FOREWORD

In searching for effective policies that enhance individuals' social and economic prospects, provide incentives for greater efficiency in schooling and help to mobilise resources to meet rising demands, governments are paying increasing attention to international comparisons. As part of the drive to enhance the OECD's work in this area and to better respond to the needs of citizens and governments, the Directorate for Education devotes a major effort to the development and analysis of quantitative internationally comparable indicators which are published annually in *Education at a Glance*. The indicators enable governments to see their education system in the light of other countries' performances and, together with OECD's country policy reviews, are designed to support and review efforts which governments are making towards policy reform.

Education at a Glance addresses the needs of a range of users, from governments seeking to learn policy lessons, academics requiring data for further analysis, to the general public wanting to monitor how its nation's schools are progressing in producing world-class students. The focus of the 2004 edition of *Education at a Glance* is on the quality of learning outcomes, the policy levers and contextual factors that shape these outcomes, and the broader private and social returns that accrue to investments in education.

The publication is the product of a longstanding, collaborative effort between OECD governments, the experts and institutions working within the framework of OECD's education indicators programme (INES) and the OECD Secretariat. The publication was drafted by the Division for Education Indicators and Analysis, under the responsibility of Andreas Schleicher, in co-operation with Etienne Albiser, Eric Charbonnier, Michael Davidson, Catherine Duchêne, Stéphane Guillot, Jean-Luc Heller, Alistair Nolan and Karine Tremblay. Statistical support and research assistance were provided by Manuela de Sousa and Annette Panzera. Secretariat services were provided by Cécile Slape. The development of the publication was steered by INES National Co-ordinators in member countries and facilitated by the financial and material support of the three countries responsible for co-ordinating the INES Networks – the Netherlands, Sweden and the United States. In addition, work on the publication has been aided by a grant from the National Center for Education Statistics (NCES) in the United States. The members of the various bodies as well as the individual experts who have contributed to this publication and to the OECD education indicators more generally are listed at the end of the book.

While much progress has been accomplished in recent years, significant further work is needed to link better a broad range of policy needs with the best available data. In developing this programme of work, various challenges and tradeoffs must be faced. First, the indicators need to respond to educational issues that are high on national policy agendas, and where the international comparative perspective can offer important added value to what can be accomplished through national analysis and evaluation. Second, while the indicators need to be as comparable as possible, they also need to be as country-specific as is necessary to allow for historical, systemic and cultural differences between countries. Third, the indicators need to be presented in as straightforward a manner as possible, but remain sufficiently complex to reflect multi-faceted educational realities. Fourth, there is a general desire to keep the indicator set as small as possible, but it needs to be large enough to be useful to policy makers across countries that face different educational challenges.

The OECD will continue to address these challenges vigorously and to pursue not just the development of indicators in areas where it is feasible and promising to develop data, but also to advance in areas where a considerable investment still needs to be made in conceptual work.

The report is published on the responsibility of the Secretary-General of the OECD.

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Director for Education
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EXECUTIVE SUMMARY

Changing economic and social conditions have given education an increasingly central role in the success of individuals and nations. Human capital has long been identified as a key factor in combating unemployment and low pay, but there is now also robust evidence that it is associated with a wide range of non-economic benefits, including improvements in health and a greater sense of well-being.

The benefits of education have driven increased participation in a widening range of learning activities – by people of all ages, from earliest childhood to advanced adulthood. As the demand for learning grows and becomes more diverse, the challenge for governments is to ensure that the learning opportunities provided respond to real, dynamic needs in a cost-effective manner.

Education at a Glance – OECD Indicators 2004 provides a rich, comparable and up-to-date collection of indicators on the performance of education systems that represent the consensus of professional thinking on how to measure the current state of education internationally. The indicators provide information on the human and financial resources invested in education, on how education and learning systems operate and evolve, and on the returns to educational investments. Key findings of the publication are as follows:

The outcomes of learning

Years of schooling in the OECD area

- The average **educational attainment of the adult population** in OECD countries corresponds to 11.8 years, based on the duration of current educational programmes. For the 18 countries ranking above the OECD average, average years of schooling range from 11.8 to 13.8 years. For the remaining 12 countries, the spread is greater, covering more than four years, from the lowest duration of 7.4 years to 11.8 years (Table A1.1).

Baseline qualifications for successful labour-market entry

- In 17 out of 20 OECD countries with comparable data, the ratio of **upper secondary graduates** to the population at the typical age of graduation exceeds 70%. In Denmark, Germany, Japan, Norway, Poland and Switzerland, graduation rates equal or exceed 90%. The challenge is now to ensure that the remaining fraction is not left behind, with the risk of social exclusion that this may entail (Table A2.1).
- Comparing the educational attainment of the population aged 25 to 34 years with that of the population aged 45 to 54 shows that the proportion of individuals who have **completed upper secondary education** has been growing in almost all OECD countries, and in some rapidly: in two-thirds of the countries, the proportion ranges from 70 to 95% for the youngest generation. Many countries with traditionally low levels of education are catching up (Table A2.2).

Advanced qualifications at the tertiary level

- On average across 17 OECD countries with comparable data, 32% of persons at the typical age of graduation currently **complete the tertiary-type A level of education** that comprises universities and other institutions offering similar qualifications – a figure that ranges from less than 20% in Austria, the Czech Republic, Germany and Switzerland to more than 40% in Australia, Finland, Iceland and Poland (Table A3.1).

- As measured by educational attainment, there has been an increase in the stock of tertiary-level skills in the OECD's adult population. However, most of that increase is due to significant increases in tertiary graduation rates in a comparatively small number of countries (Table A3.4).
- On average, one-third of students in OECD countries **"drop out" of tertiary education** before they complete their first degree (Table A3.2).
- On average across OECD countries, close to one-third of **graduates** obtaining a university or equivalent level degree, do so in social sciences, business or law. The second most popular **fields of study** are science-related (engineering, manufacturing and construction, life sciences, physical sciences and agriculture, mathematics and computing, but not including health and welfare), from which one in four students graduates, on average (Table A4.1).
- In humanities, arts, education, health and welfare, more than two-thirds of **graduates** at the university or equivalent level are **females** on average in OECD countries. However, less than one-third of graduates in mathematics and computer science, and less than one-fifth of graduates in engineering, manufacturing and construction are female (Table A4.2).
- University or equivalent level **graduation rates for females** equal or exceed those for males in most OECD countries, but males are still more likely than females to earn advanced research qualifications, such as doctorates (Table A4.2).

The quality of learning outcomes at the primary level

- In a comparison involving nine countries, four (Greece, Hungary, Iceland and Slovenia) showed statistically significant increases in the average **reading literacy performance of 4th graders** between 1991 and 2001, ranging from an increase of 16 points in Hungary to an increase of 41 points in Greece. By contrast Sweden decreased in performance over this period, from 513 points in 1991 to 498 points in 2001 (Table A5.1).
- In Hungary improvements among the **top performing quarter of students** pulled up mean performance. By contrast, in Sweden a decline in the performance of the top quarter contributed to a decrease in the average performance of Swedish students (Table A5.1).
- In 1991, **girls outperformed boys** in all nine countries. In 2001, while differences favouring girls remained in most countries, measurable differences disappeared in Italy and Iceland (Table A5.2).

The quality of learning outcomes towards the end of secondary school

- On average among OECD countries, 10% of **15-year-olds** demonstrated **Level 5 literacy skills**, which involve evaluation of information and building of hypotheses, drawing on specialised knowledge and accommodating concepts contrary to expectations. However, this percentage varies from 19% in Finland and New Zealand to below 1% in Mexico. An average of 12% of 15-year-olds have only acquired the most **basic literacy skills at Level 1** and a further 6% fall below even that (Table A6.1).

- **15-year-olds** in Japan display the highest mean scores in **mathematical literacy**, although their scores cannot be distinguished statistically from students in two other top-performing countries, Korea and New Zealand. On the **scientific literacy** scale, students in Japan and Korea demonstrate the highest average performance (Tables A7.1 and A7.2).
- While there are large differences in mean performance among countries, the **variation of performance among 15-year-olds within each country** is many times larger. However, wide disparities in performance are not a necessary condition for a country to attain a high level of overall performance. On the contrary, five of the countries with the smallest variation in performance on the mathematical literacy scale, namely Canada, Finland, Iceland, Japan and Korea, all perform significantly above the OECD average, and four of them, Canada, Finland, Japan and Korea, are among the six best-performing countries in mathematical literacy (Table A7.1).

Gender differences in learning outcomes and student attitudes

- At the 4th-grade level, females significantly outperform males in **reading literacy**, on average, and at age 15 the **gender gap** in reading tends to be large (Tables A9.2 and A9.3).
- In **mathematics**, 15-year-old males tend to be at a slight advantage in most countries; in science, **gender patterns** are less pronounced and uneven (Table A9.2).
- In **civic knowledge**, few gender differences emerge among 14-year-olds (Table A9.4).
- Females seem to have higher **expectation towards future occupations** than males, but there is considerable variation in expectations for both genders among countries (Table A9.1).
- In about half the countries, females preferred **co-operative learning** more than males did, whereas males in most countries tended to prefer **competitive learning** more than females did (Table A9.5b).

Student participation and engagement with school

- On average, nearly a quarter of **15-year-olds** express negative views about their **sense of belonging** at school, and an average of one in five reported recently missing school, arriving late or skipping classes (Chart A8.1).
- Students in Austria, Sweden and Switzerland reported a particularly high **sense of belonging**, while students in Belgium, the Czech Republic, Japan, Korea and Poland reported a below-average sense of belonging (Table A8.1).
- In most countries, the prevalence of students with a low **sense of belonging** varied significantly among schools and the between-school variation was even greater for student participation (Indicator A8).
- At the level of individual students, the **relationship between student participation and sense of belonging** is weak, suggesting that there are many students who lack a sense of belonging but still attend school regularly, and vice versa (Chart A8.3).

- By contrast, at the school level students' **sense of belonging and their participation** tend to go hand in hand and are closely **related to school performance**, suggesting that schools with high levels of engagement also tend to have high levels of academic performance (Chart A8.3).
- The analysis reveals, in particular, that a considerable portion of students with comparatively **high academic performance** still report a **low sense of belonging** (Chart A8.4).

Employment benefits of education

- **Employment ratio** rise with educational attainment in most OECD countries. With very few exceptions, the employment ratio for graduates of tertiary education is markedly higher than the ratio for upper secondary graduates. For males, the gap is particularly wide between upper secondary graduates and those without an upper secondary qualification (Table A10.1a).
- The **employment ratio for females** with less than upper secondary attainment is particularly low. Ratios for females with tertiary type-A attainment exceed 75% in all but four countries, but remain below those of males in all countries (Table A10.1a).
- The **gender gap in employment ratios** decreases with increasing educational attainment. The gap is 23 percentage points among persons without upper secondary education and 11 points among those with the highest educational attainment (Table A10.1a).

Earnings benefits for individuals

- **Education and earnings** are positively linked. In many countries, upper secondary education forms 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 graduates. Earnings differentials between tertiary and upper secondary education are generally more pronounced than those between upper secondary and lower secondary or below (Table A11.1a).
- **Earnings of people with below upper secondary education** tend to range from 60 to 90% of those of upper secondary graduates (Table A11.1a).
- **Females still earn less than males** with similar levels of educational attainment (Table A11.1b).

Education, labour productivity and economic growth

- Recent analyses of **human capital** across 14 OECD economies – based on literacy scores – suggest significant positive **effects on growth** (Indicator A12).
- Increases in the **stock of human capital** raise labour productivity, and also serve as a driver of technological progress (Indicator A12).
- Rising **labour productivity** accounted for at least half of **GDP per capita growth** in most OECD countries over the period 1990-2000 (Chart A12.1).
- In the OECD area generally, it is estimated that increasing the average level of attainment by one year raises the level of output per capita by between 3 and 6% (Indicator A12).

The financial resources invested in education

Expenditure per student

- OECD countries **spend** US$ 4 819 **per primary student**, US$ 6 688 **per secondary student** and US$ 12 319 **per tertiary student**, but these averages mask a broad range of expenditure across countries. On average, as represented by the simple mean across all OECD countries, countries spend 2.2 times as much per student at the tertiary level than at the primary level (Table B1.1).
- Excluding research and development (R&D) activities, **expenditure in tertiary educational institutions** represents on average US$ 7 203 and ranges from US$ 4 000 or below in Greece, Mexico, Poland and Turkey to more than US$ 8 000 in Australia, Belgium, Denmark, Ireland, the Netherlands, Sweden, the United Kingdom and the United States (Table B1.1).
- 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 (Table B1.3).
- Lower expenditure cannot automatically be equated with a lower **quality of educational services**. Australia, Finland, Ireland, Korea and the United Kingdom, 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 key subject areas (Indicators A6 and B1).
- There are significant differences between the **proportion of money** invested in and the **proportion of students** enrolled in **tertiary education**. On average among the 24 OECD countries for which data are available, 24% of all expenditure on educational institutions is allocated to tertiary education whereas only 14% of students are enrolled at this level of education (Table B1.4).
- **Expenditure** per primary, secondary and post-secondary non-tertiary student increased by 29% or more **between 1995 and 2001** in Australia, Greece, Ireland, Poland, Portugal, Spain and Turkey. At the tertiary level, spending on education has not always kept pace with the rapid expansion of enrolments (Table B1.5).
- In seven out of 22 OECD countries for which data are available **expenditure on educational institutions per tertiary student** expressed in US$ decreased between **1995 and 2001**, while GDP per capita increased over the same time period (Table B1.6).

The share of national income invested in education

- OECD countries spend 6.2% of their collective GDP on their educational institutions (Table B2.1a).
- In 17 out of 18 OECD countries for which data are available, **public and private spending on educational institutions** increased in real terms by more than 5% between **1995 and 2001**. However, in contrast to trends in

the early 1990s, increases in spending on educational institutions tended to fall behind the growth in national income (Tables B2.1a and B2.2).

- Canada, Korea and the United States spend more than 2% of their GDP on **tertiary education** (Table B2.1b).

Public and private sources of funds

- **Educational institutions are still mainly funded from public sources**: 88% of all funds for educational institutions come directly from public sources. **Private funding** is, however, significant in Korea (where it represents 43% of total spending), the United States (approaching one-third of total spending), Australia and Japan (almost one-quarter of total spending) (Table B3.1).
- In a number of OECD countries, **governments pay** most of the **costs of primary and secondary education** but leave the management of educational institutions at these levels to the private sector. This provides a wider range of learning opportunities without creating barriers to the participation of students from low-income families (Tables B3.2a and B3.3).
- **Tertiary institutions** tend to obtain a much higher proportion of their funds from **private sources** than primary and secondary institutions. The private share ranges from less than 4% in Denmark, Finland, Greece and Norway, to over three-quarters in Korea but includes private payments that are subsidised from public sources (Table B3.2b).
- In one-third of the countries – Australia, Belgium, Canada, Hungary, Korea, the Netherlands, Sweden, the United Kingdom and the United States – the proportion of **expenditure on tertiary institutions covered by private entities other than households** represents 10% or more (Table B3.2b).
- Across all levels of education, the **trend in the public/private share of education expenditure** is mixed, with some countries shifting towards public spending while others move towards private expenditure. In most cases, shifts towards private expenditure did not lead to a decrease in the real level of public sector spending (Tables B2.2, B3.2a and B3.2b).

The share of government budgets that education commands

- On average, **OECD countries devote 12.7% of total public expenditure on education**. However, the values for individual countries range from below 10% in the Czech Republic, Germany, Luxembourg and the Slovak Republic, to 24% in Mexico (Table B4.1).
- **Public funding of education** is a social priority, even in OECD countries with little public involvement in other areas (Table B4.1).
- **Public expenditure on education** tended to grow faster than **total public spending**, but not as fast as GDP. Public expenditure on education as a percentage of total public expenditure grew fastest between 1995 and 2001 in Denmark, Mexico and Sweden (Table B4.1).

The extent and nature of government subsidies to housholds

- **Public subsidies for students and households** are evident mainly at the tertiary level (Tables B5.1 and B5.2).

