 636	3 171 916	3 532 200	4 570 992
Iceland	m	3 100 440	4 264 973	m	6 630 444	8 080 080	m	3 198 000	4 104 000	m	7 187 328	8 839 584
Ireland	33 729	48 725	57 981	57 981	62 663	67 345	33 729	48 725	57 981	57 981	62 663	67 345
Israel	76 995	83 744	104 947	143 219	153 229	171 772	75 873	81 353	95 187	119 107	149 269	170 598
Italy	22 836	27 487	30 121	30 340	31 707	32 892	23 518	28 259	30 966	31 189	32 588	33 806
Japan	6 645 000	6 236 000	5 555 000	5 535 000	5 619 000	5 587 000	6 649 000	6 237 000	5 555 000	5 535 000	5 619 000	5 587 000
Korea	m	39 616 000	41 907 257	50 482 920	57 639 740	60 023 220	m	39 616 000	41 907 257	49 762 920	56 919 740	60 023 220
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	22 342	m	m	m	9 031	16 727	22 342
Luxembourg	m	81 258	99 782	111 118	106 005	116 683	m	81 258	99 782	111 118	106 005	116 683
Mexico	141 093	203 399	268 456	350 283	465 340	550 997	m	m	m	514 509	692 596	830 149
Netherlands	m	m	m	61 556	69 554	77 098	m	m	m	61 556	69 554	77 098
New Zealand	m	m	m	71 780	83 000	95 400	m	m	m	74 460	83 000	95 400
Norway	m	327 500	386 000	460 850	536 800	572 200	m	364 000	434 700	524 400	588 100	625 000
Poland	m	31 216	40 120	47 645	58 441	67 880	m	31 216	40 120	47 645	58 441	67 880
Portugal	m	24 759	27 038	26 321	28 857	30 046	m	24 759	27 038	26 321	28 857	30 046
Slovak Republic	m	m	7 492	9 794	12 258	13 894	m	m	7 492	9 794	12 258	13 894
Slovenia	14 123	21 465	27 164	25 550	29 333	33 127	14 123	21 465	27 164	25 550	29 333	33 127
Spain	m	32 293	38 613	36 153	39 440	42 709	m	32 293	38 613	36 153	39 440	42 709
Sweden[2]	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	302 837	4 813	17 402	28 883	43 762	80 027	302 837
United States[2, 3]	43 834	47 215	55 919	62 369	66 105	73 787	43 918	49 467	55 724	61 327	65 248	74 001
Other participants												
Flemish Comm. (Belgium)	31 191	35 417	40 042	43 842	46 673	54 491	39 886	45 301	51 454	56 311	59 946	69 988
French Comm. (Belgium)	30 327	33 802	38 610	42 425	45 056	52 934	39 040	43 519	49 764	54 499	57 869	67 946
England (UK)	30 018	33 978	35 929	38 584	41 687	44 942	30 018	33 978	35 929	38 584	41 687	44 942
Scotland (UK)	22 743	29 827	33 666	34 887	40 206	47 565	22 743	29 827	33 666	34 887	40 206	47 565
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	21 972	m	m	m	m	m	21 972
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	m	m	18 308	m	m	m	m	m	18 308
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	84 828	m	m	m	m	m	84 828
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 under Annex X2 Tables for StatLink and Box X2.1 for the notes related to this Table.

Table X2.6. Trends in teachers' average actual salaries, in national currencies (2000, 2005 and 2010 to 2023)

Annual average salaries (including bonuses and allowances) of teachers aged 25-64, by level of education

