

Education at a Glance

OECD INDICATORS 2005 - EXECUTIVE SUMMARY

Across OECD countries, governments are seeking policies to make education more effective while searching for additional resources to meet the increasing demand for education.

The 2005 edition of *Education at a Glance: OECD Indicators* enables countries to see themselves in the light of other countries' performance. It provides a rich, comparable and up-to-date array of indicators on the performance of education systems. In doing so, it represents the consensus of professional thinking on how to measure the current state of education internationally.

The indicators look at who participates in education, what is spent on it and how education systems operate, and at the results achieved. The latter includes indicators on a wide range of outcomes ranging from comparisons of student performance in key subject areas to the impact of education on earnings and adults' chances of employment.

New material in this edition includes:

- Results of the 2003 survey of OECD's Programme for International Student Assessment (PISA)
- Data on the distribution of earnings for individuals with different educational levels as well as first evidence of non-economic outcomes of education
- Comparisons of the participation of labour force members in continuing education and training
- An analysis of student learning time out of school
- A comparison between the performance of public and private schools
- Data on the policies and practices secondary school systems employ to differentiate among students and the impact of these on outcomes

The Excel™ spreadsheets used to create the tables and charts in this book are available via the *StatLinks* printed in this book. The tables, charts and the complete Education Database are freely available via the OECD Education Web site at www.oecd.org/edu/eag2005.

FURTHER READING

Education Policy Analysis

The full text of *Education at a Glance* 2005 is available on line via these links:

<http://www.sourceoecd.org/education/9264011900>

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Education at a Glance

OECD INDICATORS 2005 EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

Education and lifelong learning today play a critical role in the development of our economies and societies. This is true in the world's most advanced economies as well as in those currently experiencing periods of rapid growth and development. Human capital has long been identified as a key factor in driving economic growth and improving economic outcomes for individuals, while evidence is growing of its influence on non-economic outcomes including health and social inclusion.

Education at a Glance 2005 provides a rich, comparable and up-to-date collection of indicators on the performance of education systems. While the focus is on the 30 OECD countries, the indicators also include an increasing level of coverage of partner countries from throughout the world. The indicators look at who participates in education, what is spent on it, how education and learning systems operate and a wide range of outcomes ranging from how well secondary school children can solve problems to the effect of education on adults' chances of employment.

New material in this edition includes: a presentation of the results of the 2003 survey of the Programme for International Student Assessment (PISA) in Indicators A4, A5 and A6, focusing on the mathematics performance of 15-year-olds; data on earnings distribution by levels of education in Indicator A9; evidence of non-economic outcomes of education in Indicator A10; comparisons of the participation of labour force members in continuing education and training in Indicator C6; an analysis of student learning time out of school in Indicator D1; data on the effect on student performance of the status (public or private) of a school in Indicator D5; and, in Indicator D6, data on whether secondary school systems differentiate among students when organising learning and what impact that has on student performance.

Key findings of this edition are as follows:

More people are studying for longer, but tertiary graduation rates vary widely

Educational attainment continues to grow among the adult population of OECD countries, fed by the rising number of young people obtaining upper secondary and tertiary level qualifications. Adults aged 25 to 64 now have, on average, qualifications that take just over 12 years to complete, about the equivalent of completing upper secondary education. For young people currently completing their studies, upper secondary education has become the norm, with over 70% reaching this level in all but four OECD countries with data, and an average of one in three young people in OECD countries getting higher qualifications at the university (tertiary-type A) level.

The indicators in *Education at a Glance 2005* also show that:

- Many OECD countries where large numbers failed to complete secondary education in the past are rapidly catching up in terms of upper secondary completion. In Belgium, France, Greece, Ireland and Korea, where around half of those born in the 1950s did not complete secondary school, between 72% and 97% of those born in the 1970s have done so. Young adults in Mexico, Portugal and Turkey remain less likely than those in other countries to have finished upper secondary education.
- Advances in tertiary completion rates have been more uneven than for upper secondary. The total pool of graduates in OECD countries has grown largely due to increases in a few countries. Current graduation rates range from less than 20% in Austria, the Czech Republic, Germany and Turkey to more than 40% in Australia, Denmark, Finland, Iceland and Poland. Such differences are associated with different kinds

of tertiary education systems. High graduation rates are more common in countries with more flexible degree structures.

- Females are completing both upper secondary and tertiary education at faster rates than males in most countries. However, females remain both less engaged in mathematics and science at secondary school and less likely to obtain tertiary qualifications in these fields.
- Newly updated data show that the number of science graduates per 100 000 employed persons ranges from below 700 in Hungary, to above 2 200 in Australia, Finland, France, Ireland, Korea, and the United Kingdom.

Student performance varies widely across and between countries, both in curriculum-linked disciplines like mathematics and in students' wider capacity to solve problems

In 2003, PISA reported for the second time on 15-year-olds' knowledge and skills for life, focusing on mathematics. Among OECD countries, students in Finland, Japan, Korea and the Netherlands were the top performers in mathematics overall. Many of the most revealing comparisons concerned sources of variation among students within countries, including the extent to which students in different schools perform differently. Among the survey's key findings:

- At least one in five students are proficient in complex mathematics tasks, at PISA Level 5 or 6, in Australia, Belgium, Canada, Finland, Japan, Korea, the Netherlands, New Zealand and Switzerland. This is an indicator of these countries' pools of people with high-level mathematical skills who are likely to play a crucial role in advancing the knowledge economy.
- Whereas the great majority of students in OECD countries have at least a basic level of mathematical proficiency, being capable of tasks at PISA Level 2, the proportion who lack such proficiency varies widely: from below 10% in Finland and Korea to above one-quarter in Greece, Italy, Mexico, Portugal and Turkey. This is an indicator of how many students are likely to encounter serious problems in using mathematics in their future lives.
- On average, differences between school results account for about one-third of student differences in mathematics performance within each country. However, a number of countries achieve high levels of performance across schools, with low between-school differences. In Finland, for example, less than 5% of the performance variation among students lies between schools and in Canada, Denmark, Iceland and Sweden, other countries that perform well, it is 17 per cent or less.
- PISA 2003 for the first time measured problem-solving skills internationally, assessing how well these skills can be applied in contexts not restricted to a particular area of the school curriculum. The results show wide country variations in the proportion of students able to cope with complex problems, and in those unable to solve even simple ones. For example, in Finland, Japan and Korea, at least seven in ten students can deal successfully with multi-faceted problems involving more than one data source, or requiring the student to reason with the information provided (reaching at least Level 2 on a three-level proficiency scale). On the other hand, in Greece, Mexico, Portugal and Turkey, at most four in ten students can solve problems at this level.

Clear returns to education can be measured in terms of individual job prospects, individual earnings and overall economic growth

Investment in education brings both individual and collective rewards. Better-educated adults are more likely to work, and earn more on average when they do so. These effects vary across countries and educational levels. A particularly strong employment effect applies to males without upper secondary education,

who are much less likely to work than those who complete this level. The sharpest earnings effects tend to be between those with tertiary qualifications and those who have only gained upper secondary or post-secondary non-tertiary qualifications. Whole-economy effects are harder to measure accurately, but the indicators show clear effects of human capital on productivity and economic growth. Specific indicators show that:

- Females with low levels of education are particularly unlikely to be in work, both compared with males with low levels of education and females with higher levels of education. This phenomenon is especially pronounced in Greece, Ireland, Italy, Mexico, Spain and Turkey, where fewer than 47% of females aged 25 to 64 without upper secondary completion are working, compared to over 70% of similarly educated males. Moreover, in these countries, the great majority of highly educated females are working: at least 70% of those with tertiary qualifications, except in Turkey, where it is 63%.
- New data on earnings show that, over and above differences in average earnings by educational level, the dispersion of earnings among people with the same educational level varies across countries. For instance, across all educational levels combined, countries such as Belgium, France, Hungary and Luxembourg have relatively few individuals who earn below half of median earnings.
- Rising labour productivity accounted for at least half of GDP per capita growth in most OECD countries from 1990 to 2000. The estimated long-term effect on economic output of one additional year of education in the OECD area generally falls between 3 and 6%. Consideration is also given to the evidence for effects of education on health and social cohesion.

Spending on education is rising, but not always as fast as GDP

OECD countries are expanding the scope of their education systems, but at the same time trying to contain the cost burden on hard-pressed public budgets. Conflicting pressures have produced varying trends. In tertiary education, where student numbers are rising the fastest, pressures to cut unit costs are greatest. In primary and secondary education, where in some cases demography causes a fall in enrolments, spending per student is rising in almost all countries. Specifically:

- Spending per student in non-tertiary education rose by 30% or more between 1995 and 2002 in Australia, Greece, Ireland, the Netherlands, Poland, Portugal, Spain and Turkey. In some other countries it rose by less than 10%, and in Sweden it fell slightly.
- In tertiary education, spending per student has in some cases fallen by over 10%, as spending levels have not kept pace with expanding student numbers. This has occurred in the Czech Republic, Poland and the Slovak Republic, where enrolments have risen rapidly; and in Australia and Sweden, where they have grown at a slower rate. On the other hand, in Greece, Spain, Switzerland and Turkey, spending per student in tertiary education has risen by over 30%.
- In only half of countries did the overall growth in educational expenditure at least keep pace with GDP growth between 1995 and 2002. In Ireland, where the GDP grew particularly rapidly, spending on non-tertiary educational institutions grew only about half as fast, although tertiary spending nearly kept pace with GDP. Spending on educational institutions grew over twice as fast as GDP in New Zealand and Turkey at the non-tertiary level, and in Greece, Hungary, Italy, Japan, Mexico, Poland, Switzerland and Turkey at the tertiary level.

Private spending on education is substantial in some areas, but resources for education continue to depend heavily on the allocation of public budgets

Public funding today provides for most spending by educational institutions, with over 90% of primary and secondary expenditure in OECD countries coming from this source. In tertiary and pre-primary education, private funding is more significant, particularly in certain countries. In recent years, public spending on education has been threatened by a decline in most countries in the percentage of GDP spent publicly overall. However, the allocation of a growing proportion of these budgets to education has helped to reduce the impact. Indicators on public and private spending show that:

- In tertiary education the percentage of funding coming from private sources varies widely, from less than 4% in Denmark, Finland, Greece, Norway to more than 50% in Australia, Japan and the United States, and even above 80% in Korea.
- In some countries, tertiary institutions are now relying more heavily on private sources of funding such as fees than they did in the mid-1990s. Private contribution rose by more than five percentage points in Australia, Mexico, Portugal, the Slovak Republic, Turkey and the United Kingdom from 1995 to 2002. In primary and secondary education, however, the shares of public and private spending have remained broadly unchanged.
- On average in OECD countries, public budgets declined relative to GDP; public education spending grew as a share of those budgets, but grew more slowly than GDP. Denmark, New Zealand and Sweden saw particularly significant shifts in public funding in favour of education.

Educational expectancy has continued to rise, and most young people can now expect to undertake some tertiary education during their lives

A child at the age of five can now expect to undertake between 16 and 21 years of education during his or her lifetime, in most OECD countries, if present patterns of participation continue. In every country, educational expectancy measured in these terms has risen since 1995, as participation has risen in pre-primary, upper secondary and tertiary education. A majority of young people – 53% on average – will undertake at least some tertiary education at university level or equivalent during their lifetimes, based on present patterns.

The indicators show that:

- Expected years in education for a child who was five in 2003 exceeds 16 years in all countries except Luxembourg, Mexico, the Slovak Republic and Turkey, and is greatest in Australia, Belgium, Finland, Iceland, Sweden and the United Kingdom, at between 19 and 21 years.
- In the Czech Republic, Greece, Hungary, Iceland, Korea, Poland, Sweden, Turkey and the United Kingdom, educational expectancy grew by above 15% in the relatively short period from 1995 to 2003.
- Based on current participation rates, 53% of today's young people in OECD countries will attend university level or equivalent programmes during their lifetime. About 16% will enter other types of tertiary programmes (tertiary-type B) – but there is some overlap in these two groups. In Australia, Finland, Hungary, Iceland, New Zealand, Norway, Poland and Sweden, more than 60% of young people will enter tertiary-type A programmes. Other forms of tertiary education are most common in Korea and New Zealand, where more than half of young people can expect to participate in tertiary-type B education.

Students crossing borders represent a growing and changing feature of enrolment in tertiary education

In 2003, 2.12 million people studying in OECD countries were foreign students, *i.e.* enrolled outside their country of origin. This represented an 11.5% increase in total foreign students' intakes reported to the OECD since the previous year. Most notably:

- Australia, France, Germany, the United Kingdom and the United States receive 70% of foreign students in OECD countries. Since 1998, Australia's market share has risen, but those of the United Kingdom and the United States have fallen.
- In absolute numbers, students from France, Germany, Greece, Japan, Korea and Turkey represent the largest sources of intakes from OECD countries. Students from China, India and Southeast Asia comprise the largest numbers of foreign students from partner countries.
- One-third of foreign students studying in OECD countries are enrolled in the United States, but the composition of this intake has changed in recent years. Enrolments by students from the Gulf states, North African and certain Southeast Asian countries have fallen by between 10 and 37%, and students from such countries are now more likely to study in Europe, the Middle East and Asia. However, enrolments in the United States by students from China and India have risen 47 and 12%, respectively.

Participation in continuing education and training of people in the labour force varies markedly between countries

The need for labour force members to continue developing their skills and knowledge is greater now as job tasks become more complex and job mobility increases. However, the extent to which this is happening in countries varies widely.

- In Denmark, Finland, Sweden, Switzerland and the United States, more than 40% of the labour force took part in non-formal job-related education and training within a 12-month period. This contrasts with Greece, Hungary, Portugal and Spain where the rate was less than 10%.
- Adults with tertiary qualifications are, in all countries, more likely to participate in non-formal job-related continuing education and training than adults with lower educational attainment.
- In all countries, workers in upper tier service industries are more likely to participate in non-formal job-related continuing education and training than workers in other industries.

Young adults combine working and learning in different ways, but a substantial number are spending time doing neither

The transition from compulsory education to employment is very protracted in some OECD countries, with learning often interspersed with working. But students who reach their late 20s without gaining qualifications are seriously at risk:

- Those without at least an upper secondary education face higher risk of unemployment. In Belgium, the Czech Republic, France, Germany, Poland and the Slovak Republic, over 15% of 25-to-29-year-olds without upper secondary qualifications are unemployed.
- In some countries young people are spending substantial amounts of time neither in education nor in jobs (either unemployed or outside the labour force). The average time spent in this situation between age 15 and 29 exceeds two years in Belgium, the Czech Republic, Greece, Hungary, Italy, Mexico, Poland, the Slovak Republic, Spain, Turkey and the United States.

- In some countries, education and work largely occur consecutively, while in other countries they are concurrent. Work-study programmes, relatively common in European countries, offer coherent vocational education routes to recognised occupational qualifications. In other countries, initial education and work are rarely associated.

Educational inputs can be measured not just by how many hours children learn and in what size classes, but also by learning outside the classroom

In the compulsory years of education, educational inputs vary by striking amounts across countries. Students can get 50% more instruction time, and be in classes well over 50% larger, in one country compared with another. But not everything occurs in the classroom, and new data from PISA shows that out-of-class learning time also varies greatly across countries. Among the findings on teaching and learning inputs:

- The total number of instruction hours that students are intended to receive between ages 7 and 14 averages 6 852 hours among OECD countries. However, formal requirements range from 5 523 hours in Finland to around 8 000 hours in Australia, Italy, the Netherlands and Scotland.
- When the PISA 2003 survey asked 15-year-old students about learning outside class, they gave very different replies across countries. While in Austria, Belgium, the Czech Republic, Iceland, Japan, Norway, Portugal, Sweden and Switzerland, learning in classroom settings makes up 80% of total school-related learning, students in Greece report spending more than 40% learning in other settings, including through homework and out-of-school classes.
- The average class size in lower secondary education is 24 students per class but varies from 30 or more in Japan, Korea and Mexico to less than 20 in Denmark, Iceland and Switzerland.
- On average for the ten OECD countries with data, 30% of the staff in primary and secondary schools are not teachers, ranging from less than 20% in Korea and New Zealand to over 40% in the Czech Republic and France.

Teachers' pay and contact time varies greatly across countries, and the pay structure is in some cases changing

Relative to GDP per capita, teachers in some countries are paid over twice as much as in others. Teachers also work very different hours across countries. Supply and demand factors are causing some changes in pay structure. The indicators show that:

- Mid-career salaries for teachers in lower secondary education are over twice as high as GDP per capita in Korea and Mexico, whereas in Iceland and the Slovak Republic salaries are less than 75% of GDP per capita.
- Annual teaching hours in lower secondary education ranges from 535 in Japan to over 1 000 hours in Mexico and the United States, with similar variations at other levels.
- On an hourly basis, teachers are much better paid in upper secondary than in primary education. Salary per teaching hour is 80% higher for upper secondary than for primary school teachers in the Netherlands and Spain, but less than 5% higher in New Zealand, Poland, the Slovak Republic and the United States.
- A desire to attract new teachers may have contributed to the faster rise in starting salaries than other salaries for teachers since 1996 in Australia, Denmark, England, Finland and Scotland. However, mid-career salaries have risen relatively quickly in Austria, Japan, Netherlands, New Zealand and Portugal. In New Zealand, top-of-the scale salaries have also risen faster than starting salaries, but in a country

where it only takes eight years to reach to the top of the scale, this is compatible with recruitment incentives for new teachers.