- An average of 17% of **public spending on tertiary education** is devoted to **supporting students, households and other private entities**. In Australia, Denmark, New Zealand, Norway, Sweden and the United States, public subsidies account for about 30% or more of public tertiary education budgets (Table B5.2).
- **Subsidies** are generally more evident in systems where students are expected to pay for at least part of the cost of their education (Indicator B5).
- **Subsidised student loan systems** tend to operate in countries with high levels of participation at the tertiary level. In most OECD countries, the beneficiaries of public subsidies have considerable discretion regarding the spending of subsidies. In all reporting OECD countries, subsidies are spent mainly outside educational institutions, and in one out of three of these countries, exclusively outside (Table B5.2).

The distribution of funding between resource categories

- On average, one-quarter of expenditure on tertiary education is attributable to **R&D in tertiary educational institutions**. 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 (Table B6.1).
- For levels below the tertiary level, **current expenditure** accounts for an average of 92% of total spending across OECD countries. In all but four OECD countries, 70% or more of current expenditure at those levels is spent on **staff salaries** (Table B6.3).

Access to education, participation and progression

Expected years in schooling

- In 24 out of 27 OECD countries, **individuals participate in formal education** for between 16 and 20 years, on average. Most of the variation among countries on this measure derives from differences in enrolments in upper secondary education (Table C1.1).
- **School expectancy** increased between 1995 and 2002 in all OECD countries reporting comparable data (Table C1.1).
- In half of the OECD countries, more than 70% of **children aged 3 to 4** are enrolled in either pre-primary or primary programmes. At the other end of the spectrum, a 17-year-old can expect to spend an average of 2.7 years in tertiary education (Table C1.2).
- In the majority of OECD countries, **females** can expect to receive 0.7 more years of education, on average, than **males** (Table C1.1).

Entry to tertiary education

- Today, every second young person in the OECD area will **enter a university or equivalent level programme** during his/her lifetime (Table C2.1).
- On average in OECD countries, a **17-year-old can now expect to enrol in 2.7 years of tertiary programmes**, of which 2 years will be full-time. In Finland, Korea and the United States, students can expect to receive about four years of full-time and part-time tertiary education (Table C2.2).

- With the exception of Austria and France, **participation in tertiary education** grew in all OECD countries **between 1995 and 2002** (Table C2.2).
- **The majority of tertiary students are enrolled in public institutions**, but in Belgium, Japan, Korea, the Netherlands and the United Kingdom, most students are enrolled in privately managed institutions (Table C2.3).

The internationalisation of tertiary education

- In 2002, **1.90 million students were enrolled outside their country of origin** within OECD and partner countries reported in this volume. This represented a 15% increase in total student mobility since the previous year (Table C3.6).
- Five countries (Australia, France, Germany, the United Kingdom and the United States) receive nearly 73% of all **foreign students studying in the OECD area** (Chart C3.2).
- In absolute numbers, students from France, Germany, Greece, Japan, Korea and Turkey represent the **largest sources of intakes from OECD countries** into OECD and partner countries. Students from China, India and South-east Asia comprise the largest numbers of **foreign students from partner countries** into OECD and partner countries (Table C3.2).
- Relative to a country's total tertiary enrolment, the **percentage of foreign students enrolled in OECD countries** ranges from below 1 to almost 18% in Australia and Switzerland. Australia, Austria, Belgium, France, Germany, Switzerland and the United Kingdom take in the most foreign students, when measured as a percentage of their tertiary enrolments (Table C3.1).
- In Finland, Spain and Switzerland, more than one in six **foreign students** is enrolled in **highly theoretical advanced research programmes** (Table C3.4).
- As far as **fields of study** are concerned, 30% or more **of foreign students** are enrolled in sciences or engineering in Australia, Finland, Germany, Sweden, Switzerland and the United Kingdom (Table C3.5).

The transition from education to working life

- On average among countries, **a young person aged 15 can expect to be in formal education** for a little less than six and a half years. In 17 of the 28 countries studied, this period ranges from near six to seven and a half years (Table C4.1a).
- In addition to the expected number of years spent in education, a young person aged 15 can expect to **hold a job** for 6.4 of the 15 years to come, to be **unemployed** for a total of 0.8 years and to be **out of the labour market** for 1.3 years. Countries vary the most in the average duration of spells of unemployment (Table C4.1a).
- 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. The percentage of 20 to 24-year-olds not in education ranges from 50 to 70% in most OECD countries (Table C4.2a).

- 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 structured vocational education routes to recognised occupational qualifications. In other countries, initial education and work are rarely associated (Chart C4.4).
- The **proportion of 20 to 24-year olds not in education and without upper secondary education** is under 10% in only eight out of 27 OECD countries. In 11 countries, this group potentially at risk represents between 10 and 18% of the age group and for the remaining eight OECD countries, more than 20% of the age group falls under this category (Table C5.1).
- The percentage of male 20 to 24-year olds that fall into this **"at risk" group** is greater than the percentage of females who do so in 19 out of 27 countries, most notably in Greece, Iceland, Ireland, Italy, Portugal and Spain. The countries where the reverse trend is most evident are Denmark, Luxembourg and Turkey (Table C5.1).

The learning environment and organisation of schools

The amount of instruction students receive

- Students accumulate, on average, 6 868 **hours of instruction** between the ages of 7 and 14, of which 1 576 hours are between ages 7 and 8, 2 510 hours between ages 9 and 11 and 2 782 hours between ages 12 and 14 years (Table D1.1).
- Students between the ages of 7 and 8 in OECD countries receive an average of 752 hours per year of **compulsory instruction time** and 788 hours per year of **intended instruction time** in the classroom. Compared with 7 and 8-year-olds, students between the ages of 9 and 11 are intended to receive nearly 50 hours more instruction time per year, and those aged between 12 and 14 are intended to receive nearly 100 hours more instruction time per year than those aged between 9 and 11. However, these figures vary significantly among countries (Table D1.1).
- **The teaching of reading and writing, mathematics and science** comprises almost half of the compulsory instruction time for students aged 9 to 11 years and 41% for students aged 12 to 14 years. Among countries, there is great variation in the percentage of the curriculum for 9 to 11-year-olds that is devoted to reading and writing as a compulsory subject; this ranges from 12% of the curriculum in Portugal to 31% in the Slovak Republic (Table D1.2).

Admittance policies in upper secondary schools

- Based on survey reports from school principals in 2002, students' academic performance is the most commonly used **criterion for admitting students to upper secondary schools**, though there is wide variation among countries. More than 80% of students in Finland, Hungary and Norway attend schools where students' **academic performance** is always used as a criterion for admission, whereas in Spain the percentage is less than 10% (Table D5.1).

- The other most commonly used factors in **admission policies** are students' need for and interest in the programme and their residence in a particular area (Table D5.1).
- For **grouping students**, the most commonly used criterion is the **student's choice** of specific subject or programme; on average some 73% of students attend schools where this criterion is always used. By contrast, in Mexico, almost half the students attend schools where this is never the practice. Grouping students to ensure that classes contain a **mixture of abilities** is the next most common policy, followed by grouping students by **similar age** (Table D5.3).
- Schools in the Flemish Community of Belgium, Hungary, Ireland and Italy are, on average, more **selective both in admitting and in grouping students** than the international average. By contrast, in Spain and Sweden, schools appear to be less selective in their admission policies than the international average and they also tend to use selective grouping policies less frequently (Chart D5.3).

Class size and student/teacher ratios

- The **average class size** in primary education is 22, but varies between countries from 36 students per class in Korea to less than half of that number in Greece, Iceland and Luxembourg (Table D2.1).
- 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 (Table D2.1).
- **Teaching and non-teaching staff employed** in primary and secondary schools ranges from less than 81 persons per 1 000 students enrolled in Japan, Korea and Mexico to 119 persons or more per 1 000 students in France, Hungary, Iceland, Italy and the United States (Table D2.3).

Teacher salaries

- The **mid-career salaries** of lower secondary teachers range from less than US$ 10 000 in the Slovak Republic to US$ 40 000 and more in Australia, Germany, Japan, Korea, Scotland, Switzerland and the United States (Table D3.1).
- 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, Turkey and the United States and as high as 82% in Spain, where the difference between teaching time at primary and upper secondary level is greatest (Table D3.1).
- **Salaries at the top of the scale** are on average around 70% higher than starting salaries for both primary and secondary education, though this 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 (Table D3.1).

- **Teachers' salaries** have risen in real terms **between 1996 and 2002** in virtually all countries, 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 (Table D3.3).

Teacher working time

- The number of **teaching hours per year in public primary schools** averages 803 hours, but ranges from 617 in Japan to 1 139 hours in the United States (Table D4.2).
- The average number of **teaching hours in lower secondary education** is 717 hours, but ranges from 513 in Japan to 1 167 hours in Mexico (Table D4.2).
- The average number of **teaching hours in upper secondary education** is 674 hours, but ranges from 449 in Japan to 1 121 hours in the United States (Table D4.2).
- The **percentage of working time that is spent teaching** is higher at the primary level than it is at the secondary level. At either level the percentage of working time spent teaching is greater than 50% in only a minority of countries (Table D4.1 and Chart D4.2).
- **Regulations of teachers' working time** vary among countries. In most countries, teachers are formally required to work a specific number of hours; in others, only teaching time in lessons per week is specified (Indicator D4).

The distribution of decision-making responsibilities at the lower secondary level of education

- Overall, based on data for 2003, **decision making** is most highly centralised (taken at the central and/or state level of government) in Australia, Austria, Greece, Luxembourg, Mexico, Portugal, Spain and Turkey, with central government particularly dominant in Greece (88% of decisions taken by the central administration) and Luxembourg (66%) (Table D6.1).
- **Decisions** are more often taken **at the school level** in the Czech Republic, England, Hungary, New Zealand and the Slovak Republic and in particular in the Netherlands where all decisions are taken at the school level (Table D6.1).
- **Decisions** on the **organisation of instruction** are predominantly taken by schools in all OECD countries, while decisions on **planning and structures** are mostly the domain of more centralised tiers of government. The picture is more mixed for decisions on **personnel management** and **allocation and use of resources** (Table D6.2).
- Just less than half of **decisions taken by schools** are taken **in full autonomy**, about the same proportion as those taken within a framework set by a higher authority. Decisions taken by schools in consultation with others are relatively rare. Schools are less likely to make autonomous decisions related to planning and structures than related to other domains (Table D6.3).
- **Between 1998 and 2003**, decision making in most countries became **more decentralised**, most notably in the Czech Republic, Korea and

Turkey. The opposite trend was evident in the French Community of Belgium and Greece (Chart D6.3).

New indicators in this edition

In addition to an update of the regular indicators, this edition includes the following new indicators:

- **A5: Trends in reading literacy skills** – assesses reading literacy skills of students around the age of 9 years both overall and by gender.
- **A8: Student engagement** – examines two dimensions of student engagement: students' sense of belonging and their participation in school and shows the extent to which these vary across countries.
- **D5: Student admission, placement and grouping policies** – examines these policies as they apply at the upper secondary level where education provision begins to show greater diversity.
- **D6: Decision making in education systems** – examines the pattern for decision making and outlines which authority takes decisions on which areas of the system and the degree of autonomy with which they take these decisions.

In addition, several ***new analyses*** are featured throughout the regular indicators showing:

- Demographic factors affecting the future supply of qualified people (Indicator A1).
- Trends in the relationship between educational attainment and labour force activity (A10).
- A comparison of relative earnings over time both overall and for males and females separately (A11).
- A comparison of the distributions of expenditure and students by level of education (B1).
- A disaggregation of private expenditure on education between household expenditure and other private expenditure (B3).
- The pattern of enrolment by single years of age for young adults (C1).
- Trends in student mobility and analysis of subjects studied by foreign students (C3).
- Comparisons over time of how the transition between education and work is managed (C4).
- A profile in terms of country of birth of young persons with low levels of qualifications (C5).
- A comparison between public and private institutions of ratios of students to teaching staff (D2).
- The proportion of teachers' working time that is spent teaching (D4).

Note to editors

Figures gernerally refer to the 2002 school year or the 2001 financial year, unless otherwise stated. Figures on the reading, mathematical and scientific literacy of 15-year-olds and on student engagement are from the Programme for International Student Assessment (PISA) in 2000.

The indicators presented in the book are based on the data held by OECD as of 30 June 2004. Any subsequent revisions made by countries to their data that impact on the indicator values are reported on the OECD website at: *www.oecd.org/edu/eag2004*.

Glossary of terms used in the Executive Summary

Advanced research programmes – refer to tertiary programmes that lead directly to the award of an advanced research qualification, *e.g.,* Ph.D.

Educational attainment – educational attainment is expressed by the highest completed level of education held by an individual, defined according to the ISCED.

Employment ratio – is the number of employed persons as a percentage of the total number of persons in the population.

Expenditure on educational institutions – covers expenditure on those educational institutions that are engaged in instruction as well as expenditure on non-instructional educational institutions, for example those involved in administration of the education system.

Human capital – productive wealth embodied in labour, skills and knowledge.

ISCED – International Standard Classification of Education which classifies educational programmes by level.

Partner countries – the countries taking part in the OECD/UNESCO World Education Indicators (WEI) programme: Argentina, Brazil, Chile, China, Egypt, India, Indonesia, Jamaica, Jordan, Malaysia, Paraguay, Peru, Philippines, Russian Federation, Sri Lanka, Thailand, Tunisia, Uruguay and Zimbabwe. In addition, Israel, who has observer status in OECD's activities on education, is included.

School expectancy – the average duration of formal education in which a 5-year-old child can expect to enrol over his or her lifetime.

Tertiary-type A level of education – corresponds to programmes at level 5A of ISCED. These are largely theory-based and are designed to provide sufficient qualifications for entry to advanced research programmes and professions with high skill requirements, such as medicine, dentistry or architecture. Usually includes both Bachelor and Masters degrees and their equivalent.

Tertiary-type B level of education – corresponds to programmes at level 5B of ISCED. These are usually shorter than those of tertiary-type A and focus on practical, technical or occupational skills for direct entry into the labour market, although some theoretical foundations may be covered in the respective programmes.

Tertiary level of education – tertiary-type A and type B programmes plus advanced research programmes.

Total public expenditure on education – covers public (government) expenditure on institutions as well as public subsidies to households (*e.g.* for living costs) and other private entities.

University or equivalent level – refers to tertiary-type A programmes and above.

INTRODUCTION: THE INDICATORS AND THEIR FRAMEWORK

The organising framework

Education at a Glance – OECD Indicators 2004 provides a rich, comparable and up-to-date array of indicators that reflect a consensus among professionals on how to measure the current state of education internationally. The indicators provide information on the human and financial resources invested in education, on how education and learning systems operate and evolve, and on the returns to educational investments. The indicators are organised thematically, and each is accompanied by relevant background information. The education indicators are presented within an organising framework which:

- distinguishes between the actors in education systems: individual learners, instructional settings and learning environments, educational service providers, and the education system as a whole;
- groups the indicators according to whether they speak to learning outcomes for individuals or countries, policy levers or circumstances that shape these outcomes, or to antecedents or constraints that set policy choices into context; and
- identifies the policy issues to which the indicators relate, with three major categories distinguishing between the quality of educational outcomes and educational provision, issues of equity in educational outcomes and educational opportunities, and the adequacy and effectiveness of resource management.

The following matrix describes the first two dimensions. References between the individual indicators and the cells in this matrix are provided in the next section.

	(1) Education and learning outputs and outcomes	(2) Policy levers and contexts shaping educational outcomes	(3) Antecedents or constraints that contextualise policy
(I) Individual participants in education and learning	(1.I) The quality and distribution of individual educational outcomes	(2.I) Individual attitudes, engagement, and behaviour	(3.I) Background characteristics of the individual learners
(II) Instructional settings	(1.II) The quality of instructional delivery	(2.II) Pedagogy and learning practices and classroom climate	(3.II) Student learning conditions and teacher working conditions
(III) Providers of educational services	(1.III) The output of educational institutions and institutional performance	(2.III) School environment and organisation	(3.III) Characteristics of the service providers and their communities
(IV) The education system as a whole	(1.IV) The overall performance of the education system	(2.IV) System-wide institutional settings, resource allocations, and policies	(3.IV) The national educational, social, economic, and demographic contexts

The indicators

Chapter A: The output of educational institutions and the impact of learning (Indicators A1 to A12)

Chapter A examines the outcomes of education and learning in terms of…

…the educational attainment of the adult population…

Chapter A begins by examining the **educational attainment of the adult population (Indicator A1)** which provides a proxy measure of the stock of "human capital" in each country, equally providing a measure of the output of education systems **(Framework Cell 1.IV).** It also provides important context for education systems **(Framework Cell 3.IV)** as is witnessed by the close interrelationships between student performance and parental levels of educational attainment (OECD, 2001). ***New:*** This indicator also presents new analysis of demographic factors that are shaping the future supply of educational qualifications.