	Pre-primary						Primary					
	2000	2005	2010	2015	2020	2023	2000	2005	2010	2015	2020	2023
OECD countries	(1)	(2)	(3)	(8)	(13)	(16)	(17)	(18)	(19)	(24)	(29)	(32)
Australia	m	m	77 641	m	101 104	m	m	m	78 352	81 730	93 686	101 351
Austria	m	m	m	m	m	m	m	m	m	47 416[b]	51 860	57 779
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	13 954 540	m	m	m	m	14 691 156	14 306 150
Czechia	m	m	228 603	277 809	415 700	m	m	m	290 682	325 614	515 600	m
Denmark	m	m	m	m	393 200	417 679	m	m	m	m	477 308	507 023
Estonia	m	m	m	8 807	14 814	18 919	m	m	m	13 254	19 387	24 405
Finland[2]	m	m	29 759	32 637	34 406	37 040	28 723	35 654	40 458	44 085	45 301	47 896
France	m	m	31 467	33 835	38 202	m	m	m	30 881	32 978	37 111	m
Germany	m	m	m	m	m	m	m	m	m	53 610	60 792	65 659
Greece	m	m	m	16 085	17 328	17 879	m	m	m	16 085	17 328	17 879
Hungary	m	m	2 217 300	3 238 584	3 939 026	5 323 513	m	m	2 473 800	3 373 500	4 111 792	5 546 415
Iceland[2]	m	m	m	5 261 000	6 772 000	8 620 000	m	m	m	5 966 000	7 450 000	9 075 000
Ireland	m	m	m	m	m	m	m	m	m	m	58 975	64 159
Israel	m	m	110 959	161 247	169 452	196 275	m	m	123 151	162 049	175 071	197 842
Italy	m	m	25 774	28 672	29 157	30 141	m	m	25 774	28 672	29 157	30 141
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	15 224	m	m	m	9 981	15 278	18 027
Lithuania	m	m	m	9 732	18 576	26 616	m	m	m	9 732	18 576	26 616
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	66 044[b]	m	m	43 374	45 126	56 127	66 044[b]
New Zealand	m	m	m	m	m	m	m	m	m	68 833	79 291	87 670
Norway	m	289 548	368 580	448 797	518 890	559 221	m	348 877	422 930	505 878	572 804	618 270
Poland	m	m	40 626	49 856	m	72 571	m	m	46 862	57 738	m	86 490
Portugal	m	m	m	31 234	33 805	35 887	m	m	m	28 561	30 502	32 930
Slovak Republic	m	m	m	8 986	13 144	15 747	m	m	m	12 185	17 089	19 954
Slovenia[2]	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	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	38 028	40 268	48 103	50 946	54 934	64 207	38 746	41 059	49 133	52 516	55 980	65 977
Other participants												
Flemish Comm. (Belgium)	m	m	41 046	44 357	47 024	55 426	m	m	41 543	44 848	46 582	54 650
French Comm. (Belgium)	m	m	m	42 741	45 634	54 714	m	m	m	42 468	44 623	53 106
England (UK)	22 968	29 418	33 680	33 011	35 748	38 235	22 968	29 418	33 680	33 011	35 748	38 235
Scotland (UK)	m	m	31 884	33 166	37 492	46 087	m	m	31 884	33 166	37 492	46 087
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	85 037	m	m	m	m	m	88 019
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	2023	2000	2005	2010	2015	2020	2023
OECD countries	(33)	(34)	(35)	(40)	(45)	(48)	(49)	(50)	(51)	(56)	(61)	(64)
Australia	m	m	78221	82516	95 270	101 824	m	m	78 225	82 542	93 298	101 904
Austria	m	m	m	55 799[b]	58 483	63 782	m	m	m	60 152[b]	66081	68 696
Canada	m	m	m	m	m	m	m	m	m	m	m	m
Chile	m	m	m	11325494	m	m	m	m	m	12 365 587	m	m
Colombia	m	m	m	m	m	m	m	m	m	m	m	m
Costa Rica	m	m	m	m	17669 394	18 238 664	m	m	m	m	17 669 394	18 238 664
Czechia	m	m	289 771	325034	512 000	m	m	m	313 534	338 662	537100	m
Denmark	m	m	m	m	480 476	509 967	m	m	m	m	566 438	593 905
Estonia	m	m	m	13254	19 387	24 405	m	m	m	13 254	19387	24405
Finland[2]	32 919	39 519	44 421	48 497	50 398	52 833	37728	44 051	49 808	54378	56 929	59 215
France	m	m	37 232	38508	41 442	m	m	m	41 794	43 338	45 887	m
Germany	m	m	m	59 153	67 007	72 214	m	m	m	62 760	70 913	75 564
Greece	m	m	m	17 103	18 522	18 961	m	m	m	17 103	18 522	18 961
Hungary	m	m	2 473 800	337 3500	4 111 792	5 546 415	m	m	2814 100	3 588 180	4 471 546	5 939 241
Iceland[2]	m	m	m	5 966 000	7 450 000	9 075 000	m	m	5 172 300	7 931 000	9 988 000	11 726 000
Ireland	m	m	m	m	61 414	67 860	m	m	m	m	61 414	67 860
Israel	m	m	126 309	176 907	186 766	208 873	m	m	133 790	160 763	199 084	209236
Italy	m	m	27 170	28 581	31 269	32 079	m	m	28 986	30 991	33 261	34 027
Japan	m	m	m	m	m	m	m	m	m	m	m	m
Korea	m	m	m	m	m	m	m	m	m	m	m	m
Latvia	m	m	m	9 320	15 069	19 485	m	m	m	10 430	16 499	21 370
Lithuania	m	m	m	9 732	18 576	26 616	m	m	m	9732	18 576	26 616
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	52831	56 796	65212	72152	m	m	52 831	56 796	65 212	72 152
New Zealand	m	m	m	70 223	79 885	88 229	m	m	m	74 624	86 522	93 779
Norway	m	348 877	422 930	505 878	572 804	618 270	m	372694	449 704	555 315	621 412	670 167
Poland	m	m	47 410	58 907	m	87 498	m	m	46147	57 837	m	89535
Portugal	m	m	m	27903	29 686	32 332	m	m	m	30 431	32 093	34962
Slovak Republic	m	m	m	12 185	17 089	19 954	m	m	m	12 176	17 737	20 969
Slovenia[2]	m	m	m	24504	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	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	50158	53548	58 625	68 324	41 124	43588	52 188	55 328	61 162	70599
Other participants												
Flemish Comm. (Belgium)	m	m	41 277	43 718	46 590	54 490	m	m	54 381	56 594	55 965	65434
French Comm. (Belgium)	m	m	m	41586	43 463	52 071	m	m	m	53 006	55100	65 042
England (UK)	25 347	32 355	36 173	36650	39 860	42 532	25347	32355	36173	36 650	39 860	42 532
Scotland (UK)	m	m	31 884	33 166	37 492	46 087	m	m	31 884	33 166	37 492	46 087
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	88 795	m	m	m	m	m	90 411
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 under Annex X2 Tables for StatLink and Box X2.1 for the notes related to this Table

Table X2.7. Reference statistics used in calculating salaries of teachers and school heads (2000 and 2005 to 2023)

	Purchasing power parity (PPP) for private consumption[1]					Deflators for private consumption (2015 = 100)							Reference year for statutory salary data	Reference year for actual salary data
	2021	2022	2023	Jan 2022	Jan 2023	Jan 2000	Jan 2005	Jan 2010	Jan 2015	Jan 2020	Jan 2022	Jan 2023		
OECD countries	(1)	(2)	(3)	(4)= ((1)+(2))/2	(5)= ((2)+(3))/2	(6)	(7)	(12)	(17)	(22)	(24)	(25)	(26)	(27)
Australia	1.56	1.44	1.44	1.50	1.44	69	78	90	100	107	112	118	2023	2023
Austria	0.81	0.73	0.73	0.77	0.73	75	82	90	100	109	116	125	2022/23	2022/23
Canada	1.33	1.23	1.23	1.28	1.23	80	87	93	100	106	113	118	2022/23	m
Chile	496.52	482.88	482.88	489.70	482.88	58	68	83	100	116	130	141	2023	2022
Colombia	1 558.65	1 547.09	1 547.09	1 552.87	1 547.09	48	66	83	100	123	141	156	2023	m
Costa Rica	383.48	364.00	364.00	373.74	364.00	30	52	83	100	110	120	126	2023	2023
Czechia	14.85	13.79	13.79	14.32	13.79	76	85	95	100	110	123	138	2022/23	2021/22
Denmark	7.79	7.37	7.37	7.58	7.37	77	84	93	100	103	109	115	2022/23	2022/23
Estonia	0.64	0.65	0.65	0.64	0.65	57	69	87	100	112	125	142	2022/23	2022/23
Finland	0.93	0.84	0.84	0.88	0.84	76	82	90	100	104	109	115	2022/23	2022/23
France	0.82	0.74	0.74	0.78	0.74	82	89	95	100	104	109	115	2022/23	2021
Germany	0.79	0.73	0.73	0.76	0.73	82	88	94	100	106	113	120	2022/23	2022/23
Greece	0.64	0.59	0.59	0.62	0.59	79	89	101	100	98	103	108	2022/23	2022/23
Hungary	179.15	176.60	176.60	177.87	176.60	50	69	87	100	115	134	159	2022/23	2022/23
Iceland	166.67	153.59	153.59	160.13	153.59	45	55	84	100	110	120	130	2022/23	2022/23
Ireland	1.05	0.95	0.95	1.00	0.95	83	97	96	100	107	115	123	2022/23	2022/23
Israel	4.27	3.84	3.84	4.05	3.84	76	82	92	100	100	104	108	2022/23	2022/23
Italy	0.74	0.67	0.67	0.70	0.67	74	84	93	100	103	108	115	2022/23	2022/23
Japan	117.19	104.97	104.97	111.08	104.97	108	103	100	100	102	104	107	2022/23	m
Korea	995.28	927.74	927.74	961.51	927.74	68	81	91	100	106	111	116	2023	m
Latvia	0.58	0.57	0.57	0.58	0.57	51	65	91	100	111	123	137	2022/23	2022/23
Lithuania	0.53	0.53	0.53	0.53	0.53	70	70	92	100	110	126	144	2022/23	2022/23
Luxembourg	1.00	0.91	0.91	0.96	0.91	74	84	92	100	108	113	118	2022/23	m
Mexico	11.84	10.68	10.68	11.26	10.68	47	62	83	100	124	139	147	2022/23	m
Netherlands	0.85	0.78	0.78	0.81	0.78	77	87	93	100	108	116	125	2022/23	2022/23
New Zealand	1.60	1.51	1.51	1.56	1.51	77	83	94	100	106	114	121	2023	2023
Norway	10.77	9.61	9.61	10.19	9.61	75	83	92	100	112	119	125	2022/23	2022/23
Poland	2.01	1.90	1.90	1.95	1.90	68	81	92	100	107	122	137	2022/23	2022/23
Portugal	0.66	0.59	0.59	0.62	0.59	72	85	94	100	106	112	119	2022/23	2022/23
Slovak Republic	0.66	0.58	0.58	0.62	0.58	61	80	92	100	107	119	133	2022/23	2022/23
Slovenia	0.64	0.59	0.59	0.62	0.59	62	82	95	100	104	112	123	2022/23	2021/22
Spain	0.71	0.64	0.64	0.68	0.64	71	83	94	100	104	110	116	2022/23	m
Sweden	9.64	8.66	8.66	9.15	8.66	82	88	95	100	108	115	122	2022	2022
Switzerland	1.32	1.17	1.17	1.25	1.17	95	98	103	100	101	102	104	2022/23	m
Türkiye	3.15	4.83	7.30	3.99	6.07	13	48	70	100	172	309	527	2022/23	m
United States	1.00	1.00	1.00	1.00	1.00	75	83	92	100	107	116	122	2022/23	2022/23
Other participants														
Flemish Comm. (Belgium)[2]	0.83	0.77	0.77	0.80	0.77	75	84	92	100	108	117	126	2022/23	2022/23
French Comm. (Belgium)[2]	0.83	0.77	0.77	0.80	0.77	75	84	92	100	108	117	126	2022/23	2022/23
England (UK)[2]	0.77	0.73	0.73	0.75	0.73	77	82	91	100	107	114	122	2022/23	2022/23
Scotland (UK)[2]	0.77	0.73	0.73	0.75	0.73	77	82	91	100	107	114	122	2022/23	2022/23
Partner and/or accession countries														
Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Brazil	2.53	2.56	2.56	2.55	2.56	33	51	68	100	130	152	164	2023	m
Bulgaria	0.80	0.76	0.76	0.78	0.76	62	74	92	100	112	128	146	2022/23	m
China	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	0.52	0.49	0.49	0.51	0.49	67	78	93	100	102	111	121	2022/23	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	1.98	1.95	1.95	1.96	1.95	24	61	86	100	115	131	147	2022/23	2022/23
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

