Estonia

Highlights

- **The share of tertiary-educated young adults (aged 25-34) increased significantly over the past decades.** Between 2000 and 2021 it grew from 29% to 43% in Estonia, while on average across OECD countries it grew by 21 percentage points. The share of tertiary-educated young adults in Estonia (43%) is now higher than in Finland (40%) but lower than the OECD average (46%).
- **Like in all other OECD countries, young women in Estonia are more likely to achieve tertiary education than men.** In 2021, 54% of 25-34 year-old women had a tertiary qualification compared to 33% of their male peers, a gap that has increased compared to the situation in 2000 (38% and 20%, respectively).
- As in other countries, **Estonian adults with tertiary education enjoy higher employment rates and more resilience to economic downturns** than those with lower levels of educational attainment. In addition, although Estonian tertiary-educated workers earn a lower wage premium than the OECD average, they still earn 37% more than workers who did not complete upper secondary education.
- **Workers with a degree in the fields of information and communication technologies (ICT) or medical and dental studies enjoy high returns on the labour market.** In Estonia, tertiary-educated workers with such educational background earn on average about 80% more than those with a degree from the fields of arts or education.
- **Estonia devotes 10.6% of its public spending on primary to tertiary education**, the same as the OECD average. Tertiary education receives 2.8% of government expenditure, equal to Finland and to the OECD average.
- **In Estonia, as in other countries, salaries represent the single largest expenditure item of education systems, regardless of the level of education.** While salaries at school level tend to be specified by national governments, tertiary level institutions in Estonia have more freedom to create their own salary and grading structures, subject to their adherence to national legislation.

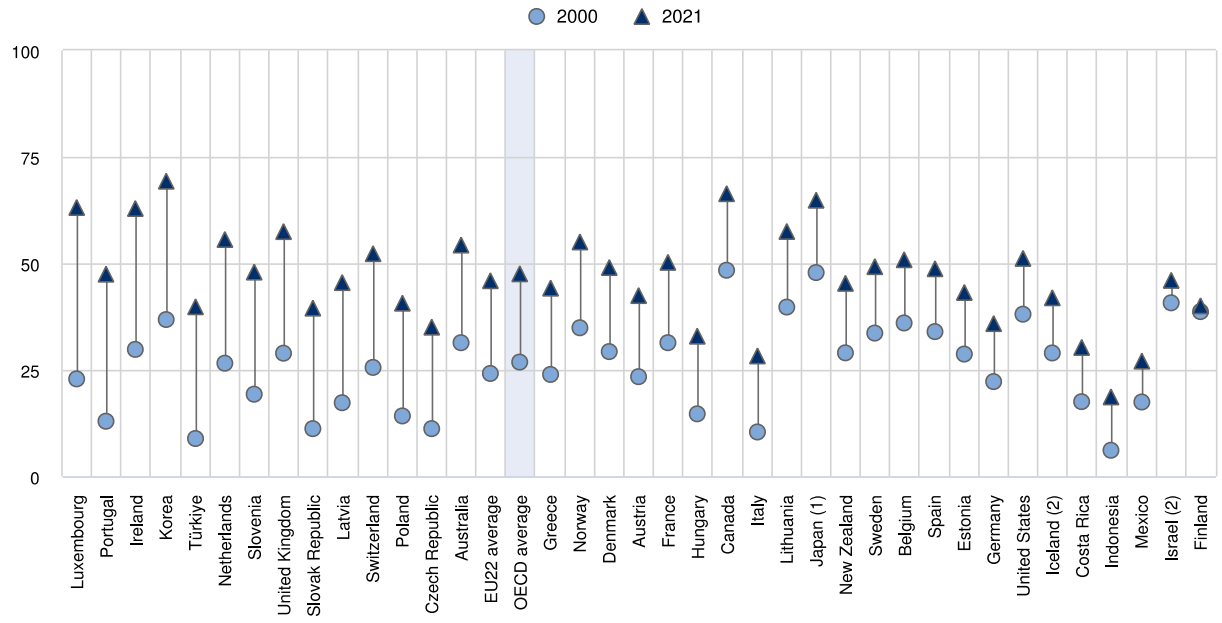
The output of educational institutions and the impact of learning

- Educational attainment has been increasing throughout the OECD, in particular at tertiary level. Between 2000 and 2021, the share of 25-34 year-olds with tertiary attainment increased on average by 21 percentage points. In Estonia, the share also increased albeit at a slower pace, by 14 percentage points (from 29% in 2000 to 43% in 2021) (Figure 1). Like in most other OECD countries, the increase in tertiary attainment is largely due to growing shares of women reaching this level of education. The share of tertiary-educated 25-34 year-old women has been higher than that of men for decades, but the growing gender gap is a policy concern.