…the output of educational institutions…

Indicator A2 focuses on **graduation rates at the upper secondary level** of education which is often considered the minimum credential for successful labour market entry. In presenting both the annual upper secondary graduation rate as well as the stock of upper secondary graduates in the population, the indicator speaks both to the current output of educational institutions and of the system more generally **(Framework Cells 1.III and 1.IV)**. An analysis by gender provides an assessment of gender equity in upper secondary qualifications.

Indicators A3 and A4 turn the focus on tertiary level, examining **tertiary graduation rates**, as well as historical patterns of **tertiary educational attainment**. Tertiary graduation rates are an indicator of the current production rate of advanced knowledge by each country's education system whilst measures of educational attainment by age cohort show the evolution of advanced knowledge in the population **(Framework Cells 1.III and 1.IV)**. Attainment levels for different generations also provide an important context for current educational policies **(Framework Cell 3.IV)** helping to shape thinking on lifelong learning policies, for instance.

Analysis of **tertiary graduates by field of study (Indicator A4)** can be indicative of both the admission policies of tertiary institutions **(Framework Cell 2.III)** and prevailing labour market conditions **(Framework Cell 3.IV)** and can shed light on the demand for courses and teaching staff, as well as the supply of new graduates.

The indicator also reviews countries' progress in closing the gender gap in tertiary attainment and graduation rates, both overall and across different fields of education.

Indicator A3 also compares **drop-out rates** which provide some indication of the internal efficiency of education systems **(Framework Cell 1.III)**. Students leave educational programmes before their completion for many reasons – they realise that they have chosen the wrong subject or educational programme, they fail to meet the standards set by their educational institution, or they may want to work before completing their programme. Nevertheless, high drop-out rates indicate that the education system is not meeting the needs of its clients. Students may find that the educational programmes do not meet their expectations or their needs in order to enter the labour market, or that the programmes require more time outside the labour market than they can justify.

…the quality of learning outcomes…

Counting the numbers of graduates alone does not provide information about the quality of learning outcomes. To address this, Chapter A also compares the knowledge and skills attained by students across countries **(Framework Cell 1.I)**. ***New:*** **Indicator A5** has been newly introduced to assess **trends in reading literacy skills** of students around the age of 9 years both overall and by gender.

While **Indicator A5** looks at reading skills towards the beginning of schooling, **Indicators A6** and **A7** compare the **reading, mathematics and science knowledge and skills of students at age 15**, *i.e.* towards the end of their compulsory schooling period (from PISA 2000). These indicators are essential indicators for gauging the quality of educational performance as they assess to what extent societies have succeeded in equipping young adults with key foundation skills at an age when the transition to work is becoming a key concern for many.

Indicators A5, A6 and A7 not only benchmark the overall performance of countries **(Framework Cell 1.IV)**, but devote much attention also to the distribution of knowledge and skills in the student population, with the aim to assess to what extent countries succeed in combining high overall performance with an equitable distribution of learning outcomes **(Framework Cell 1.I)**.

…and how this varies between gender…

Recognising the impact that education has on participation in labour markets, occupational mobility and the quality of life, policy makers and educators emphasise the importance of reducing **educational differences between males and females**. Significant progress has been achieved in reducing the gender gap in educational attainment (see **Indicators A1 and A2**), although in certain fields of study, such as mathematics and computer science, gender differences favouring males still exist (see **Indicator A4**).

As females have closed the gap and then surpassed males in many aspects of education, there are now many instances in which there is concern about the underachievement of males in certain areas, such as reading. Indeed, **Indicator A5** shows that boys underachievement in reading has been long standing and has not significantly improved over a 10-year period. **Gender differences in student performance** therefore need to receive close attention from policy makers if greater gender equity in educational outcomes is to be achieved.

Furthermore, students' perceptions of what occupations lie ahead for them can affect their academic decisions and performance. An important policy objective should therefore be to strengthen the role that the education system can play in moderating gender differences in occupational expectations to help reduce performance gaps in different subject areas. **Indicator A9** begins by examining data from OECD's PISA study on **gender differences in the occupations** which 15-year old students expect to have by the age of 30 and then examines **gender differences in performance, attitudes and learning strategies** in primary and secondary schools **(Framework Cells 1.I and 2.I)**.

An important element in the attitudinal profile of students is their sense of engagement in school life. School is a major aspect of the daily lives of young people, and their perception of schooling is reflected in their participation in academic, as well as non-academic, pursuits. ***New:*** **Indicator A8** examines two dimensions of **student engagement**: sense of belonging and participation in school and explores the extent to which these vary across countries. The indicator goes on to examine the inter-relationships between student engagement and reading literacy performance. Student engagement can be seen both as an outcome of the schooling process **(Framework Cells 1.I)** as well as a context which shapes educational outcomes **(Framework Cells 2.I).**

…and the returns to investments in education for individuals and society.

As levels of skill tend to rise with educational attainment, the social costs incurred when those with higher levels of education do not work also rise; and as populations in OECD countries age, higher and longer participation in the labour force can lower dependency ratios and help to alleviate the burden of financing public pensions. **Indicator A10** examines **the relationship between educational attainment and labour force activity**, comparing employment rates first and then rates of unemployment and examining how these vary by gender. ***New*** for this indicator is an assessment of how these comparisons have changed over time. In measuring the relationship between labour force activity and educational attainment, these are, first and foremost, indicators of the long-term outcomes of education systems **(Framework Cell 1.IV)**. The adequacy of workers' skills and the capacity of the labour market to supply jobs that match those skills are, however, also important contexts for national education policy making **(Framework Cell 3.IV)**. Unemployment rates can also influence student decisions to continue in education and therefore can shed light on differing participation rates in education across countries.

One way in which markets provide incentives for individuals to develop and maintain appropriate levels of skills is through wage differentials, in particular through the enhanced earnings accorded to persons completing additional education. The pursuit of higher levels of education can also be viewed as an investment in human capital. Human capital includes the stock of skills that individuals maintain or develop, usually through education or training, and then offer in return for earnings in the labour market. The higher the earnings that result from increases in human capital, the higher the returns on that investment and the premium paid for enhanced skills and/or for higher productivity. **Indicator A11** and **Indicator A12** seek to measure **the returns to education** for individuals **(Framework Cell 1.I)**, in terms of higher earnings; for taxpayers, in terms of higher fiscal income from better educated individuals; and for societies more generally **(Framework Cell 1.IV)**, in terms of the relationship between education and labour productivity. Together, these indicators shed light on the longer-term impact of education for individuals and societies. Indicator A11 also sheds light on an important national context **(Framework Cell 3.IV)** for policy making and can influence public funding policies in general and policies on financial aid to students in particular. It can also provide context for individual students' decisions to engage in education at different levels **(Framework Cell 3.I)**. A ***new*** dimension to Indicator A11 is the comparison of relative earnings over time both overall and for males and females separately.

Chapter B: Financial and human resources invested in education (Indicators B1 to B6)

Chapter B considers the financial and human resources invested in education, in terms of…

Financial resources are a central policy lever for improving educational outcomes. As an investment in human skills, education can help to foster economic growth and enhance productivity, contribute to personal and social development, and reduce social inequality. But like any investment, education needs to be financed. After Chapter A examined the returns to education, **Chapter B** provides a comparative examination of spending patterns in OECD countries. By giving emphasis to trends in educational spending, the chapter seeks to analyse how different demand and supply factors interact and how spending on education, compared to spending on other social priorities, has changed.

…the resources that each country invests in education relative to its number of students enrolled,…

Effective schools require the right combination of trained and talented personnel, adequate facilities, state-of-the-art equipment, and motivated students ready to learn. The demand for high-quality education, however, can translate into higher costs per student, and must therefore be weighed against undue burdens for taxpayers. No absolute standards exist for measuring the per student resources needed to ensure optimal returns for individual students or society as a whole. Nonetheless, international comparisons can provide a starting point for discussion by evaluating the variation that exists between OECD countries in educational investment. **Indicator B1** examines direct public and private **expenditure on educational**

institutions in relation to the number of their full-time equivalent (FTE) students and investigates how this relates to countries' relative wealth, as measured by GDP per capita. It also reviews how OECD countries apportion per student education expenditure between different levels of education and presents a decomposition of the changes in student numbers and expenditure which underlie these figures. ***New:*** To further understand the comparisons by level a new feature of the indicator is a comparison of the distribution of expenditure by education level and the distribution of students by educational level.

Expenditure per student is a key policy measure which most directly impacts on the individual learner as it acts as a constraint on the learning environment in schools and student learning conditions in the classroom **(Framework Cells 2.I, 3.III and 3.II)**.

However, relating Indicator B1 to Indicators A6 and A7 also shows, that lower expenditure cannot automatically be equated with a lower quality of educational services.

…and relative to national income,…

Indicator B2 examines the **proportion of national resources that goes to educational institutions** and the levels of education to which they go. The proportion of national financial resources allocated to education is one of the key choices made by each OECD country; it is an aggregate choice made by governments, enterprises, and individual students and their families. Indicator B2 also shows how the amount of educational spending relative to the size of national wealth and in absolute terms has evolved over time in OECD countries. National resources devoted to education are a key national policy lever (**Framework Cell 2.IV**) but also act as an antecedent to the activities of schools, classrooms and individual learners (**Framework Cells 3.III, 3.II and 3.I**).

…the ways in which education systems are financed, and the sources of the funds,…

Cost-sharing between the participants in education and society as a whole is an issue that is under discussion in many OECD countries. This is a particularly relevant question at the early and late stages of education – pre-primary and tertiary – where full or nearly full public funding is less common. As new client groups participate in education, the range of educational opportunities, programmes and providers is growing, and governments are forging new partnerships to mobilise the necessary resources. Public funding is now being looked upon increasingly as providing only a part, albeit a very substantial part, of the investment in education. Private funding is playing an increasingly important role.

New funding strategies aim not only at mobilising the required resources from a wider range of public and private sources, but also at providing a broader range of learning opportunities and improving the efficiency of schooling. In the majority of OECD countries, publicly funded primary and secondary education is also organised and delivered by public institutions. However, in a fair number of OECD countries the public funds are then transferred to private institutions or given directly to households to spend in the institution of their choice. In the former case, the final spending and delivery of education can be regarded as subcontracted by governments to non-governmental institutions, whereas in the latter instance, students and their families are left to decide which type of institution best meets their requirements. To the extent that private financing of education creates barriers for the participation of learners from lower income groups, this may reflect in variation of performance between institutions.

To shed light on these issues, **Indicator B3** examines **the relative proportions of funds for educational institutions from public and private sources**, and how these figures have evolved since 1995. ***New:*** For the first time, private expenditure is disaggregated between household expenditure and the expenditure of other private funders, allowing a more refined analysis of public and private funding to be undertaken.

As with Indicator B2, national resources devoted to education are a key national policy lever **(Framework Cell 2.IV)** as well as an antecedent to the activities of schools, classrooms and individual learners **(Framework Cells 3.III, 3.II and 3.I)**.

…relative to the size of public budgets,…

All governments are involved in education, funding or directing the provision of services. Since markets offer no guarantee of equal access to educational opportunities, governments fund educational services to ensure that they are within the reach of their populations. Public expenditure on education as a percentage of total public expenditure indicates the value of education relative to the value of other public investments such as health care, social security, defence and security. **Indicator B4** completes the picture of the volume of resources invested in education by examining **changes in public spending on education in absolute terms and relative to changes in overall public spending**.

Since the second half of the 1990s, most OECD countries made serious efforts to consolidate public budgets. Education had to compete for public financial support against a wide range of other areas covered in government budgets. To portray this, the indicator evaluates changes in educational expenditure in absolute terms and also relative to changes in the size of public budgets.

As with **Indicators B2 and B3**, national resources devoted to education are a key national policy lever **(Framework Cell 2.IV)** as well as an antecedent to the activities of schools, classrooms and individual learners **(Framework Cells 3.III, 3.II and 3.I)**.

…different financing instruments,…

The primary financing mechanism of education in most OECD countries remains direct spending on educational institutions. However, governments are looking increasingly towards greater diversity in financing instruments. Comparing these instruments helps to identify policy alternatives. **Subsidies to students and their families**, the subject of **Indicator B5,** constitute one such alternative to direct spending on institutions. They are used as incentives to engage individuals or groups of individuals in education or to open opportunities for them in different types of institutions **(Framework Cells 2.I and 2.III)**.

Governments subsidise the costs of education and related expenditure in order to increase access to education and reduce social inequalities. Furthermore, public subsidies play an important role in indirectly funding educational institutions. Channelling institutional funding through students may heighten institutional competition and therefore the efficiency of education funding. Since aid for student living costs can also serve as a substitute for work as a financial resource, public subsidies may enhance educational attainment by enabling students to study full-time and to work fewer hours or not at all.

Public subsidies come in many forms: means-based subsidies, family allowances for all students, tax allowances for students or parents, or other household transfers. Should household subsidies take the form of grants or loans? Do loans effectively help increase the efficiency of financial resources invested in education and shift some of the costs to the beneficiaries? Or are student loans less appropriate than grants for encoura-ging low-income students to pursue their education? **Indicator B5** cannot answer these questions, but it does provide a useful overview of the subsidy policies being pursued in different OECD countries.

...and how the money is invested and apportioned among different resource categories.

Chapter B concludes with an examination of **how financial resources are invested and apportioned among resource categories** (**Indicator B6**). The allocation of resources can influence the quality of instruction (through the relative expenditure on teachers' salaries, for example), the condition of educational facilities (through expenditure on school maintenance), and the ability of the education system to adjust to changing demographic and enrolment trends. A comparison of how OECD countries apportion their educational expenditure among resource categories can provide some insight into the differences in organisational structure and operation of educational institutions. Systemic budgetary and structural decisions on allocating resources eventually make themselves felt in the classroom; they affect teaching and the conditions under which teaching takes place. A system-wide description of decisions on how educational funding is spent, decisions that will influence system level outputs **(Framework Cell 2.IV)**.

Chapter C: Access to education, participation and progression (Indicators C1 to C5)

Chapter C looks at access to education, participation and progression, in terms of...

A well-educated population is critical for a country's economic and social development, in both the present and the future. Societies therefore have an intrinsic interest in ensuring broad access to a wide variety of educational opportunities for children and adults. Early childhood programmes prepare children for primary education. They can help to combat linguistic and social disadvantages and provide opportunities to enhance and complement home educational experiences. Primary and secondary education lay the foundations for a wide range of competencies and so prepare young people to become lifelong learners and productive members of society. Tertiary education, either immediately after school or later, provides a range of options for acquiring advanced knowledge and skills. **Chapter C** sketches a comparative picture of access, participation and progression in education across OECD countries.

...the expected duration of schooling, overall and at the different levels of education,...

Virtually all young people in OECD countries can expect to go to school for 11 years. However, participation patterns and progression through education vary widely. Both the timing and participation rate in pre-school and after the end of compulsory education differ considerably between countries. Some countries have extended participation in education, for example, by making pre-school education almost universal by the age of three, by retaining the majority of young people in education until the end of their teens, or by maintaining 10 to 20% participation aged into their late 20s.

Indicator C1 sheds light on these issues by portraying **enrolment rates and the expected duration of schooling**. It can help to elucidate the structure of education systems and access to educational opportunities in them. ***New:*** An analysis newly added to this indicator is that of the pattern of enrolment in education for single years of age for young adults. This indicates the ages at which the transition between different levels of education occurs across countries and also the ages at which young people's participation in formal education starts to decline. Enrolment patterns indicate overall outcomes of educational policy **(Framework Cell 1.IV)** but, in the form of school expectancy, also outcomes at the individual level **(Framework Cell 1.I)**.

...entry into and participation in different types of educational programmes and institutions,...

While the successful graduation from upper secondary education is becoming the norm in most OECD countries (see Indicator A2), routes to it are becoming increasingly varied. Upper secondary programmes can differ in their curricular content, often depending on the type of further education or occupation for which the programmes are intended to prepare students. Most upper secondary programmes in OECD countries are primarily designed to prepare students for further studies at the tertiary level. The orientation of these programmes can be general, pre-vocational or vocational. Besides the programmes primarily preparing students for further education, in most OECD countries there are also upper secondary programmes designed to prepare students for direct entry to the labour market. **Enrolment in these different types of educational programmes** is examined in **Indicator C2**.