Note: See under Annex X2 Tables for StatLink and Box X2.1 for the notes related to this Table

Table X2.8. Distribution of teachers, by minimum or most prevalent qualifications and level of education (2023)

Teachers who have either the minimum or a higher than minimum (and most prevalent) qualification, in public institutions

	Pre-primary			Primary			Lower secondary, general programmes			Upper secondary, general programmes		
	Is there a difference between "minimum" and "most prevalent" qualifications?	Percentage of teachers in a salary range based on the minimum qualification for teachers to enter the teaching profession in 2023	Percentage of teachers in a salary range based on a higher than minimum (and most prevalent) qualification to enter the teaching profession in 2023	Is there a difference between "minimum" and "most prevalent" qualifications?	Percentage of teachers in a salary range based on the minimum qualification for teachers to enter the teaching profession in 2023	Percentage of teachers in a salary range based on a higher than minimum (and most prevalent) qualification to enter the teaching profession in 2023	Is there a difference between "minimum" and "most prevalent" qualifications?	Percentage of teachers in a salary range based on the minimum qualification for teachers to enter the teaching profession in 2023	Percentage of teachers in a salary range based on a higher than minimum (and most prevalent) qualification to enter the teaching profession in 2023	Is there a difference between "minimum" and "most prevalent" qualifications?	Percentage of teachers in a salary range based on the minimum qualification for teachers to enter the teaching profession in 2023	Percentage of teachers in a salary range based on a higher than minimum (and most prevalent) qualification to enter the teaching profession in 2023
OECD countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Australia	No	100	a	No	100	a	No	100	a	No	100	a
Austria	m	m	m	Yes	32	m	Yes	28	m	Yes	16	m
Canada	m	a	a	No	m	a	No	m	a	No	m	a
Chile	No	m	a	No	m	a	No	m	a	No	m	a
Colombia	Yes	9	37	Yes	18	34	No	43[d]	a	No	x(8)	a
Costa Rica	Yes	6	94	Yes	12	78	Yes	10	65	Yes	10	65
Czechia	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	m	a	a	No	m	a	No	m	a	No	m	a
Finland	No	100	a	No	55	a	No	90	a	No	97	a
France	No	98	a	No	98	a	No	82	a	No	64	a
Germany	m	a	a	No	100	a	No	100	a	No	100	a
Greece	No	100	a	No	100	a	No	100	a	No	100	a
Hungary	No	m	a	No	m	a	Yes	m	m	No	m	a
Iceland	No	m	a	No	m	a	No	m	a	No	m	a
Ireland	m	a	a	No	34	a	No	33[d]	a	No	x(8)	a
Israel	No	62	a	No	50	a	Yes	38	m	Yes	41	m
Italy	No	100	a	No	100	a	No	100	a	No	100	a
Japan	m	a	a	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	No	m	a	No	m	a	No	m	a	No	m	a
Luxembourg	No	75	a	No	87	a	No	65	a	No	77	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	a	a	a	Yes	44	44	Yes	29	58	Yes	12	70
Norway	No	100	a	Yes	31[d]	49[d]	Yes	x(5)	x(6)	Yes	10	53
Poland	Yes	0	92	Yes	0[d]	97[d]	Yes	x(5)	x(6)	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	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)[2]	No	100	a	No	100	a	No	90	a	Yes	24	72
French Comm. (Belgium)	No	98	a	No	91	a	No	81	a	Yes	5	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	m	m
Brazil	No	m	a	No	m	a	No	m	a	No	m	a
Bulgaria	No	m	a	No	m	a	No	m	a	No	m	a
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	a	a	Yes	12[d]	76[d]	Yes	x(5)	x(6)	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	8	92	Yes	8	92	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 under Annex X2 Tables for StatLink and Box X2.1 for the notes related to this Table

Table X2.9. Distribution of teachers aged 25-64, by educational attainment and level of education (2023)