- Upper secondary attainment is often seen as a minimum qualification for successful labour market participation. Although the general increase in educational attainment has seen a parallel decline in the share of 25-34 year-olds without upper secondary attainment, 14% of young adults across the OECD still left school without an upper secondary qualification. In Estonia, the share is 12%, which is lower than the OECD average.
- Higher educational attainment is often associated with better employment prospects and Estonia is no exception. In 2021 the employment rate among 25-34 year-olds with tertiary education in Estonia was 14 percentage points higher than among those with below upper secondary attainment and 3 percentage points higher than among those with upper secondary or post-secondary non-tertiary attainment.
- While the positive link between educational attainment and employment rates holds for both men and for women across the OECD, it is particularly strong for women. In Estonia, 55% of women with below upper secondary attainment were employed in 2021, compared to 81% of those with tertiary attainment. In contrast, the figures were 80% and 92% for men.
- Across the OECD, the labour market benefits of tertiary attainment have proved especially strong during economic crises. This was also the case during the COVID-19 pandemic in Estonia. Between 2019 and 2020, unemployment for 25-34 year-old workers with below upper secondary attainment increased by 3.1 percentage points, by 3.5 percentage points for workers with upper secondary attainment and by 1.9 percentage points for workers with tertiary attainment.
- Educational attainment affects not just employment prospects, but also wage levels. On average across the OECD, 25-64 year-old workers with upper secondary or post-secondary non-tertiary attainment earn 29% more than workers with below upper secondary attainment, while those with tertiary attainment earn about twice as much. In Estonia, the earnings advantage of tertiary-educated workers was smaller than the OECD average. In 2020, workers with upper secondary or post-secondary non-tertiary attainment earned 6% more than those with below upper secondary attainment and those with tertiary attainment earned 37% more than those with below upper secondary attainment.

Figure 1. Trends in the share of tertiary-educated 25-34 year-olds (2000 and 2021)

In per cent



1. Data for tertiary education include upper secondary or post-secondary non-tertiary programmes (less than 5% of adults are in this group).
2. Year of reference differs from 2000: 2002 for Israel and 2003 for Iceland.

Countries are ranked in descending order of the difference in the share of tertiary-educated 25-34 year-olds between 2000 and 2021.

Source: OECD (2022), Education at a Glance Database, http://stats.oecd.org/. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-A.pdf).

Access to education, participation and progress

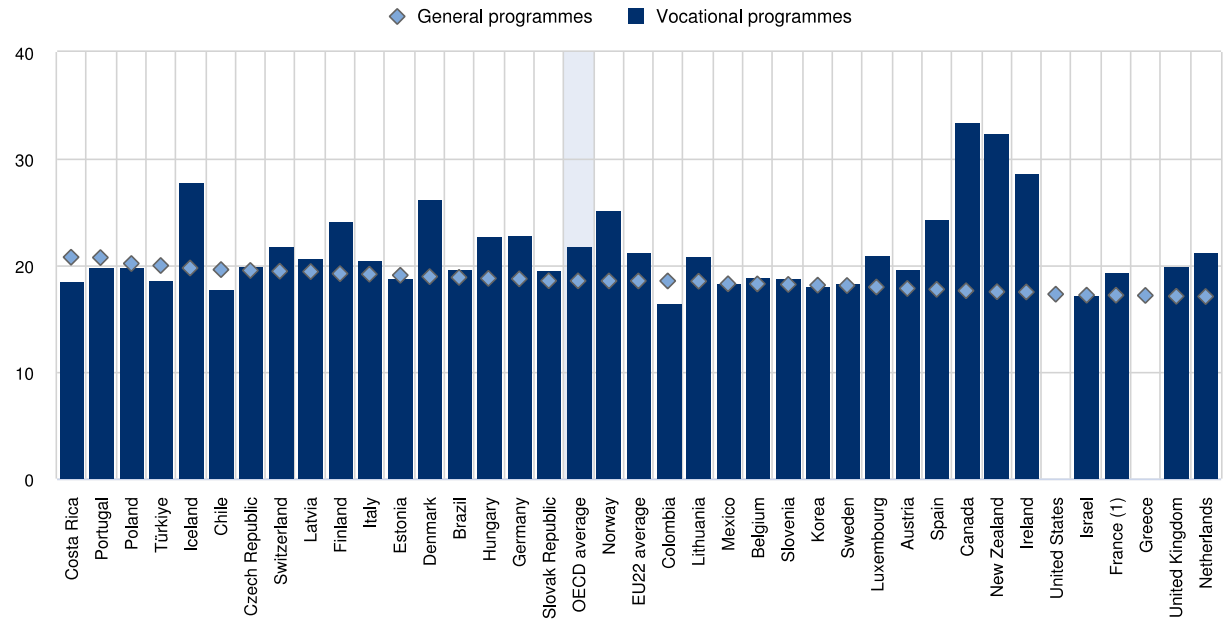
- Compulsory education begins at the age of 7 and ends at the age of 16 in Estonia. The range of ages for which at least 90% of the population are enrolled is longer than the period of compulsory education and goes from the age of 4 to the age of 17. This is similar to most other OECD countries, where more than 90% of the population are also enrolled for longer than the period of compulsory education.
- The age at which children enter early childhood education differs widely across countries. In Estonia, early childhood education starts offering intentional education objectives for children younger than 1 and 26% of children under 3 are enrolled in early childhood education. Across OECD countries, the average enrolment rate among children below the age of 3 is 27%, but the rates range from less than 1% to 63%. The enrolment rate among 3-5 year-olds increases substantially in all OECD countries. In Estonia, 91% of all children of this age are enrolled in early childhood education, which is above the OECD average.
- The average age of graduation from general upper secondary programmes varies from 17 to 21 years across OECD countries and is 19 years in Estonia. Differences in the average age of graduation from vocational upper secondary education are much larger and vary from 16 to 34 years across the OECD. These differences largely depend on whether vocational upper secondary students usually enrol in these programmes towards the end of their compulsory