Different types of schools and school systems perform differently, but the effect of these structural differences needs to be interpreted carefully

The PISA 2003 survey of the mathematics performance of 15-year-olds noted significant differences in performance between students in public and private schools, and some differences between outcomes in secondary education systems with greater or lesser differentiation in the grouping of students. However, such comparisons need to be treated with care. The main conclusions were that:

- Private schools outperform public schools on average. Students in private schools score 33 score point higher on average on the mathematics scale, about half a proficiency level. The biggest difference is in Germany (66 points). However, once socio-economic factors are fully taken into account, the performance of private schools no longer tends to be superior.
- Students in more differentiated and selective education systems perform slightly lower on average than those in more comprehensive systems, but this difference is not statistically significant. However, more differentiated systems show much larger variation in performance among students, not only from one school to another, but also when comparing students from more and less advantaged family backgrounds.

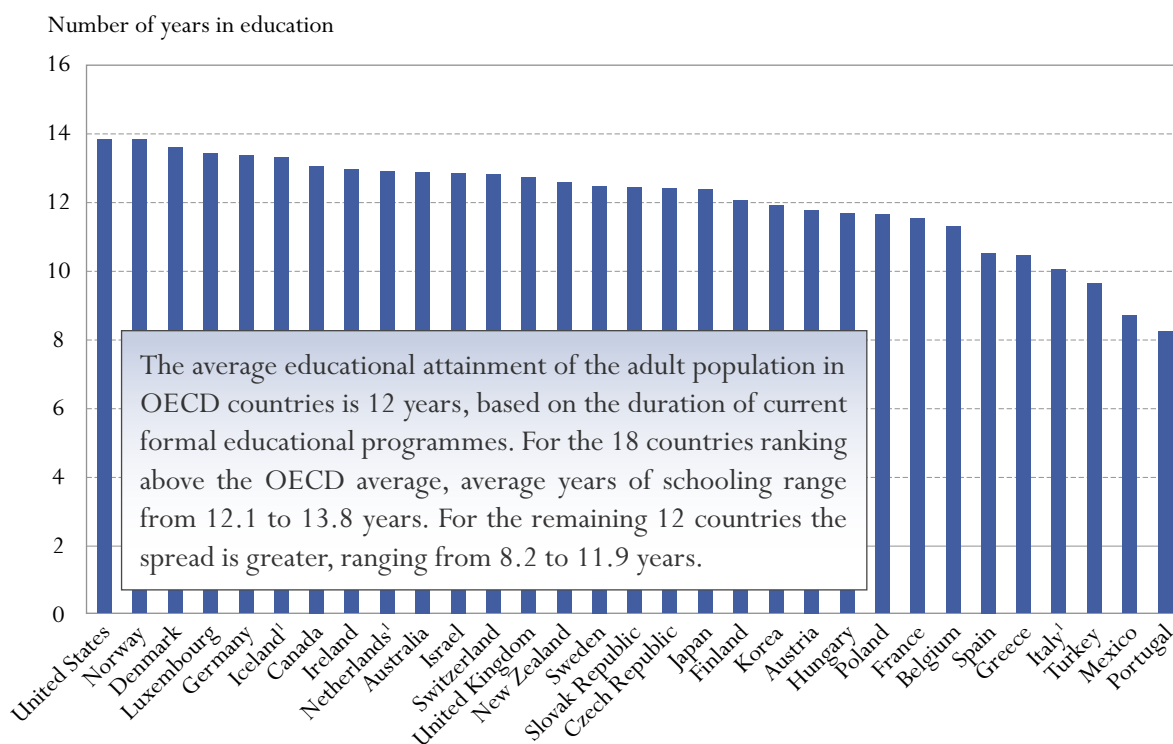
Educational attainment of the adult population

This indicator profiles the educational attainment of the adult population as a proxy for the knowledge and skills available to economies and societies. The educational attainment of the adult population can be summarised by the average years of schooling in formal education.

Key results

**Chart A1.1. Educational attainment of the adult population :
Average number of years in the education system (2003)**

The chart shows the amount of education that has been received by today's 25-to-64-year-olds in terms of the number of years they have spent in formal education. Note that this reflects education received in the past, and an expansion in youth education feeds only slowly into higher adult attainment levels.



1. Year of reference 2002.

Countries are ranked in descending order of the average number of years in the education system of 25-to-64-year-olds.

Source: OECD, Table A1.4. See Annex 3 for notes (www.oecd.org/edu/eqg2005).

StatLink: <http://dx.doi.org/10.1787/684518581842>

Other highlights of this indicator

- The proportion of individuals who have completed upper secondary education has been growing in almost all OECD countries, rapidly in some: in 22 countries, the proportion ranges from 71 to 97% among the youngest generation. Many countries with traditionally low levels of education are catching up and completion of upper secondary education has grown almost everywhere, becoming the norm for youth cohorts.
- As measured by educational attainment, there has been an increase in the stock of tertiary level skills in the combined adult populations of OECD countries, but most of that increase is due to significant increases in tertiary graduation rates in a comparatively small number of countries.

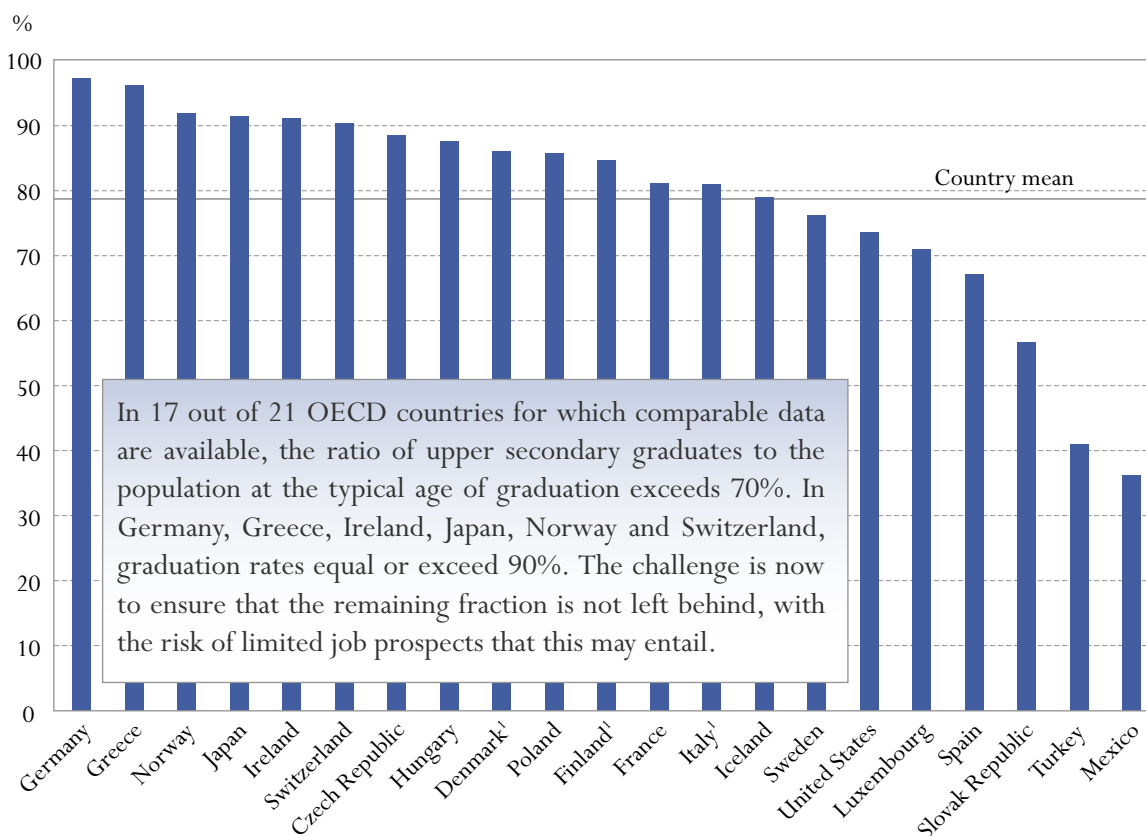
Current upper secondary graduation rates

This indicator shows the current upper secondary graduate output of education systems, *i.e.* the percentage of the typical population of upper secondary school age that follows and successfully completes upper secondary programmes.

Key results

Chart A2.1. Upper secondary graduation rates (2003)

The chart shows the number of students completing for the first time upper secondary education programmes, as a percentage of the age-group normally completing this level. Although not all of the completers are in this age band, this gives an indication of how many of today's young people are completing secondary education.



1. Year of reference 2002.

Countries are ranked in descending order of upper secondary graduation rates.

Source: OECD. Table A2.1. See Annex 3 for notes (www.oecd.org/edu/eqg2005).

StatLink: <http://dx.doi.org/10.1787/841113053176>

Other highlights of this indicator

- Females are now more likely to complete upper secondary education than males in most OECD countries: a reversal of the historical pattern. Today, graduation rates for females exceed those for males in most OECD countries.
- The majority of students graduate from upper secondary programmes that are designed to provide access to further tertiary education.
- Most students are getting upper secondary qualifications giving them access to university-level study (ISCED 5A).
- In many countries, males are more likely to be on vocationally-oriented courses, but in nearly half, there is no gender difference or females are overrepresented on such courses.

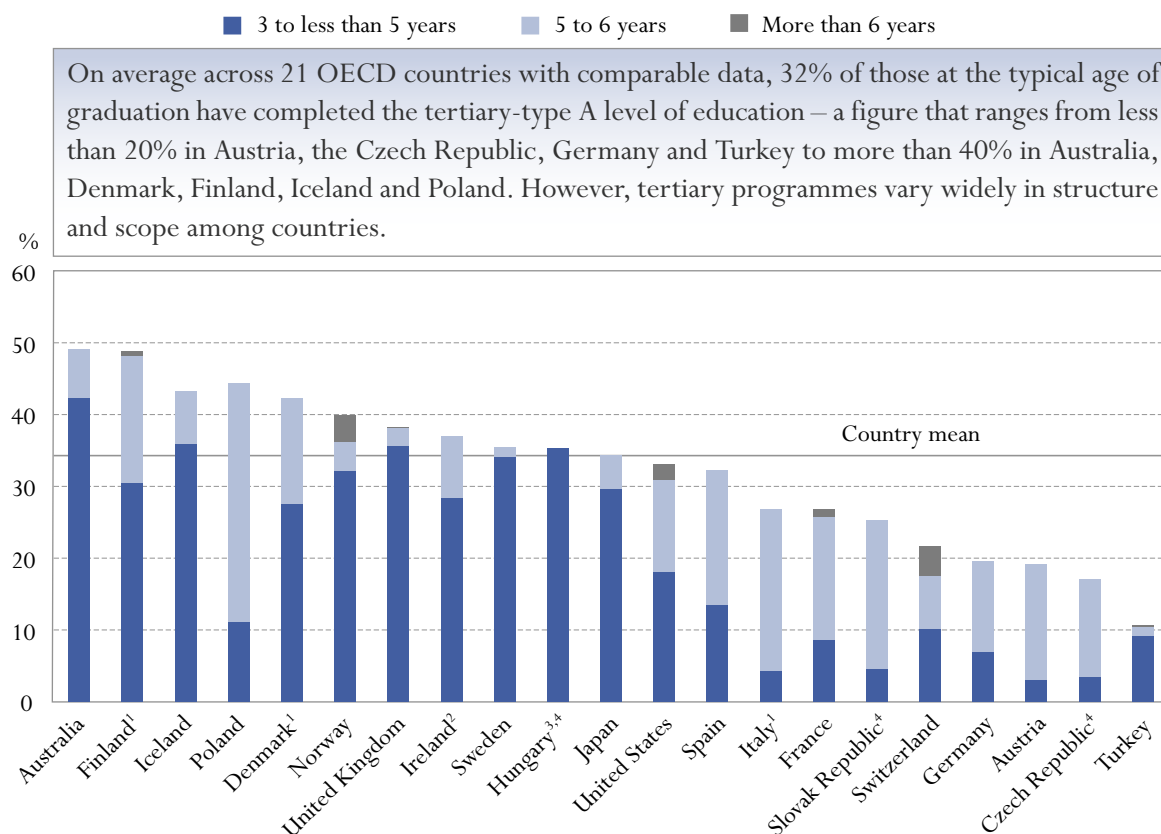
Current tertiary graduation rates

First, this indicator shows the current tertiary graduate output of educational systems, *i.e.* the percentage of the population in the typical age cohort for tertiary education that follows and successfully completes tertiary programmes. Tertiary education covers a wide range of programmes, but overall this is an indicator of the rate at which countries produce advanced knowledge. A traditional university degree is associated with completion of “type A” tertiary courses; “type B” generally refers to shorter and often vocationally oriented courses. The indicator also sheds light on the internal efficiency of tertiary educational systems. Second, this indicator shows the distribution of tertiary graduates across fields of education.

Key results

Chart A3.1. Tertiary-type A graduation rates, by duration of programme (2003)

The chart shows the number of students completing for the first time tertiary-type A programmes, as a percentage of the age-group normally completing this level. Although not all of the completers are in this age band, this gives an indication of how many of today’s young people are obtaining a high-level qualification.



1. Year of reference 2002.

2. 5-to-6-year programmes include programmes of more than six years.

3. 3-to-less-than-5-year programmes include 5-to-more-than-6-year programmes.

4. Gross graduation rate may include some double counting.

Countries are ranked in descending order of tertiary-type A graduation rates.

Source: OECD. Table A3.1. See Annex 3 for notes (www.oecd.org/edu/eqg2005).

StatLink: <http://dx.doi.org/10.1787/825277215325>

Other highlights of this indicator

- The shorter tertiary-type A programmes are, the higher participation is in tertiary education.
- The number of science graduates per 100 000 employed persons ranges from below 700 in Hungary, to above 2 200 in Australia, Finland, France, Ireland, Korea and the United Kingdom.
- Although the majority of tertiary-level graduates are now women, there are still marked differences between the various fields of education. The generally lower share of women among graduates in mathematics and science-related fields is reflected in generally lower levels of engagement and attitudes towards related subjects among 15-year-olds.
- The graduation rate is 9% at the tertiary-type B level and 1.3% for programmes leading to advanced research qualifications, on average across OECD countries with comparable data.

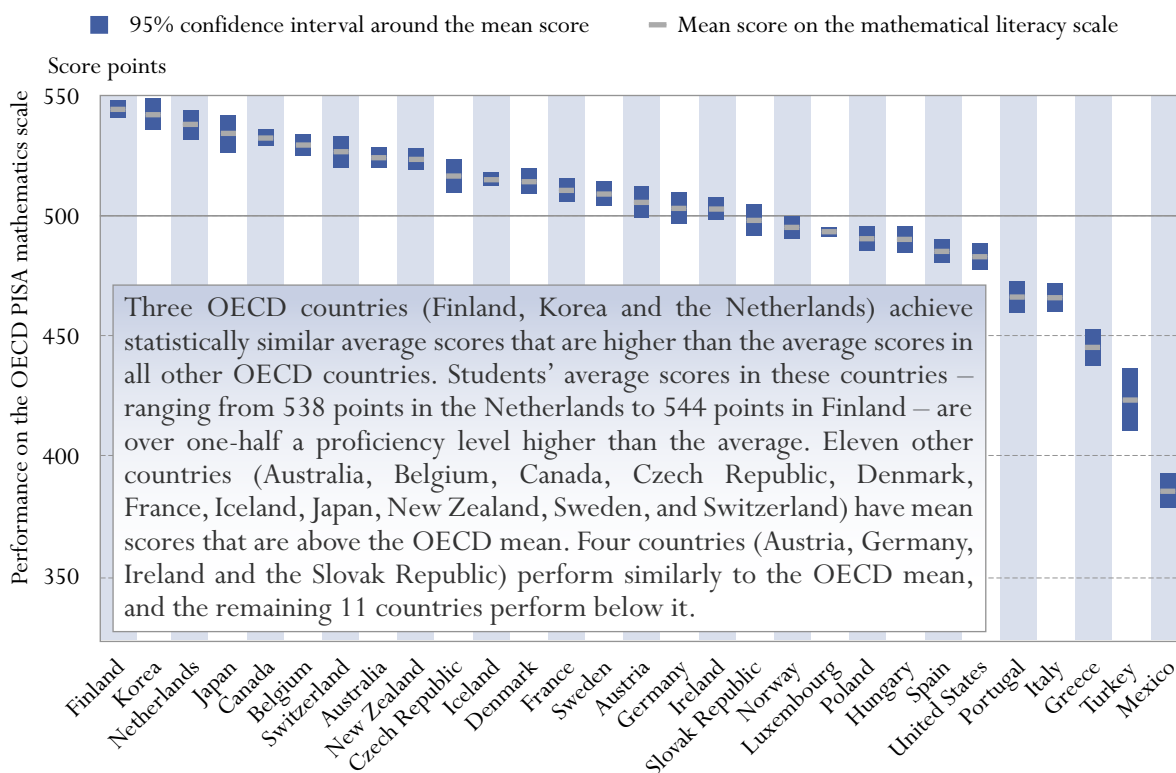
What 15-year-olds can do in mathematics

This indicator examines the mathematics performance of 15-year-old students, drawing on 2003 data from the OECD's Programme for International Student Assessment (PISA). It describes mathematical proficiency in each country in terms of the percentage of students reaching one of six competency levels as well as in terms of the mean scores achieved by students on the overall mathematics scale and on the various aspects of mathematics. It also examines the distribution of student scores within countries.

Key results

Chart A4.1. Distribution of student performance on the OECD PISA mathematics scale (2003)

The chart summarises the overall performance of 15-year-old students in different countries on the OECD PISA 2003 mathematics scale. The width of the symbols indicates the statistical uncertainty with which the mean performance was estimated.



Source: OECD and PISA database 2003. Table A4.3.