Indicator C2 also sheds light on **rates of entry into tertiary education**, that provide an important indication of the extent to which a population is setting out to acquire the high-level skills and knowledge that labour markets in knowledge societies value. The indicator also provides a gender profile of the participants.

Like Indicator C1, Indicator C2 reflects on overall outcomes of educational policy **(Framework Cell 1.IV)** as well as on outcomes at the individual level **(Framework Cell 1.I)**.

…cross-border movements of students,…

Access to and participation in tertiary education is no longer limited to national boundaries. One way for students to expand their knowledge is to attend higher educational institutions in countries other than their own. Such international student mobility involves costs and benefits to students and institutions in sending and host countries alike. While the direct short-term monetary costs and benefits of this mobility are relatively easy to measure, the long-term social and economic benefits to students, institutions and countries are more difficult to quantify. **The number of students studying in other countries** (**Indicator C3**), however, provides some idea of the extent of student mobility and illustrates those countries that are net importers and net exporters of students. ***New:*** As well as, for the first time, providing some comparisons over time of student mobility, the indicator this year introduces an analysis of the subjects which foreign students choose to study. Such analysis helps to highlight "magnet" programmes which attract students from abroad in large numbers and which result from many factors related to the demand for and supply of particular programmes.

The indicator reflects on students' motivation to study in other countries and hence raise their labour market prospects (**Framework Cell 2.I**) but is also indicative of the national policy on student mobility (**Framework Cell 2.IV**). The policy itself is, of course, a condition under which students' mobility takes place **(Framework Cell 3.I)** and the extent of student mobility is a context for the learning environment in school and teaching and learning practices in the classroom **(Framework Cells 3.III and 3.II)**.

…and learning beyond initial education.

All OECD countries are experiencing rapid social and economic changes that are making the transition to working life more uncertain. Entering the labour market is often a difficult period of transition. While the length of time spent in education has increased, a significant proportion of young people still remain marginal if they are neither in education or working, *i.e.*, they are either unemployed or in non-employment. **Indicators C4** and **C5** examine **the education and employment status of young men and women** and provide information on how successfully the **transition from school to work** is made. Indicator C4 focuses on the combination of work and study and Indicator C5 on the work status of young people who are no longer in education. ***New:*** An important new development in Indicator C4 is the addition of comparisons over time which help to show how the experiences of young people in managing the transition between education and work have changed in recent years. ***New:*** For the first time, Indicator C5 examines the profile of young persons with low levels of qualifications in terms of whether or not they were born in the host country, throwing further light on the challenges facing countries in raising education levels. ***New:*** The indicator also now provides further insight into the difficulties faced by the low qualified in finding employment by showing the proportion of under-qualified young people who have never had a job.

Both indicators reflect outcomes not only for the individual student **(Framework Cell 1.I)** but also for the education system as a whole as it interacts with the labour market **(Framework Cell 1.IV)**. They also provide a context for current participation rates and patterns both individually and collectively within the system **(Framework Cells 3.I and 3.IV)**.

Chapter D: The learning environment and organisation of schools (Indicators D1 to D6)

Chapter D examines the learning environment and organisation of schools, in terms of…

Chapters A, B and C examined financial resources invested in education, patterns of participation, and the results of education in terms of student achievement and the labour market outcomes of education. **Chapter D** concludes the publication with an examination of student learning conditions, teacher working conditions and the decision making processes in place in national education systems. These are crucial contexts within which student learning takes place and which are, in the main, open to policy influence.

…student learning conditions,…

The amount and quality of time that people spend learning between early childhood and the start of their working lives, shape their lives, socially and economically. How effectively learning time is used depends on how appropriate study programmes are, and on how much instruction time a student receives. At the same time, instruction time in formal classroom settings comprises a large part of the public investment in student learning. Instruction time is, therefore an important policy lever which acts most directly on the individual learner **(Framework Cell 2.I)** but also as a context for teaching and learning practices in the classroom and school **(Framework Cells 3.II and 3.III)**.

Indicator D1 examines **instruction time** available for various study areas for students of different ages.

Besides policies on instruction time, other important aspects of student learning conditions are policies which determine student admissions to different schools and how students are then grouped within these schools. **Student admission, placement and grouping policies** set the framework for selection of students for academic programmes and for streaming of students according to their specific career goals and educational needs. ***New:*** The newly introduced **Indicator D5** examines these policies as they apply at the upper secondary level, where the educational provision begins to show greater diversity and the choices made by students need to be carefully managed to allow them to fulfil their potential and at the same time to ensure equal opportunities for all.

Student admission and grouping policies are policy levers which act on the individual learner (**Framework Cell 2.I**) but which are also contexts in which the classrooms and institutions operate (**Framework Cells 3.II and 3.III**).

The size of the learning group that shares teacher time is another variable that impacts on the use of classroom learning time. **Indicator D2** looks at the variation in **average class size**, and **the ratio of students to teaching staff** across OECD countries to estimate the human resources available for individual students. Both measures are factors which, on the whole, schools can influence (**Framework Cell 2.III**), though in some cases these can be constrained by system-level policies. They are also important contexts which shape student learning **(Framework Cell 3.I)** and classroom instruction (**Framework Cell 3.II**). ***New:*** A newly introduced feature of the indicator is a comparison of ratios of students to teaching staff between public institutions and private institutions, which has relevance to the debate concerning the comparative strengths and weaknesses of public versus private sector education.

... teachers' working conditions....

Chapter D continues with a comparative review of **teachers' working conditions**, examining first teachers' salaries and then teachers working and teaching time. Education systems employ a large number of professionals in increasingly competitive market conditions. Ensuring a sufficient number of skilled teachers is a key concern in all OECD countries. Key determinants of the supply of qualified teachers are the salaries and working conditions of teachers, including starting salaries and pay scales, and the costs incurred by individuals to become teachers, compared with salaries and costs in other occupations. Both affect the career decisions of potential teachers and the types of people attracted to the teaching profession. At the same time, teachers' salaries are the largest single factor in the cost of providing education. Teacher compensation is thus a critical consideration for policy makers seeking to maintain the quality of teaching and a balanced education budget. The size of education budgets naturally reflects trade-offs between a number of interrelated factors, including teachers' salaries, the ratio of students to teaching staff, the quantity of instruction time planned for students, and the designated number of teaching hours. To shed light on these issues, **Indicator D3** shows the starting, mid-career and maximum **statutory salaries of teachers** in public primary and secondary education, and incentive schemes and bonuses used in teacher rewards systems.

Together with class size and ratios of students to teaching staff (**Indicator D2**), hours of instruction for students (**Indicator D1**) and teachers' salaries (**Indicator D3**), the amount of time that teachers spend in the classroom teaching influences the financial resources which countries need to invest in education. While the number of teaching hours and the extent of non-teaching responsibilities are important parts of a teacher's working conditions, they also affect the attractiveness of the profession itself. To shed light on this, **Indicator D4** examines the **statutory working time of teachers** at different levels of education, as well as the statutory teaching time, *i.e.,* the time that full-time teachers are expected to spend teaching students. Although working time and teaching time only partly determine the actual workload of teachers, they do give some insight into differences between countries in what is demanded of teachers. ***New:*** To provide a sharper focus on how teachers' working time is used, a new analysis of the proportion of teachers' statutory working time that is spent teaching is included in the indicator this year.

Teacher salaries and working hours not only impact on recruitment and retention of teachers within institutions (**Framework Cell 2.III**), but as a feature of teacher working conditions, they also provide a context to the quality of instruction in instructional settings and for the learning outcomes of individual learners (**Framework Cells 3.I and 3.II**).

....and the decision making framework in which schools operate.

An important factor in educational policy is the division of responsibilities among national, regional and local authorities, as well as schools. Placing more decision-making authority at lower levels of the educational system has been a key aim in educational restructuring and systemic reform in many countries since the early 1980s. Yet, simultaneously, there have been frequent examples of strengthening the influence of the central authorities in some areas. For example, a freeing of "process" and financial regulations may be accompanied by an increase in the control of output from the centre, and by national curriculum frameworks. ***New:*** Chapter D concludes with a newly introduced **Indicator D6**, which examines the pattern of **decision making in education systems**: which authority takes decisions on which areas of the system and the degree of autonomy with which they take these decisions.

Although the profile of decision making in a country may be more or less centralised, the particular model of decision making that exists within a country is more often than not set at the system level. As such it is a system level policy lever (**Framework Cell 2.IV)**, which provides contexts in which the educational institutions and instructional settings operate **(Framework Cells 3.II and 3.III**).

READER'S GUIDE

Coverage of the statistics

Although a lack of data still limits the scope of the indicators in many countries, the coverage extends, in principle, to the entire national education system (within the national territory) regardless of the ownership or sponsorship of the institutions concerned and regardless of education delivery mechanisms. With one exception described below, all types of students and all age groups are meant to be included: children (including students with special needs), adults, nationals, foreigners, as well as students in open distance learning, in special education programmes or in educational programmes organised by ministries other than the Ministry of Education, provided the main aim of the programme is the educational development of the individual. However, vocational and technical training in the workplace, with the exception of combined school and work-based programmes that are explicitly deemed to be parts of the education system, is not included in the basic education expenditure and enrolment data.

Educational activities classified as "adult" or "non-regular" are covered, provided that the activities involve studies or have a subject matter content similar to "regular" education studies or that the underlying programmes lead to potential qualifications similar to corresponding regular educational programmes. Courses for adults that are primarily for general interest, personal enrichment, leisure or recreation are excluded.

Calculation of international means

For many indicators a country mean is presented and for some an OECD total.

The *country mean* is calculated as the unweighted mean of the data values of all OECD countries for which data are available or can be estimated. The country mean therefore refers to an average of data values at the level of the national systems and can be used to answer the question of how an indicator value for a given country compares with the value for a typical or average country. It does not take into account the absolute size of the education system in each country.

The *OECD total* is calculated as a weighted mean of the data values of all OECD countries for which data are available or can be estimated. It reflects the value for a given indicator when the OECD area is considered as a whole. This approach is taken for the purpose of comparing, for example, expenditure charts for individual countries with those of the entire OECD area for which valid data are available, with this area considered as a single entity.

Note that both the country mean and the OECD total can be significantly affected by missing data. Given the relatively small number of countries, no statistical methods are used to compensate for this. In cases where a category is not applicable (code "a") in a country or where the data value is negligible (code "n") for the corresponding calculation, the value zero is imputed for the purpose of calculating country means. In cases where both the numerator and the denominator of a ratio are not applicable (code "a") for a certain country, this country is not included in the country mean.

For financial tables using 1995 data, both the country mean and OECD total are calculated for countries providing both 1995 and 2001 data. This allows comparison of the country mean and OECD total over time with no distortion due to the exclusion of certain countries in the different years.

Classification of levels of education

The classification of the levels of education is based on the revised International Standard Classification of Education (ISCED-97). The biggest change between the revised ISCED and the former ISCED (ISCED-76) is the introduction of a multi-dimensional classification framework, allowing for the alignment of the educational content of programmes using multiple classification criteria. ISCED is an instrument for compiling statistics on education internationally and distinguishes among six levels of education. The *Glossary* at *www.oecd.org/edu/eag2004* describes in detail the ISCED levels of education, and Annex 1 shows corresponding typical graduation ages of the main educational programmes by ISCED level.

Symbols for missing data

Five symbols are employed in the tables and charts to denote missing data:

a Data not applicable because the category does not apply.

c There are too few observations to provide reliable estimates *(i.e.,* there are fewer than five schools or fewer than 30 students with valid data for this cell).

m Data not available.

n Magnitude is either negligible or zero.

x Data included in another category or column of the table (*e.g.*, *x*(2) means that data are included in column 2 of the table).

Further resources

The web site *www.oecd.org/edu/eag2004* provides a rich source of information on the methods employed for the calculation of the indicators, the interpretation of the indicators in the respective national contexts and the data sources involved. The web site also provides access to the data underlying the indicators, as well as to a comprehensive glossary for technical terms used in this publication.

The web site *www.pisa.oecd.org* provides information on the OECD Programme for International Student Assessment (PISA), on which many of the indicators in this publication draw.

Education Policy Analysis is a companion volume to *Education at a Glance*, which takes up selected themes of key importance for governments. The 2004 edition contains four chapters that draw together key findings and policy developments under the following headings: Education and ageing societies; Getting returns from investing in educational ICT; Tomorrow's teachers, tomorrow's schools; Trade-offs in restructuring tertiary education: The roles of tertiary institutes and colleges.

Codes used for territorial entities

Australia	AUS	Japan	JPN
Austria	AUT	Korea	KOR
Belgium	BEL	Luxembourg	LUX
Belgium (Flemish Community)	BFL	Mexico	MEX
Belgium (French Community)	BFR	Netherlands	NLD
Canada	CAN	New Zealand	NZL
Czech Republic	CZE	Norway	NOR
Denmark	DNK	Poland	POL
England	ENG	Portugal	PRT
Finland	FIN	Scotland	SCO
France	FRA	Slovak Republic	SVK
Germany	DEU	Spain	ESP
Greece	GRC	Sweden	SWE
Hungary	HUN	Switzerland	CHE
Iceland	ISL	Turkey	TUR
Ireland	IRL	United Kingdom	UKM
Italy	ITA	United States	USA

Countries participating in the OECD/UNESCO World Education Indicators programme

Argentina, Brazil, Chile, China, Egypt, India, Indonesia, Jamaica, Jordan, Malaysia, Paraguay, Peru, Philippines, Russian Federation, Sri Lanka, Thailand, Tunisia, Uruguay and Zimbabwe participate in the OECD/UNESCO World Education Indicators (WEI) programme. Data for these countries are collected using the same standards and methods that are applied for OECD countries and therefore are included in this publication. Israel has observer status in OECD's activities on education.

Chapter

A

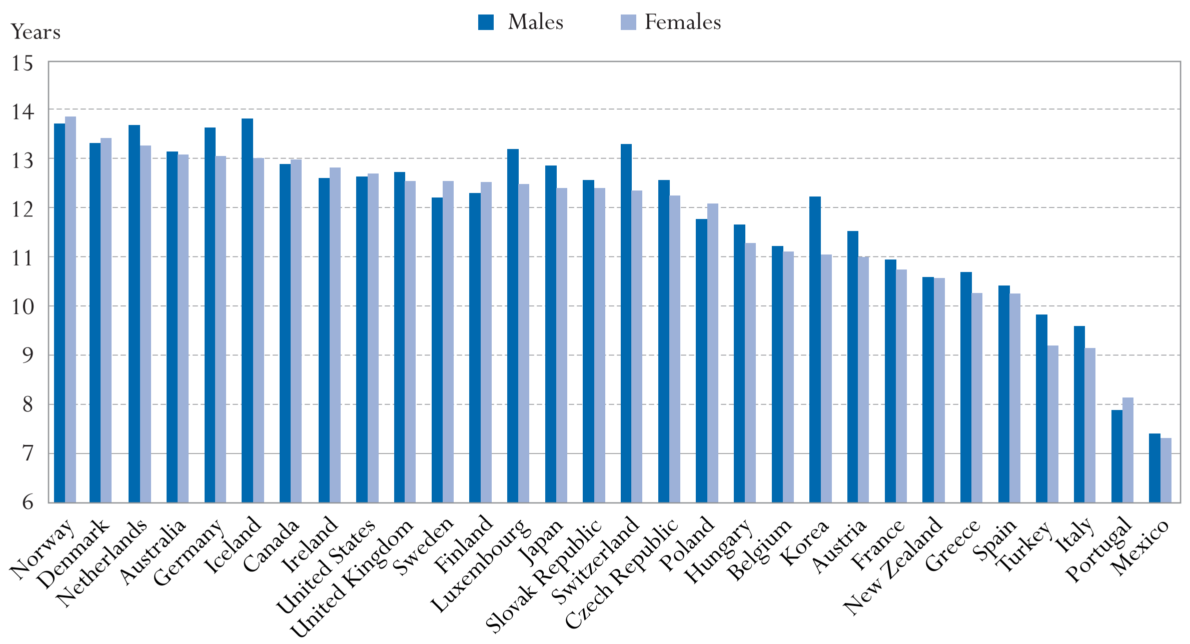
THE OUTPUT OF EDUCATIONAL INSTITUTIONS AND THE IMPACT OF LEARNING

INDICATOR A1: EDUCATIONAL ATTAINMENT OF THE ADULT POPULATION

- The average educational attainment of the adult population in OECD countries corresponds to 11.8 years, based on the duration of current formal educational programmes. For the 18 countries ranking above the OECD average, average years of schooling range from 11.8 to 13.8 years. For the remaining 12 countries, the spread is greater, ranging from 7.4 to 11.8 years.
- The sharp decline in youth populations during the 1970s and 1980s has generally slowed; however, population forecasts suggest that the proportion of 5 to 14-year-olds will decline in many OECD countries.