Percentage of teachers

	Pre-primary			Primary			Lower secondary, general programmes			Upper secondary, general programmes		
	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]	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
Czechia[1]	68	22	10	8	5	87	6	7	87	2	3	95
Denmark	m	m	m	m	m	m	m	m	m	0	0	100
Estonia	24	52	24	10	28	62	8	21	71	4	15	81
Finland	20	73	7	2	3	95	2	3	95	0	2	98
France[1]	x(4)	x(5)	x(6)	11[d]	55[d]	33[d]	x(10)	x(11)	x(12)	5[d]	54[d]	40[d]
Germany	m	m	m	m	m	m	m	m	m	m	m	m
Greece	x(4)	x(5)	x(6)	0[d]	80[d]	20[d]	x(10)	x(11)	x(12)	0[d]	70[d]	30[d]
Hungary	5	92	3	1[d]	74[d]	26[d]	x(4)	x(5)	x(6)	0	8	92
Iceland	23	56	21	9[d]	60[d]	30[d]	x(4)	x(5)	x(6)	14	35	51
Ireland	a	a	a	0	100[d]	x(5)	x(10)	x(11)	x(12)	0[d]	60[d]	40[d]
Israel	1	62	37	2	50	48	1	38	61	5	41	54
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	15	63	22	0	72	28	0	68	32	0	65	35
Latvia	20	80[d]	x(2)	7	93[d]	x(5)	4	96[d]	x(8)	2	98[d]	x(11)
Lithuania	m	m	m	m	m	m	m	m	m	m	m	m
Luxembourg	m	m	m	m	m	m	m	m	m	m	m	m
Mexico	18	70	11	9	78	13	14	69	16	m	m	m
Netherlands	x(4)	x(5)	x(6)	0[d]	81[d]	19[d]	x(10)	x(11)	x(12)	0[d]	64[d]	36[d]
New Zealand	m	m	m	7	88	5	6	87	7	3	82	15
Norway	4	95	1	4	81	15	x(4)	x(5)	x(6)	3	47	50
Poland	0	8	92	0	2	97	0	3	97	0	1	99
Portugal	0	12	88	0	7	93	0	3	97	0	4	96
Slovak Republic	m	m	m	m	m	m	m	m	m	m	m	m
Slovenia[1]	11	63	26	12	8	80	15	4	81	1	5	94
Spain	0	100	0	0	100	0	0	0	100	0	0	100
Sweden[1]	27	69	4	4	61	35	3	24	73	2	12	86
Switzerland	m	m	m	m	m	m	m	m	m	m	m	m
Türkiye	1	93	6	4	90	6	0	92	8	1	78	21
United States	0	45	55	0	40	60	1	37	62	2	31	67
Other participants												
Flemish Comm. (Belgium)	2	97	1	2	95	3	5	84	11	2	25	73
French Comm. (Belgium)	0	98	2	1	93	6	1	80	18	1	9	90
England (UK)	x(4)	x(5)	x(6)	1[d]	42[d]	58[d]	x(10)	x(11)	x(12)	1[d]	20[d]	79[d]
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	39	57	2	32	66	2	33	65	2	22	76
China	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	m	m	m	x(5)	13[d]	87[d]	x(5)	x(5)	x(6)	0	0	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 under Annex X2 Tables for StatLink and Box X2.1 for the notes related to this Table

Table X2.10. Distribution of school heads aged 25-64, by educational attainment and level of education (2023)

Percentage of school heads

	Pre-primary			Primary			Lower secondary, general programmes			Upper secondary, general programmes		
	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]	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
Czechia[1]	54	26	20	2[d]	2[d]	97[d]	x(4)	x(5)	x(6)	1	2	97
Denmark	0	100	0	0	100[d]	x(5)	0	100	x(8)	0	0	100
Estonia	0	24	75	2	8	90	1	7	92	0	2	97
Finland	19	61	20	0	2	98	1	1	98	0	0	100
France[1]	x(4)	x(5)	x(6)	11[d]	55[d]	33[d]	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]	61[d]	39[d]	x(10)	x(11)	x(12)	0[d]	35[d]	65[d]
Hungary	1	94	5	0[d]	69[d]	31[d]	x(4)	x(5)	x(6)	0	46	54
Iceland	22	49	30	3[d]	49[d]	48[d]	x(4)	x(5)	x(6)	11	36	53
Ireland	a	a	a	0	100[d]	x(5)	x(10)	x(11)	x(12)	0[d]	60[d]	40[d]
Israel	a	a	a	0	4	96	0	1	99	2	18	80
Italy	a	a	a	0	0	100[d]	0	0	x(6)	0	0	x(6)
Japan	m	m	m	m	m	m	m	m	m	m	m	m
Korea	1	6	93	0	12	88	0	10	90	0	9	91
Latvia	1	99[d]	x(2)	0	100[d]	x(5)	1	99[d]	x(8)	1	99[d]	x(11)
Lithuania	m	m	m	m	m	m	m	m	m	m	m	m
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	x(4)	x(5)	x(6)	0[d]	62[d]	38[d]	x(10)	x(11)	x(12)	0[d]	47[d]	53[d]
New Zealand	m	m	m	m	m	m	m	m	m	m	m	m
Norway	4	94	1	2[d]	85[d]	13[d]	x(4)	x(5)	x(6)	2	46	52
Poland	0	1	99	0[d]	0[d]	100[d]	x(4)	x(5)	x(6)	0	0	100
Portugal	0[d]	5[d]	95[d]	x(1)	x(2)	x(3)	x(1)	x(2)	x(3)	x(1)	x(2)	x(3)
Slovak Republic	m	m	m	m	m	m	m	m	m	m	m	m
Slovenia[1]	0	46	54	0[d]	0[d]	100[d]	x(4)	x(5)	x(6)	0	2	98
Spain	m	m	m	m	m	m	m	m	m	m	m	m
Sweden[1]	36	53	10	10[d]	45[d]	45[d]	x(4)	x(5)	x(6)	9	23	68
Switzerland	m	m	m	m	m	m	m	m	m	m	m	m
Türkiye	2	59	39	8	60	32	2	66	32	1	60	39
United States	0	2	98	0	2	98	0	2	98	0	2	98
Other participants												
Flemish Comm. (Belgium)	0	95	6	0	95	6	0	60	40	0	9	91
French Comm. (Belgium)	0	94	6	0	93	7	0	69	31	0	23	77
England (UK)	x(4)	x(5)	x(6)	0[d]	50[d]	50[d]	x(10)	x(11)	x(12)	0[d]	16[d]	84[d]
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	13	86	x(5)	6[d]	94[d]	x(4)	x(5)	x(6)	x(4)	x(5)	x(6)
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 under Annex X2 Tables for StatLink and Box X2.1 for the notes related to this Table

Box X2.1. Notes for Annex 2 Tables

Table X2.1. Basic reference statistics in current prices (reference period: calendar year, 2012, 2015, 2020, 2021, 2022)

For countries where GDP is not reported for the same reference period as data on educational finance, GDP is estimated as: wt-1 (GDPt - 1) + wt (GDPt), where wt and wt-1 are the weights for the respective portions of the two reference periods for GDP which fall within the educational financial year. Adjustments were made in Part 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, 2020, 2021, 2022)

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 (2023)

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. The minimum and the most prevalent qualifications are described in Table X3.D3.3 in *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

1. Data on teachers in pre-primary programmes include the data for teachers in early childhood education and care.
2. Year of reference 2022.
3. Data excludes the social security contributions and pension-scheme contributions paid by the employees.
4. Actual salaries: Sweden (including teachers of general subjects within vocational programmes) and the United States (excluding bonuses and allowances).