StatLink: <http://dx.doi.org/10.1787/155512267715>

Other highlights of this indicator

- At least 7% of students in Belgium, Japan, Korea, the Netherlands and Switzerland reach the highest level of mathematics proficiency (Level 6). Furthermore, in these countries and in Canada, Finland and New Zealand, over 20% of students reach at least Level 5. In Greece, Mexico, Portugal and Turkey, however, less than 6% of students reach these two levels of proficiency.
- With the exception of Finland and Korea, all OECD countries have at least 10% of students that perform at Level 1 or below, and there are 12 countries in which this exceeds one-fifth of all students. In Mexico and Turkey, a majority of students perform only at Level 1 or below.
- In the majority of countries, the range of performance in the middle half of the students exceeds the magnitude of two proficiency levels, and in Belgium and Germany it is around 2.4 proficiency levels. This suggests that educational programmes, schools and teachers need to cope with a wide range of student knowledge and skills.

What 15-year-olds can do in problem solving

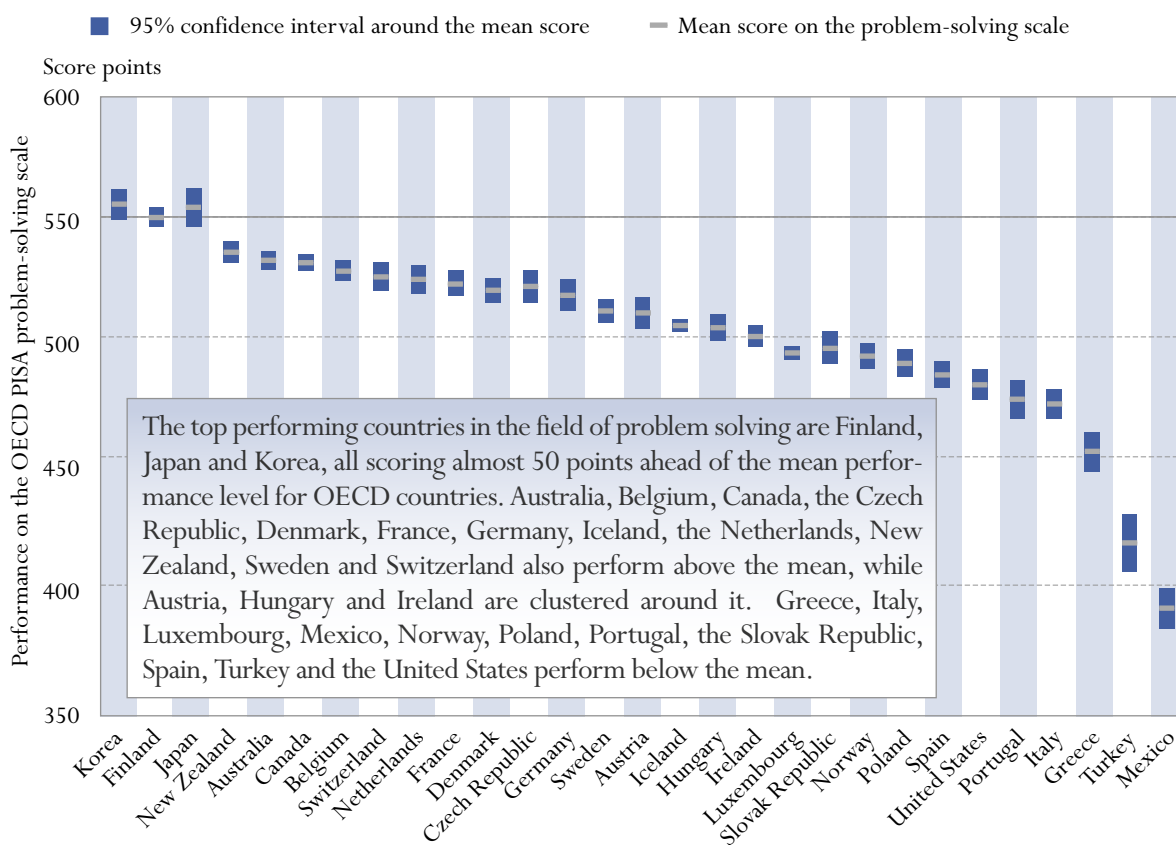
This indicator examines students' cross-curricular problem-solving skills, drawing upon 2003 data from the Programme for International Student Assessment (PISA) 2003. It profiles 15-year-old students' abilities by examining the percentage of students reaching three levels of problem-solving proficiency, mean scores across countries and the distribution of performance within countries.

Key results

Chart A5.1. Distribution of student performance on the OECD PISA problem-solving scale (2003)

The chart summarises the overall performance of 15-year-old students in different countries on the OECD PISA 2003 problem-solving scale.

The width of the symbols indicates the statistical uncertainty with which the mean performance was estimated.



Source: OECD PISA 2003 database. Table A5.2.

StatLink: <http://dx.doi.org/10.1787/402381481733>

Other highlights of this indicator

- Performance varies significantly across countries. In some, the great majority of students can solve problems at Level 2 (the middle level) or higher while in others, few students achieve that level.
- Students unable to progress beyond Level 1 do not typically deal successfully with multi-faceted problems involving more than one data source or requiring the student to reason with the information provided.
- Within-country variation is also considerable. For example, in the majority of OECD countries, at least 10% of students are proficient at Level 3 (the highest level) and at least 10% perform below Level 1.
- In some countries, large numbers cannot solve simple problems. In Mexico and Turkey over half, in Greece one-third, and in Italy, Portugal and the United States nearly one-quarter of students cannot solve Level 1 problems.

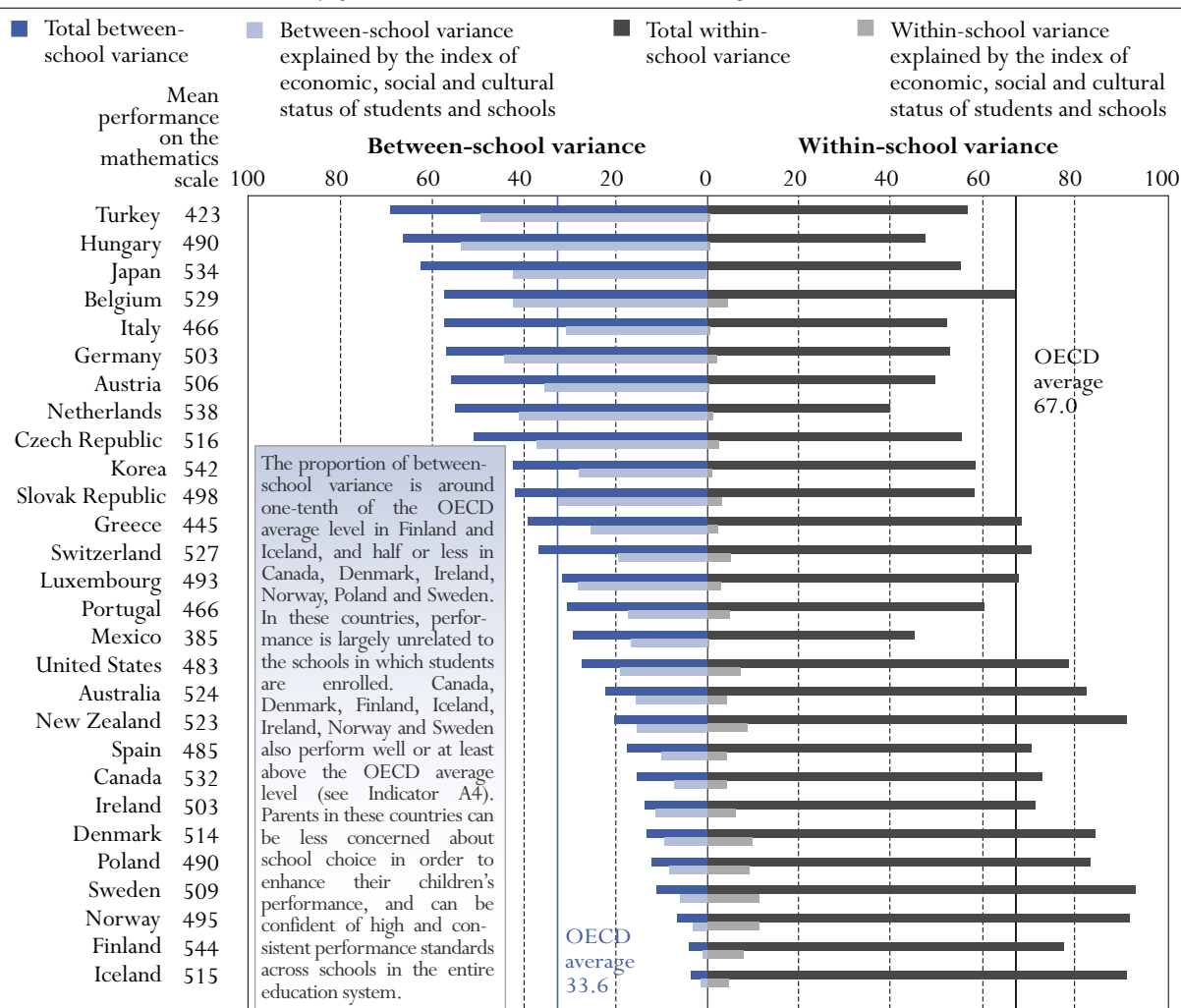
Between- and within-school variation in the mathematics performance of 15-year-olds

This indicator examines the between- and within-school variation in student performance on the OECD PISA mathematics scale. It also compares between-school variation in PISA 2000 and PISA 2003.

Key results

Chart A6.1. Variance in student performance between schools and within schools on the OECD PISA mathematics scale (2003)

The chart shows to what extent mathematics performance varies between schools. The longer the left side of the bar, the greater the performance differences among schools. This is measured by the percentage of the average variance in the performance 15-year-olds on the PISA 2003 mathematics scale in OECD countries that lies between schools. One hundred points on this index is equivalent to the total variation in student performance, between and within schools, on average in OECD countries.



Source: OECD PISA 2003 database. Table A6.1.

StatLink: <http://dx.doi.org/10.1787/113723678067>

Other highlights of this indicator

- Students in all OECD countries show widely varying performance, but countries vary widely in the extent to which students in different schools perform differently. On average across OECD countries, differences in the performance in mathematics between schools account for 34% of total variation in achievement. However, in nine countries between-school variation is above half the overall variation in OECD countries, while in three countries it is below 10%.
- While some between-school variance is attributable to students' socio-economic backgrounds, some of it also likely reflects the structural features of schools and/or education systems, and/or the policies and practices (Table A7.2) of school administrators and teachers. Thus, there may be an added value associated with attending a particular school.
- Some, though not all, countries that performed well in PISA also showed low or modest levels of between-school variance, suggesting that securing similar student performance among schools is a policy goal that is both important in itself and compatible with the goal of high overall performance standards.

Mathematics and science achievement of eighth-grade students (2003 and 1995)

This indicator examines the mathematics and science achievements of eighth-grade students in 2003, and how they have changed since 1995. It draws on data from the International Association for the Evaluation of Educational Achievement's (IEA) Trends in International Mathematics and Science Study (TIMSS) and focuses on the performance of the 12 OECD countries and 2 regions that participated in TIMSS 2003 and the subset of countries that participated in both 1995 and 2003.

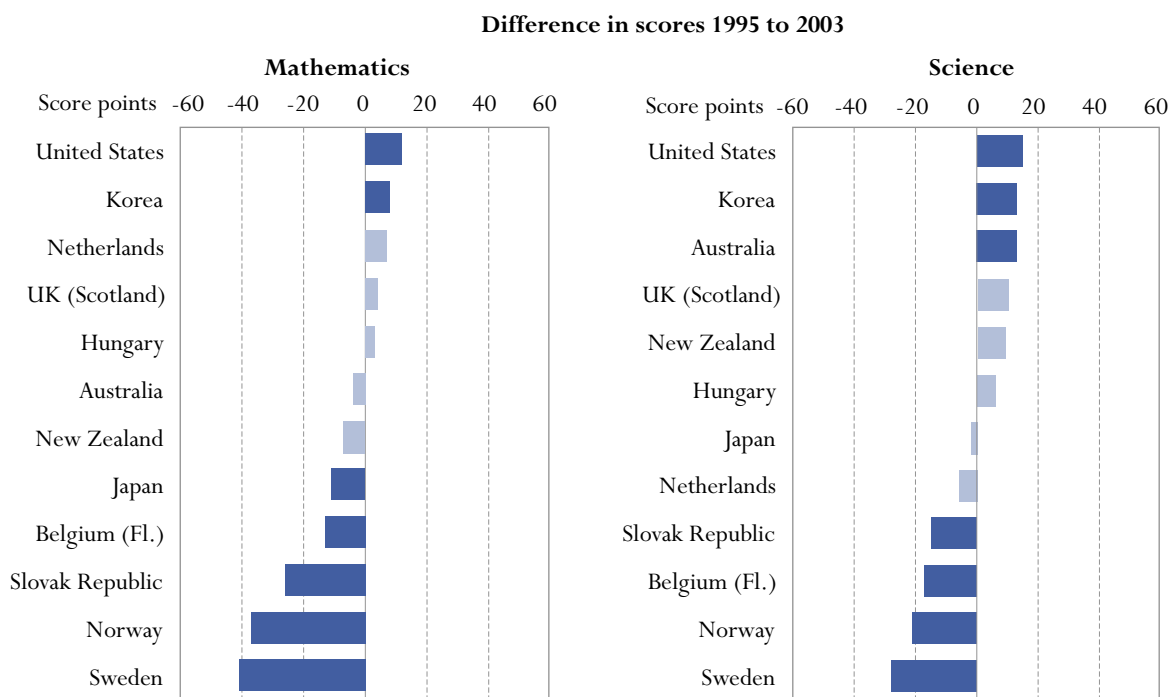
Key results

Chart A7.1. Differences in mean performance of eighth-grade students from 1995 to 2003

The chart shows differences in mean performance of eighth-grade students on the IEA TIMSS assessment from 1995 to 2003.

- Mean score in 2003 not significantly different from mean score in 1995.
- Mean score in 2003 significantly higher or lower than mean score in 1995.

Note that only differences that are marked in dark blue are statistically significant.



Note: Does not include Italy, which did not participate in the 1995 eighth-grade assessment.

Source: IEA Trends in International Mathematics and Science Study 1995 and 2003.

StatLink: <http://dx.doi.org/10.1787/774732722206>

Other highlights of this indicator

- On the TIMSS mathematics scale, students in Korea scored higher than students in any other participating OECD country. Students in Belgium (Flemish Community), Hungary, Japan, and the Netherlands also scored statistically significantly higher than the average of participating OECD countries. The remaining eight countries scored below the OECD average.
- On the science scale, the range in performance across countries was much smaller than in mathematics. Students in Korea performed higher than the other participating OECD countries, while Hungary, Japan and the Netherlands had average scores statistically significantly higher than the average of participating OECD countries. Australia, New Zealand, Sweden and the United States scored similarly to the average of participating OECD countries, whereas Belgium (Flemish Community), Italy, Norway, the Slovak Republic and the United Kingdom (Scotland) scored below it.

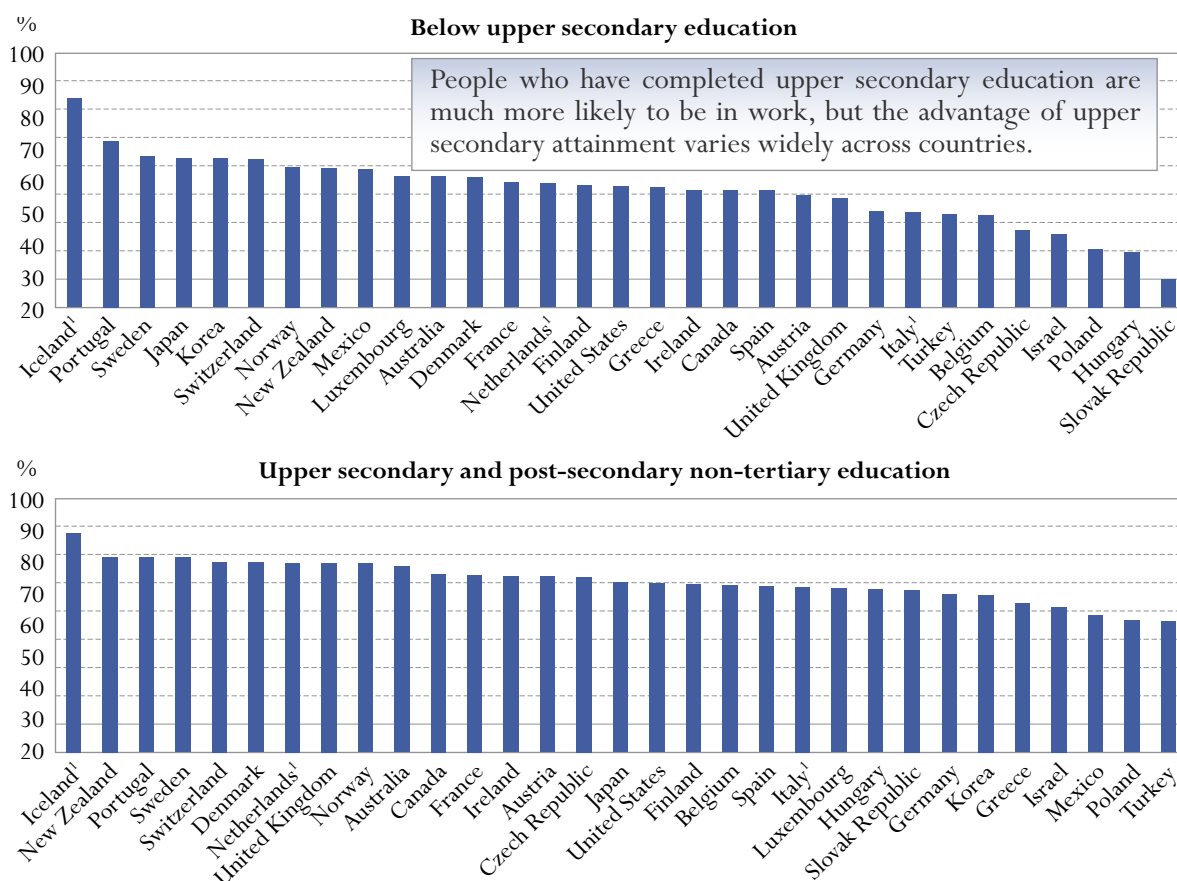
Labour force participation by level of educational attainment

The adequacy of workers' skills and the capacity of the labour market to supply jobs that match those skills are important issues for policy makers. This indicator examines the relationship between educational attainment and labour force activity, first comparing employment rates in general and then unemployment rates by gender and changes over time in unemployment rates. The employment rate is defined as the employment-to-population ratio; the unemployment rate is defined in traditional economic terms as the unemployment-to-labour force ratio.

