

Education at a Glance: OECD Indicators - 2006 Edition

Summary in English

Education at a Glance presents educators, policy makers, students and their parents with a rich collection of data on practically every quantitative and qualitative aspect of educational performance and policy in the OECD countries as well as a number of non-OECD partners. In addition to details on performance, resources, participation rates and how schooling is organised, the report provides the types of objective information needed to assess issues such as the importance attached to teaching basic skills, ideal class size, or the length of the school year.

Examining the quality of education systems

In 2003, the OECD's Programme for International Student Assessment (PISA) measured the performance of 15-year-old students in mathematics in OECD countries. Finland, Korea and the Netherlands achieved higher scores than the average in all other OECD countries, and over one-half a proficiency level higher than the average. Eleven other countries (Australia, Belgium, Canada, Czech Republic, Denmark, France, Iceland, Japan, New Zealand, Sweden, and Switzerland) have scores above the OECD mean. Austria, Germany, Ireland and the Slovak Republic perform similarly to the OECD mean, and the remaining 11 countries perform below it.

No similar comparison of performance exists for previous generations, but completion of various levels of education gives some idea of levels of educational attainment. On average, across OECD countries, 42% of the adult population have completed only an upper secondary education. Around 30% of adults have obtained only the primary or lower secondary level and 25% a tertiary level. However, countries differ widely in the distribution of educational attainment across their populations.

Europe and the United States are increasingly outperformed by countries in East Asia. Two generations ago, Korea had the standard of living of Afghanistan today and was among the lowest performers in education. Today, 97% of all Korean 25-to-34-year-olds have completed upper-secondary education, the highest rate among the OECD countries. The experience of Korea is not unique. Between 1995 and 2004 alone, the number of students attending university more than doubled in China and Malaysia, and expanded by 83% in Thailand and 51% in India.

Asia is also performing well in terms of quality. In the United States and most of Europe's large economies, 15-year-olds only performed around or below the OECD average in the PISA assessment. The six East Asian education systems that took part in PISA 2003 were among the top ten performers, and also succeed without leaving many students behind. In contrast, 20% of 15-year-olds on average in the EU, and over a quarter in the United States performed at Level 1 (the lowest PISA level) or below. Across OECD countries as a whole, students from the poorest families are on average 3.5 times more likely to be at or below Level 1 than those from the most socio-economically advantaged backgrounds.

Class size: Smaller may not always be better

The results show no simple correlation between student/teacher ratio and performance. There are 30 or more students per class in Japan, Korea and Mexico, Brazil, Chile and Israel, versus 20 or fewer in Denmark, Iceland, Luxembourg, Switzerland and the Russian Federation, but only 2.7% of students in Luxembourg, for example, are in the highest group in the PISA mathematics scale compared with 8.2% for Japan.

The interaction of teachers and students is also influenced by the number of classes or students for which a teacher is responsible; the subject taught; the division of the teacher's time between teaching and other duties; the grouping of students within classes; and the practice of team-teaching.

Gender balance: Girls' educational performance overtaking boys'

Gender differences in educational qualification rates are shifting in favour of women. For 55-to-64-year-olds, average duration of formal study favours women in only three countries, but for 25-to-34-year-olds, the average number of years of study completed is higher among women in 20 out of 30 OECD countries, and only 2 of the remaining 10 countries (Switzerland and Turkey) register differences of more than 0.5 years in favour of men.

Upper secondary graduation rates for girls exceed those for boys in 19 of 22 OECD countries and in the 3 partner countries for which total graduation rates can be compared between the genders. The gap in favour of girls is greater than 10 percentage points in Denmark, Finland, Iceland, Ireland, New Zealand, Norway, Poland and Spain, and Brazil. In Turkey, graduation rates are eight percentage points higher for boys, while in Korea and Switzerland, there is less than one percentage point difference.

Teachers' salaries and workload: a mixed picture across the OECD

Salaries for teachers with at least 15 years experience in primary and lower secondary education relative to GDP per capita are lowest in Hungary (0.91), Iceland (0.69), Norway (0.87), Poland (0.83) and Israel (0.73); and highest in Korea (2.37 in primary and 2.36 in lower secondary), Mexico (2.09, lower secondary) and Turkey (2.44, primary). In

upper secondary general education, the lowest ratios are found in Norway (0.87), Poland (0.83), Iceland (0.94) and Israel (0.73).

Salaries of teachers with at least 15 years experience at the lower secondary level range from about \$10 000 in Poland to \$48 000 or more in Germany, Korea and Switzerland, and exceed \$80 000 in Luxembourg.

Teachers' salaries rose in real terms over 1996-2004 in virtually all countries, with the largest increases in Finland, Hungary and Mexico. Salaries at the primary and upper secondary levels in Spain fell in real terms over the same period, even if they remain above the OECD average level.

The number of teaching hours per year in public schools averages 704, but varies from over 1000 in Mexico and the United States to 534 in Japan. There are also considerable variations in how teaching time is distributed throughout the year, with, for example, teachers in Iceland working more hours in the year over a 36-week school year than teachers in Denmark where the school year lasts 42 weeks. However, teaching hours are only one indicator of teachers' workloads, which can also include significant amounts of time spent on, e.g. preparation and marking or extracurricular activities.

Students in OECD countries receive, on average, 6847 hours of instruction between the ages of 7 and 14, of which 1570 hours are between ages 7 and 8; 2494 hours between ages 9 and 11; and 2785 hours between ages 12 and 14. On average among OECD countries, reading and writing, mathematics and science comprises nearly 50% of the compulsory instruction time of students aged 9 to 11, and 41% for students aged 12 to 14. For 9-to-11-year-olds, there is great variation among countries in the proportion of the compulsory curriculum devoted to reading and writing: from 13% or less in Australia, Chile and Israel to 30% in France, Mexico and the Netherlands. There is considerable variation in time devoted to modern foreign languages too, ranging from 1% or less in Australia, England, Japan and Mexico to 21% in Luxembourg.