education or in mid-career. In Estonia, the average age of graduation from vocational upper secondary education is 19 years, which is below the OECD average at 22 years (Figure 2).

- In almost all OECD countries, women make up the majority of those graduating from general upper secondary education. In Estonia, the share is 56% (OECD average 55%). In contrast, men are overrepresented among graduates of vocational upper secondary programmes in most OECD countries, as is the case in Estonia where they make up 66% of all vocational upper secondary graduates, above the OECD average (55%).
- In Estonia, 58% of 18-24 year-olds are still in full- or part-time education or training at either upper secondary or tertiary level (above the OECD average of 54%). A subset of these students (21% of 18-24 year-olds) combine their education or training with some form of employment in Estonia, compared to 17% on average across the OECD.
- One significant difference across countries' education systems is on whether or not vocational upper secondary programmes provide access to tertiary education. In 12 OECD countries and other participants, including Estonia, most vocational upper secondary graduates have direct access to tertiary education.
- As is the case in all OECD countries, a majority of students enrolled at tertiary level in Estonia are bachelor's students (61%). However, the next commonest enrolment level varies from country to country. In Estonia, master's students make up the second largest group of tertiary students at 34%. This is also the case in 25 other OECD countries, while in the remaining 14 countries with available data, short-cycle tertiary students form the second largest group.
- At 21%, business, administration and law was the most popular field of study among new entrants into tertiary education in Estonia, which is the case in most OECD countries. Despite the growing need for digital skills and the good employment prospects of students with degrees in ICT, only a small fraction of entrants into tertiary education choose this field. In Estonia, 91% of 25-64 year-olds with a tertiary ICT qualification are employed, and ICT students make up 10% of new entrants into tertiary education, above the OECD average of 6%.

Figure 2. Average age of first-time upper secondary graduates, by programme orientation (2020)

In years



1. Average age is based on all graduates instead of first-time graduates.
Countries are ranked in descending order of the average age of first-time upper secondary graduates in general programmes.
Source: OECD//Eurostat/UIS (2022), Tables B3.1 and B3.2. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-B.pdf).

Financial resources invested in education

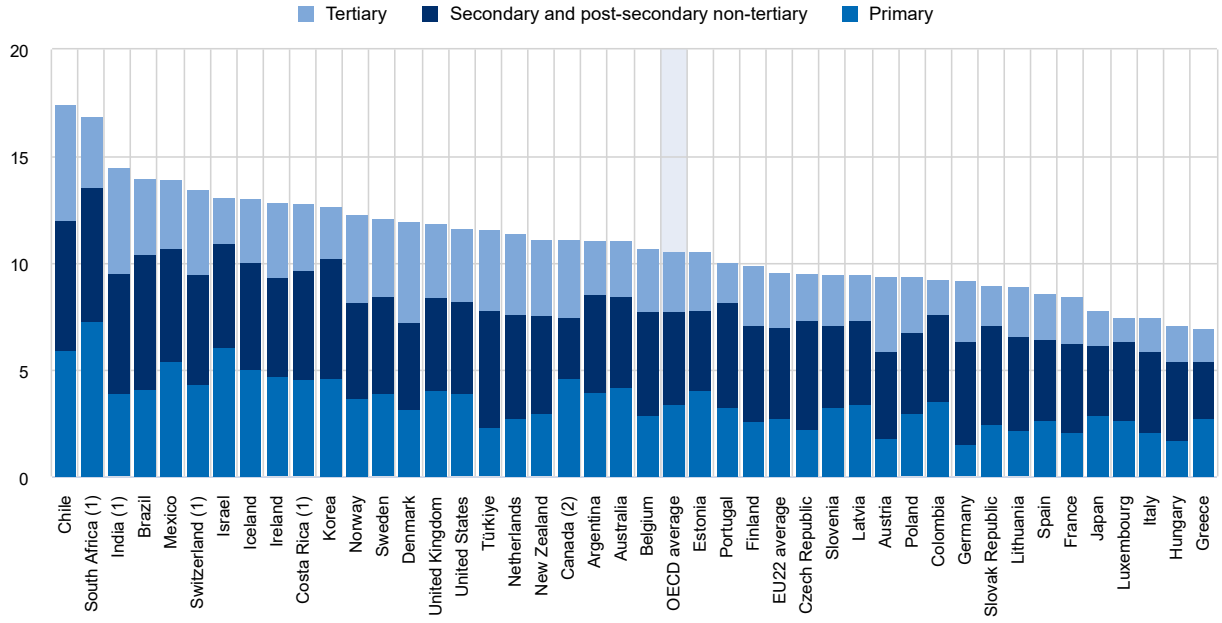
- All OECD countries devote a substantial share of national output to educational institutions. In 2019, OECD countries spent on average 4.9% of their gross domestic product (GDP) on primary to tertiary educational institutions. In Estonia, the corresponding share was 4.7%. Between 2008 and 2019, funding for educational institutions from all sources grew by 13% in Estonia. However, over the same period of time, the increase in GDP was higher with 22%. As a consequence, expenditure on educational institutions as a share of GDP fell by 0.4 percentage points over the same time period.
- Public spending on primary to tertiary education was 10.6% of total government expenditure in Estonia (Figure 3), the same as the OECD average. In contrast, relative to GDP, public spending on primary to tertiary education (4.2%) is lower than the OECD average (4.4%).
- Across OECD countries, the provision of education at primary and secondary levels in terms of curricula, teaching styles and organisational management leads, on average, to similar patterns of expenditure per student from primary to post-secondary non-tertiary levels. OECD countries as a whole spend on average around USD 9 923 per student at primary and USD 11 400 per student at secondary level. In Estonia, the values are USD 9 384 at primary and USD 8 462 per student at secondary level.
- In contrast to lower levels of education, spending on tertiary education varies widely across OECD countries. Expenditure per student at tertiary level in Estonia is higher than at other levels