Key results

Chart A8.1. Employment rates by educational attainment (2003)

The chart shows the percentage of the 25-to-64-year-old population that is employed.



1. Year of reference 2002.

Countries are ranked in descending order of the employment rates.

Source: OECD, Table A8.1b. See Annex 3 for notes (www.oecd.org/edu/eqq2005).

StatLink: <http://dx.doi.org/10.1787/050732323673>

Other highlights of this indicator

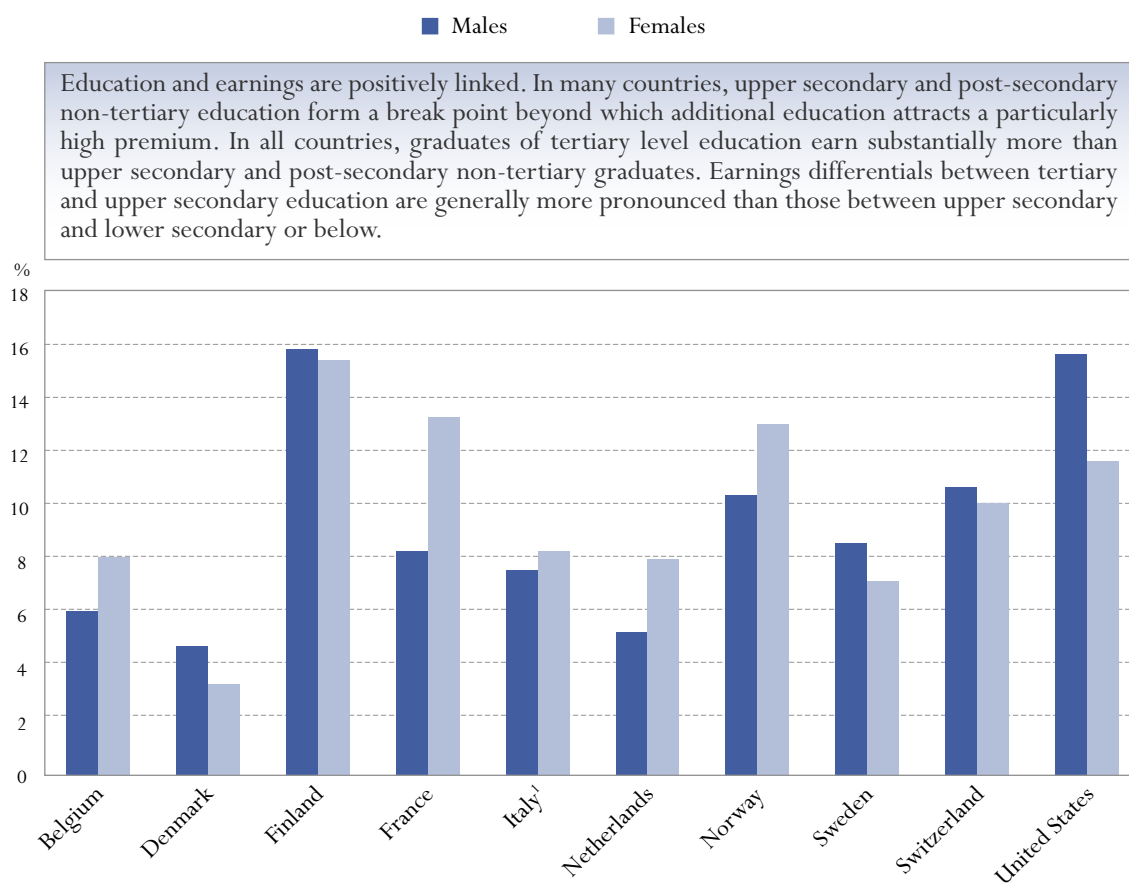
- Employment rates rise with educational attainment in most OECD countries. With very few exceptions, the employment rate for graduates of tertiary education is markedly higher than the rate for upper secondary graduates. For males, the gap is particularly wide between upper secondary graduates and those without an upper secondary qualification.
- Differences in employment rates between males and females are wider among less educated groups. The chance of being in employment is 24 points higher for males than for females among those without upper secondary qualifications, falling to 11 per cent for the most highly qualified.
- Those with low educational attainment are both less likely to be labour force participants and more likely to be unemployed. Unemployment rates fall with higher educational attainment. The greatest gender differences in unemployment rates are seen among lower-qualified adults in certain countries. However, in some cases it is unqualified females and in others unqualified males who have the higher unemployment rate.
- Unemployment rates are higher for females at all levels of educational attainment in eight OECD countries. Unemployment rates are higher for men at all levels of educational attainment in only four countries.

The returns to education: education and earnings

This indicator examines the relative earnings of workers with differing levels of educational attainment as well as the financial returns to investment in different levels of educational attainment. Rates of return are calculated for investments in education that are undertaken as a part of initial education, as well as for the case of a hypothetical 40-year-old who decides to return to education in mid-career. For the first time, this indicator presents newly compiled data that describes the distribution of pre-tax earnings within five (ISCED) levels of educational attainment.

Key results

Chart A9.1. Private internal rates of return (RoR) for an individual obtaining a university-level degree (ISCED 5/6) from an upper secondary and post-secondary non-tertiary level of education (ISCED 3/4) (2002)



Education and earnings are positively linked. In many countries, upper secondary and post-secondary non-tertiary education form a break point beyond which additional education attracts a particularly high premium. In all countries, graduates of tertiary level education earn substantially more than upper secondary and post-secondary non-tertiary graduates. Earnings differentials between tertiary and upper secondary education are generally more pronounced than those between upper secondary and lower secondary or below.

1. For reasons of reliability, data on earnings for 15-to-24-year-olds in tertiary education were not used, consequently life income streams are calculated from the data for 25-to-64-year-olds.

Source: OECD, Table A9.6. See Annex 3 for notes (www.oecd.org/edu/eag2005).

StatLink: <http://dx.doi.org/10.1787/561264611726>

Other highlights of this indicator

- Females still earn less than males with similar levels of educational attainment. For a given level of educational attainment, women typically earn between 60 and 80% of what men earn.
- Countries differ significantly in the dispersion of earnings among individuals with similar levels of educational attainment, with some countries having relatively modest dispersions of earnings within a category of educational attainment. Although individuals with higher levels of education are more likely to be in the highest earnings group, individuals with higher levels of education can fall into lower categories of earnings. This suggests there may be significant differences in the rates of return to education within countries.
- Countries differ in the relative share of men and women who fall in the upper and lower categories of earnings.
- Attaining higher levels of education can be viewed as an economic investment in which there are costs paid by the individual (including reductions in earnings while receiving education) that typically result in higher earnings over the individual's lifetime. In this context, the investment to obtain a university level degree can produce financial returns as high as a 15.8% annual return on this investment, with most countries having a rate of return under 10%.

The returns to education: links between education, economic growth and social outcomes

This indicator focuses on the role of human capital as a determinant of the level and rate of growth of output per capita within countries. The indicator complements Indicator A9, which examines the relationship between human capital and economic returns at the individual level. While Indicator A9 examines what happens to the earnings of an individual as his or her level of schooling rises, Indicator A10 seeks to capture the effects of changes in a country's overall stock of human capital on labour productivity, holding the aggregate stock of physical capital constant. Considering the relationship between education and broader social outcomes, this indicator also examines how schooling affects both health status and social cohesion.

Key results

- The estimated long-term effect on economic output of one additional year of education in the OECD area generally falls between 3 and 6%. Analyses of human capital across 14 OECD economies – based on literacy scores – also suggest significant positive effects on growth within countries.
- An analysis by the OECD Secretariat of the causes of economic growth shows that rising labour productivity accounted for at least half of GDP per capita growth in most OECD countries from 1990 to 2000.
- Many analyses indicate a positive causal relationship between higher educational attainment and better mental and physical health, with the mechanisms operating through income and employment, behavioural and psycho-social effects.

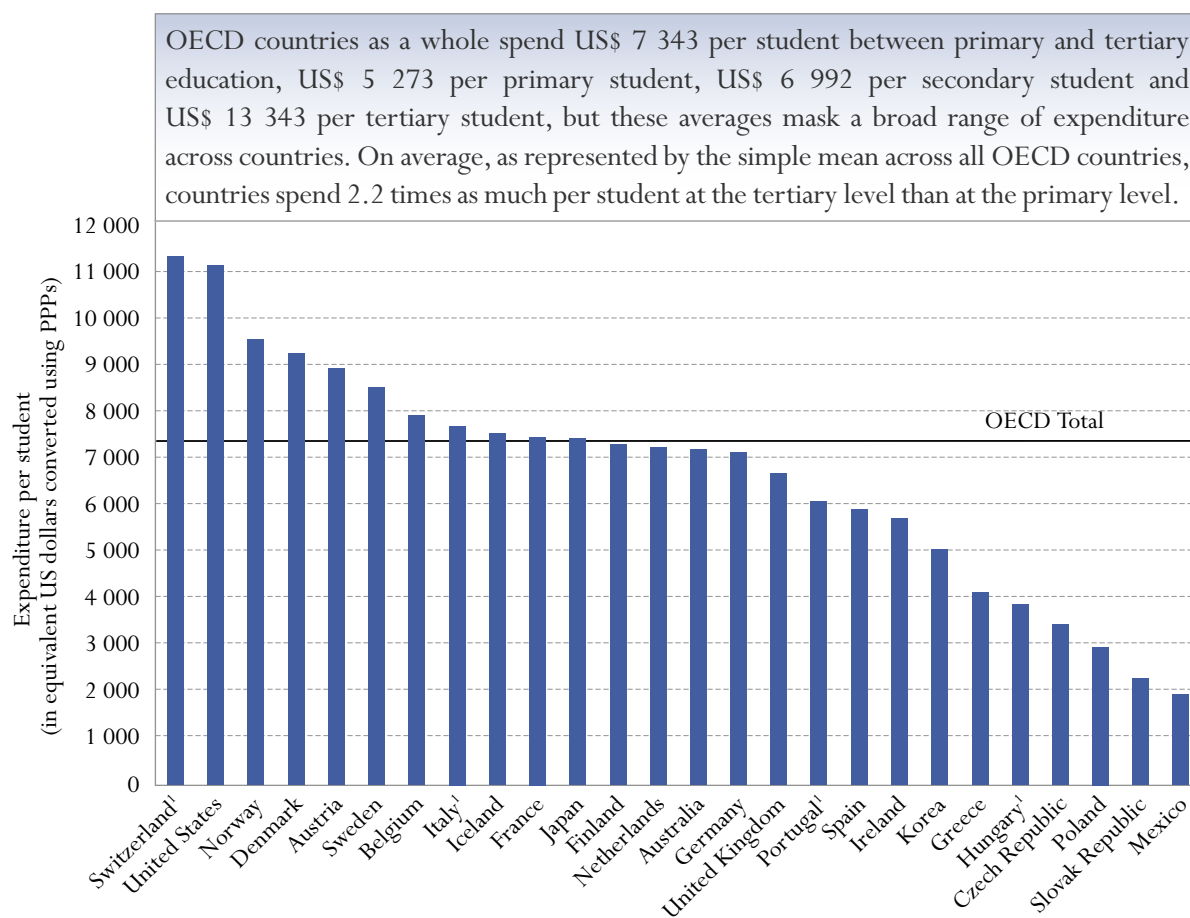
Educational expenditure per student

This indicator provides an assessment of the investment made on each student. Expenditure per student is largely influenced by teacher salaries (see Indicators B6 and D3), pension systems, teaching materials and facilities, the programme orientation proposed to pupils/students (see Indicator C2) and the number of students enrolled in the education system (see Indicator C1). Policies put in place to attract new teachers or to reduce average class size or staffing patterns (see Indicator D2) have led to changes in expenditure per student.

Key results

Chart B1.1. Annual expenditure on educational institutions per student between primary and tertiary education (2002)

Expenditure on educational institutions per student gives a measure of unit costs in formal education. This chart expresses annual expenditure on educational institutions per student in equivalent US dollars converted using purchasing power parities, based on full-time equivalents.



1. Public institutions only.

Countries are ranked in descending order of expenditure per student.

Source: OECD. Table B1.1. See Annex 3 for notes (www.oecd.org/edu/eag2005).

StatLink: <http://dx.doi.org/10.1787/040455163621>

Other highlights of this indicator

- Excluding R&D activities, expenditure in tertiary educational institutions represents on average US\$ 7 299 and ranges from US\$ 4 500 or below in Greece, Poland, the Slovak Republic and Turkey to more than US\$ 8 500 in Australia, Denmark, the United Kingdom and the United States.
- In some OECD countries, low annual expenditure per tertiary student still translates into high overall costs per tertiary student because students participate in tertiary studies over a long period of time.
- Lower expenditure cannot automatically be equated with a lower quality of educational services. Australia, Belgium, the Czech Republic, Finland, Japan, Korea, the Netherlands and New-Zealand, which have moderate expenditure on education per student at the primary and lower secondary levels, are among the OECD countries with the highest levels of performance by 15-year-old students in mathematics.
- Expenditure on education tends to rise over time in real terms, as teachers' pay (the main component of costs) rises in line with general earnings. However the rate of the rise may indicate the extent to which countries contain costs and raise productivity. This differs considerably across educational sectors. Expenditure per primary, secondary and post-secondary non-tertiary student increased by 30% or more between 1995 and 2002 in Australia, Greece, Ireland, the Netherlands, Poland, Portugal, Spain and Turkey. In tertiary education, on the other hand, spending per student has in some cases fallen, as spending levels do not keep up with expanding student numbers.
- Despite the fact that tertiary spending per student has risen less consistently than at lower levels, countries still spend on average over twice as much per student at the tertiary level than at either primary or secondary levels.

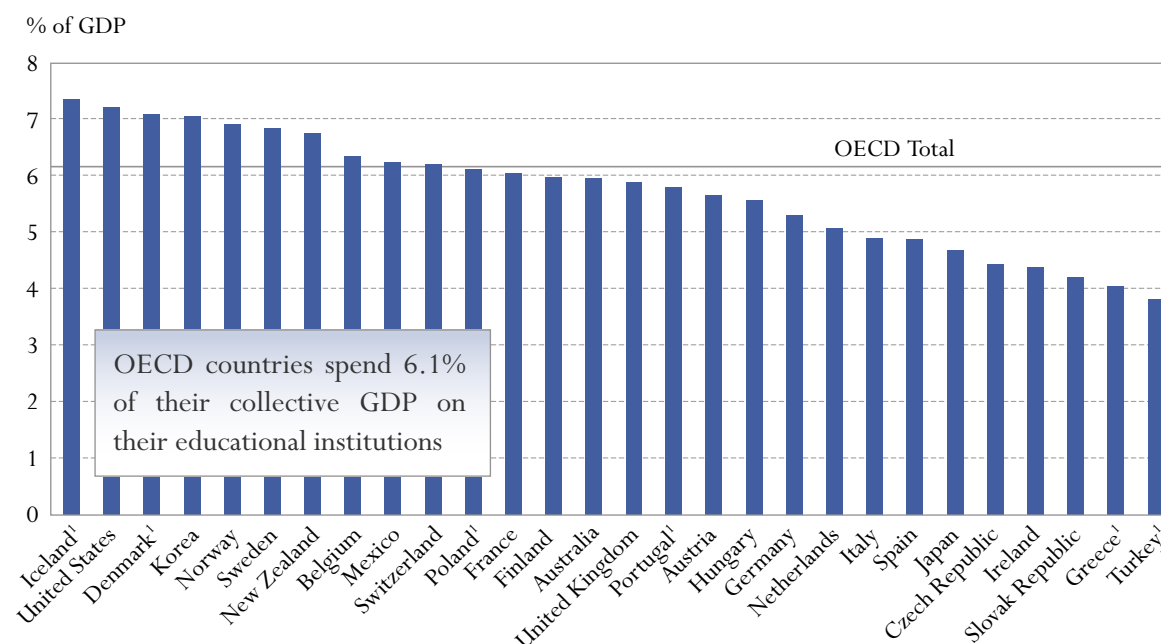
Expenditure on educational institutions relative to Gross Domestic Product

Education expenditure as a percentage of GDP shows how a country prioritises education in relation to its overall allocation of resources. Tuition fees and investment in education from private entities other than households (see Indicator B3) have a strong impact on differences in the overall amount that OECD countries devote to their education systems, especially at the tertiary level.

Key results

Chart B2.1 Expenditure on educational institutions as a percentage of GDP for all levels of education (2002)

The chart measures educational investment through the share of national income that each country devotes to spending on educational institutions. It captures both direct and indirect expenditure on educational institutions and covers both public and private sources of funds.



1. Public subsidies included in private funds.

Countries are ranked in descending order of total expenditure from both public and private sources on educational institutions.

Source: OECD. Table B2.1a. See Annex 3 for notes (www.oecd.org/edu/eag2005).

