

EXECUTIVE SUMMARY

Education at a Glance is the OECD's annual round-up of data and analysis on education, providing a rich, comparable and up-to-date array of indicators on education systems in the OECD's 30 member countries and in a number of partner economies. The main areas covered are:

- Participation and achievement in education
- Public and private spending on education
- The state of lifelong learning
- Conditions for pupils and teachers

The 2007 edition investigates the effects of expanding tertiary education on labour markets. Graduation rates from higher education have grown significantly in OECD countries in recent decades, but has the increasing supply of well-educated workers been matched by the creation of high-paying jobs? Or will everyone with a university degree some day work for the minimum wage? Using recent data and indicators comparable among OECD countries, *Education at a Glance 2007* finds that the expansion of tertiary education has had a positive impact for individuals and national economies, and that there are, so far, no signs of an inflation of the value of qualifications.

For the first time, *Education at a Glance* also examines the issue of efficiency in education (Indicator B7). While this indicator is still exploratory, it does reveal the scale of the effort needed for education to re-invent itself, in ways that other professions have already done, so as to provide better value-for-money at a time of increasing pressure on public budgets.

Key findings for this edition:

■ **There has been marked progress in the numbers completing secondary education across the OECD area.**

In 22 out of the 29 OECD countries, and in partner economies Estonia, Israel, the Russian Federation and Slovenia, 60% or more of adults have now completed at least upper secondary education, while 26% have completed tertiary education. The findings also show that:

- The proportion of 25-to-34-year-olds across OECD member countries that have attained upper secondary education averages 13 percentage points higher than that of the 45-to-54-year-old age group. This trend is particularly dramatic in Belgium, France, Greece, Ireland, Italy, Korea, Portugal and Spain, and in the partner economy Chile, all of which have seen increases of 20 percentage points or more in the numbers of younger adults who have completed secondary education.
- In all OECD countries, younger adults (25 to 34) are more than three times as likely to hold degrees in science than older adults (55 to 64). However, this ratio falls to below two for engineering. In Denmark, Germany, Hungary and Norway, there will soon be more engineers leaving the labour market than have entered it in recent years.

- Younger people are gravitating toward the social sciences, business and law. Nearly one-third of the adult population have pursued these studies, while younger adults hold nearly 3.5 times as many individual degrees in these subjects as older adults.
- The ratio of younger to older age groups studying education is close to 1 among OECD countries. In Denmark, Germany, the Netherlands, Sweden and the United Kingdom, this ratio is below 1, indicating a potential problem in finding replacement educators as the older generation retires in the coming years.

■ **But variations in performance are observed among 15-year-olds between general and vocational programmes.**

In 9 out of the 10 OECD countries for which data are available, the results from PISA 2003 show that 15-year-olds in pre-vocational and vocational programmes demonstrate statistically significant lower performances in mathematics compared to students enrolled in general programmes. On average, across OECD countries, 15-year-olds enrolled in general programmes perform 45 score points higher, and after adjusting for socio-economic factors the difference still remains, at 27 score points.

■ **More young people are graduating from upper secondary education, and the gender balance is shifting.**

Since 1995, the graduation rate from upper secondary education has increased at an average of 7% across OECD countries with comparable data. In 21 out of the 24 OECD countries, the graduation rate exceeds 70%, while in Finland, Germany, Greece, Ireland, Japan, Korea and Norway it equals or exceeds 90%. Meanwhile, the gap between the graduation rates of Mexico and Turkey and of other OECD countries is narrowing.

- Females are now more likely to complete upper secondary education than males – a reversal of the historical pattern. Graduation rates for females are below those of males only in Korea, Switzerland and Turkey; they are equal to those of males only in the partner economy Slovenia.
- While males in many countries are more likely to study vocational courses, in nearly half the countries represented, there is either no difference or a higher proportion of females that pursue such studies.

■ **The numbers graduating from tertiary education are also rising.**

Across the 24 OECD countries with comparable data, an average of 36% of students have completed a traditional university degree. In Austria, Finland, Italy, Portugal, the Slovak Republic and Switzerland, graduation rates have doubled over the past 10 years. However, there are wide disparities among countries in the rates of students who successfully complete either a university degree or a vocationally oriented tertiary education. Indicators show that:

- Rates of graduation from traditional universities range from around 20% or less in Austria, Germany and Turkey to more than 40% in Australia, Denmark, Finland, Iceland, Italy, the Netherlands, New Zealand, Norway and Poland. These graduation rates tend to be higher in countries where the programmes provided are of shorter duration.
- The graduation rate for shorter, vocationally oriented programmes represents 9%, and 1.3% for programmes leading to advanced research qualifications.

- Across the 19 OECD countries for which such data are available, an average of 30% of students enrolled in tertiary education fail to complete the programme.