of education, as is the case in almost all other OECD countries. The average expenditure per student in Estonia is USD 16 752 per year, which is about USD 7 400 higher than that of the primary level and USD 8 300 higher than that of the secondary level. This level of expenditure is below the OECD average, but similar to many other countries. The average expenditure at tertiary level (USD 17 559) is driven up by high values in a few countries, including in Estonia. At 39%, the share of research and development (R&D) expenditure makes up a larger fraction of expenditure on tertiary education in Estonia than on average across OECD countries (29%).

- Public funding dominates non-tertiary education (primary, secondary and post-secondary non-tertiary) in all OECD countries, even after transfers to the private sector. On average across the OECD, private funding accounts for 10% of expenditure at primary, secondary and post-secondary non-tertiary levels, while this share was 4% in Estonia in 2019. In contrast, private expenditure at tertiary level was higher in all OECD countries. In Estonia, the share of private expenditure at tertiary level reached 15%, which was below the OECD average of 31%. This is related to the high public investment at tertiary level to offer free education to full-time students studying in the national language (Estonian).

Figure 3. Composition of total public expenditure on education as a percentage of total government expenditure (2019)

Primary to tertiary education (including R&D), in per cent



1. Year of reference differs from 2019. Refer to the source table for more details.
2. Primary education includes pre-primary programmes.

Countries are ranked in descending order of total public expenditure on education as a percentage of total government expenditure.

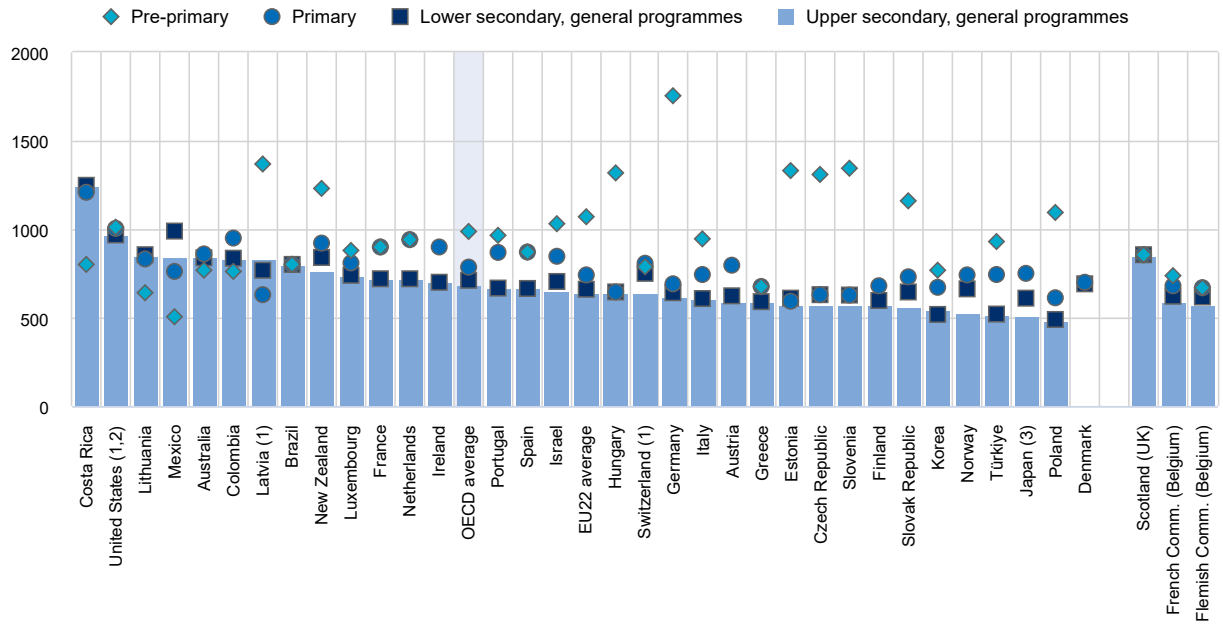
Source: OECD/UIS/Eurostat (2022), Table C4.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-C.pdf).