StatLink: <http://dx.doi.org/10.1787/016047041005>

Other highlights of this indicator

- Two-thirds of expenditure on educational institutions, or 3.8% of the combined GDP in the OECD area, are devoted to primary, secondary and post-secondary non-tertiary education.
- More than one-quarter of the combined OECD expenditure on educational institutions is accounted for by tertiary education.
- Korea and the United States spend 2.2 and 2.6%, respectively, of their GDP on tertiary institutions. These two countries are also those with the highest proportion of private expenditure at the tertiary level of education.
- More people are completing upper secondary and tertiary education than ever before and in many countries, the expansion has been accompanied by massive financial investments. In all the OECD countries for which data are available, public spending on educational institutions increased by more than 5% between 1995 and 2002.
- The increase in spending on education between 1995 and 2002 tended to fall behind the growth in national income in around half of the 21 OECD countries for which data are available. Most notable differences are observed in Austria, the Czech Republic, Ireland, Slovak Republic and Spain where the proportion of GDP spent on education decreased by 0.4 or more percentage points between 1995 and 2002.

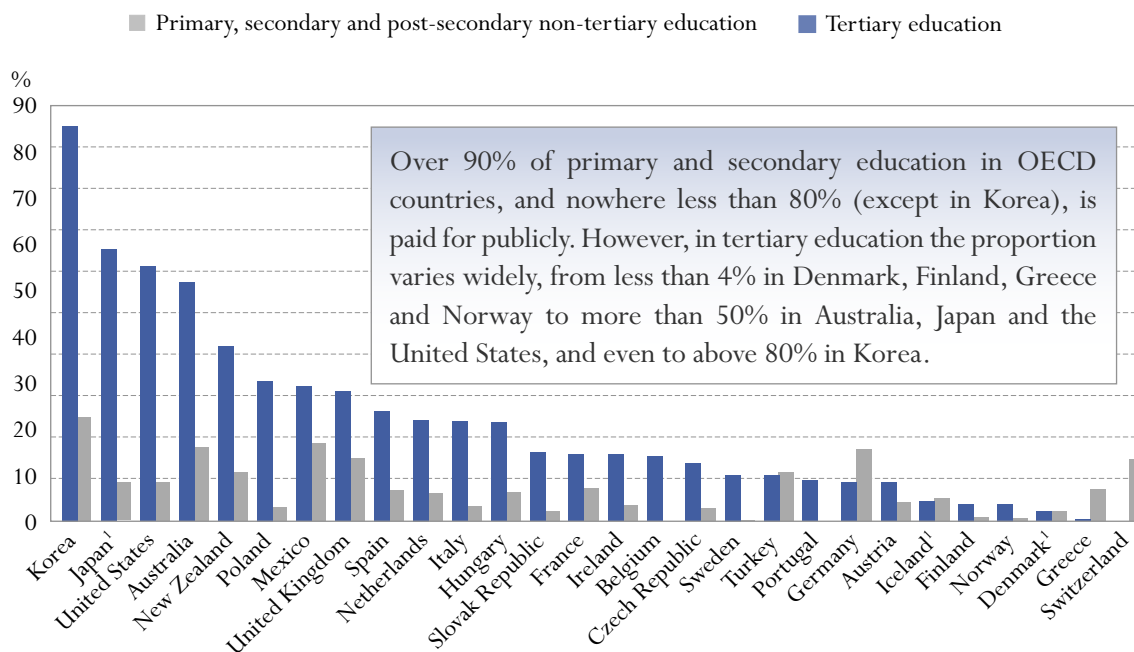
Public and private investment in educational institutions

This indicator examines the proportion of public and private funds allocated to educational institutions for each level of education. It also provides the breakdown of private funds between household expenditure and expenditure from private entities other than households. This indicator sheds some light on the widely debated issue of how the financing of educational institutions should be shared between private entities and the public, particularly those at the tertiary level. The higher the amount of household expenditure required for educational institutions, the stronger the pressure on the families. Thus, access to tertiary studies may be influenced both by the amount of private expenditure needed and by the financial subsidies to households that are analysed in Indicator B5.

Key results

Chart B3.1. Share of private expenditure on educational institutions between primary and tertiary education(2002)

The chart shows private spending on educational institutions as a percentage of total spending on educational institutions. This includes all money transferred to such institutions through private sources, including public funding via subsidies to households, private fees for educational services or other private spending (e.g. on accommodation) that passes through the institution.



1. Post-secondary non-tertiary included in both upper secondary and tertiary education.

Countries are ranked in descending order of the share of private expenditure on educational institutions for tertiary education.

Source: OECD. Tables B3.2a and B3.2b. See Annex 3 for notes (www.oecd.org/edu/eag2005).

Other highlights of this indicator

- Between 1995 and 2002, among countries for which comparable data are available, the share of public funding for all levels of education combined decreased in as many countries as it increased.
- The share of tertiary spending from private sources rose substantially in some countries between 1995 and 2002, but this was not the case at other levels of education. Overall, at the tertiary level of education the share of public funding rose in as many countries as it fell.
- Compared to other levels of education, tertiary institutions and to a lesser extent pre-primary institutions obtain the largest proportions of funds from private sources: respectively 22% and 18% of funds at these levels come from private sources.
- In tertiary education, 80% of private expenditure are covered by households, even if private expenditure from other private entities are significant and represent 10% or more in Australia, Hungary, Korea, the Netherlands, Sweden, the United Kingdom and the United States.

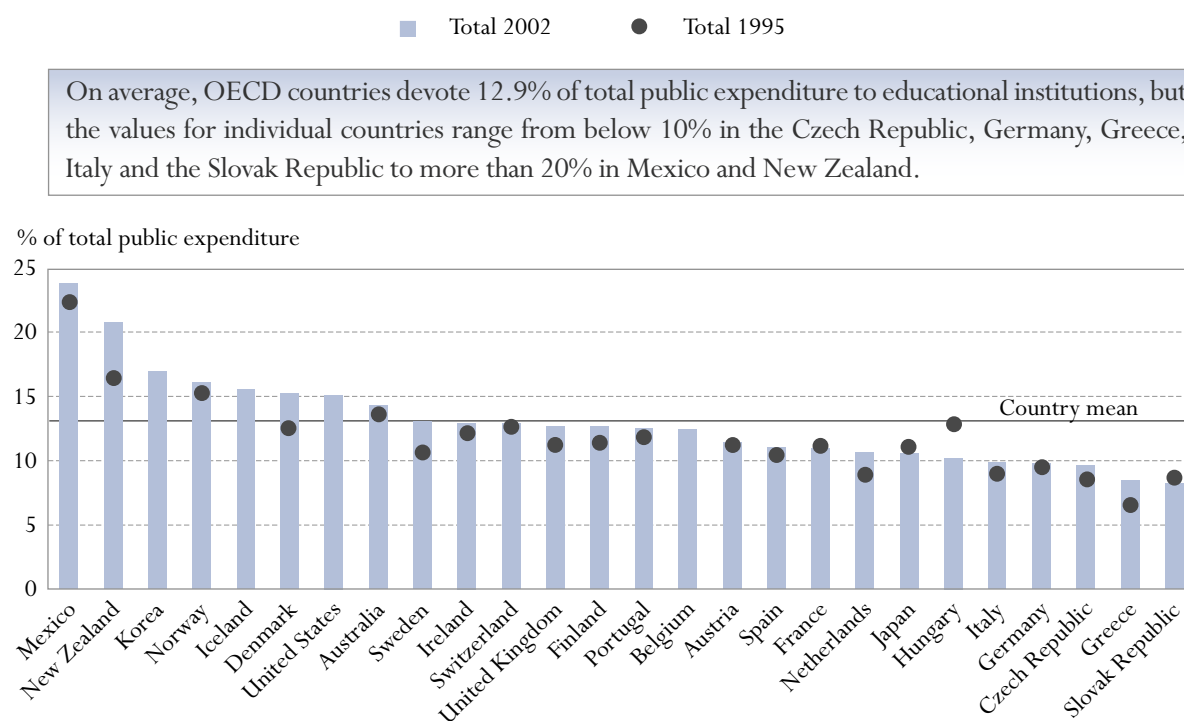
Total public expenditure on education

Public expenditure on education as a percentage of total public expenditure indicates the value of education relative to that of other public investments such as health care, social security, defence and security. It provides an important context for the other indicators on expenditure, particularly for Indicator B3 (the public and private shares of educational expenditure), as well as quantification of an important policy lever in its own right.

Key results

Chart B4.1. Total public expenditure on education as a percentage of total public expenditure (1995, 2002)

The chart shows direct public expenditure on educational institutions plus public subsidies to households (which include subsidies for living costs), and other private entities as a percentage of total public expenditure, by level of education and year. It indicates the value given to education relative to that of other public investments such as health care, social security, defence and security. This must be interpreted in the context of public sectors that differ in the size and breadth of responsibility in each country.



Countries are ranked in descending order of total public expenditure on education at all levels of education as a percentage of total public expenditure in 2002.

Source: OECD. Table B4.1. See Annex 3 for notes (www.oecd.org/edu/eag2005).

StatLink: <http://dx.doi.org/10.1787/824650556340>

Other highlights of this indicator

- Public funding of education is a social priority, even in OECD countries with little public involvement in other areas.
- In OECD countries, public funding of primary, secondary and post-secondary non-tertiary education is on average three times that of tertiary education, mainly due to largely universal enrolment rates but also because the private share in expenditure tends to be higher at the tertiary level. This ratio varies by country from less than double in Denmark, Finland and Greece to as high as nearly 10 times in Korea. The latter figure is indicative of the relatively high proportion of private funds that go into tertiary education in Korea.
- Between 1995 and 2002, public budgets were mainly shrinking as a percentage of GDP. Education, however, took a growing share of these budgets in most countries, although it did not on average grow as fast as GDP. In Denmark, New Zealand and Sweden, there have been particularly significant shifts in public funding in favour of education.
- About one-quarter of public funds on education go to tertiary institutions on average. In some countries it is as high as one-third, but in Korea, where tertiary education is largely funded privately, it takes up only about one-tenth of public education funds.

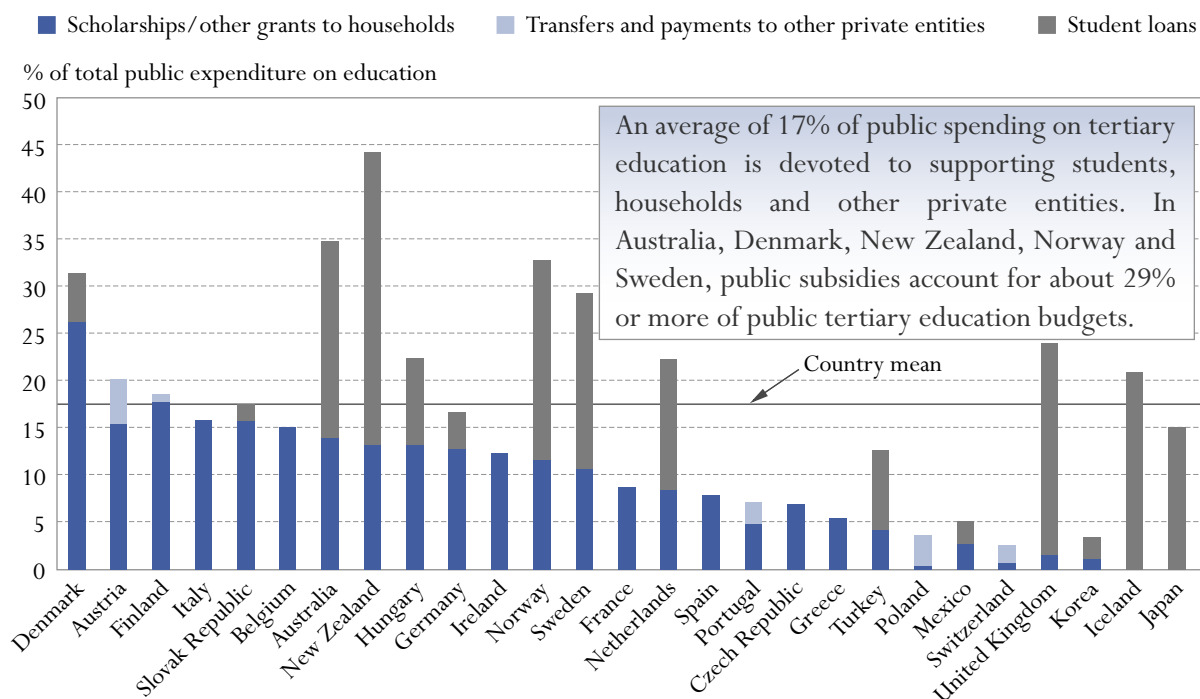
Support for students and households through public subsidies

This indicator examines direct and indirect public spending on educational institutions, as well as public subsidies to households for student living costs, and considers whether financial subsidies for households are provided in the form of grants or loans. Are loans an effective means to help increase the efficiency of financial resources invested in education and shift some of the cost of education to the beneficiaries of educational investment? Or are student loans less appropriate than grants in encouraging low-income students to pursue their education? This indicator cannot answer these questions, but presents the policies for subsidies in different OECD countries.

Key results

Chart B5.1. Public subsidies for education in tertiary education (2002)

The chart shows different forms of public subsidies for education to households and other private entities as a percentage of total public expenditure on education, by type of subsidy. Public subsidies to households provide finance in the form of grants or loans that help pay for the direct or indirect costs of study. Such subsidies include: i) grants/scholarships; ii) public student loans; iii) family or child allowances contingent on student status; iv) public subsidies in cash or kind expenses such as housing or transport; and v) subsidies to permit low-interest loans from private lenders.



Countries are ranked in descending order of the share of scholarships/other grants to households and transfers and payments to other private entities in total public expenditure on education.

Source: OECD. Table B5.2. See Annex 3 for notes (www.oecd.org/edu/eag2005).

Other highlights of this indicator

- Subsidies are generally found more often in education systems where students are expected to pay for at least part of the cost of their education.
- Subsidised student loan systems may operate in countries with high levels of participation at the tertiary level. It is notable, for instance, that Australia, New Zealand, Norway and Sweden, which are among countries reporting the largest subsidies in the form of student loans at tertiary education, also have some of the highest rates of entry into tertiary education of OECD countries.

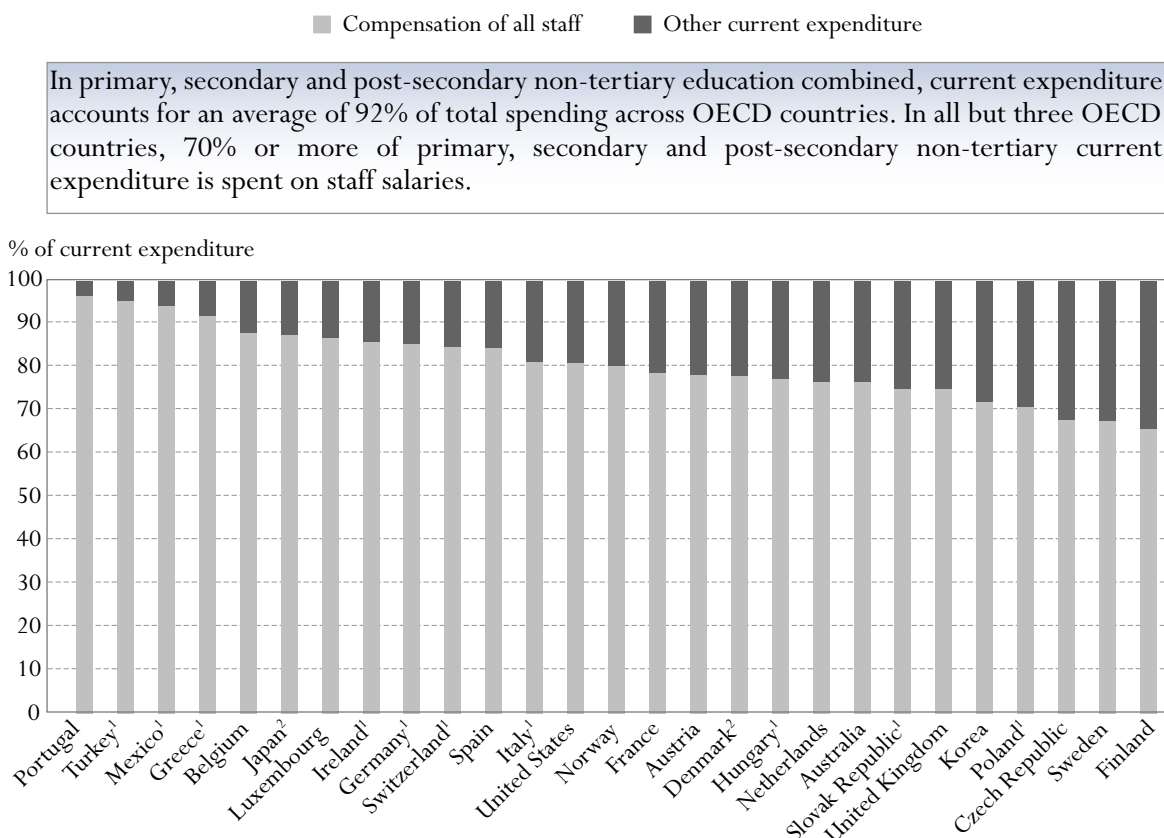
Expenditure in institutions by service category and by resource category

This indicator compares OECD countries with respect to the division of spending between current and capital expenditure, and the distribution of current expenditure by resource category. This indicator is largely influenced by teacher salaries (see Indicator D1), pension systems, the proportion of new teachers (see Indicator D7) and the size of the non-teaching staff employed in education (see Indicator D3). This indicator also compares how OECD countries' spending is distributed by different functions of educational institutions.

Key results

Chart B6.1 Distribution of current expenditure on educational institutions for primary, secondary and post-secondary non-tertiary education (2002)

The chart shows the distribution of current spending on educational institutions by resource category. Spending on education can be broken down into capital and current expenditure. Within current expenditure, one can distinguish resource categories compared to other items and service categories such as spending on instruction compared to ancillary and R&D services. The biggest item in current spending, teacher compensation, is examined further in Indicator D3.