■ **There are wide variations in the proportions of young people who expect to go on to tertiary education.**

Some 57% of 15-year-olds in OECD countries expect to go to university, but this rate varies from as high as 95% of students in Korea to as low as 21% in Germany. Indicators show that expectations vary within countries according to individual performance levels, gender, socio-economic background and immigrant status.

- Data collected in 2003 through the OECD's Programme for International Student Assessment (PISA) show that 15-year-olds' expectations for completing a university-level programme are closely linked with their performance in mathematics and reading.
- Regardless of their relative academic abilities, 15-year-olds from lower socio-economic backgrounds are less likely to expect to complete tertiary education than those from higher socio-economic backgrounds.
- In most countries, 15-year-old students from immigrant backgrounds are more likely to expect to complete a university-level programme than their native counterparts. The relative expectations of these students are even higher when compared with native students of similar aptitudes and socio-economic backgrounds.

■ **Schools and societies face major challenges in integrating immigrants.**

International migration has become a key issue in most OECD countries, sparking intense debate on how immigrants can be successfully integrated into societies and labour markets. PISA adds an important new perspective to the discussion by assessing the educational success of 15-year-old students from immigrant families. It is clear that serious challenges lie ahead for education systems, particularly in Europe. Indicators show that:

- Among the 14 OECD countries with significant immigrant populations, first-generation students lag an average of 48 score points – equivalent to more than a school year's progress – behind their native counterparts on the PISA mathematics scale. The performance disadvantage of second-generation students is a still-significant 40 score points. In Canada, Luxembourg, Sweden and Switzerland and the partner economy Hong Kong-China, second-generation students perform significantly better than first-generation students, with the performance gap reduced by 31 score points in Switzerland and 58 score points in Sweden.
- The performance disadvantage of students with an immigrant background varies widely across countries, from insignificant amounts in Australia, Canada and New Zealand, to more than 90 score points in Belgium and Germany, even for second-generation children.

■ **Few countries can afford to rely only on families rich in wealth and/or human capital to provide society with higher-educated individuals.**

Countries vary greatly in how well they succeed in enabling students from blue-collar backgrounds to participate in higher education. The decline of unskilled jobs in developed countries suggests that low-skilled workers risk becoming an increasing social burden and may face deepening inequalities. Leveling the playing field between affluent and less-affluent students is not only a

matter of equality, it is also a way of enlarging the recruiting ground for high-skilled jobs and increasing overall labour competitiveness. Indicators show that:

- In many countries, students are substantially more likely to be in higher education if their fathers completed higher education. Ireland and Spain provide the most equitable access to higher education, whereas in Austria, France, Germany and Portugal, students from a blue-collar background are only about one-half as likely to be in higher education as compared with what their proportion in the population would suggest.

■ **The longer individuals spend in education, the more likely they are to be in employment and to earn more.**

The economies of OECD countries increasingly rely on a stable supply of well-educated workers, and this is a trend that is likely to grow. As populations in OECD countries age, higher levels of education and longer participation in employment will help to lower dependency rates and help alleviate the burden of financing public pensions. Indicators show that:

- Employment rates rise with educational attainment in most OECD countries. With few exceptions, the employment rate for graduates of tertiary education is markedly higher than that for upper secondary graduates.
- Female employment is a primary factor in overall employment rates. The seven countries with the highest overall rate of employment for individuals aged 25 to 64 – Denmark, Iceland, New Zealand, Norway, Sweden, Switzerland and the United Kingdom – also have among the highest overall rate of employment for females.
- Differences in employment rates between males and females are wider among less-educated groups. Among those without secondary qualifications, the chance of being employed is 23% higher for males than for females. This falls to 10 percentage points for the most highly qualified.
- Across 25 OECD countries and the partner economy Israel, individuals with university degrees and advanced research education had earnings that were at least 50% higher than individuals whose highest level of educational attainment was below the upper secondary level.
- In all countries studied, females earn less than males with similar levels of educational attainment. They usually earn between 50 and 80% of what their male counterparts earn.

■ **OECD countries spend 6.2% of their collective GDP on educational institutions, and are beginning to think more about efficiency in their education systems.**

The expansion of education has been accompanied by massive financial investments. Between 1995 and 2004, and for all levels of education combined, expenditure on educational institutions increased by an average of 42% in OECD countries. Indicators show that across OECD countries, learning outcomes can be increased by 22% while maintaining the current level of expenditures. Among the findings:

- Expenditure on core educational services (excluding research and development activities and ancillary services) in tertiary institutions averages about USD 7 664 per student, ranging from USD 4 500 or below in Greece, Italy, Poland and Turkey, to more than USD 9 000 in Australia, Austria, Denmark, Norway, Switzerland and the United States.