Chart A1.1. Educational attainment of the adult population (2002)

Average number of years in formal education of the 25 to 64-year-old population



Countries are ranked in descending order of the average number of years in formal education of the 25 to 64-year-old female population.
Source: OECD. Tables A1.1a and A1.1b. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Policy context

This indicator shows a profile of the educational attainment of the adult population as a proxy for the knowledge and skills available to economies and societies.

A well-educated and well-trained population is important for the social and economic well-being of countries and individuals. Education plays a key role in providing individuals with the knowledge, skills and competencies to participate effectively in society and the economy. Education also contributes to an expansion of scientific and cultural knowledge. This indicator shows the distribution of levels of educational attainment in the adult population. It also examines demographic factors shaping the future supply of educational qualifications.

The educational attainment of the adult population can be summarised by the average years of schooling.

The level of educational attainment of the population is a commonly used proxy for the stock of "human capital", that is, the skills available in the population and labour force. Assuming that one year of education is equivalent at all levels, the educational attainment of the adult population can be summarised by the average years of schooling. It must be noted, however, that the calculation is based on the length of current educational programmes and therefore represents an estimate of the "replacement value" of the current human capital rather than an estimate of the actual average duration of studies attained by past populations.

Evidence and explanations

The average educational attainment of the adult population within OECD countries, considered in terms of years of schooling of the current programmes needed to achieve – and replace – a given level of attainment, corresponds to 11.8 years. For the 18 countries ranking above the average, the dispersion is limited within a range of two years, from 11.8 years to 13.8 years. Below the average, for the remaining 12 countries, the spread is much greater, covering more than four years from the lowest duration of 7.4 years to 11.8 years.

In 20 out of the 30 OECD countries, men's level of educational attainment is still higher than women's.

In ten OECD countries the educational attainment of women aged 25 to 64 – measured by the average number of years of schooling – is virtually the same as for men, or even slightly higher; these countries are Canada, Denmark, Finland, Ireland, New Zealand, Norway, Poland, Portugal, Sweden and the United States. In all other OECD countries, the educational attainment of men is higher, sometimes considerably, as in Iceland, Korea, Luxembourg and Switzerland (Chart A1.1).

Countries differ widely in the distribution of educational attainment across their populations.

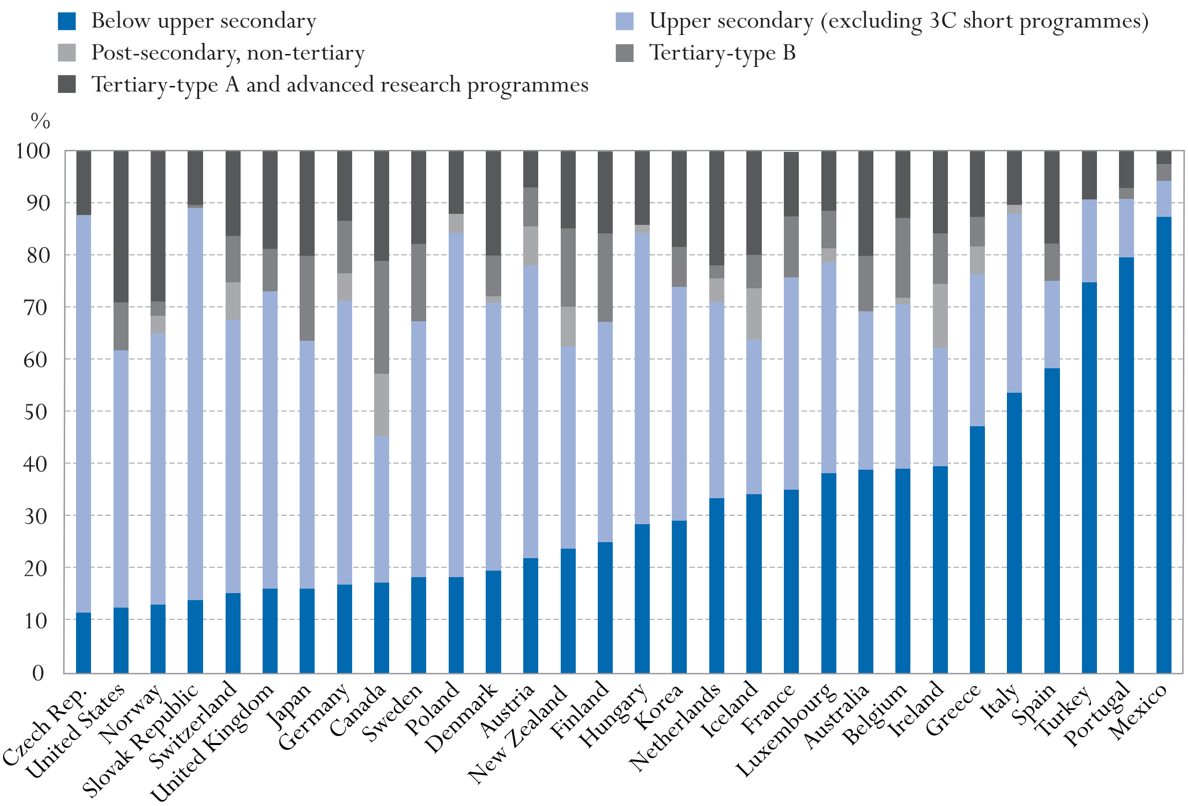
In 24 out of 30 OECD countries, more than 60% of the population aged 25 to 64 years has completed at least upper secondary education (Chart A1.2). The proportion is equal to or exceeds 85% in the Czech and Slovak Republics, Norway, Switzerland and the United States. In other countries, especially in southern Europe, the education levels of the adult population show a different profile: in Italy, Mexico, Portugal, Spain and Turkey, more than half of the population aged 25 to 64 years has not completed upper secondary education.

The proportion of young people who have attained at least a tertiary qualification has increased.

The more complicated skill requirements of labour markets, an increase in unemployment during recent years and higher expectations by individuals and society have raised the proportion of young people who obtain at least a tertiary qualification.

Chart A1.2. Level education attained by the adult population (2002)

Distribution of 25- to 64-year-old population



Countries are ranked in descending order of the 25 to 64-year-olds who have completed at least upper secondary education.
Source: OECD. Tables A1.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Consequently, the proportion of 25 to 64-year-olds in OECD countries who have completed tertiary-type A or advanced research programmes ranges from less than 10% in Austria, Mexico, Portugal and Turkey to 20% or more in Australia, Canada, Denmark, Iceland, Japan, the Netherlands, Norway and the United States. However, certain countries also have a vocational tradition at the tertiary level (tertiary-type B). The proportion of persons who have attained tertiary-type B level is equal to or exceeds 15% in Belgium, Canada, Finland, Japan, New Zealand and Sweden (Table A1.1).

Men have, on average, a higher level of attainment than women.

In 23 out of 30 countries, a larger proportion of men than women aged 25 to 64 years have attained at least upper secondary education. For tertiary-type A and advanced research qualifications, the gap between men and women in the 25 to 64 age group is 5 percentage points or more in favour of men in Belgium, Germany, Japan, Korea, Luxembourg and Switzerland (Tables A1.1a and A1.1b). The opposite is true, to a lesser degree, in Denmark, Hungary, Norway, Poland, Portugal, Spain and Sweden where women have higher educational attainment at this level. Tertiary-type B attainment is highly differentiated among countries:

more than 6 percentage points in favour of women in Belgium, Canada, Finland, Japan and New Zealand, and more than 3 percentage points in favour of men in Austria, Germany and Switzerland.

Demography as an indicator for the future supply of potential educational qualifications

Differences between countries in the relative size of the youth population have diminished since 1992, but there are still notable contrasts.

The number of young people in a population influences both the rate of renewal of labour-force qualifications and the amount of resources and organisational effort that a country must invest in its education system.

While the proportion of 5 to 14-year-olds as a percentage of the total population varies between 11 and 15% in most OECD countries, the proportion of 20 to 29-year-olds is in general slightly larger (Table A1.2). Although differences among countries in the relative size of the youth population have diminished since 1992, there are still notable contrasts. In Iceland, Ireland, Korea, Mexico, Poland and the Slovak Republic more than 38% of the population is between 5 and 29 years old. In Greece, Italy, Japan, Portugal and Spain only 10% of the population is between the ages of 5 and 14. This is in contrast to Mexico where this figure is 22%.

The sharp decline in youth populations during the 1970s and 1980s has generally slowed; however, population forecasts suggest that the proportion of 5 to 14-year-olds will decline in many OECD countries.

Taking the size of the population in 2002 as the baseline (index = 100), Table A1.2 illustrates how the population in three age bands (roughly corresponding to typical ages of students in primary/lower secondary, upper secondary and tertiary education) is expected to develop over the next decade.

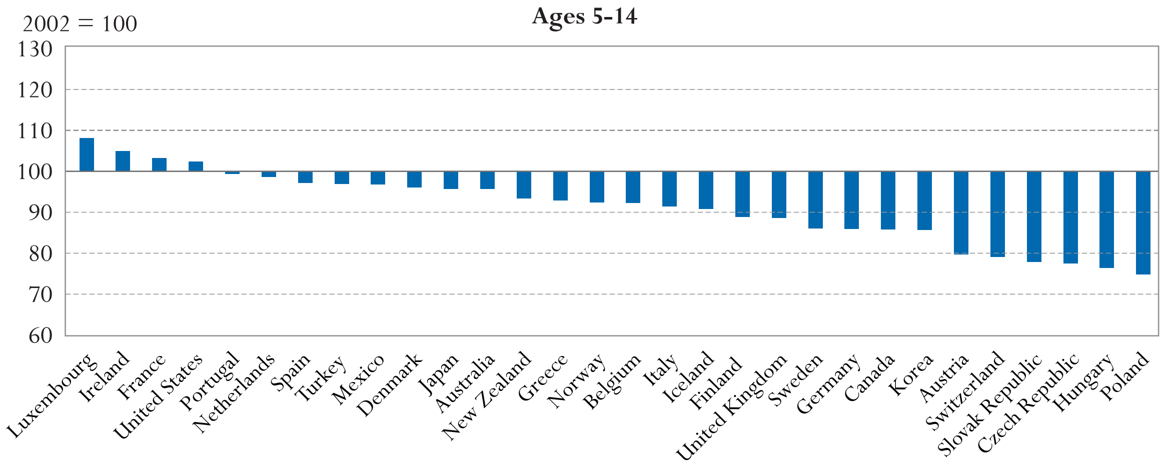
The sharp decline in the population of 5 to 14-year-olds that occurred in many OECD countries during the 1970s and 1980s has generally slowed; however, population forecasts suggest that over the next decade the proportion of 5 to 14-year-olds will continue to decline in many OECD countries. Poland is the only country in which the proportion of 5 to 14-year-olds will decline by more than 25% over the next decade. It is worth noting that in Austria, the Czech Republic, Hungary, the Slovak Republic and Switzerland the decline will exceed 20% (Table A1.2).

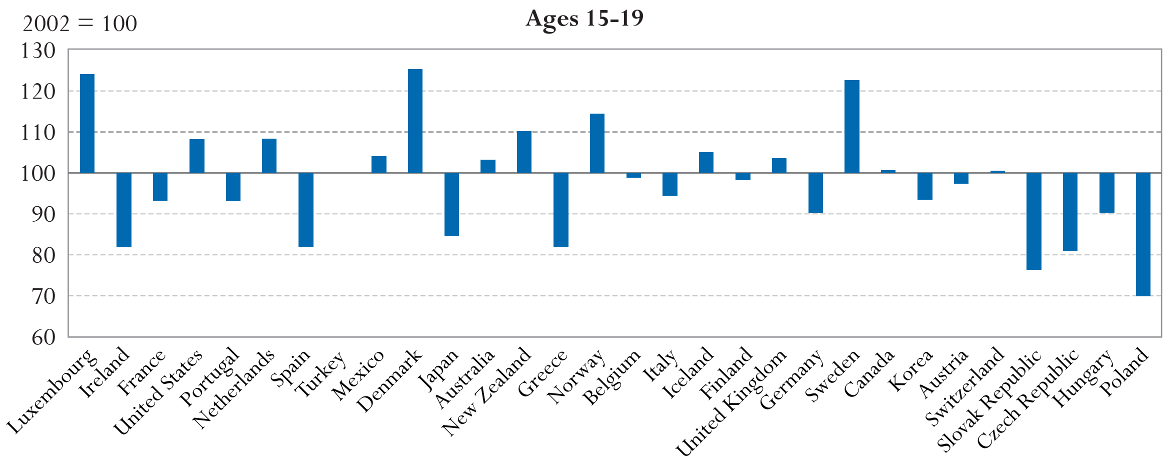
A declining youth population tends to be the rule. However, in four out of 30 OECD countries – France, Ireland, Luxembourg and the United States – the number of 5 to 14-year-olds will rise by between 2 and 8% over the period 2002 to 2012.

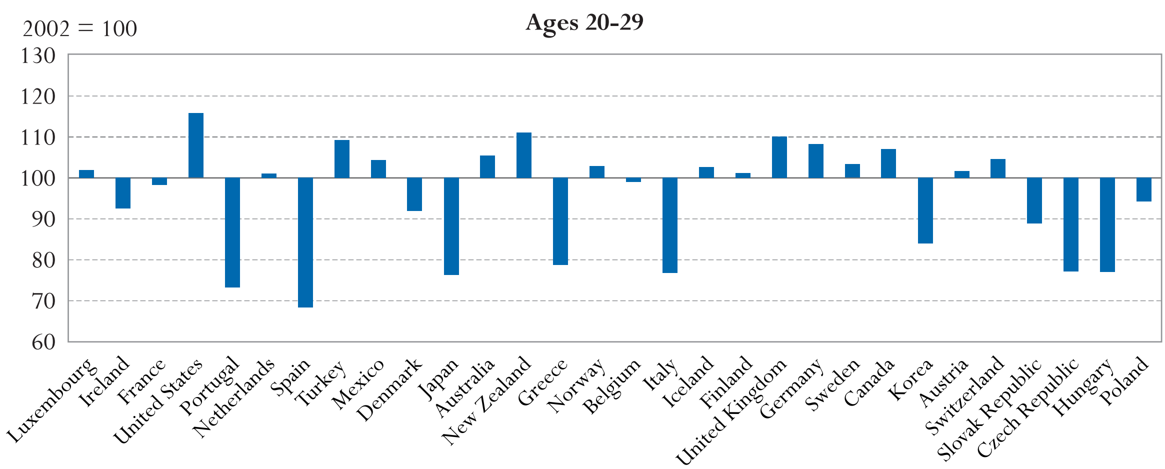
More variation can be observed in older age groups. In 14 countries the population of 15 to 19-year-olds will increase in the near future. In Denmark, Luxembourg, the Netherlands, New Zealand, Norway, Sweden and the United States, the number of 15 to 19-year-olds is expected to increase by between 8 and 25%, accompanied by an increase in access to upper secondary education (Indicator C1).

Among 20 to 29-year-olds, the typical age band for tertiary education, a decline of more than 20% in the Czech Republic, Greece, Hungary, Italy, Japan, Portugal and Spain will ease the pressure on tertiary spending. In Canada, Germany, New Zealand, Turkey, the United Kingdom and the United States, by contrast,

Chart A1.3. Expected demographic changes within the youth population over the next decade (2002-2012)







Countries are ranked in descending order of the change in the size of the 5 to 14-year-old population.
Source: OECD. Table A1.2. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

the population of 20 to 29-year-olds is expected to increase by between 7 and 16% over the next decade, posing a challenge to tertiary education systems in these countries (Table A1.2).

Definitions and methodologies

Educational attainment data derive from National Labour Force Surveys, and levels are based upon the International Standard Classification of Education (ISCED-97).

Data on population and educational attainment are taken from OECD and EUROSTAT databases, which are compiled from National Labour Force Surveys. See Annex 3 at *www.oecd.org/edu/eag2004* for national sources.