1. Public institutions only.

2. Post-secondary non-tertiary included in both upper secondary and tertiary education.

Countries are ranked in descending order of the share of compensation of all staff on primary, secondary and post-secondary non-tertiary education. Source: OECD. Table B6.3. See Annex 3 for notes (www.oecd.org/edu/eag2005).

Other highlights of this indicator

- OECD countries, on average, spend 34% of current expenditure at the tertiary level on purposes other than the compensation of educational personnel. This is explained by the higher costs of facilities and equipment in higher education.
- On average, OECD countries spend 0.2% of their GDP on subsidies for ancillary services provided by primary, secondary and post-secondary non-tertiary institutions. This represents 5% of total spending on these institutions. At the high end, the Czech Republic, Finland, France, Hungary and Sweden spend about 10% or more of total spending per student on educational institutions on ancillary services.
- A distinctive feature of tertiary institutions is high spending on R&D, which on average comprises over a quarter of spending at this level. The fact that some countries spend much more on this item than others helps explain the wide country differences in overall tertiary spending. Significant differences among OECD countries in the emphasis on R&D in tertiary institutions explain part of the large differences in expenditure per tertiary student.
- The payment of instructional staff is not as great a share of spending in tertiary institutions as at other levels, because of the higher cost of facilities and equipment.

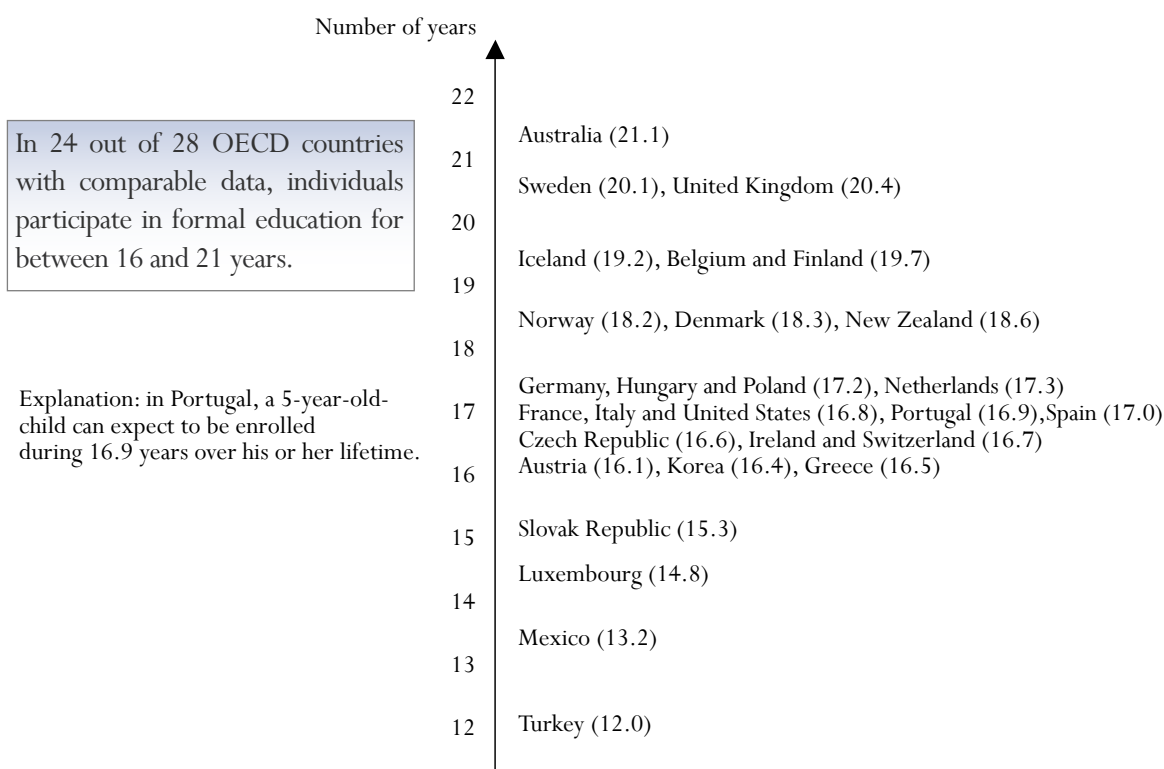
Enrolment in education from primary education to adult life

This indicator provides a picture of the structure of the education systems in terms of student participation. It examines enrolment at all levels of education: first by using the number of years, or education expectancy, of full-time and part-time education in which a 5-year-old can expect to enrol over his or her lifetime, and second by using information on enrolment rates at various levels of education to examine the access to education. Finally, trends in enrolments are used to compare the evolution of access to education with 1995.

Key results

Chart C1.1. Education expectancy (2003)

The chart shows the average years a 5-year-old can expect to be formally enrolled in education during his or her lifetime. The education expectancy is calculated by adding the net enrolment rates for each single year of age from five onwards. When comparing data on education expectancy, however, it must be borne in mind that neither the length of the school year nor the quality of education is necessarily the same in each country.



Source: OECD. Table C1.1.

StatLink: <http://dx.doi.org/10.1787/584515228875>

Other highlights of this indicator

- In most OECD countries, virtually all young people have access to at least 12 years of formal education. At least 90% of students are enrolled in an age band spanning 14 or more years in Belgium, France, Iceland, Japan and Spain. Mexico and Turkey, by contrast, have enrolment rates exceeding 90% for a period of seven and six years.
- Education expectancy increased between 1995 and 2003 in all OECD countries reporting comparable data.
- In half of the OECD countries, 70% of children aged three to four are enrolled in either pre-primary or primary programmes.
- In OECD countries, a 5-year-old can expect to stay 17.3 years in education, females receiving 0.7 more years of education, on average, than males.
- A 17-year-old can expect to spend an average of 2.8 years in tertiary education.

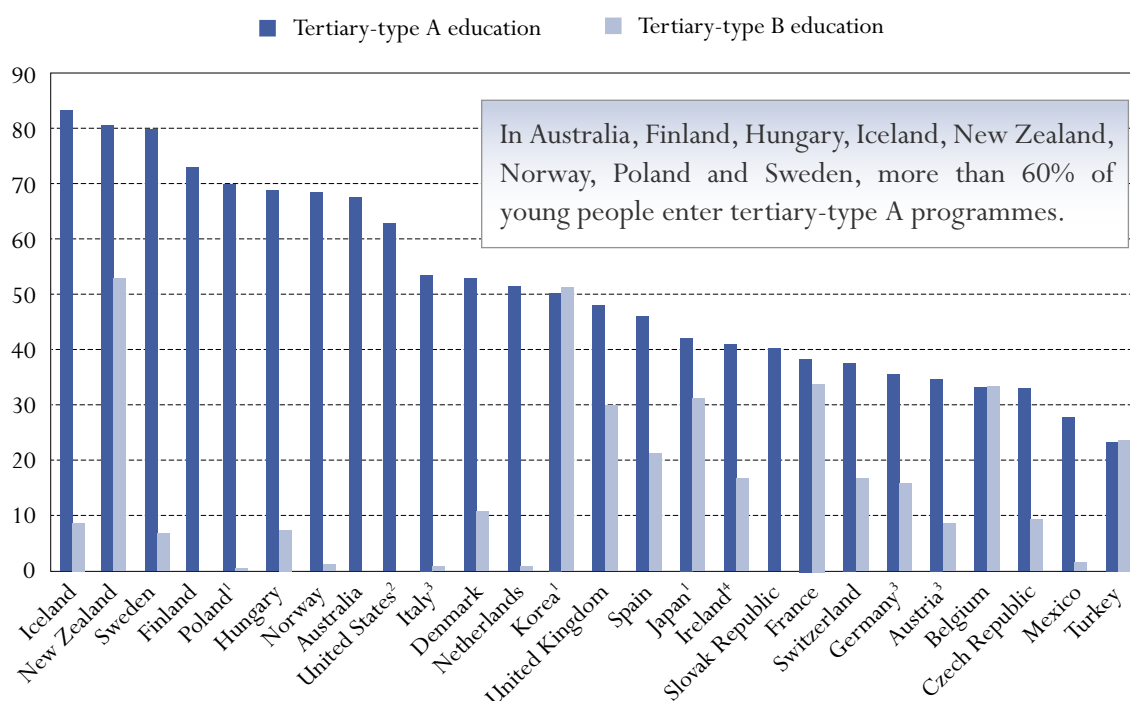
Participation in secondary and in tertiary education

This indicator shows patterns of participation at the secondary level of education and the percentage of the youth cohort that will enter different types of tertiary education during their lives. Entry and participation rates reflect both the accessibility of tertiary education and the perceived value of attending tertiary programmes.

Key results

Chart C2.1. Entry rates into tertiary education (2003)

The chart shows the proportion of people who enter tertiary education for the first time. Entry rates measure the inflow into education in a particular period rather than the stock of students who are there. They have the advantage over enrolment rates in that the comparability between countries is not distorted by different course lengths.



Note: Net entry rates for tertiary-type A and B programmes cannot be added due to double counting.

1. Entry rate for tertiary-type A and B programmes calculated as gross entry rate.
2. Tertiary-type A education includes tertiary-type B education.
3. Entry rate for tertiary-type B programmes calculated as gross entry rate.
4. Full-time entrants only.

Countries are ranked in descending order of the entry rates for tertiary-type A education.
Source: OECD. Table C2.2. See Annex 3 for notes (www.oecd.org/edu/eag2005).

StatLink: <http://dx.doi.org/10.1787/675381330517>

Other highlights of this indicator

- In 16 OECD countries, the majority of upper secondary students attend vocational or apprenticeship programmes. Vocational education is school based in most OECD countries.
- Today, 53% of today's young people in OECD countries will enter tertiary-type A programmes during their lifetime. The proportion of people who enter tertiary-type B programmes is generally smaller. In OECD countries with available data, 16% of young people, on average, will enter tertiary-type B programmes.
- Traditionally, students typically enter tertiary-type A programmes immediately after having completed upper secondary education, and this remains true in many OECD countries.

Foreign students in tertiary education

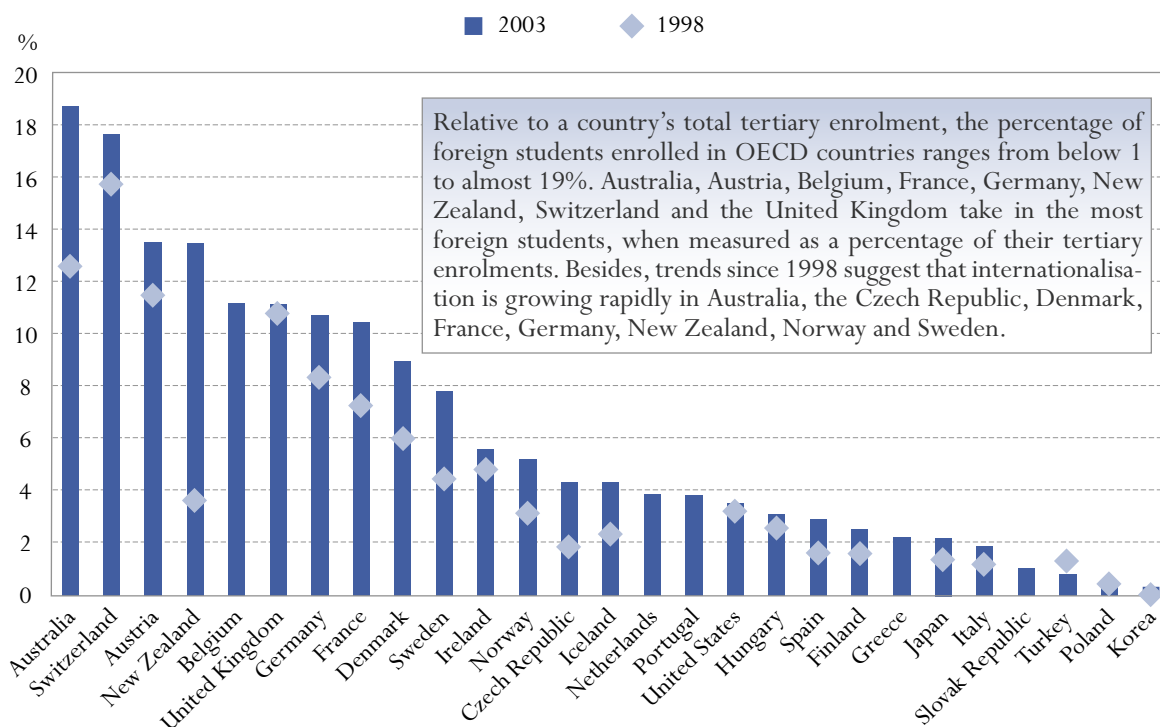
This indicator provides a picture of the internationalisation of tertiary education in OECD countries and of recent trends observed in these countries. It highlights the major destinations of foreign students and some of the factors underlying their choice of a country of study. In addition, the indicator looks at the distribution of foreign students by countries and regions of origin, the relative importance of internationalisation in countries of destination and the distribution of students enrolled outside of their country of citizenship by destination. The net balance of incoming and outgoing students and trade implications are also examined.

The proportion of foreign students in tertiary enrolments provides a good indication of the magnitude of internationalisation in different countries and key trends in this respect.

Key results

Chart C3.1. Percentage of foreign students in tertiary education (1998, 2003)

The chart shows the percentage of tertiary students enrolled who are not citizens of the country of study. Note that in some countries with stringent immigration and naturalisation policies, high percentages of foreign students reflect both incoming mobility of foreigners for the purpose of study as well as the tertiary participation of foreign/immigrant students residing in the country.



Countries are ranked in descending order of the percentage of foreign students in tertiary education.

Source: OECD. Table C3.1. See Annex 3 for notes (www.oecd.org/edu/eag2005).

StatLink: <http://dx.doi.org/10.1787/501101611002>

Other highlights of this indicator

- In 2003, 2.12 million tertiary students were enrolled outside their country of origin. This represented an 11.5% increase in total foreign student intakes reported to the OECD since the previous year.
- Australia, France, Germany, the United Kingdom and the United States receive 70% of all foreign students studying in the OECD area.
- In absolute numbers, students from France, Germany, Greece, Korea, Japan and Turkey represent the largest sources of intakes from OECD countries. Students from China, India and Southeast Asia comprise the largest numbers of foreign students from partner countries.
- In Finland, Spain and Switzerland, more than one in six foreign students are enrolled in highly theoretical advanced research programmes.
- As far as fields of education are concerned, 30% or more of foreign students in a country are enrolled in sciences or engineering in Australia, Finland, Germany, Sweden and the United States.
- The composition of the United States' intake of foreign students has changed quite significantly, with decreases of between 10 and 37% of students from the Gulf states, North African and certain Southeast Asian countries, and the Comoros. This has, however, been outweighed by large increases of students from China (47%) and India (12%). Students from the Gulf states and North African and certain Southeast Asian countries relocated towards new destinations in Europe (Denmark, France, Greece, Hungary, Ireland, Italy, the Slovak Republic and Sweden), the Middle East (Jordan) and Asia (India and the Philippines).

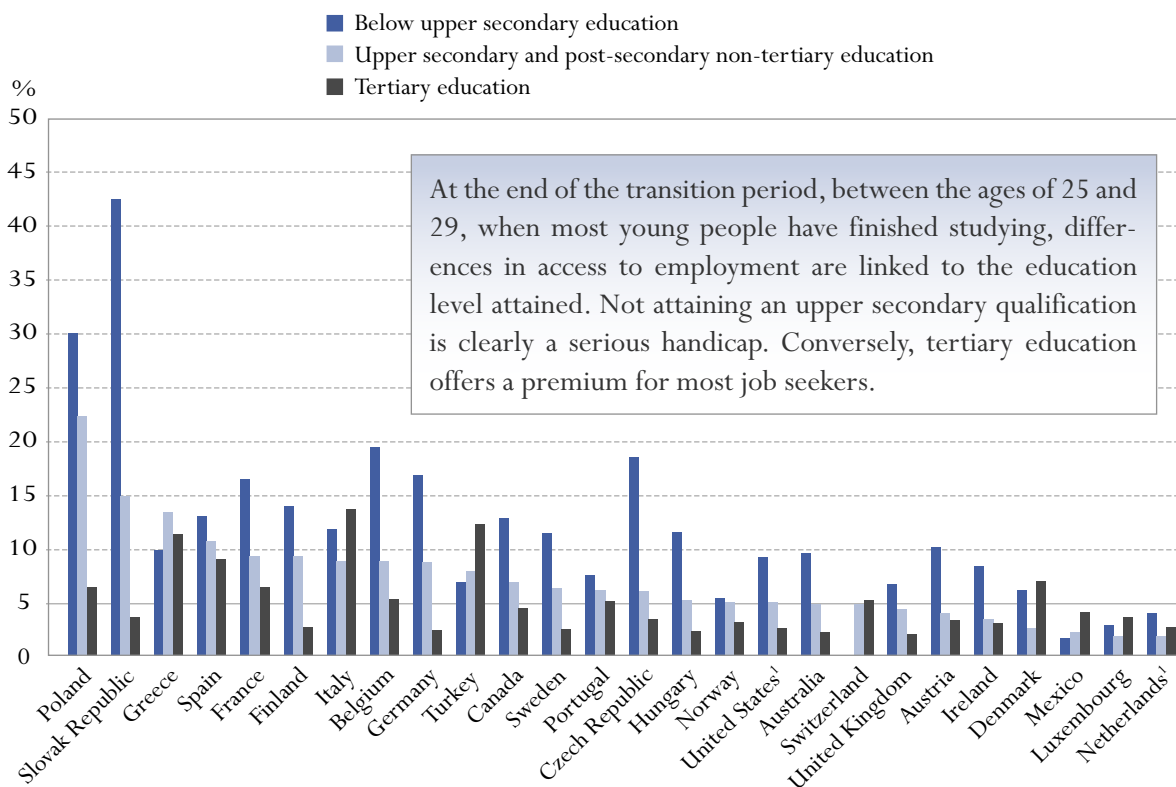
Education and work status of the youth population

This indicator shows the expected years that young people spend in education, employment and non-employment, and examines the education and employment status of young people by gender. During the past decade, young people have spent longer in initial education, with the result that they delay their entry into the world of work. Part of this additional time is spent combining work and education, a practice that is widespread in some countries. Once young people have completed their initial education, access to the labour market is often impeded by spells of unemployment or non-employment. On the basis of the current situation of persons between the ages of 15 and 29, this indicator gives a picture of the major trends affecting the transition from education to work.