The cost of schooling: an average of 5.9% of GDP in OECD countries

Spending on education averages 5.9% of GDP in OECD countries, ranging from 3.7% for Turkey to 8% for Iceland. Spending on education per student in a typical OECD country is \$5450 a year at primary level, \$6962 at secondary and \$11 254 at tertiary. The OECD countries spend on average \$77 204 per student over the theoretical duration of primary and secondary studies. Totals range from less than \$40 000 in Mexico, Poland, the Slovak Republic, Turkey, Brazil, Chile and the Russian Federation, to \$100 000 or more in Austria, Denmark, Iceland, Italy, Luxembourg, Norway, Switzerland and the United States. At tertiary level, the wide variety of courses offered makes comparisons much more difficult. For example, annual spending per tertiary student in Japan is about the same as in Germany (\$11 556 in Japan, \$11 594 in Germany). But the average duration of tertiary studies is 5.4 years in Germany versus 4.1 in Japan, so the cumulative expenditure for each tertiary student is only \$47 031 for Japan compared with \$62 187 for Germany.

Note that lower unit expenditure does not necessarily lead to lower achievement. For example, expenditures for Korea and the Netherlands are below the OECD average for

primary and secondary education, yet both were among the best-performing countries in the PISA 2003 survey.

Expenditure per primary, secondary and post-secondary non-tertiary student increased in every country between 1995 and 2003. In 16 out of the 26 OECD and partner countries for which data are available, changes exceed 20%, and are 30% or more in Australia, Greece, Hungary, Ireland, Mexico, the Netherlands, Poland, Portugal, the Slovak Republic, Turkey and Chile. The only countries where the increase in expenditure on education per primary, secondary and post-secondary non-tertiary student is 10% or below for the same period are Germany, Italy, Switzerland and Israel. Falling numbers of enrolments does not seem to be the main factor driving these changes.

The pattern is different at tertiary level. In 7 out of 27 OECD and partner countries for which data are available (Australia, the Czech Republic, Poland, Portugal, the Slovak Republic, Brazil and Israel) expenditure on tertiary education per student declined over 1995-2003, mainly due to an increase of over 30% in student numbers. On the other hand, expenditure per student rose significantly in Greece, Hungary, Ireland and Mexico and Chile despite growth in enrolment of 93%, 70%, 34%, 48% and 68%, respectively. Among the 27 OECD and partner countries, Austria, Canada, Denmark, Germany, Italy, the Netherlands and Turkey were the only countries in which the number of tertiary students increased by less than 10%.

Who pays? Governments still foot the bill, but private funding is rising

On average, 93% of primary, secondary and post-secondary non-tertiary education in OECD countries is paid for by public funds, although private funding exceeds 13% in Australia, Germany, Korea, Mexico, Switzerland, the United Kingdom and partner country Chile. Over 1995-2003, the number of countries which saw an increase in the public share across all levels was the same as the number of countries in which the public share fell.

However, in tertiary education the private share has risen overall. It went up by more than 3 percentage points in half of countries reporting data, and by over 9 percentage points in Australia, Italy and the United Kingdom.

The proportion of tertiary education funded privately varies from less than 5% in Denmark, Finland, Greece, Norway and Turkey to more than 50% in Australia, Japan, Korea, the United States and Chile. Most private funding comes from households, notably through tuition fees. One-quarter of countries do not charge fees, and the level of fees among the rest varies widely.

Educational investment: Strong returns for economies and individuals

Education is mostly financed by public expenditure, and various studies suggest that this is money well spent. The estimated long-term effect on economic output of one additional year of education in the OECD area is generally between 3% and 6%. An analysis 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 1994 to 2004. Not all the rise in productivity is due to education, but a study using literacy as a measure of human capital shows that a country able to attain literacy scores 1% higher than the international average will achieve levels of labour productivity and GDP per capita that are 2.5% and 1.5% higher, respectively, than those of other countries.

For individuals, too, education is a sound investment. Given that primary and most secondary education is compulsory, the “investment decision” generally concerns whether to apply for later courses. Despite widespread reports of “grade inflation” and the devaluation of qualifications, the investment to obtain a university level degree, when undertaken as part of initial education, can produce private annual returns (calculated by comparing future earning prospects with the private cost of studying) as high as 22.6%, with all countries showing a rate of return above 8%. There are significant indirect benefits too, with many national analyses indicating a positive causal relationship between higher educational attainment and better mental and physical health.

However, education does not abolish gender-related income inequality: for a given level of educational attainment, women typically earn only 50% to 80% of what men earn.

The impact of demographic changes

In 23 of the 30 OECD countries as well as Chile, the size of the student population in compulsory schooling is set to decline over the next 10 years. This trend is most dramatic in Korea where the population aged 5-14 years is projected to decline by 29%. For the 15-19 group, downward trends of 30% or more are projected in the Czech Republic, Poland, the Slovak Republic and the Russian Federation.

In some countries, the decline has occurred earlier. For instance, in Spain, the population aged 20-to-29 years is set to decline by 34% over the next 10 years.

Assuming, for the sake of illustration, that participation rates and rates of expenditure per student remain at their current levels, population trends imply a reduction in the level of educational expenditure in all but four OECD countries as well as Chile, arguably providing more opportunity to increase participation rates or expenditure per student in these countries. In contrast, the population projections for the United States indicate relatively strong growth over the next decade, which may translate into funding pressures.

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