The attainment profiles are based on the percentage of the population aged 25 to 64 years that has completed a specified level of education. The International Standard Classification of Education (ISCED-97) is used to define the levels of education. See Annex 3 at *www.oecd.org/edu/eag2004* for a description of ISCED-97 education programmes and attainment levels and their mappings for each country.

The calculation of the average number of years in formal education is based upon the weighted theoretical duration of schooling to achieve a given level of education, according to the current duration of educational programmes as reported in the UOE data collection. Hence, it is more an estimate of the "replacement value" of the current human capital than an estimate of the average duration of studies effectively attended by the population in the past.

The data on projections are based on the UN database and not on the UOE data collection; therefore, it is not possible to reproduce the figures from the UOE data collection. Data on the percentage of 5 to 14-, 15 to 19- and 20 to 29-year-olds in the total population refer to 1998/1999 and are based on the UOE data collection and the World Education Indicators Project. The changes in the sizes of the respective populations over the period 1992 to 2012 are expressed as percentages relative to the size of the population in 2002 (index = 100). The statistics cover residents in the country, regardless of citizenship and of educational or labour market status. These projections are derived from the UN Population Database.

Table A1.1. Educational attainment: adult population (2002)

Distribution of the 25 to 64-year-old population, by highest level of education attained

		Pre-primary and primary education	Lower secondary education	Upper secondary education			Post-secondary non-tertiary education	Tertiary education		All levels of education	Average years of schooling
				ISCED 3C Short	ISCED 3C Long/3B	ISCED 3A		Type B	Type A and advanced research programmes		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
OECD COUNTRIES	Australia	x(2)	39	a	11	19	x(5)	11	20	100	13.1
	Austria	x(2)	22	a	49	7	7	7	7	100	11.3
	Belgium	19	21	a	8	24	1	15	13	100	11.2
	Canada	6	12	a	x(5)	28	12	22	21	100	12.9
	Czech Republic	n	12	x(4)	43	33	x(5)	x(8)	12	100	12.4
	Denmark	n	20	x(2)	46	5	1	8	20	100	13.3
	Finland	x(2)	25	a	a	42	n	17	16	100	12.4
	France	17	18	27	3	10	n	12	12	100	10.9
	Germany	2	15	a	52	3	5	10	13	100	13.4
	Greece	37	10	2	2	25	5	6	13	100	10.5
	Hungary	3	26	a	29	27	2	n	14	100	11.5
	Iceland	2	32	7	a	23	10	6	20	100	13.4
	Ireland	21	18	a	a	23	12	10	16	100	12.7
	Italy	20	33	2	6	26	2	x(8)	10	100	9.4
	Japan	x(2)	16	a	x(5)	47	x(9)	16	20	100	12.6
	Korea	15	15	a	x(5)	45	a	8	18	100	11.7
	Luxembourg	23	15	5	21	14	3	7	12	100	12.9
	Mexico	73	14	a	7	a	a	3	2	100	7.4
	Netherlands	12	22	x(4)	24	13	5	3	22	100	13.5
	New Zealand	x(2)	24	a	21	18	8	15	15	100	10.6
	Norway	n	13	a	40	12	3	3	28	100	13.8
	Poland	x(2)	18	35	a	31	4	x(8)	12	100	11.9
	Portugal	67	13	x(5)	x(5)	11	x(5)	2	7	100	8.0
	Slovak Republic	1	13	x(4)	40	35	x(5)	1	10	100	12.5
	Spain	32	26	n	6	11	n	7	17	100	10.3
	Sweden	8	10	a	x(5)	49	x(7)	15	18	100	12.4
	Switzerland	3	12	2	44	6	7	9	16	100	12.8
	Turkey	65	10	a	6	10	a	x(8)	9	100	9.6
	United Kingdom	n	16	19	22	15	x(9)	8	19	100	12.7
	United States	5	8	x(5)	x(5)	49	x(5)	9	29	100	12.7
	Country mean	***14***	***18***	***3***	***16***	***22***	***3***	***8***	***15***	***100***	***11.8***
PARTNER COUNTRY	Israel	2	17	x(5)	x(5)	38	x(7)	16	26	100	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
Source: OECD. See Annex 3 for a description of ISCED-97 levels and ISCED-97 country mappings *(www.oecd.org/edu/eag2004)*.

A1

Table A1.1a. Educational attainment: males (2002)

Distribution of the 25 to 64-year-old male population, by highest level of education attained

	Pre-primary and primary education	Lower secondary education	Upper secondary education: ISCED 3C Short	Upper secondary education: ISCED 3C Long/3B	Upper secondary education: ISCED 3A	Post-secondary non-tertiary education	Tertiary education: Type B	Tertiary education: Type A and advanced research programmes	All levels of education	Average years of schooling
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
OECD COUNTRIES										
Australia	x(2)	33	a	19	19	x(5)	9	20	100	13.2
Austria	x(2)	16	a	53	7	7	9	8	100	11.5
Belgium	17	22	a	7	25	1	12	15	100	11.2
Canada	6	12	a	x(5)	27	15	18	22	100	12.9
Czech Republic	n	7	x(4)	51	28	x(5)	x(8)	14	100	12.6
Denmark	n	18	x(2)	49	5	2	9	16	100	13.3
Finland	x(2)	27	a	a	44	n	14	16	100	12.3
France	15	18	32	3	9	n	10	13	100	11.0
Germany	2	11	a	51	3	5	12	16	100	13.6
Greece	34	12	4	3	23	5	6	14	100	10.7
Hungary	2	22	a	39	22	2	n	14	100	11.7
Iceland	1	26	6	a	25	17	5	20	100	13.8
Ireland	23	19	a	a	21	13	8	16	100	12.6
Italy	17	36	2	6	27	2	x(8)	10	100	9.6
Japan	x(2)	17	a	x(5)	45	x(9)	9	30	100	12.9
Korea	10	13	a	x(5)	46	a	8	24	100	12.2
Luxembourg	21	13	5	22	14	4	7	14	100	13.2
Mexico	72	15	a	7	a	a	3	3	100	7.4
Netherlands	11	19	x(4)	25	14	5	3	24	100	13.7
New Zealand	x(2)	23	a	27	15	8	11	16	100	10.6
Norway	n	13	a	43	10	4	3	26	100	13.7
Poland	x(2)	17	43	a	28	2	x(8)	11	100	11.8
Portugal	67	14	x(5)	x(5)	12	x(5)	2	6	100	7.9
Slovak Republic	1	9	x(4)	48	31	x(5)	0	10	100	12.6
Spain	30	27	n	6	12	n	8	17	100	10.4
Sweden	9	11	a	x(5)	49	x(7)	14	16	100	12.2
Switzerland	3	10	1	42	4	7	13	21	100	13.3
Turkey	59	12	a	8	11	a	x(8)	11	100	9.8
United Kingdom	n	14	16	25	17	x(9)	8	20	100	12.7
United States	5	8	x(5)	x(5)	49	x(5)	8	30	100	12.6
Country mean	***13***	***17***	***4***	***18***	***21***	***3***	***7***	***16***	***100***	***11.9***
PARTNER COUNTRY										
Israel	1	19	x(5)	x(5)	40	x(7)	15	25	100	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
Source: OECD. See Annex 3 for a description of ISCED-97 levels and ISCED-97 country mappings *(www.oecd.org/edu/eag2004)*.

A1

Table A1.1b. Educational attainment: females (2002)

Distribution of the 25 to 64-year-old female population, by highest level of education attained

		Pre-primary and primary education	Lower secondary education	Upper secondary education: ISCED 3C Short	Upper secondary education: ISCED 3C Long/3B	Upper secondary education: ISCED 3A	Post-secondary non-tertiary education	Tertiary education: Type B	Tertiary education: Type A and advanced research programmes	All levels of education	Average years of schooling
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
OECD COUNTRIES	Australia	x(2)	45	a	4	19	x(5)	12	20	100	13.1
	Austria	x(2)	28	a	45	7	8	6	6	100	11.0
	Belgium	20	19	a	9	22	1	19	10	100	11.1
	Canada	6	11	a	x(5)	29	9	25	20	100	13.0
	Czech Republic	n	16	x(4)	35	38	x(5)	x(8)	10	100	12.3
	Denmark	n	21	x(2)	42	6	1	7	23	100	13.4
	Finland	x(2)	24	a	a	40	n	20	16	100	12.5
	France	19	19	23	3	11	n	13	12	100	10.7
	Germany	2	19	a	52	3	6	8	11	100	13.1
	Greece	40	9	1	1	27	6	5	12	100	10.3
	Hungary	3	30	a	19	32	1	n	15	100	11.3
	Iceland	3	39	7	a	21	3	7	20	100	13.0
	Ireland	20	17	a	a	24	12	11	16	100	12.8
	Italy	24	31	2	7	25	2	x(8)	10	100	9.2
	Japan	x(2)	16	a	x(5)	50	x(9)	24	11	100	12.4
	Korea	20	17	a	x(5)	43	a	7	13	100	11.1
	Luxembourg	26	17	5	20	15	1	7	9	100	12.5
	Mexico	74	14	a	7	a	a	3	2	100	7.3
	Netherlands	13	24	x(4)	24	12	5	2	20	100	13.3
	New Zealand	x(2)	25	a	14	21	7	19	13	100	10.6
	Norway	1	13	a	37	14	3	2	31	100	13.9
	Poland	x(2)	20	27	a	35	6	x(8)	13	100	12.1
	Portugal	67	11	x(5)	x(5)	11	x(5)	3	8	100	8.1
	Slovak Republic	1	18	x(4)	32	39	x(5)	1	10	100	12.4
	Spain	34	25	n	6	10	n	6	18	100	10.3
	Sweden	7	9	a	x(5)	49	x(7)	16	19	100	12.6
	Switzerland	3	15	4	46	8	7	5	11	100	12.4
	Turkey	73	7	a	4	8	a	x(8)	7	100	9.2
	United Kingdom	n	18	23	19	13	x(9)	9	18	100	12.6
	United States	4	7	x(5)	x(5)	50	x(5)	10	28	100	12.7
	Country mean	***15***	***19***	***3***	***14***	***23***	***3***	***9***	***14***	***100***	***11.7***
PARTNER COUNTRY	Israel	3	16	x(5)	x(5)	37	x(7)	17	27	100	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.

Source: OECD. See Annex 3 for a description of ISCED-97 levels and ISCED-97 country mappings *(www.oecd.org/edu/eag2004)*.

Table A1.2. Population at the age of basic, upper secondary and tertiary education (1992, 2002, 2012)

		Percentage of the population (2002)			Change in the size of the population (2002 = 100)						Number of students enrolled as a percentage of the employed population 25 to 64 years of age
		Age group			Age group						
					5-14		15-19		20-29		
		5-14	15-19	20-29	1992	2012	1992	2012	1992	2012	
OECD COUNTRIES	Australia	14	7	14	94	96	98	103	99	105	80
	Austria	12	6	12	98	79	100	98	135	102	52
	Belgium	12	6	13	100	92	105	99	118	99	74
	Canada	m	m	m	96	85	93	101	107	107	m
	Czech Republic	12	7	17	125	77	133	81	84	77	52
	Denmark	12	5	13	85	96	126	125	120	92	56
	Finland	12	6	12	102	89	95	98	109	101	63
	France	12	7	13	104	103	104	93	109	98	65
	Germany	11	6	12	99	86	90	90	139	108	53
	Greece	10	6	15	123	93	115	82	96	79	60
	Hungary	12	6	16	119	76	134	90	85	77	66
	Iceland	16	7	15	94	91	98	105	99	103	73
	Ireland	14	8	17	121	105	101	82	75	92	70
	Italy	10	5	13	107	91	138	94	123	77	54
	Japan	10	6	14	124	96	135	85	100	76	44
	Korea	14	7	17	111	84	121	101	108	81	61
	Luxembourg	13	6	13	80	108	93	124	108	102	50
	Mexico	22	10	19	95	97	99	104	82	104	105
	Netherlands	12	6	13	91	99	107	108	129	101	54
	New Zealand	15	7	13	87	93	100	110	112	111	77
	Norway	13	6	13	87	92	109	115	118	103	59
	Poland	13	9	16	132	74	93	70	81	94	81
	Portugal	10	6	16	120	99	137	93	96	73	53
	Slovak Republic	13	8	17	125	77	105	77	83	89	67
	Spain	10	6	16	131	97	139	82	98	68	60
	Sweden	13	6	12	85	86	106	123	112	103	64
	Switzerland	12	6	12	94	78	100	101	140	104	44
	Turkey	m	m	m	97	97	91	100	83	109	101
	United Kingdom	13	6	13	93	88	94	104	116	110	74
	United States	15	7	13	88	102	86	108	102	116	64
	Country mean	***12***	***6***	***14***	***104***	***91***	***108***	***97***	***106***	***96***	***64***
PARTNER COUNTRIES	Argentina	19	9	16	97	104	92	105	77	103	m
	Brazil	20	11	17	106	99	87	91	86	106	m
	Chile	19	9	15	89	97	91	108	103	115	89
	China	m	m	m	97	86	104	91	119	106	m
	Egypt	22	12	19	94	110	76	101	72	129	m
	India	24	11	17	88	100	83	111	86	120	m
	Indonesia	19	11	18	101	98	93	98	86	105	m
	Israel	18	9	16	85	114	85	113	73	109	m
	Jamaica	22	10	16	101	95	93	98	92	107	m
	Jordan	26	12	18	78	113	76	119	64	115	m
	Malaysia	22	10	17	84	103	81	122	81	116	m
	Paraguay	25	11	17	81	113	70	117	80	136	m
	Peru	m	m	m	91	99	90	110	84	113	m
	Philippines	24	10	17	87	101	83	114	80	120	m
	Russian Federation	12	8	15	133	70	86	58	94	103	m
	Sri Lanka	17	10	17	113	92	91	86	94	100	m
	Thailand	15	8	17	109	98	106	93	96	94	m
	Tunisia	21	11	19	105	83	86	87	82	110	m
	Uruguay	16	8	16	96	101	105	108	87	98	m
	Zimbabwe	24	13	20	87	94	73	103	77	131	m

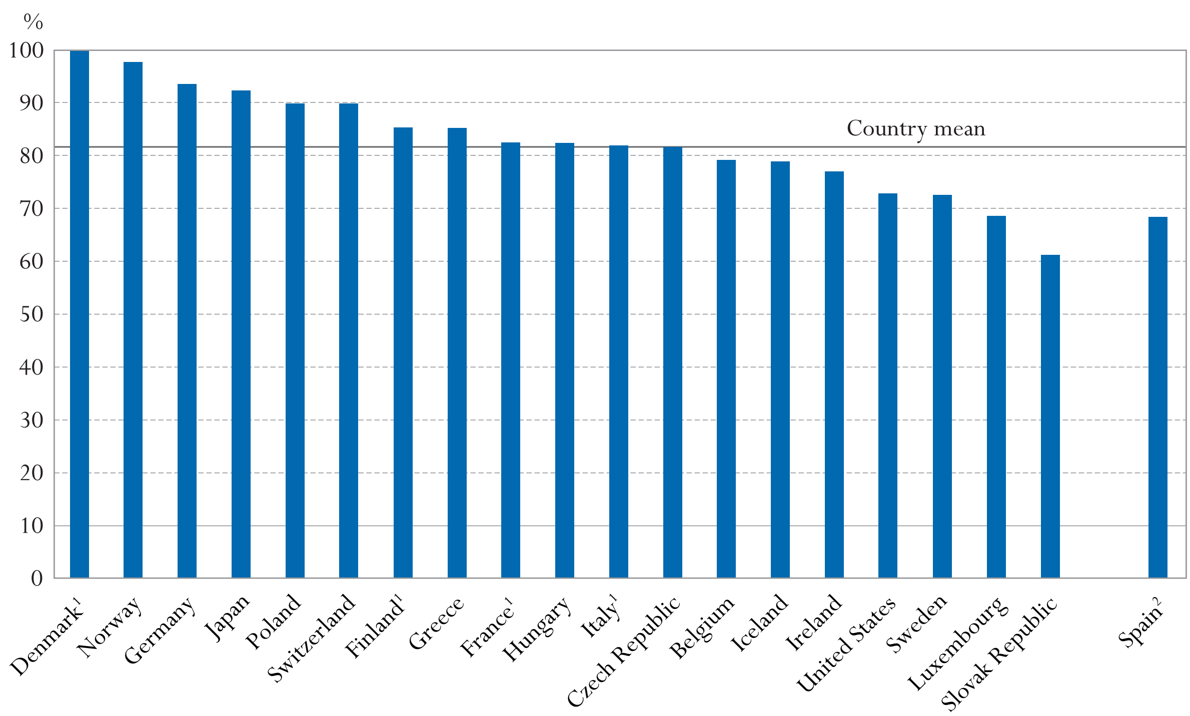
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

INDICATOR A2: CURRENT UPPER SECONDARY GRADUATION RATES AND EDUCATIONAL ATTAINMENT OF THE ADULT POPULATION

- In 17 out of 20 OECD countries for which comparable data are available, the ratio of upper secondary graduates to the population at the typical age of graduation exceeds 70%. In Denmark, Germany, Japan, Norway, Poland and Switzerland, graduation rates equal or exceed 90%. The challenge is now to ensure that the remaining fraction is not left behind, with the risk of social exclusion that this may entail.
- Comparing the educational attainment of the population aged 25 to 34 years with that of the population aged 45 to 54 shows that the proportion of individuals who have completed upper secondary education has been growing in almost all OECD countries, and in some rapidly: in two-thirds of the countries, the proportion ranges from 70 to 95% for the youngest generation. Many countries with traditionally low levels of education are catching up.
- Today, graduation rates for females exceed those for males in most OECD countries. Among older age groups, females have lower levels of education than males, but for younger people the pattern has reversed.