Table X2.4. Secondary teachers' statutory salaries, in national currencies, based on the most prevalent qualifications at different points in teachers' careers (2023)

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. The minimum and the most prevalent qualifications are described in Table X3.D3.3 in *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

1. Data includes the average of fixed bonuses for overtime hours.
2. Year of reference 2022.
3. Data excludes the social security contributions and pension-scheme contributions paid by the employees.
4. Actual salaries: Sweden (including teachers of general subjects within vocational programmes) and the United States (excluding bonuses and allowances).

Table X2.5. Trends in teachers' statutory salaries, in national currencies (2000 and 2005 to 2023)

Data on salaries for countries now in the euro area are shown in euros. Years 2006 to 2009, 2011 to 2014, 2016 to 2019, 2021 and 2022 (i.e. Columns 3 to 6, 8 to 11, 13 to 16, 18 to 19, 23 to 26, 28 to 31, 33 to 36, 38 to 39, 43 to 46, 48 to 51, 53 to 56, 58 to 59, 63 to 66, 68 to 71, 73 to 76 and 78 to 79) are available for consultation on line (see StatLink). 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. The minimum and the most prevalent qualifications are described in Table X3.D3.3 in *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en). See explanations on the break in the time series in Table X3.D3.12 in *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

1. Figures for the pre-primary level refer to primary teachers (in primary schools only) teaching pre-primary classes.
2. Actual salaries: Sweden (including teachers of general subjects within vocational programmes) and the United States (excluding bonuses and allowances).
3. The most prevalent qualification for pre-primary and primary teachers in 2000 was a bachelor's degree or equivalent (ISCED 6), and a master's degree or equivalent (ISCED 7) in subsequent years.

Table X2.6. Trends in teachers' average actual salaries, in national currencies (2000, 2005 and 2010 to 2023)

Years 2011 to 2014, 2016 to 2019 and 2022 to 2023 (i.e. Columns 4 to 7, 9 to 12, 14 to 15, 20 to 23, 25 to 28, 30 to 31, 36 to 39, 41 to 44, 46 to 47, 52 to 55, 57 to 60 and 62 to 63) are available for consultation on line (see StatLink). See explanations on the break in the time series in Table X3.D3.12 in *Education at a Glance 2024 Sources, Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

1. Data on salaries for countries now in the euro area are shown in euros.
2. Data on teachers in pre-primary education include the data for teachers in early childhood education and care.

Table X2.7. Reference statistics used in calculating salaries of teachers and school heads (2000 and 2005 to 2023)

Values for PPPs and deflators were extracted from the OECD Data Explorer on national accounts (http://data-explorer.oecd.org/s/5t) on 20 March 2024. As 2023 PPPs were not available on this date, values for 2022 have been used for 2023 (except for one country). Deflators for the years 2006 to 2009, 2011 to 2014 and 2016 to 2019 and 2021 (i.e. Columns 8 to 11, 13 to 16, 18 to 21 and 23) are available for consultation on line (see StatLink).

1. Data on PPPs for countries now in the euro area are shown in euros.
2. Data on PPPs and deflators refer to the whole country: Belgium for the Flemish and the French Community of Belgium, and the United Kingdom for England and Scotland.

Table X2.8. Distribution of teachers, by minimum or most prevalent qualifications and level of education (2023)

See *Definitions* and *Methodology* sections of Chapter D3 for more information.

1. Year of reference 2022.
2. Government-dependent private institutions included.

Table X2.9. Distribution of teachers aged 25-64, by educational attainment and level of education (2023)

1. Reference year differs from 2023: 2022 for Chile, Czechia, Slovenia and Sweden; and 2021 for France.

Table X2.10. Distribution of school heads aged 25-64, by educational attainment and level of education (2023)

1. Reference year differs from 2023: 2022 for Chile, Czechia, Slovenia and Sweden; and 2021 for France.

For further methodological information, please consult *Education at a Glance 2024 Sources Methodologies and Technical Notes* (https://doi.org/10.1787/e7d20315-en).

Data and more breakdowns are available at the OECD Data Explorer – Education and Skills (http://data-explorer.oecd.org/s/5q).

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

Contributors to this publication

INES Working Party

Ms Gladys KOCHEN (Argentina)
Mr Tomás CIOCCI (Argentina)
Ms Isabel PUENTE (Argentina)
Ms María Laura ALONSO (Argentina)
Mr Stuart FAUNT (Australia)
Ms Manon GAHAN (Australia)
Ms Alex GORDON (Australia)
Dr Caterina HO (Australia)
Dr Steve NERLICH (Australia)
Ms Siobhán PIELOW (Australia)
Ms Ping YU (Australia)
Mr Markus BÖNISCH (Austria)
Ms Julia WALTER. (Austria)
Ms Sabine MARTINSCHITZ (Austria)
Mr Mark NÉMET (Austria)
Mr Wolfgang PAULI (Austria)
Ms Helga POSSET (Austria)
Ms Natascha RIHA (Austria)
Ms Ruth Janssens (Belgium)
Mr Philippe DIEU (Belgium)
Ms Isabelle ERAUW (Belgium)
Ms Nathalie JAUNIAUX (Belgium)
Mr Guy STOFFELEN (Belgium)
Mr Robert THOLEN (Belgium)
Ms Christyne Carvalho DA SILVA (Brazil)
Ms Juliana MARQUES DA SILVA (Brazil)
Mr Patric BLOUIN (Canada)
Ms Julie HUDSON (Canada)
Ms Klarka ZEMAN (Canada)
Ms Linda WANG (Canada)
Mr Colin BAILEY (Canada)
Ms Rhonda SHAW (Canada)
Mr Marouane MOHAMED (Canada)
Mr Nikola ELEZ (Canada)
Ms Paola LEIVA (Chile)
Ms Carla ITURRIETA (Chile)
Ms María José CARO (Chile)
Mr Juan SALAMANCA (Chile)
Mr Camilo GUTIERREZ (Colombia)
Ms Elsa Nelly VELASCO (Colombia)
Ms Paula BOTERO (Colombia)
Ms Ana Milena FAJARDO (Colombia)
Mr Wilfer VALERO (Colombia)
Ms Erika VILLAMIL (Colombia)
Mr Jaime VIZCAINO (Colombia)
Ms Amalia PEÑA (Colombia)
Ms Carolina CHAVES (Costa Rica)
Ms Dixie BRENES (Costa Rica)
Mr Olman MADRIGAL (Costa Rica)
Ms Cinthya PICADO (Costa Rica)
Mr Walter SEGURA (Costa Rica)
Ms Annia ZUÑIGA (Costa Rica)
Mr Vladimír HULÍK (Czechia)
Mr Václav JELEN (Czechia)
Ms Simona PIKÁLKOVÁ (Czechia)
Ms Petra PRCHLÍKOVÁ (Czechia)
Mr Klaus RASMUSSEN (Denmark)
Mr Thomas SKJØDT (Denmark)
Ms Line KALMAR (Denmark)
Ms Trine Piepgras CARSTENS (Denmark)
Mr Thomas SKJØDT (Denmark)
Ms Heleri GAPONENKO (Estonia)
Ms Ingrid JAGGO (Estonia)
Ms Marianne LEPPIK (Estonia)
Ms Käthrin RANDOJA (Estonia)
Mr Arnaud DESURMONT (Eurostat, European Commission)
Ms Malgorzata STADNIK (Eurostat, European Commission)
Mr Jukka HAAPAMÄKI (Finland)
Mr Mika TUONONEN (Finland)
Ms Petra PACKALEN (Finland)
Ms Meriam BARHOUMI (France)
Mr Louis BODELIN (France)
Ms Alexandra FARRUGIA (France)
Ms Maryse FESSEAU (France)
Ms Valérie LIOGIER (France)