Key results

Chart C4.1. Share of the 25-to-29-year-olds who are unemployed and not in education, by level of educational attainment (2003)

This chart shows the share of the 25-to-29-year-olds who are unemployed and not in education, by level of educational attainment. The height of the bars indicates the percentage of the age group not in education and unemployed for each level of attainment.



1. Year of reference 2002.

Countries are ranked in descending order of the ratio of the population not in education and unemployed to the 25-to-29-year-old population having attained upper secondary and post-secondary non-tertiary education.

Source: OECD. Table C4.3. See Annex 3 for notes (www.oecd.org/edu/eqg2005).

StatLink: <http://dx.doi.org/10.1787/361172740884>

Other highlights of this indicator

- On average among countries, a young person aged 15 in 2003 can expect to continue in formal education for a little more than six and a half years. In 19 of the 28 countries for which data are available, this period ranges from near five and a half years to seven and a half years.
- In addition to the expected number of years spent in education, a young person aged 15 can expect to hold a job for 6.2 of the 14 years to come, to be unemployed for a total of 0.9 years and to be out of the labour market for 1.3 years. Countries vary the most in the cumulated duration spent in unemployment.
- The percentage of 20-to-24-year-olds not in education ranges from 50 to 70% in most OECD countries. In 23 out of 27 OECD countries, more female than male 20-to-24-year-olds are in education. Males in the 20-to-24-year-old age group are more likely to be employed.
- In some countries, education and work largely occur consecutively, while in other countries they are concurrent. Work-study programmes, relatively common in European countries, offer coherent vocational education routes to recognised occupational qualifications. In other countries, initial education and work are rarely associated.

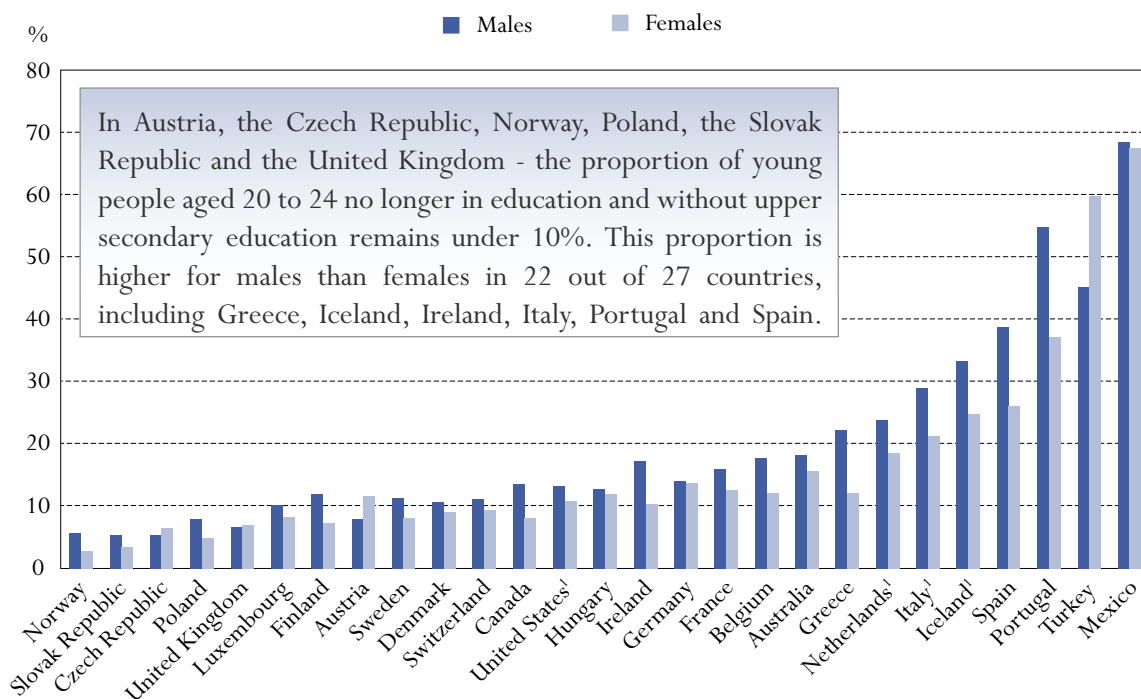
The situation of the youth population with low levels of education

This indicator reflects the labour market situation of young people with low levels of education. Entering the labour market is often a difficult period of transition. While the length of time that young people spend in education has increased, a significant proportion of young people remain neither in education nor working (*i.e.* they are either unemployed or not in the labour force). This situation gives particular cause for concern for younger age groups, many of whom have no unemployment status or welfare coverage.

Key results

Chart C5.1. The situation of the youth population with low levels of education (2003)

This chart shows the share of 20-to-24-year olds – employed, unemployed or not in the labour force – who have not attained upper secondary education and who are no longer in education. Young people with lower qualifications run a higher risk of long-term unemployment, or unstable or unfulfilling employment.



1. Year of reference 2002.

Countries are ranked in ascending order of the percentage of 20-to-24-year-olds who are not in education and who have not attained upper secondary education.

Source: OECD. Table C5.1. See Annex 3 for notes (www.oecd.org/edu/eag2005).

StatLink: <http://dx.doi.org/10.1787/541721846387>

Other highlights of this indicator

- Across 27 OECD countries, an average of 18% of 20-to-24-year-olds are without upper secondary education and not in education.
- In 10 out of 27 OECD countries, this potentially at-risk group represents between 10 and 18% of the age group. For seven out of the remaining OECD countries, more than 20% of the age group falls into this category.
- The problem affects significantly more young males than females in 22 out of 27 countries, including Greece, Iceland, Ireland, Italy, Portugal and Spain. The reverse is true in Austria, Czech Republic and Turkey.

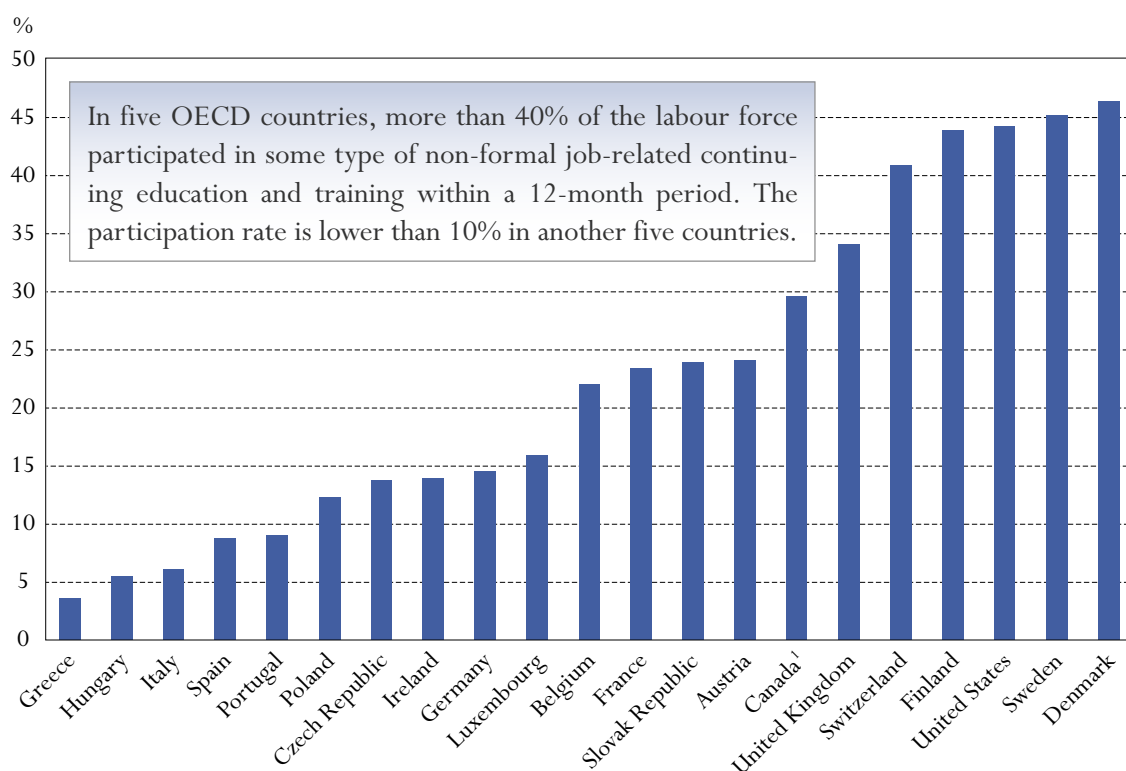
Participation in continuing education and training

This indicator examines the participation of labour force members in continuing education and training, as well as their investment according to the form and the purpose of the learning undertaken. Determinants investigated include previous educational attainment as well as characteristics of their workplace. To focus on the main determinants and also to better ensure international comparability, this indicator concentrates on the non-formal job-related learning activities of the labour force.

Key results

Chart C6 1. Rate of participation of the labour force in continuing education for all levels of education (2003)

This chart shows the percentage of 25-to-64-year-olds in the labour force who participate in continuing non-formal job-related education and training. The height of the bars indicates significant variation across countries in the extent to which workers undertake continuing education and training.



1. Year of reference 2002.

Countries are ranked in ascending order of the participation rate in non-formal CET.

Source: OECD. Table C6.2. See Annex 3 for notes (www.oecd.org/edu/eqg2005).

StatLink: <http://dx.doi.org/10.1787/317204241155>

Other highlights of this indicator

- Adults with tertiary qualifications are, in all countries, significantly more likely to participate in non-formal job-related continuing education and training than adults with lower educational attainment.
- In all countries, workers in upper-tier service industries are more likely to participate in non-formal job-related continuing education and training than workers in other industries.

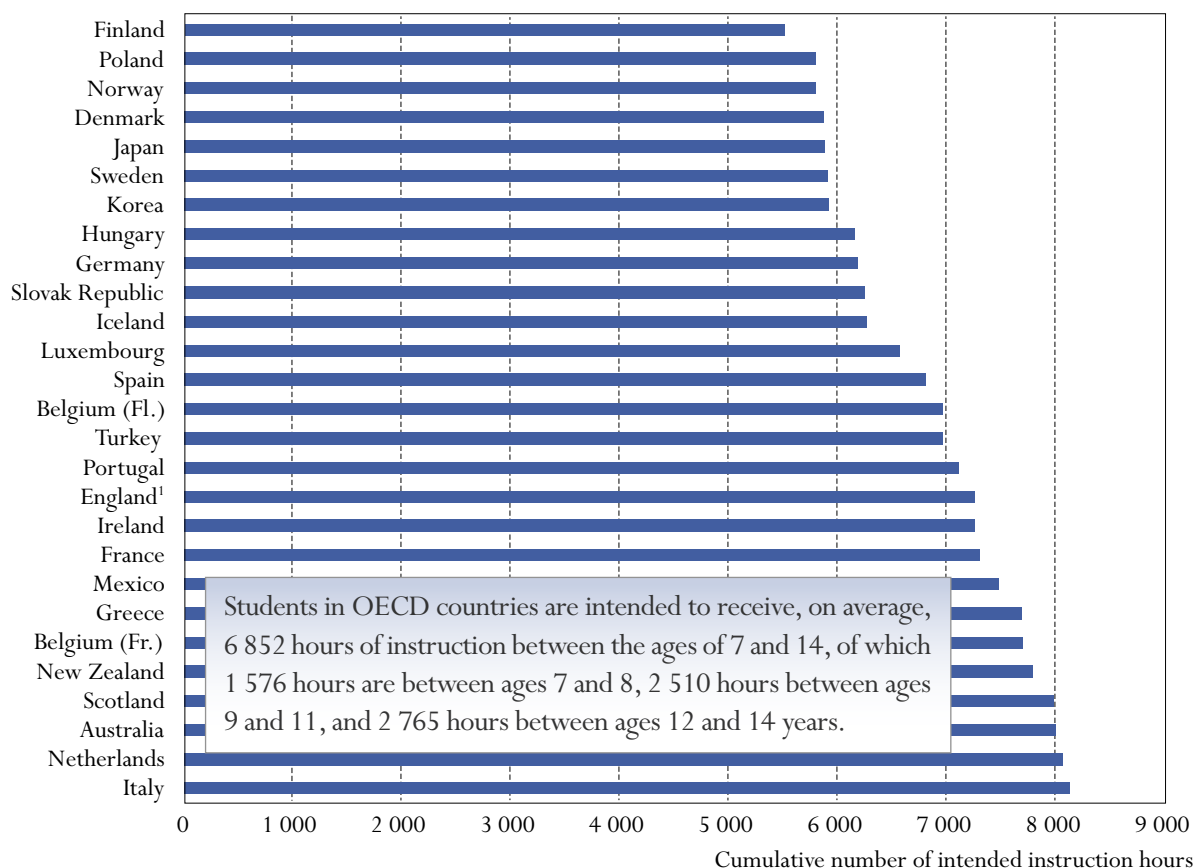
Total intended instruction time for students in primary and secondary education

This indicator examines the amount of instruction time that students are supposed to receive between the ages of 7 and 15. For the first time, it illustrates the extent of out-of-school instruction received by students aged 15 years. It also discusses the relationship between instruction time and student learning outcomes.

Key results

Chart D1.1. Cumulative number of intended instruction hours in public institutions between ages 7 and 14 (2003)

This chart shows the total number of hours of instruction a student in a public sector educational institution can expect to receive from the age of 7 years up to and including 14 years.



1. Year of reference 2002.

Countries are ranked in ascending order of total number of intended instruction hours.

Source: OECD. Table D1.1. See Annex 3 for notes (www.oecd.org/edu/eag2005).

StatLink: <http://dx.doi.org/10.1787/087080420144>

Other highlights of this indicator

- Students between the ages of 7 and 8 in OECD countries receive an average of 748 hours per year of compulsory instruction time and 788 hours per year of intended instruction time in the classroom. Students between the ages of 9 and 11 receive nearly 50 hours more per year and those aged between 12 and 14 receive nearly 100 hours more per year than those aged between 9 and 11.
- Analysis of the learning time of 15-year-old students shows that the amount of school-related learning time that takes place outside of schools can be significant in some countries.

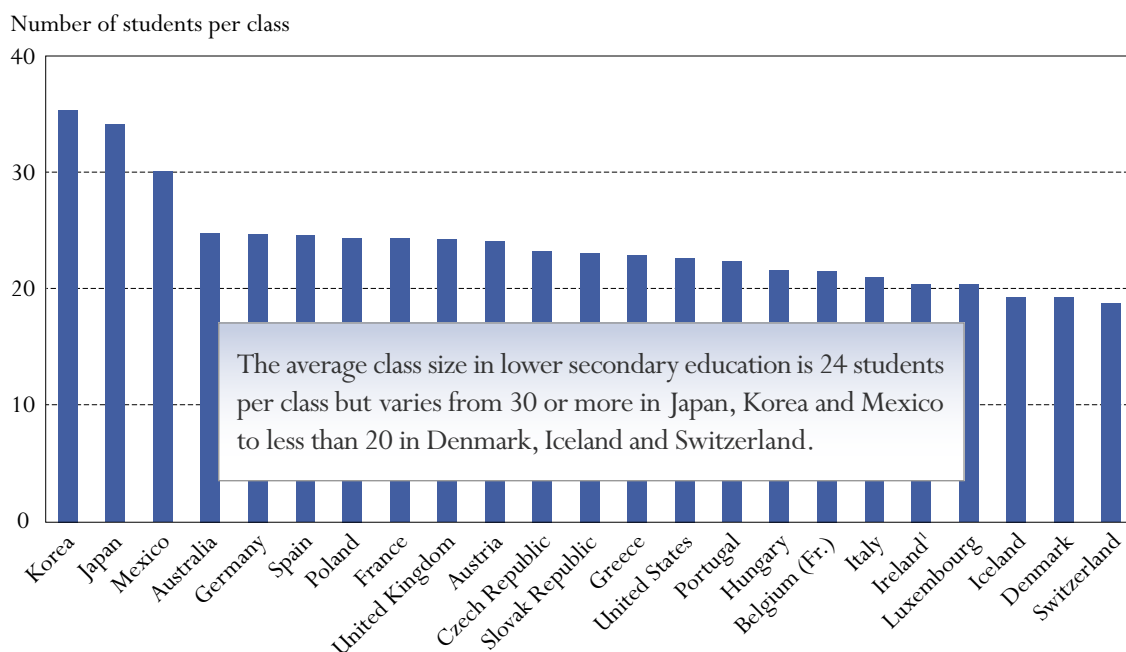
Class size and ratio of students to teaching staff

This indicator examines the number of students per class at the primary and lower secondary levels of education, the ratio of students to teaching staff at all levels of education and the breakdown of educational personnel between teaching and non-teaching staff in primary and secondary schools. The size of the teaching force may vary according to the size of the school-age population, but is also related to the average class size or the ratio of students to teaching staff, the total instruction time of students (see Indicator D1), teachers' average working time (see Indicator D4) and the division of teachers' time between teaching and other duties.

Key results

Chart D2.1. Average class size in lower secondary education (2003)

This chart shows the average number of students per class in public and private lower secondary education. It is derived from the total number of students and total number of classes in each country.