- OECD countries spend an average of USD 81 485 per student over the duration of primary and secondary studies, ranging from less than USD 40 000 in Mexico, Poland, the Slovak Republic and Turkey to USD 100 000 or more in Austria, Denmark, Iceland, Luxembourg, Norway, Switzerland and the United States.
- Lower unit expenditure does not necessarily lead to lower achievement. For example, the cumulative expenditure of Korea and the Netherlands is below the OECD average, yet both are among the best-performing countries in the PISA 2003 survey.

■ Private sources of funding for education are becoming increasingly important, but the proportion of private funding as well as the tuition fees charged by educational institutions varies widely.

On average, OECD countries devote 13.4% of total public expenditure to educational institutions, but the values for individual countries range from 10% or less in the Czech Republic, Germany, Greece, Italy and Japan to more than 20% in Mexico and New Zealand. In 2004, an average of 87% of expenditure on all levels of education came from public sources. In all countries for which comparable data are available, for all levels of education combined, public funding increased between 1995 and 2004. However, private spending increased even more in nearly three-quarters of these countries. Some 24% of expenditure on tertiary education and 20% of expenditure on pre-primary institutions came from private sources.

Large differences are observed among OECD countries and partner economies in the average tuition fees charged by tertiary-type A educational institutions. There are no tuition fees charged by public institutions in one-quarter of OECD countries (all Nordic countries, the Czech Republic, Ireland and Poland). By contrast, one-quarter of OECD countries and partner economies have annual tuitions fees for national students charged by public institutions that exceed USD 1 500. Among the EU19 countries, only 2 have annual tuitions fees that represent more than USD 1 100 per full-time national student, but these fees related to government dependent private institutions.

■ OECD countries where students are required to pay tuition fees can nevertheless have also large access to tertiary-type A.

OECD countries where students are required to pay tuition fees and can benefit from particularly large public subsidies do not show lower levels of access to tertiary-type A education compared to the OECD average. For example, Australia (82%) and New Zealand (79%) have one of the highest entry rates to tertiary-type A education and the Netherlands (59%) and the United States (64%) are above the OECD average. The United Kingdom (51%) is just below the OECD average (54%), although entry to tertiary-type A education increased by 4 percentage points between 2000 and 2005.

■ People are taking advantage of educational opportunities both earlier in life and later, and more of them are looking abroad to study.

While there is substantial variation among countries in participation rates in non-formal, job-related continuing education and training, in four OECD countries – Denmark, Finland, Sweden and the United States – more than 35% of the population between 25 and 64 years of age has participated in that type of education and training within the previous 12 months.

- Adults with higher levels of educational attainment are more likely to participate in non-formal, job-related continuing education and training than adults with lower educational attainment.
- In more than half of the OECD countries, 70% of children aged 3 to 4 are enrolled in either pre-primary or primary programmes. In the 19 European OECD countries, that proportion reaches 75.9%.
- In 2005, over 2.7 million tertiary students were enrolled in education outside their country of citizenship, representing a 5% increase in total foreign-student intake over the previous year.

■ **Instruction time, teachers' salaries, and student-teacher ratios vary widely among countries.**

The choices countries make about how many hours and years students spend in the classroom and the subjects they study reflect national priorities and preferences. Budgetary considerations also help shape education: teachers' salaries represent the largest single cost in providing school education and, as such, are a critical consideration for policy-makers striving to both maintain the quality of education and to contain spending. While class size has become a hot topic in many OECD countries, evidence on its impact on student performance is mixed. Among the findings on these nuts-and-bolts educational policy issues:

- Among OECD countries, the teaching of reading, writing and literature, mathematics and science account for nearly 50% of the compulsory instruction time of students aged 9 to 11. In Australia and partner economies Chile and Israel, 13% or less of the compulsory curriculum is devoted to reading, writing and literature; while in France, Mexico and the Netherlands, 30% or more of the compulsory curriculum is devoted to those subjects.
- Salaries for teachers with at least 15 years' experience in lower secondary education are over twice the level of GDP per capita in Korea and Mexico; in Iceland and Norway, and the partner economy Israel, salaries are 75% or less than GDP per capita. Those salaries range from less than USD 16 000 in Hungary to USD 51 000 or more in Germany, Korea and Switzerland, and more than USD 88 000 in Luxembourg.
- Whereas student assessments in school accountability and evaluation arrangements are increasingly common across OECD countries and two-thirds of OECD countries have regulations that require evaluation or self-evaluation of lower-secondary schools, very few countries utilise school evaluation and accountability information to provide financial rewards and/or sanctions to schools.
- From 2000 to 2005, average class size did not vary significantly, but differences in class size among OECD countries seem to have diminished. Class size decreased in countries that had relative large classes, such as Japan, Korea and Turkey, and increased in countries with relatively small class size, such as Iceland.