Mr Guirane NDAO (France)
Mr Robert RAKOCEVIC (France)
Ms Sylvie ROUSSEAU (France)
Mr Frédéric TALLET (France)
Ms Pia BRUGGER (Germany)
Ms Saskia SANDFORTH (Germany)
Mr Hans-Werner FREITAG (Germany)
Ms Mareen HALLIER (Germany)
Mr Michael LENZEN (Germany)
Ms Marie LEISTE (Germany)
Mr Martin SCHULZE (Germany)
Ms Eleni Gyftaki (Greece)
Ms Maria FASSARI (Greece)
Mr Antonios KRITIKOS (Greece)
Ms Vassiliki MAKRI (Greece)
Mr Athanasios STAVROPOULOS (Greece)
Mr István BUCSI SZABÓ (Hungary)
Ms Sára HATONY (Hungary)
Ms Kata SZEPESVÁRY-SÁNDOR (Hungary)
Mr Helgi Eiríkur EYJÓLFSSON (Iceland)
Ms Anna Guðrún RAGNARSDÓTTIR (Iceland)
Ms Ásta M. URBANCIC (Iceland)
Mr Paul ALEXANDER (Ireland)
Mr Pádraig BROCK (Ireland)
Mr Jason KELLY (Ireland)
Ms Sophie ARTSEV (Israel)
Mr Yoav AZULAY (Israel)
Ms Orit BARANY (Israel)
Ms Rachel CHASIN (Israel)
Ms Hana COHEN (Israel)
Ms Tsofiya FISHMAN (Israel)
Ms Dganit GAILIS (Israel)
Mr Aviel KRENTZLER (Israel)
Mr Daniel LEVI-MAZLOUM (Israel)
Ms Orit LEVIN (Israel)
Mr David MAAGAN (Israel)
Ms Iris Avigail MATATYAHU (Israel)
Mr Amos MESSIKA (Israel)
Mr Dov NATAN (Israel)
Ms Michal SALANSKY
Ms Daniela DI ASCENZO (Italy)
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Ms Claudia PIZZELLA (Italy)
Ms Francesca SALVINI (Italy)
Ms Lucia DE FABRIZIO (Italy)
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Mr Kei EDA (Japan)
Ms Shiho FUJIWARA (Japan)
Mr Yorihisa ONEDA (Japan)
Mr Masataka ISASHIKI (Japan)
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Ms Aya NAGANUMA (Japan)
Mr Samsoo KWON (Korea)
Ms Yeongseo YOON (Korea)
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Ms Sohyun IM (Korea)
Mr Keunyoung PARK (Korea)
Ms Eunji LEE (Korea)
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Mr Donghyun KIM (Korea)
Ms Eunji JANG (Korea)
Ms Nayoung KIM (Korea)
Ms Hyojung HAN (Korea)
Ms Hong Jihyeon (Korea)
Ms Ahyoung Lee (Korea)
Ms Gunita DELIJEVA (Latvia)
Ms Annika GĒGERMANE (Latvia)
Ms Elīna GULBE (Latvia)
Ms Dace KALSONE (Latvia)
Ms Kristīne KNIPELE (Latvia)
Mr Viktors KRAVČENKO (Latvia)
Ms Agija NIKA (Latvia)
Ms Baiba ZUKULA (Latvia)
Mr Ričardas ALIŠAUSKAS (Lithuania)
Ms Rita DUKYNAITĖ (Lithuania)
Ms Daiva MARCINKEVIČIENĖ (Lithuania)
Ms Giedrė PAČĖSIENĖ (Lithuania)
Ms Vilma MALINAUSKIENĖ (Lithuania)
Ms Jolita LIEPYTĖ (Lithuania)
Mr Bruno Rodrigues (Luxembourg)
Mr Romain Martin (Luxembourg)
Ms Elisa MAZZUCATO (Luxembourg)
Ms Nevena ZHELYAZKOVA (Luxembourg)
Mr Marco CALDERÓN ARGOMEDO (Mexico)
Mr Luis DEGANTE MÉNDEZ (Mexico)
Ms Alicia del Rosario NAVA CARDONA (Mexico)
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Ms María del Carmen REYES GUERRERO (Mexico)
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Mr Lorenzo VERGARA LÓPEZ (Mexico)
Ms Laura WIELENGA (Netherlands)
Ms Kiki VAN NEDEN (Netherlands)
Mr Mark ZUIDERWIJK (Netherlands)

Mr Dennis VAN GESSEL (Netherlands)
Ms Cheyenne RAMADA (Netherlands)
Ms Daniëlle VAN KLAVEREN (Netherlands)
Mr Dominique GESCHIERE (Netherlands)
Mr Tristan BERLIJN (Netherlands)
Mr Sybren SPIT (Netherlands)
Mr David SCOTT (New Zealand)
Mr Paul MAHONEY (New Zealand)
Mr Minghong Deng (New Zealand)
Mr Nawid FAZLI (Norway)
Mr Geir NYGÅRD (Norway)
Mr Dior KURTA (Norway)
Ms Kristin GÅSEMYR (Norway)
Ms Ane LANDØY (Norway)
Ms Anne Marie RUSTAD HOLSETER (Norway)
Ms Alette SCHREINER (Norway)
Mr Frode HOVLAND SØREIDE (Norway)
Ms Andrine STENGRUNDET (Norway)
Mr Sverre RUSTAD (Norway)
Ms Birthe SØNNESYN (Norway)
Ms Kristin Mathilde DRAHUS (Norway)
Mr Piotr JAWORSKI (Poland)
Ms Renata Karnas (Poland)
Ms Renata KORZENIOWSKA-PUCUŁEK (Poland)
Mr Piotr KRASIŃSKI (Poland)
Ms Anna NOWOŻYŃSKA (Poland)
Ms Joanna WYZINA (Poland)
Ms Mónica LUENGO (Portugal)
Mr Carlos Alberto MALACA (Portugal)
Ms Rute NUNES (Portugal)
Mr Marco PIMENTA (Portugal)
Mr José RAFAEL (Portugal)
Mr Nuno Miguel RODRIGUES (Portugal)
Mr Joaquim SANTOS (Portugal)
Ms Camelia MIRCEA-STURZA (Romania)
Ms Veronica CHIREA (Romania)
Mr Adrian BARBULESCU (Romania)
Ms Roxana MAZILESCU (Romania)
Ms Dumitra MOLDOVEAN (Romania)
Ms Ana-Maria VASILESCU (Romania)
Ms Sultana STAN (Romania)
Ms Gabriela DEACU (Romania)
Ms Irina NECȘESCU (Romania)
Ms Tamara CÎRLIG (Romania)
Ms Oana NĂSTĂSESCU (Romania)
Mr Adi TRIFU (Romania)
Mr Abdulrahman S. AL-ANGARI (Saudi Arabia)
Mr Saad ALBAIZ (Saudi Arabia)