Teachers, the learning environment and the organisation of schools

- The salaries of teachers and school heads are an important determinant of the attractiveness of the teaching profession, but they also represent the single largest expenditure item in formal education. In most OECD countries, the statutory salaries of teachers (and school heads) in public educational institutions increase with the level of education they teach, and also with experience. Actual salaries also increase with the level of education. On average across OECD countries, actual salaries range from USD 41 941 at the pre-primary level to USD 53 682 at the upper secondary level. In Estonia, actual salaries average USD 24 442 at pre-primary level and USD 31 620 at upper secondary level.
- Teachers' average actual salaries remain lower than earnings of tertiary-educated workers in almost all OECD countries, and at almost all levels of education. This is also the case in Estonia. Lower secondary (general programme) teachers in Estonia earn 9.7% less than other tertiary-educated workers. In contrast school head actual salaries in Estonia are only slightly higher than the earnings of other tertiary educated workers. This is different from most OECD countries, where school heads tend to earn well above the average earnings of tertiary educated workers.
- The average number of teaching hours per year required from a typical teacher in public educational institutions in OECD countries tends to decrease as the level of education increases. This is also the case in Estonia.
- Based on official regulations or agreements, annual teaching hours in Estonia are 1 332 hours per year at pre-primary level, 592 hours at primary level, 609 hours at lower secondary level (general programmes) and 574 hours at upper secondary level (general programmes) (Figure 4).
- During their working hours, teachers also perform various non-teaching tasks such as lesson planning and preparation, marking students' work and communicating or co-operating with parents or guardians. At the upper secondary level, 63% of teachers' working time is formally dedicated to non-teaching activities in Estonia, compared to an average of 56% across OECD countries.
- The duration of initial teacher education for primary and lower secondary teachers ranges from 2.5 years to 6.5 years across OECD countries. In Estonia, initial teacher education typically lasts 5 years for prospective lower secondary teachers (general programmes). It is the same length for prospective primary teachers. As is the case in almost all OECD countries, a tertiary degree is awarded to prospective teachers of all levels of education upon completion of their initial teacher training.
- Continuing professional development is compulsory for all teachers of general programmes in most countries with data, and Estonia is no exception. At secondary level, professional development activities are compulsory for all teachers.

Figure 4. Teaching time of teachers, by level of education (2021)

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 2021. 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.

Source: OECD (2022), Table D4.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-D.pdf).

Focus on tertiary education

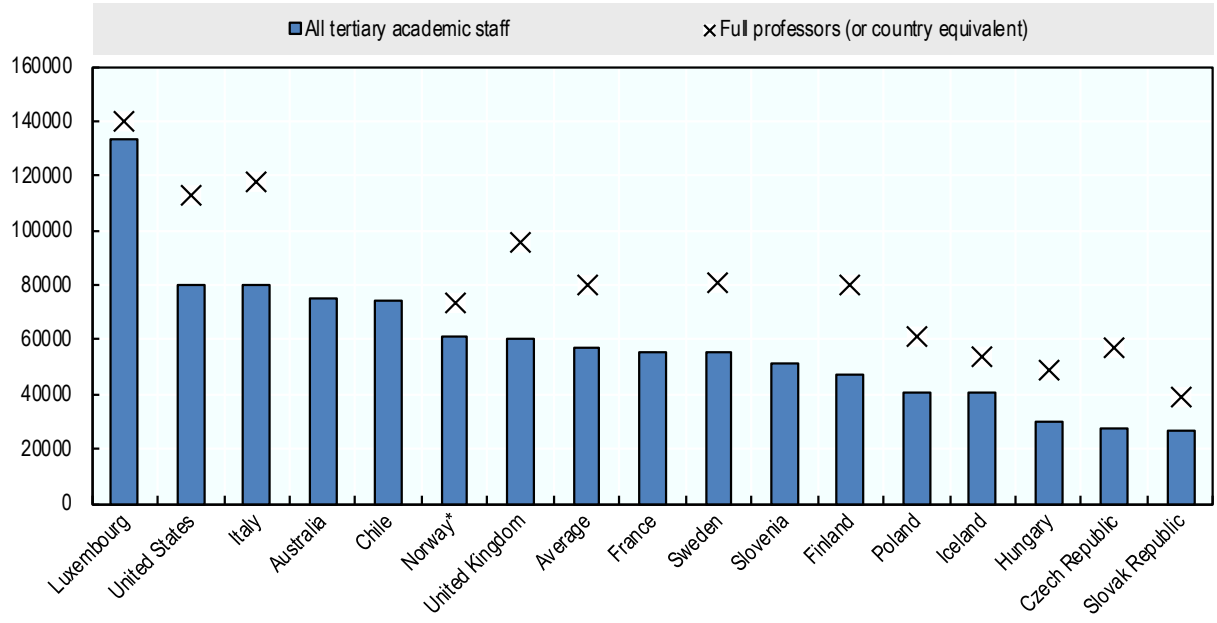
- Among 25-64 year-olds in Estonia, master's degrees are the most common tertiary attainment at 21% of the population followed by bachelor's degrees at 14% and short-cycle tertiary qualifications with 6%. This is different from the OECD average, where bachelor's degrees are most common (19%), followed by master's degrees (14%) and short cycle tertiary qualifications (7%). As in all OECD countries and other participants, only a small fraction of the population holds a doctoral degree: the share is 1% in Estonia.
- On average, tertiary attainment generates a wide range of labour-market benefits, including higher employment rates for tertiary graduates than those with lower levels of education. Yet, there are significant differences in the size of the employment premium depending on the field of study. In 2021, employment rates in Estonia were highest (91%) among tertiary-educated 25-64 year-olds who studied information and communication technologies or natural sciences, mathematics and statistics and lowest (81%) among those who studied arts. However, these differences need to be put into perspective. Even among 25-64 year-olds with tertiary attainment in the field with the lowest employment rate, this was 1.4 percentage points higher than among those with upper secondary attainment (all fields combined). This shows that, regardless of the field of study, someone who completes a tertiary programme increases its likelihood to be in employment.