Chart A2.1. Upper secondary graduation rates (2002)

Percentage of upper secondary graduates to the population at the typical age of graduation (unduplicated count)



1. Year of reference 2001.
2. A significant proportion of the youth cohort is not covered by this indicator.

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/eag2004).*

Policy context

To gauge the share of the population that has obtained the minimum credentials for successfully entering the labour market…

Rising skill demands in OECD countries have made qualifications at the upper secondary level of education the minimum credential for successful labour market entry. Upper secondary education serves as the foundation for advanced learning and training opportunities, as well as preparation for direct entry into the labour market. Although many countries do allow students to leave the education system at the end of the lower secondary level, young people in OECD countries who leave without an upper secondary qualification tend to face severe difficulties in entering the labour market (see Indicators A10 to A12).

…this indicator shows the current upper secondary graduate output of educational institutions…

The upper secondary graduation rate reflects the current output of education systems, *i.e.*, the percentage of the typical upper secondary school-age population that follows and successfully completes upper secondary programmes. Although high upper secondary graduation rates do not guarantee that an education system has adequately equipped its graduates with the basic skills and knowledge necessary to enter the labour market – this indicator does not capture the quality of educational outcomes – it is one indication of the extent to which education systems succeed in meeting the minimum requirements of the labour market.

…as well as historical patterns of upper secondary completion.

By comparing educational attainment levels among different generations, one can identify the evolution of education attainment within the population, reflecting both changing educational policies and accession practices and potential skills and competencies.

Evidence and explanations

In 17 out of 20 OECD countries with comparable data, upper secondary graduation rates exceed 70%…

Upper secondary graduation rates are estimated as the number of persons, regardless of their age, who graduate for the first time from upper secondary programmes per 100 people at the age at which students typically graduate from upper secondary education (see Annex 1). The graduation rates take into account students graduating from upper secondary education at the typical (modal) graduation ages, and older students (*e.g.*, those in "second chance" programmes). In 17 OECD countries with comparable data, upper secondary graduation rates exceed 70% (Chart A2.1). Caution should be used in interpreting the graduation rates displayed in Chart A2.1 for Spain, where the length of secondary programmes was recently extended leading to an underestimation of graduation rates.

…and in 6 OECD countries equal or exceed 90%.

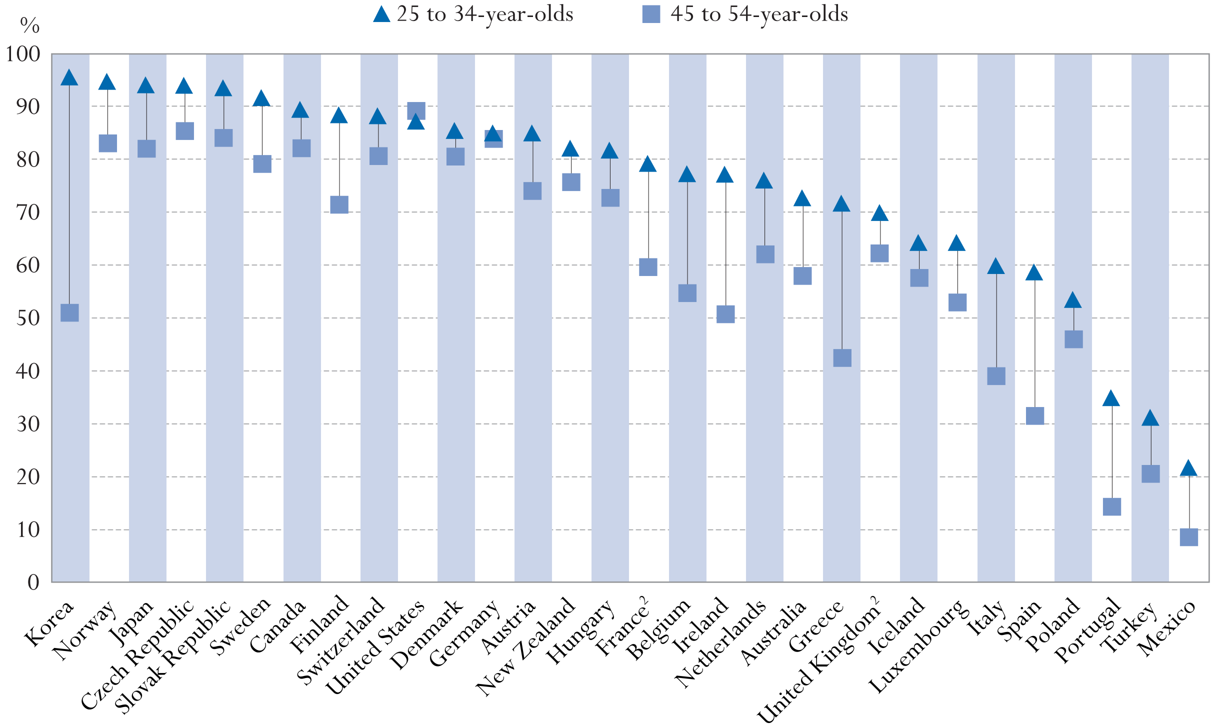
In six of the 20 countries for which comparable numbers of graduates are available, graduation rates equal or exceed 90% (Denmark, Germany, Japan, Norway, Poland and Switzerland).

Upper secondary attainment levels have increased in almost all countries…

A comparison of the levels of educational attainment in younger and older age groups indicates marked progress with regard to the percentage of the population graduating from upper secondary education (Chart A2.2). On average, 75% of 25 to 34-year-olds have attained upper secondary education compared with only 61% of 45 to 54-year-olds. In 22 OECD countries out of 30, the proportion ranges from 70 to 95% for the youngest age

Chart A2.2. Population that has attained at least upper secondary education[1] (2002)

Percentage, by age group



1. Excluding ISCED 3C short programmes.
2. Not all ISCED 3 programmes meet minimum requirements for ISCED 3C long programmes.
Countries are ranked in descending order of the percentage of 25 to 34-year-olds who have attained at least upper secondary education.
Source: OECD. Table A2.2. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

group, setting a new standard for upper secondary graduation for OECD countries of around 80%.

...and many countries with traditionally low levels of education are catching up.

In countries whose adult population generally has a high attainment level, differences among age groups in the level of educational attainment are less pronounced (Table A2.2). Apart from the very significant exception of Korea – where the difference between those aged 25-34 and 45-54 years reaches 44 percentage points – in those countries where the younger generation (aged 25-34 years) achieves an attainment level in excess of 80%, the gain from the previous generation (aged 45-54 years) is on average only 8 percentage points. For the other countries, where there is more ground to catch up, the average gain is 17 percentage points. Only three countries, Iceland, Poland and the United Kingdom, show gains of less than 10 percentage points. The others, such as Belgium, France, Greece, Ireland, Italy, Portugal and Spain, show remarkable efforts. Proportionally, the effort is important as well in Mexico and Turkey.

Considering only the attainment at the upper secondary level – *i.e.* as a maximum and not a minimum – offers a different perspective. On average, this level remains stable at about 44% for the adult population of OECD countries (Table A3.4a) for the last five years. This is the result of two opposite trends: the proportion of the adult population with lower secondary attainment has decreased by 3 percentage points while, at the same time, the proportion achieving tertiary level has increased by 3 points.

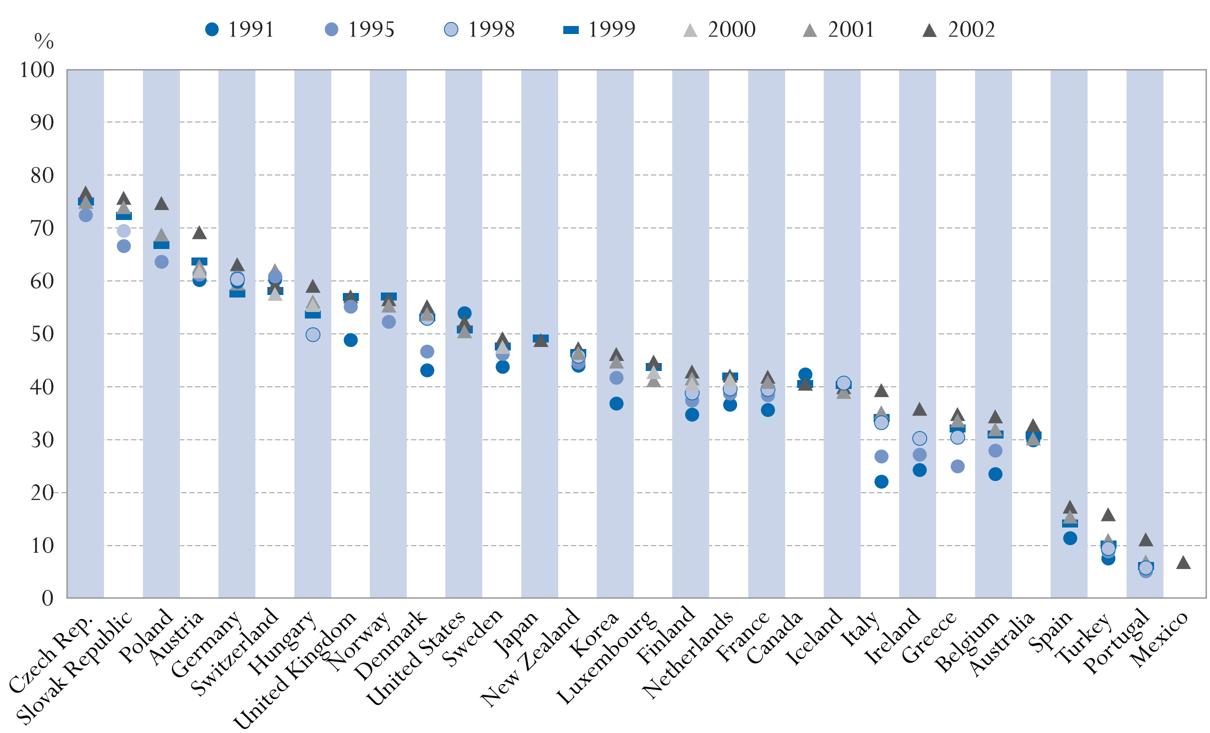
Trend data reveal different patterns across countries. Due to increased access to tertiary education, the proportion of those attaining only upper secondary level education has decreased over the last five years. This is the case in Canada, Japan and the United States. Oppositely, the progress in attaining upper secondary education by diminishing the lower level is visible in Belgium, Denmark, Greece, Hungary, Ireland, Italy, the Slovak Republic and Spain (Tables A3.4a and A3.4b).

Gender differences in graduation rates

Among older age groups, females have lower levels of education than males…

The balance of educational attainment between males and females in the adult population is unequal in most OECD countries. Historically, females did not have sufficient opportunities and/or incentives to reach the same level of education as males. Females are generally over-represented among those who did not proceed to upper secondary education and under-represented at the higher levels of education.

Chart A2.3. Trends in educational attainment of the 25 to 64-year-old population in upper secondary and post-secondary non-tertiary education (1991-2002)



Countries are ranked in descending order of the highest educational level attained in 2002.
Source: OECD. Table A3.4a. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

However, these differences are mostly attributable to the large gender differences in older age groups and have been significantly reduced or reversed among younger age groups.

…but for younger people the pattern is now reversing.

Today, graduation rates no longer show significant differences between males and females in half of the countries with available data (Table A2.1). Graduation rates for females exceed those for males in 18 out of 19 OECD countries for which total upper secondary graduation rates can be compared between the genders. The exception is Switzerland, where graduation rates are the same for both genders. The gap is relatively small, five percentage points or less, in the Czech Republic, Germany and Japan, but is 11 percentage points or more in Finland, Greece, Iceland, Ireland, Norway and Spain.

Today, graduation rates for females exceed those for males in most countries.

More males than females graduate from pre-vocational and vocational upper secondary programmes in 10 out of 23 countries with comparable data. Graduation rates for these programmes are higher for females in eight countries, and are the same for males and females in the five remaining countries.

There is no clear gender trend for pre-vocational and vocational upper secondary graduation rates.

Graduation from post-secondary non-tertiary programmes

Post-secondary non-tertiary programmes are offered in 27 of the OECD countries; they straddle the boundary between upper secondary and post-secondary education from a comparative point of view, even though they might clearly be considered upper secondary or post-secondary programmes in a national context. Although the content of post-secondary non-tertiary programmes may not be significantly more advanced than upper secondary programmes, they serve to broaden the knowledge of participants who have already gained an upper secondary qualification. The students tend to be older than those enrolled at the upper secondary level.

In some countries, a significant proportion of students broaden their knowledge at the post-secondary non-teriary level after completing a first upper secondary programme.

Typical examples of such programmes would be trade and vocational certificates in Canada and the United States, nursery teacher training in Austria and Switzerland or vocational training in the dual system for holders of general upper secondary qualifications in Germany. In most countries, post-secondary non-tertiary programmes are vocationally oriented.

In five out of 16 OECD countries reporting comparable data, 11% or more of upper secondary graduates also graduate from a post-secondary non-tertiary programme, either instead of or in addition to tertiary education (OECD average 9%). In Hungary, Ireland and Switzerland, 20% or more of a typical age cohort completes a post-secondary non-tertiary programme (Table A2.3).

In Hungary, Ireland and Switzerland, 20% or more of a typical age cohort completes a post-secondary non-tertiary programme.

In 12 out of the 20 OECD countries with available data, the majority of, if not all, post-secondary non-tertiary students graduate from ISCED 4C programmes, which are designed primarily to prepare graduates for direct entry into the labour market. Apprenticeships that are designed for students who have already graduated from an upper secondary programme are also included in this category. In the eight remaining countries, the majority of post-secondary non-tertiary graduates have completed programmes that are designed to provide direct access to tertiary-type A or B education.

Definitions and methodologies

Data refer to the school year 2001-2002 and are based on the UOE data collection on education statistics that is administered annually by the OECD.

Upper secondary graduates are those who successfully complete the final year of upper secondary education, regardless of their age. In some countries, successful completion requires a final examination; in others it does not.

Gross graduation rates for ISCED 3A, 3B and 3C programmes cannot be added, as some individuals graduate from more than one upper secondary programme and would thus be counted twice. The same applies for graduation rates by programme orientation, *i.e.*, general or vocational. The unduplicated total count of graduates is calculated by netting out those students who graduated from another upper secondary programme in a previous year.

For some countries, an unduplicated count of post-secondary non-tertiary graduates is unavailable and graduation rates may be overestimated because graduates complete multiple programmes at the same level. These countries are marked with a footnote in Table A2.3.

Pre-vocational and vocational programmes include both school-based programmes and combined school- and work-based programmes that are recognised as part of the education system. Entirely work-based education and training that is not overseen by a formal education authority is not taken into account.

Educational attainment data derive from National Labour Force Surveys and levels are based upon the International Standard Classification of Education (ISCED-97).

Data on population and educational attainment are taken from OECD and EUROSTAT databases, which are compiled from National Labour Force Surveys. See Annex 3 at *www.oecd.org/edu/eag2004* for national sources.