Ms Miriama CISAROVA (Slovak Republic)
Ms Eva HLADIKOVA (Slovak Republic)
Mr Ondrej FERENCI ((Slovak Republic)
Ms Gabriela SLODICKOVA (Slovak Republic)
Ms Ana NOVAK (Slovenia)
Ms Martina KONTELJ (Slovenia)
Ms Petra PEČAN (Slovenia)
Ms Andreja KOZMELJ (Slovenia)
Ms Duša MARJETIČ (Slovenia)
Ms Mojca IFKO PINOSA (Slovenia)
Ms Sabina MELAVC (Slovenia)
Ms Melita SELJAK (Slovenia)
Ms Tatjana ŠKRBEC (Slovenia)
Ms Hana VRATANAR (Slovenia)
Ms Rirhandzu BALOYI (South Africa)
Ms Mamphokhu KHULUVHE (South Africa)
Ms Letho MAPASEKA (South Africa)
Ms Bheki MPANZA (South Africa)
Ms Hersheela NARSEE (South Africa)
Ms Matome SEKGOTA (South Africa)
Ms Nthabiseng TEMA (South Africa)
Ms Elena BANDA LÓPEZ (Spain)
Mr Pablo ESTEBAN MARTÍNEZ (Spain)
Mr José María GALLEGO ALONSO-COLMENARES (Spain)
Ms Raquel HIDALGO GARCÍA (Spain)
Mr Jesús IBAÑEZ MILLA (Spain)
Mr Ricardo MARTÍNEZ ZAMORANO (Spain)
Ms Carmen TOVAR SÁNCHEZ (Spain)
Mr Jaime VAQUERO JIMÉNEZ (Spain)
Mr David VARAS DEL PESO (Spain)
MS Isabel YUN MORENO (Spain)
Ms Anna BENGTSSON (Sweden)
Mr Mattias FRITZ (Sweden)
Mr Alexander GERLINGS (Switzerland)
Ms Katrin MÜHLEMANN (Switzerland)
Mr Davut OLGUN (Türkiye)
Ms Dilek GÜLEÇYÜZ (Türkiye)
Ms Hatice Nihan ERDAL (Türkiye)
Ms Hatice Gülşah AYGÖRMEZ (Türkiye)
Mr Osman Yıldırım UĞUR (Türkiye)
Ms Gülçin ÖZ (Türkiye)
Ms Silvia Montoya (UNESCO)
Mr Alasdair Mc WILLIAM (UNESCO)
Mr Adolfo Gustavo IMHOF (UNESCO)
Mr Patrick SEARLE (United Kingdom)
Mrs Clare BAKER (United Kingdom)
Ms Emma BOLDWYN (United States)
Mr Cristobal DE BREY (United States)

Ms RaeAnne FRIESENHAHN (United States)
Ms Jillian HARRISON (United States)
Ms Jana KEMP (United States)
Ms Maeve LOHNES (United States)
Ms Ashley ROBERTS (United States)
Ms Lauren ROBERTSON (United States)

LSO Network

Mr Stuart FAUNT (Australia)
Mr Steve NERLICH (Australia)
Ms Caterina HO (Australia)
Ms Ping YU (Australia)
Mr Mark NÉMET (Austria)
Ms Julia WALTER (Austria)
Mr Guy Stoffelen (Belgium)
Ms Geneviève HINDRYCKX (Belgium)
Mr Robert THOLEN (Belgium)
Ms Christyne CARVALHO DA SILVA (Brazil)
Ms Juliana MARQUES DA SILVA (Brazil)
Ms Melissa Riani Costa MACHADO (Brazil)
Ms Maira Bonna LENZI (Brazil)
Mr Patric Blouin (Canada)
Ms Julie Hudson (Canada)
Ms Linda Wang (Canada)
Ms Kayla VanWyck (Canada)
Mr Marco SERAFINI (CEDEFOP)
Mr Daniel SCHEUREGGER (CEDEFOP)
Ms Paola LEIVA (Chile)
Ms Carla ITURRIETA (Chile)
Ms María José CARO (Chile)
Ms Josefa ARAYA (Chile)
Mr Vladimír HULÍK (Czechia)
Mr Václav JELEN (Czechia)
Ms Simona PIKÁLKOVÁ (Czechia)
Ms Petra PRCHLÍKOVÁ (Czechia)
Mr Camilo MENDEZ (Colombia)
Mr Carlos GIMENEZ (Colombia)
Mr Camilo RAMIREZ (Colombia)
Ms Liliana MORALES (Colombia)
Ms Mauren GARCÍA (Costa Rica)
Mr Braulio VILLEGAS (Costa Rica)
Mr Arturo CARBALLO (Costa Rica)
Mr Carlos OLIVAS (Costa Rica)
Mr Mynor DELGADO (Costa Rica)
Mr Carlos MENDEZ (Costa Rica)
Mr Thomas SKJØDT(Denmark)
Ms Trine Piepgras CARSTENS (Denmark)
Ms Marianne LEPPIK (Estonia)
Ms Elodie CAYOTTE (Eurostat, European Commission)
Ms Sabine GAGEL (Eurostat, European Commission)
Mr Allan Seuri (Finland)
Mr Mika WITTING (Finland)
Ms Laura CASTELL (France)
Ms Aurore DOMPS (France)
Ms Alexandra FARRUGIA (France)
Mr Cyrille GODONOU (France)
Mr Robert RAKOCEVIC (France)
Mr Hans-Werner FREITAG (Germany)
Ms Sylvia Schill (Germany)
Mr Panagiotis Passas (Greece)
Ms Vassiliki Makri (Greece)
Ms Eirini Gyftaki (Greece)
Ms Maria Fassari (Greece)
Ms Dimitra Aggelopoulou (Greece)
Ms Christina Maoula (Greece)
Mr Dimitrios VATIKIOTIS (Greece)
Ms Ásta M. URBANCIC (Iceland)
Mr Paul ALEXANDER (Ireland)
Mr Pádraig Brock (Ireland)
Jason Kelly (Ireland)
Ms Sophie ARTSEV (Israel)
Ms Hana COHEN (Israel)
Ms Merav PASTERNAC (Israel)
Ms Hagit SARID (Israel)
Ms Raffaella CASCIOLI (Italy)
Mr Gaetano PROTO (Italy)
Mr Samsoo KWON (Korea)
Ms Yeongseo YOON (Korea)
Mr Sungwon Noh (Korea)
Mr Myunghwan YOO (Korea)
Ms Kyungin KIM (Korea)
Mr Keunyoung PARK (Korea)
Ms Youngho SON (Korea)
Ms Ruta BEINĀRE (Latvia)
Ms Sandra CERIŅA (Latvia)
Ms Dace KALSONE (Latvia)
Mr Viktors KRAVČENKO (Latvia)
Ms Evelina RAUDYTĖ-LIPEIKIENĖ (Lithuania)
Ms Ugnė CIBULSKAITĖ (Lithuania)
Ms Inga DAUNARAVIČIENĖ (Lithuania)
Ms Jolita GALECKIENĖ (Lithuania)
Ms Vaida KOSTYGOVA (Lithuania)
Ms Ingrida ŠIAUČIULIENĖ (Lithuania)
Ms Elisa MAZZUCATO (Luxembourg)
Ms Nevena ZHELYAZKOVA (Luxembourg)
Mr Gerardo H. TERRAZAS GONZÁLEZ (Mexico)
Ms Teja OUWEHAND (Netherlands)
Mr Andre DE MOOR (Netherlands)
Mr David SCOTT (New Zealand)