- Wages also differ according to the field of study. In Estonia, tertiary attainment in medical and dental fields generates the highest earnings, followed closely by information and communication technologies (ICT). In contrast, tertiary attainment in the fields of arts or education leads to the lowest wages among tertiary graduates.
- Despite the labour market advantages of a tertiary degree, many tertiary students do not graduate on time or do not graduate at all. In Estonia, 43% of bachelor's students graduate within the theoretical programme duration. Across the OECD, the completion rate within the theoretical programme duration ranges from 12% to 69%. Completion rates three years after the theoretical programme duration are significantly higher in most countries and the differences between OECD countries somewhat narrower. In Estonia, 64% of bachelor's students have graduated within three years after the end of the theoretical programme duration, compared to 68% on average across the OECD.
- In all OECD countries, tertiary completion rates are higher for women than for men. In Estonia, 73% of women graduated within three years after the end of the theoretical programme duration at bachelor's level, compared to 53% of men. On average across the OECD, there is little systematic difference between the completion rates of public and private institutions, but the figures differ from country to country. In Estonia, 66% of bachelor's students graduate from public institutions within three years after the end of the theoretical programme duration, while the share is 47% for private institutions.
- In most OECD countries including in Estonia, tertiary-educated adults have higher rates of participation in non-formal education and training than those with a lower level of educational attainment. In 2021, 22% of 25-64 year-olds with tertiary attainment in Estonia had participated in non-formal education and training in the four weeks prior to being surveyed, compared to 6% of their peers with below upper secondary attainment.
- Entering tertiary education often means costs for students and their families, in terms of tuition fees, foregone earnings and living expenses, although they may also receive financial support to help them afford it. However, public policies on tuition fees and financial support for students differ greatly across countries. In Estonia, public institutions do not charge tuition fees at bachelor's level for students studying in Estonian language, but may charge tuition fees when studying in English.
- Over the decades, independent private institutions have been established to meet increased demand for tertiary education. On average across the OECD, 17% of students are enrolled in independent private institutions, but this figure masks large differences between countries. In Estonia, 7% of tertiary students are enrolled in such institutions. Independent private institutions charge higher annual tuition fees on average than public institutions for master's programmes in all OECD countries and other participants with available data, except in Chile and Lithuania.
- Enabling students to enrol on a part-time basis is an important way to facilitate access to tertiary education. Many part-time students would not be able to study full time, for example because they have child-care responsibilities or have to work to fund their studies. The share of part-time students at the tertiary level in Estonia is 7%, below the OECD average (22%). Compared to 2013, it has decreased by 7 percentage points. This decline is related to the implementation of the 2013 higher education reform that made programmes in Estonian language in public institutions free of charge for full-time students (but not for part-time ones).
- Staff at tertiary level tend to start their careers relatively late due to the length of the education they need to qualify. In Estonia, only 4% of academic staff are aged under 30, below the OECD average (8%). In contrast, the share of academic staff aged 50 or over is 40%, which is the same as the OECD average.
- The salary of tertiary staff vary according to their position. Full professors are at the top of the academic hierarchy and therefore have higher earnings than the average for all academic staff. In 2014, in countries with available data, the difference in salary between full professors and all

teaching staff ranged from USD 7 000 in Luxembourg to USD 38 000 in Italy (Figure 5). Tertiary level institutions tend to have more freedom than schools in setting staff terms and conditions and in some jurisdictions they may create their own salary and grading structures. In Estonia, salary and other work-related conditions are established by the higher education institution's own regulations, taking the general legislation as a basis. By contrast, in nearby Finland, the salary of academic staff is agreed and established at national level, and comprises two elements: a position-specific salary and an additional component based on personal performance. In general, salaries of higher education teachers tend to be higher than those of teachers at lower levels of education, but fall to similar levels once their higher levels of attainment and skills are accounted for (OECD, 2019[1]).