1. Public institutions only.

Countries are ranked in descending order of average number of students per class in lower secondary education.

Source: OECD, Table D2.1. See Annex 3 for notes (www.oecd.org/edu/eag2005).

StatLink: <http://dx.doi.org/10.1787/110401658821>

Other highlights of this indicator

- The average class size in primary education is 22, but varies between countries from 35 students per class in Korea to half of that number or less in Greece and Luxembourg.
- The number of students per class increases by an average of two students between primary and lower secondary education, but ratios of students to teaching staff tend to decrease with increasing levels of education due to more annual instruction time, though this pattern is not uniform among countries.
- Among the ten countries for which data are available, teaching and non-teaching staff employed in primary and secondary schools ranges from less than 83 persons per 1 000 students enrolled in Japan, Korea and New Zealand to 120 persons or more per 1 000 students in France, Hungary, Iceland, Italy and the United States.
- Non-teaching staff represent on average 30% of the total teaching and non-teaching staff in primary and secondary schools and ranges from less than 20% in Korea and New Zealand to over 40% in the Czech Republic and France.

Teachers' salaries

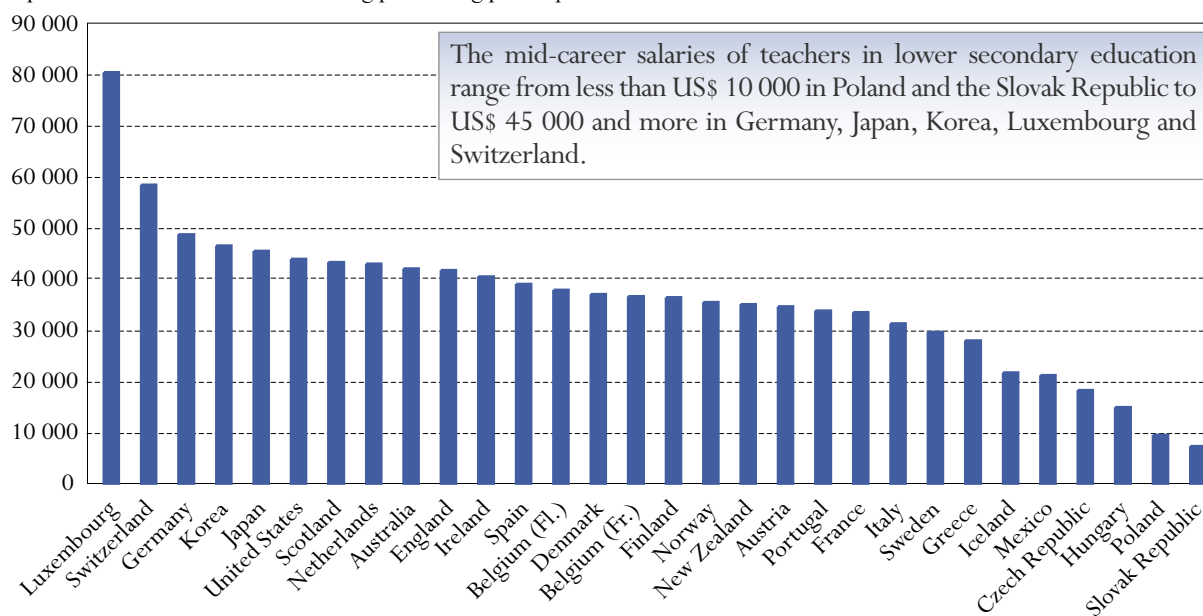
This indicator shows the starting, mid-career and maximum statutory salaries of teachers in public primary and secondary education, as well as various incentive schemes used in teacher rewards systems. Together with average class size (see Indicator D2) and teachers' working time (see Indicator D4), this indicator presents some key measures of the working conditions of teachers. Furthermore, differences in teachers' salaries, along with other factors such as student to staff ratios (see Indicator D2), will provide some of the explanation for differences in expenditure per student (see Indicator B1).

Key results

Chart D3.1a. Teachers' salaries in lower secondary education after 15 years of experience (2003)

This chart shows the annual statutory teachers' salaries after 15 years of experience and minimum required training, for teachers of lower secondary education in public institutions. Salaries are shown in equivalent US dollars converted using purchasing power parities.

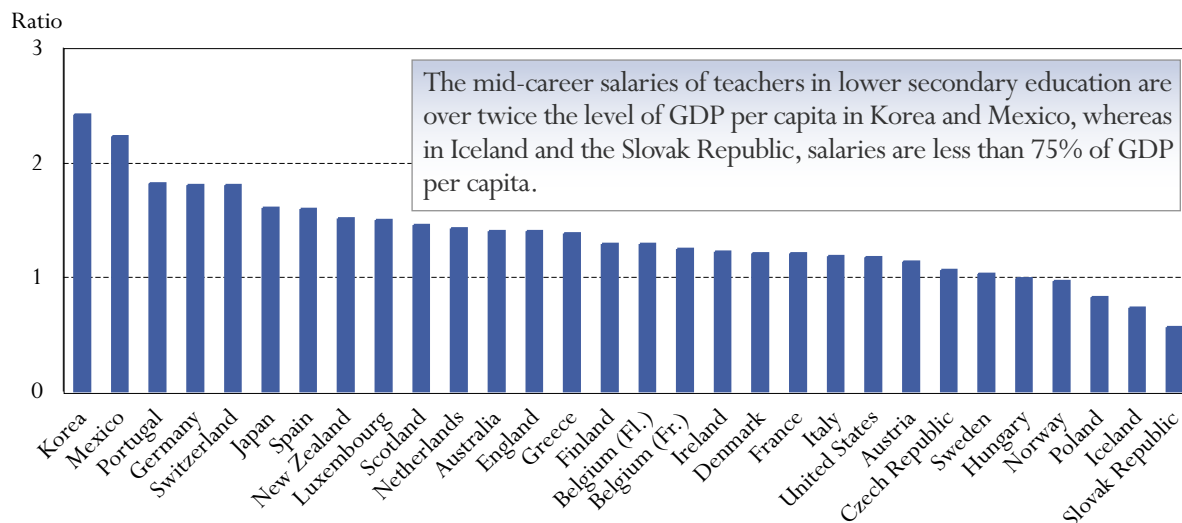
Equivalent US dollars converted using purchasing power parities



Note: Countries are ranked in descending order of the annual statutory salary after 15 years of experience.

StatLink: <http://dx.doi.org/10.1787/622245711285>

Chart D3.1b. Ratio of statutory salaries after 15 years of experience to GDP per capita for teachers in lower secondary education (2003)



Note: Countries are ranked in descending order of the ratio of annual statutory salary after 15 years of experience to GDP per capita.
Source: OECD. Table D3.1. See Annex 3 for notes (www.oecd.org/edu/eag2005).

StatLink: <http://dx.doi.org/10.1787/622245711285>

Other highlights of this indicator

- On average, upper secondary teachers' salary per teaching hour exceeds that of primary teachers by around 40%, though the difference is lower than 5% in New Zealand, Poland, the Slovak Republic and the United States and is more than 80% in the Netherlands and Spain, where the difference between teaching time at primary and upper secondary level is greatest.
- Salaries at the top of the scale are on average around 70% higher than starting salaries for both primary and secondary education, though this usually varies between countries largely in line with the number of years it takes for a teacher to progress through the scale. For instance, top-of-the-scale salaries in Korea are almost three times that of starting salaries, but it takes 37 years to reach the top of the scale. In Portugal, however, the ratio of salaries at the top of the scale to starting salaries is similar to that in Korea, but teachers reach the top of salary after 26 years of service.
- Teachers' salaries have risen in real terms between 1996 and 2003 in virtually all countries, with the largest increases evident in Hungary and Mexico. Salaries at the primary and upper secondary levels in Spain fell in real terms over the same period.

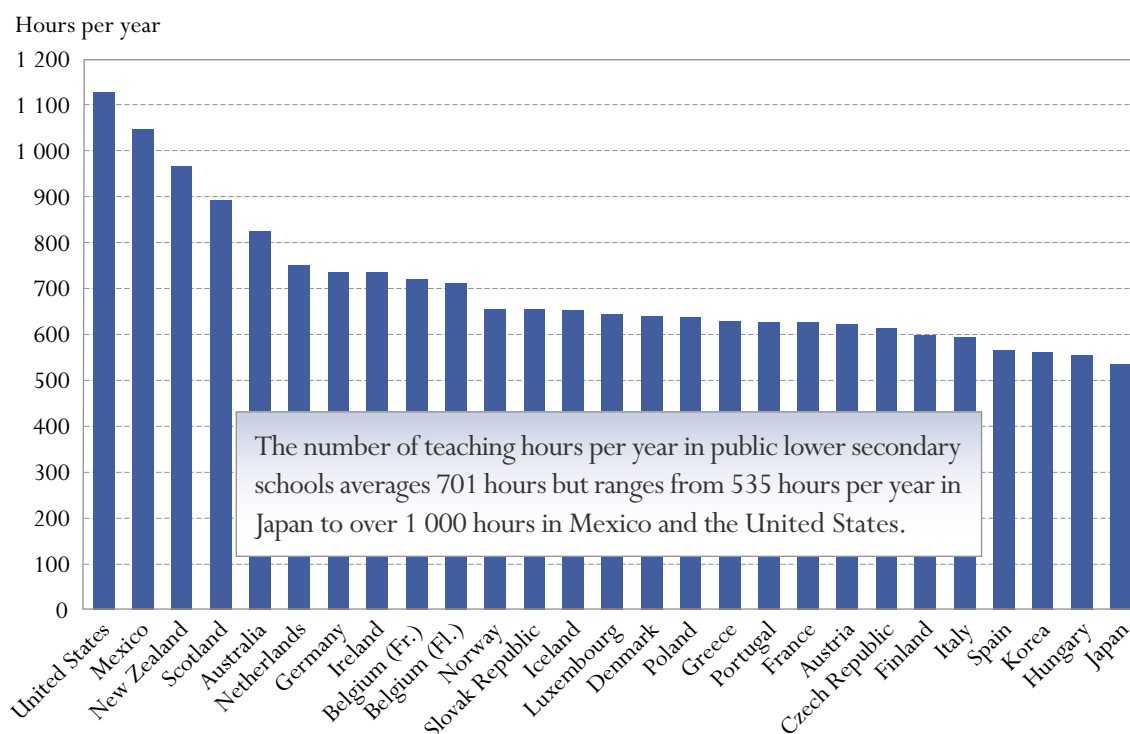
Teaching time and teachers' working time

This indicator focuses on the statutory working time of teachers at different levels of education as well as their statutory teaching time. Although working time and teaching time only partly determine the actual workload of teachers, they do give some valuable insights into differences between countries in what is demanded of teachers. Together with teachers' salaries (see Indicator D3) and average class size (see Indicator D2), this indicator presents some key measures of the working conditions of teachers.

Key results

Chart D4.1. Number of teaching hours per year in lower secondary education (2003)

This chart shows the net teaching time in hours per year according to the formal policies in each country for a teacher of lower secondary education in public institutions. Teaching time is net of breaks between classes.



Countries are ranked in descending order of the number of teaching hours per year in lower secondary education.

Source: OECD, Table D4.1. See Annex 3 for notes (www.oecd.org/edu/eag2005).

StatLink: <http://dx.doi.org/10.1787/757486288340>

Other highlights of this indicator

- The number of teaching hours per year in public primary schools averages 795 hours, but ranges from around 650 hours or less in Denmark, Japan, Poland and Turkey to 1 139 hours in the United States.
- The average number of teaching hours in upper secondary general education is 661 hours, but ranges from 467 in Japan to 1 121 hours in the United States.
- The composition, in terms of days, weeks and hours per day, of teachers' annual teaching time varies considerably. For instance, while teachers in Denmark teach for 42 weeks in the year compared with 36 weeks per year in the United States, Danish teachers teach for around 3 hours per day compared with around 6 hours per day in the United States.
- Regulations of teachers' working time vary among countries. In most countries, teachers are formally required to work a specific number of hours; in others, teaching time is only specified as the number of lessons per week.

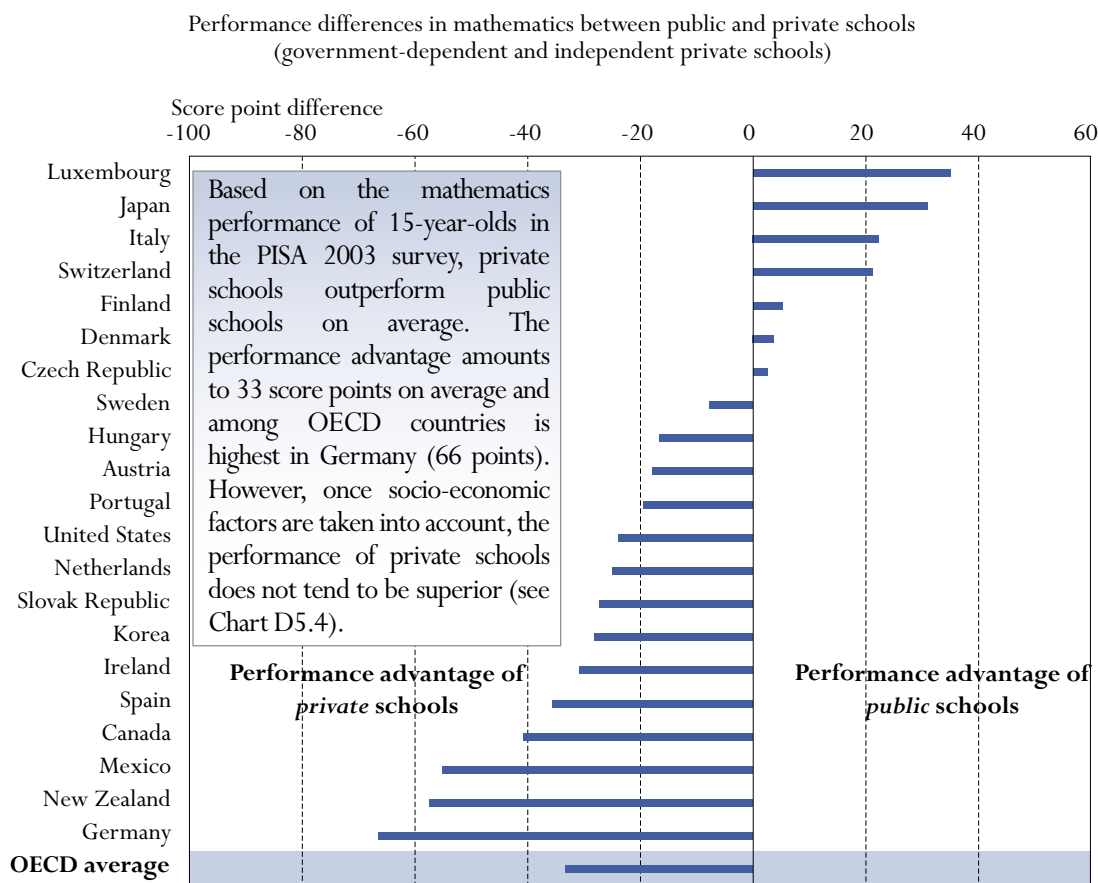
Public and private providers

This indicator focuses on the comparative role played by public and private providers of education across OECD countries. It provides information on the comparative size of the private sector and the distribution of teaching resources, and it examines the comparative performance of public and private providers, both before and after the social composition of the student population has been taken into account. This indicator is not concerned with public and private sources of funds for educational institutions, which is analysed in Chapter B (see Indicator B3).

Key results

Chart D5.1. Student performance on the mathematics scale by type of school (2003)

Performance differences in mathematics between public and private schools (government-dependent and independent private schools)



Source: OECD, PISA 2003 database.

StatLink: <http://dx.doi.org/10.1787/788502657223>

Other highlights of this indicator

- Across OECD countries, education at all levels is still predominantly a publicly provided service, though the presence of the private sector becomes more prominent beyond compulsory education: 90% of primary education students are in public institutions but only 68% of tertiary-type B students are in public institutions.
- Private provision is most commonly made through government-dependent private institutions rather than independent private institutions, though the latter play a significant role in some countries at the tertiary level, particularly in Japan and Korea, where independent private institutions dominate.
- On average across OECD countries, the availability of teaching resources relative to student numbers in secondary education is more favourable in private institutions than in public institutions. This is most striking in Mexico where, at the secondary level, there are around 13 more students per teacher in public institutions than there are in private institutions.

Institutional differentiation

This indicator examines aspects of the structure of education systems, in particular the nature and degree of stratification and institutional differentiation in the countries participating in PISA 2003. The analysis investigates whether the data provide any evidence that particular structures of education systems promote higher levels of quality and/or equity in student outcomes.

Key results

- While there is a tendency for more stratified education systems to perform less well on average, this tendency is small and not statistically significant.
- The degree of differentiation in education systems is notably variable. For instance, in around one-third of OECD countries, 15-year-old students follow the same educational track whereas there are four or more school types or distinct programmes available in Austria, Belgium, the Czech Republic, Germany, Ireland, Luxembourg, the Netherlands, the Slovak Republic and Switzerland.
- The selection of different educational tracks occurs at as young as 10 years old in countries such as Austria and Germany, but does not occur until the completion of secondary education in countries such as New Zealand, Spain and the United States.
- The results from PISA show that, in countries that separate students at an early age into schools of different types, students' social background tends to be relatively strongly related to their performance. Disadvantaged students are more likely to be placed in low status schools with less demanding curricula and so lower expectations of their learning, and then to end up with relatively poor performance. Socially advantaged students are more likely to be placed in high status schools with demanding curricula and then to end up with relatively high quality performance. In that sense, schools tend to reproduce the existing social arrangements. In countries that keep students together in comprehensive schools, the relationship between social background and educational performance is weaker, though not absent. The weaker relationship suggests that schools are making some difference for the next generation to existing social arrangements, rather than reproducing them.

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