Mr Paul Mahoney (New Zealand)
Mr Asaad Ali (New Zealand)
Ms Kristin GÅSEMYR (Norway)
Ms Ane LANDØY (Norway)
Ms Hild Marte BJØRNSEN (Norway)
Mr Nawid FAZLI (Norway)
Ms Sophie SÆTERNES (Norway)
Mr Stian RØRHEIM (Norway)
Mr Jacek MAŚLANKOWSKI (Poland)
Ms Renata KARNAS (Poland)
Ms Joanna WYZINA (Poland)
Ms Mónica LUENGO (Portugal)
Mr Carlos Alberto MALACA (Portugal)
Ms Rute NUNES (Portugal)
Mr Marco PIMENTA (Portugal)
Mr José RAFAEL (Portugal)
Mr Nuno Miguel RODRIGUES (Portugal)
Mr Joaquim SANTOS (Portugal)
Ms Camelia Mircea-STURZA (Romania)
Ms Veronica CHIREA (Romania)
Mr Adrian BARBULESCU (Romania)
Ms Roxana MAZILESCU (Romania)
Ms Dumitra MOLDOVEAN (Romania)
Ms Ana-Maria VASILESCU (Romania)
Ms Melita SELJAK (Slovenia)
Ms Hana VRATANAR (Slovenia)
Ms Beatriz Teresa DACOSTA ALBASANZ (Spain)
Mr Jesús IBAÑEZ MILLA (Spain)
Ms Isabel YUN MORENO (Spain)
Ms Lotta LARSSON (Sweden)
Mr Mattias FRITZ (Sweden)
Ms Louisa VOGIAZIDES (Sweden)
Ms Wayra CABALLERO LIARDET (Switzerland)
Mr Emanuel von ERLACH (Switzerland)
Mr Davut OLGUN (Türkiye)
Mr Cengiz SARAÇOĞLU (Türkiye)
Ms Dilek GÜLEÇYÜZ (Türkiye)
Mr Osman Yıldırım UĞUR (Türkiye)
Ms Guenevere KIELY (United Kingdom)
Mr Cristobal DE BREY (United States)
Ms RaeAnne FRIESENHAHN (United States)
Ms Ashley ROBERTS (United States)

NESLI Network

Mr Stuart FAUNT (Australia)
Dr Caterina HO (Australia)
Dr Steve NERLICH (Australia)
Ms Kyli Sadadcharan (Australia)
Ms Carol Yang (Australia)
Ms Ping YU (Australia)
Mr Stefan POLZER (Austria)
Mr Philippe DIEU (Belgium)
Ms Nathalie JAUNIAUX (Belgium)
Ms Bernadette SCHREUER (Belgium)
Mr Teun PAUWELS (Belgium)
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Ms Christyne Carvalho DA SILVA (Brazil)
Ms Juliana MARQUES DA SILVA (Brazil)
Ms Melissa Riani Costa MACHADO (Brazil)
Ms Julie HUDSON (Canada)
Mr Marouane MOHAMED (Canada)
Ms Rhonda SHAW (Canada)
Mr Nikola ELEZ (Canada)
Ms Paola LEIVA (Chile)
Ms Carla ITURRIETA (Chile)
Ms Elsa Nelly VELASCO (Colombia)
Ms Paula BOTERO (Colombia)
Ms Erika VILLAMIL (Colombia)
Ms Amalia PEÑA (Colombia)
Ms Carolina CHAVES (Costa Rica)
Mr Olman MADRIGAL (Costa Rica)
Ms Cinthya PICADO (Costa Rica)
Mr Carlos OLIVAS (Costa Rica)
Mr Vladimír HULÍK (Czechia)
Mr Václav JELEN (Czechia)
Ms Simona PIKÁLKOVÁ (Czechia)
Ms Petra PRCHLÍKOVÁ (Czechia)
Ms Trine Piepgras CARSTENS (Denmark)
Mr Thomas SKJØDT (Denmark)
Ms Eve TÕNISSON (Estonia).
Ms Marianne LEPPIK (Estonia)
Ms Hanna KANEP (Estonia)
Ms Käthrin RANDOJA (Estonia)
Ms Kristel VAHER (Estonia)
Ms Hille VARES (Estonia)
Ms Nathalie BAIDAK (Eurydice)
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Ms Jana KEMP (United States)
Ms Audrey GARRETT (United States)

Other contributors to this publication

Capstan (Translation)
Sally HINCHCLIFFE (Editing)
Ms Fung Kwan TAM (Layout)
Ms Miyako IKEDA (OECD)
Ms Maja GUSTAFSSON (OECD)
Ms Valerie FREY (OECD)
Mr Eric GONNARD (OECD
Ms Shivi CHANDRA (OECD)
Ms Rebecca FRANKUM (OECD)
Ms Hannah KITCHEN (OECD)
Ms Camilla STRONATI (OECD)

Education at a Glance 2024

OECD Indicators

Education at a Glance is the authoritative source for information on the state of education around the world. It provides data on the structure, finances and performance of education systems across OECD, 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 2024 edition focuses on equity, investigating how progress through education and the associated learning and labour market outcomes are impacted by dimensions such as gender, socio-economic status, country of birth and regional location. A specific chapter is dedicated to the Sustainable Development Goal 4 on education, providing an assessment of where OECD, accession and partner countries stand in providing equal access to quality education at all levels.

PRINT ISBN 978-92-64-78360-7
PDF ISBN 978-92-64-38326-5