Figure 5. Average annual salaries of academic staff in public and government-dependent institutions (2014)

Calculations based on full-time equivalents in USD converted using PPPs



* Participating in the Benchmarking Higher Education System Performance exercise 2017/2018.
Note: Data exclude academic staff without teaching duties for all jurisdictions. Staff working at the short-cycle tertiary level are also excluded in Finland, Italy, Luxembourg, Norway, Poland, the Slovak Republic and Slovenia. Data include only universities for Finland, and only professional HEIs for the French Community of Belgium.
Source: Adapted from OECD (2016), Education at a Glance 2016: OECD Indicators, https://doi.org/10.1787/eag-2016-en.

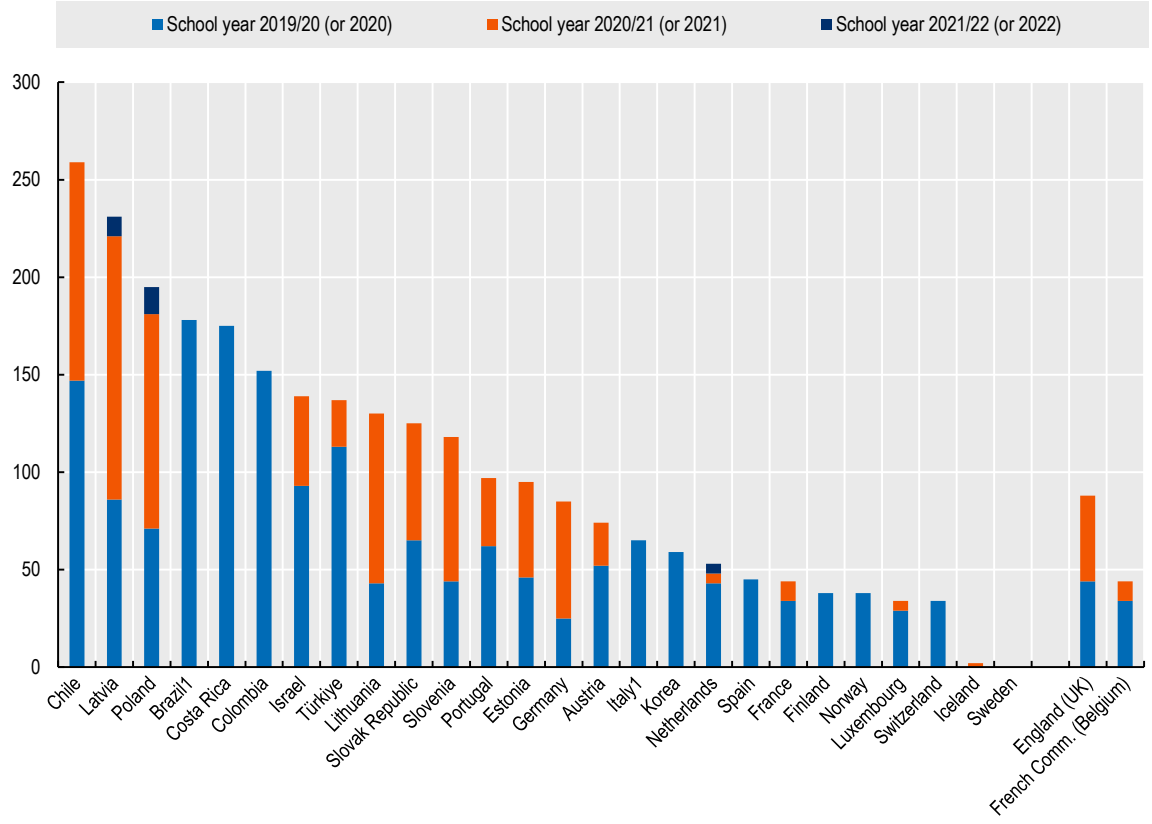
COVID-19: The second year of the pandemic

- The COVID-19 pandemic disrupted traditional schooling in 2020 and the first half of 2021, leading to school closures across all OECD countries. While most shut down their premises entirely in the wake of the pandemic in 2020, by 2021 the situation had improved and returned to normal in most countries in 2022. In Estonia, primary and secondary schools were entirely closed for 46-51 days during the school year 2019/20, for 49 days in 2020/21 and stayed open in 2021/22 (Figure 6). Partial closures reached up to 18 days in 2020/21.

- National examinations have also been affected by the pandemic. At general upper secondary level, 18 OECD countries postponed their national examinations during the school year 2019/20, while 10 countries even cancelled them entirely. In 2020/21, national examinations were postponed in 9 countries and cancelled in 6 countries. Estonia rescheduled and cancelled its national examinations in 2019/20.
- Most countries conducted assessments of the impact of school closures on learning outcomes at various levels of education and along several dimensions. Estonia could also evaluate the effects of the pandemic on primary, lower secondary, upper secondary general education in the fields of mathematics, reading and science. Like many other countries, Estonia also evaluated dimensions such as the mental health and well-being of students and teachers.
- No national programmes to support students affected by the pandemic were implemented in Estonia in contrast to many other OECD countries. At primary to upper secondary education, measures to address the effects of the COVID-19 pandemic included, psychosocial and mental health support to students, increased instruction time through summer schools and extended school days.
- The increased digitalisation of education has been a major consequence of the COVID-19 pandemic in many OECD countries. At lower secondary level, Estonia has responded to the pandemic with an enhanced provision of digitalised assessments/exams, in-service and pre-service digital training to teachers and digital training to students.
- The challenges related to the COVID-19 pandemic have created additional costs for education systems. Preliminary budget estimates for 2021 suggest that, compared to 2020, the education budget at pre-primary level in Estonia increased slightly (by between 1% and 5%, in nominal terms), while it increased strongly (by more than 5%) at primary to upper secondary level and declined slightly (by between 1% and 5%) at the tertiary level.
- The COVID-19 pandemic had a significant impact on adult learning in most OECD countries. In 2020, the share of adults who participated in a formal or non-formal education and training activity in the four weeks prior to being surveyed decreased by 2 percentage points on average across OECD countries compared with 2019. However, in 2021, participation in non-formal education and training returned to pre-pandemic levels in most countries. In Estonia, a different pattern emerged. From 2019 to 2020, the share of adults participating in a formal or non-formal education and training activity fell by 3 percentage points. From 2020 to 2021, it increased by 1 percentage point and has thus remained below pre-pandemic levels.
- Young adults who are not in employment, education or training (NEET) for prolonged periods are at risk of adverse economic and social outcomes in both the short and the long term. After increasing during the COVID-19 pandemic in 2020, the share of 18-24 year-olds who are NEET in Estonia increased also in 2021. The share of NEET among young adults was 15% in 2021, above pre-COVID levels.

Figure 6. School closures due to COVID-19 (2020, 2021 and the first quarter of 2022)

Number of instruction days of full closure of lower secondary schools excluding school holidays, public holidays and weekends



Note: The data underlying this report were produced through the Survey on Joint National Responses to COVID 19, a collaborative effort conducted by the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Children's Fund (UNICEF), the World Bank (WB), and the Organisation for Economic Co-operation and Development (OECD). Data for other levels of education are available at https://www.oecd.org/education/Results-4th-wave-COVID-Survey-OECD-database.xlsx.
1. Data for 2021 and 2022 are missing.
Countries and other participants are ranked in descending order of the total number of days lower secondary schools were fully closed during the school years 2019/20 (2020), 2020/21 (2021) and 2021/22 (2022).
Source: OECD/UIS/UNESCO/UNICEF/WB (2022).

References

OECD (2022), *Education at a Glance 2022: OECD Indicators*, OECD Publishing, Paris, https://dx.doi.org/10.1787/69096873-en.

OECD (2022), "Regional education", *OECD Regional Statistics (database)*, https://dx.doi.org/10.1787/213e806c-en.

OECD (2019), Benchmarking Higher Education System Performance, Higher Education, OECD Publishing, Paris, https://doi.org/10.1787/be5514d7-en.

More information

For more information on Education at a Glance 2022 and to access the full set of Indicators, see: https://doi.org/10.1787/3197152b-en

For more information on the methodology used during the data collection for each indicator, the references to the sources and the specific notes for each country, see Annex 3 (https://www.oecd.org/education/education-at-a-glance/EAG2022_X3.pdf).

For general information on the methodology, please refer to the OECD Handbook for Internationally Comparative Education Statistics: Concepts, Standards, Definitions and Classifications (https://doi.org/10.1787/9789264304444-en).

Updated data can be found on line at http://dx.doi.org/10.1787/eag-data-en and by following the *StatLinks* under the tables and charts in the publication.

Data on subnational regions for selected indicators are available in the *OECD Regional Statistics* (database) (OECD, 2022). When interpreting the results on subnational entities, readers should take into account that the population size of subnational entities can vary widely within countries. For example, regional variation in enrolment may be influenced by students attending school in a different region from their area of residence, particularly at higher levels of education. Also, regional disparities tend to be higher when more subnational entities are used in the analysis.

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The data on educational responses during COVID-19 were collected and processed by the OECD based on the Joint Survey on National Responses to COVID-19 School Closures, a collaborative effort conducted by the United Nations Educational, Scientific and Cultural Organization (UNESCO); the UNESCO Institute for Statistics (UIS); the United Nations Children's Fund (UNICEF); the World Bank; and the OECD.

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