The attainment profiles are based on the percentage of the population aged 25 to 64 years that has completed a specified level of education. The International Standard Classification of Education (ISCED-97) is used to define the levels of education. See Annex 3 at *www.oecd.org/edu/eag2004* for a description of ISCED-97 education programmes and attainment levels for each country.

Table A2.1. Upper secondary graduation rates (2002)

Percentage of upper secondary graduates to the population at the typical age of graduation in public and private institutions, by programme destination, programme orientation and gender

		Total (unduplicated)			ISCED 3A (designed to prepare for direct entry to tertiary-type A education)		ISCED 3B (designed to prepare for direct entry to tertiary-type B education)		ISCED 3C (long) similar to duration of typical 3A or 3B programmes		ISCED 3C (short) shorter than duration of typical 3A or 3B programmes		General programmes		Pre-vocational/ vocational programmes	
		M + F	Males	Females	M + F	Females	M + F	Females	M + F	Females	M + F	Females	M + F	Females	M + F	Females
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD COUNTRIES	Australia	m	m	m	69	74	x(8)	x(9)	33	35	x(8)	x(9)	69	74	33	35
	Austria	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Belgium	79	74	83	60	66	a	a	19	18	18	25	36	42	61	66
	Canada	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	81	80	83	50	58	n	n	32	24	n	n	13	17	70	68
	Denmark[1]	100	m	m	56	67	a	a	66	73	a	a	56	67	66	73
	Finland[1]	85	78	93	85	93	a	a	a	a	a	a	51	62	69	78
	France[1]	82	79	86	51	59	10	9	3	2	36	31	32	38	67	63
	Germany	93	91	96	34	37	60	58	a	a	a	a	34	37	60	58
	Greece	85	74	97	53	61	a	a	32	36	x(8)	x(9)	53	61	34	38
	Hungary	82	79	86	58	65	x(4)	x(5)	22	18	x(8)	x(9)	30	36	49	47
	Iceland	79	68	89	52	65	n	1	32	24	20	22	54	67	49	44
	Ireland	77	70	84	72	78	a	a	5	6	a	a	53	57	23	27
	Italy[1]	82	79	85	72	76	4	5	a	a	19	17	30	40	64	58
	Japan	92	90	94	68	72	1	n	23	22	x(8)	x(9)	68	72	24	22
	Korea	m	m	m	64	64	a	a	34	35	a	a	64	64	34	35
	Luxembourg	68	64	73	39	48	8	8	20	17	a	a	27	32	42	42
	Mexico	m	m	m	30	33	a	a	4	4	x(8)	x(9)	30	33	4	4
	Netherlands	m	m	m	63	69	a	a	19	21	20	17	32	36	61	62
	New Zealand	m	m	m	60	65	25	29	43	55	x(8)	x(9)	m	m	a	a
	Norway	97	89	107	66	80	a	a	43	38	m	m	66	80	42	36
	Poland	90	86	93	76	84	a	a	a	a	23	16	38	48	63	52
	Portugal	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Slovak Republic	61	57	66	59	64	a	a	13	10	2	2	16	19	57	57
	Spain[2]	68	62	75	48	56	n	n	16	17	7	7	48	56	24	24
	Sweden	72	69	76	72	75	n	n	n	n	a	a	41	45	31	31
	Switzerland	90	90	90	28	30	50	43	14	20	m	m	32	36	61	57
	Turkey	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	United Kingdom	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	United States	73	69	76	73	76	m	m	m	m	m	m	73	76	m	m
	Country mean	***81***	***75***	***87***	***61***	***68***	***5***	***6***	***19***	***19***	***8***	***7***	***43***	***49***	***44***	***44***
PARTNER COUNTRIES	Argentina[1]	41	38	44	41	44	a	a	a	a	a	a	22	25	19	19
	Brazil[1]	62	54	69	51	56	10	12	a	a	a	a	51	56	10	12
	Chile	63	59	67	63	67	a	a	a	a	a	a	34	39	28	28
	China	35	34	31	x(1)	x(3)	a	a	x(1)	x(3)	a	a	16	20	m	m
	India	m	m	m	19	17	m	m	m	m	m	m	m	m	m	m
	Indonesia	36	36	36	23	25	13	11	a	a	a	a	x(1)	x(3)	m	m
	Israel	90	87	92	87	91	a	a	3	1	a	a	60	66	30	26
	Jamaica	73	70	77	m	m	m	m	m	m	m	m	m	m	m	m
	Jordan[1]	65	58	73	62	72	a	a	a	a	3	n	50	61	a	a
	Paraguay[1, 3]	40	36	43	40	43	a	a	m	m	a	a	31	35	8	8
	Peru[1]	63	64	62	63	64	x(4)	x(5)	a	a	a	a	63	64	m	m
	Philippines	60	55	66	60	66	a	a	a	a	a	a	60	66	m	m
	Russian Federation	73	m	m	54	m	15	m	4	m	a	a	54	m	m	m
	Thailand	53	51	56	34	40	19	16	a	a	a	a	34	39	19	16
	Tunisia	42	40	45	36	40	3	2	3	3	a	a	36	40	m	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2. Mismatches between the coverage of the population data and the student/graduate data mean that the participation/graduation rates for those countries that are net exporters of students may be underestimated (for instance Luxembourg) and those that are net importers may be overestimated.

1. Year of reference 2001.
2. Significant proportion of the youth cohort is missing.
3. Excluding ISCED 3C.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

Table A2.2. Population that has attained at least upper secondary education[1] (2002)
Percentage, by age group

		Age group				
		25-64	25-34	35-44	45-54	55-64
OECD COUNTRIES	Australia	61	73	62	58	46
	Austria	78	85	82	74	67
	Belgium	61	77	66	55	41
	Canada	83	89	86	82	69
	Czech Republic	88	94	91	85	80
	Denmark	80	85	81	80	72
	Finland	75	88	85	71	52
	France[2]	65	79	68	60	48
	Germany	83	85	86	84	77
	Greece	50	72	58	42	28
	Hungary	71	82	79	73	48
	Iceland	59	64	62	58	48
	Ireland	60	77	65	51	37
	Italy	44	60	50	39	24
	Japan	84	94	94	82	64
	Korea	71	95	79	51	31
	Luxembourg	57	64	59	53	46
	Mexico	13	21	7	9	13
	Netherlands	66	76	71	62	53
	New Zealand	76	82	80	76	62
	Norway	86	95	91	83	73
	Poland	47	53	48	46	37
	Portugal	20	35	20	14	8
	Slovak Republic	86	93	91	84	68
	Spain	41	58	46	31	18
	Sweden	82	91	87	79	67
	Switzerland	82	88	85	80	75
	Turkey	25	31	25	20	14
	United Kingdom[2]	64	70	65	62	56
	United States	87	87	88	89	84
	Country mean	***65***	***75***	***69***	***61***	***50***
PARTNER COUNTRIES	Argentina[3]	42	52	43	38	28
	Brazil[3]	27	32	30	24	15
	Chile	47	61	49	42	28
	Indonesia	22	32	23	17	9
	Israel	80	87	80	78	71
	Jordan	39	m	m	m	m
	Malaysia[3]	41	58	42	24	13
	Paraguay[3]	22	30	23	16	11
	Peru[3]	44	55	46	35	22
	Philippines	43	54	37	m	m
	Thailand	19	28	20	12	7
	Uruguay[3]	33	38	36	32	23

1. Excluding ISCED 3C short programmes.
2. Not all ISCED 3 programmes meet minimum requirements for ISCED 3C long programmes.
3. Year of reference 2001.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

Table A2.3. Post-secondary non-tertiary graduation rates (2002)

Percentage of post-secondary non-tertiary graduates to the population at the typical age of graduation in public and private institutions, by programme destination and gender

OECD COUNTRIES	Total (unduplicated)			ISCED 4A (designed to prepare for direct entry to tertiary-type A education)		ISCED 4B (designed to prepare for direct entry to tertiary-type B education)		ISCED 4C (designed to prepare for direct entry to the labour market)	
	M + F	Males	Females	M + F	Females	M + F	Females	M + F	Females
Australia	m	m	m	a	a	a	a	17.8	19.7
Austria	m	m	m	m	m	m	m	m	m
Belgium[1]	16.9	15.2	18.6	10.1	10.4	a	a	7.0	8.5
Canada	m	m	m	m	m	m	m	m	m
Czech Republic	m	m	m	12.9	13.9	a	a	2.5	2.9
Denmark[1,2]	0.8	1.3	0.4	0.8	0.4	a	a	a	a
Finland[2]	2.2	2.0	2.3	a	a	a	a	3.7	4.0
France[1,2]	1.3	0.8	1.7	0.7	0.9	a	a	0.6	0.8
Germany	14.1	15.3	12.9	8.6	8.0	5.5	4.9	a	a
Greece	m	m	m	a	a	a	a	m	m
Hungary[1]	31.6	28.4	34.9	8.2	8.5	a	a	23.2	26.2
Iceland	4.9	6.5	3.3	n	n	n	n	5.1	3.3
Ireland	20.4	18.5	22.4	a	a	a	a	20.4	22.4
Italy[2]	4.4	3.4	5.4	a	a	a	a	4.4	5.4
Japan	m	m	m	m	m	m	m	m	m
Korea	a	a	a	a	a	a	a	a	a
Luxembourg	4.1	5.5	2.6	a	a	a	a	4.1	2.6
Mexico	a	a	a	a	a	a	a	a	a
Netherlands[1]	1.3	2.0	0.7	a	a	a	a	1.3	0.7
New Zealand	m	m	m	1.9	2.3	7.7	9.6	18.8	22.9
Norway	6.6	10.2	2.9	2.4	1.4	a	a	4.3	1.5
Poland[1]	10.7	7.4	14.1	a	a	a	a	10.7	14.1
Portugal	m	m	m	m	m	m	m	m	m
Slovak Republic	4.6	5.2	4.1	4.6	4.1	a	a	n	n
Spain	3.8	3.6	4.0	3.8	4.0	0.1	0.1	n	n
Sweden	m	m	m	m	m	m	m	0.4	0.3
Switzerland	22.4	20.7	24.0	3.3	2.4	19.5	22.2	m	m
Turkey	a	a	a	a	a	a	a	a	a
United Kingdom	m	m	m	m	m	m	m	m	m
United States[1]	m	m	m	m	m	m	m	m	m
Country mean	***9.0***	***9.1***	***8.9***	***5.2***	***5.1***	***8.2***	***9.2***	***7.6***	***8.3***

Note: Mismatches between the coverage of the population data and the student/graduate data mean that the participation/graduation rates for those countries that are net exporters of students may be underestimated (for instance Luxembourg) and those that are net importers may be overestimated.
1. Gross graduation rate may include some double counting.
2. Year of reference 2001.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

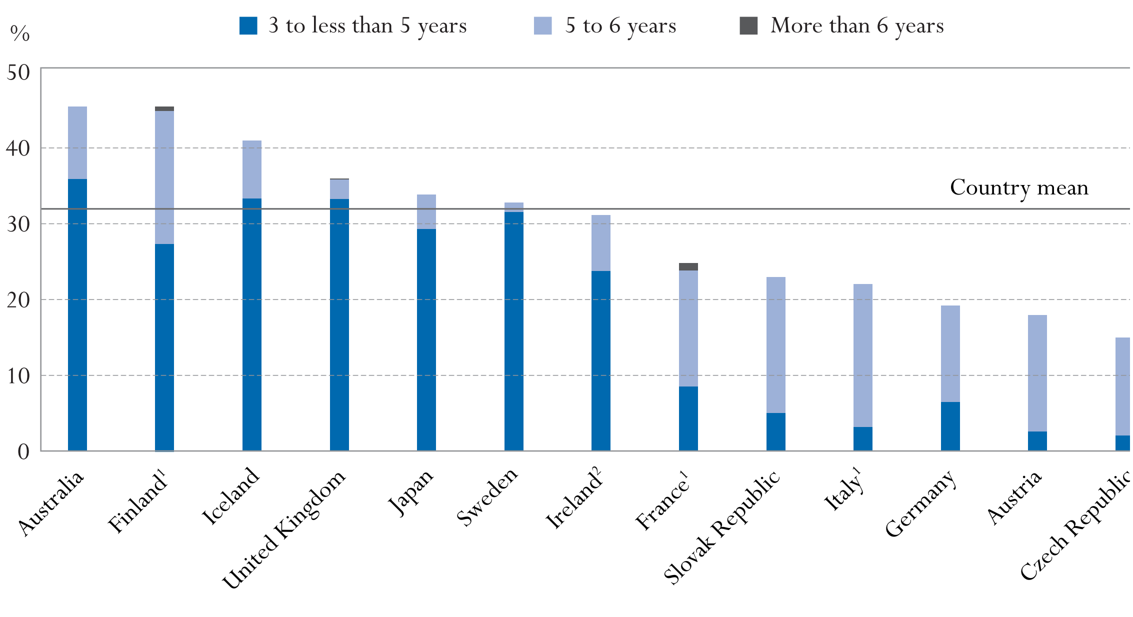
A3

INDICATOR A3: CURRENT TERTIARY GRADUATION AND SURVIVAL RATES AND EDUCATIONAL ATTAINMENT OF THE ADULT POPULATION

- On average across 17 OECD countries with comparable data, 32% of persons at the typical age of graduation currently complete the tertiary-type A level of education – a figure that ranges from less than 20% in Austria, the Czech Republic, Germany and Switzerland to more than 40% in Australia, Finland, Iceland and Poland.
- As measured by educational attainment, there has been an increase in the stock of tertiary-level skills in the adult population. However, most of that increase is due to significant increases in tertiary graduation rates in a comparatively small number of countries.
- On average, one-third of students in OECD countries "drop out" before they complete their first degree, regardless of whether they are following tertiary-type A or tertiary-type B programmes.

Chart A3.1. Tertiary-type A graduation rates, by duration of programme (2002)

Percentage of graduates to the population at the typical age of graduation



1. Year of reference 2001.
2. 5 to 6-year programmes include more than 6-year programmes.

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

Source: OECD. Table A3.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

A3

Policy context

This indicator shows tertiary graduation rates, as well as historical patterns of tertiary educational attainment…

Tertiary graduation rates are an indicator of the current production rate of advanced knowledge by each country's education system. Countries with high graduation rates at the tertiary level are most likely to be developing or maintaining a highly skilled labour force. Measures of educational attainment show the evolution of advanced knowledge in the population.

…and sheds light on the internal efficiency of tertiary education systems.

Tertiary level dropout and survival rates can be useful indicators of the internal efficiency of tertiary education systems. However, students' specific reasons for leaving a tertiary programme are varied: students may realise that they have chosen the wrong subject or educational programme; they may fail to meet the standards set by their educational institution, particularly in tertiary systems that provide broader access; or they may find attractive employment before completing their programme. "Dropping out" is not necessarily an indication of failure by individual students, but high dropout rates may well indicate that the education system is not meeting the needs of its clients. Students may not find that the educational programmes offered meet their expectations or their labour market needs. It may also be that students find that programmes take longer than the number of years which they can justify being outside the labour market.

Evidence and explanations

Graduation rates at the tertiary level

Tertiary programmes vary widely in structure and scope among countries.

Tertiary graduation rates are influenced both by the degree of access to tertiary programmes and by the demand for higher skills in the labour market. They are also affected by the way in which the degree and qualification structures are organised within countries.

This indicator distinguishes among different categories of tertiary qualifications: *i)* degrees at tertiary-type B level (ISCED 5B); *ii)* degrees at tertiary-type A level (ISCED 5A); and *iii)* advanced research qualifications at the doctorate level (ISCED 6).

Tertiary-type A programmes are largely theoretically-based and designed to provide qualifications for entry into advanced research programmes and professions with high skill requirements. Countries differ in the way in which tertiary-type A studies are organised. The institutional framework may be universities, but it can also be other institutions. The duration of programmes leading to a first type-A qualification ranges from three years (*e.g.*, the Bachelor's degree in many colleges in Ireland and the United Kingdom in most fields of study and the *Licence* in France) to five years or more (*e.g.*, the *Diplom* in Germany and the *Laurea* in Italy).

Whereas, in many countries, there is a clear distinction between first and second university degrees, *i.e.,* undergraduate and graduate programmes, this distinction does not exist in other countries, where degrees that are comparable internationally at the "Master's" level are obtained through a single programme of long duration. To ensure international comparability, it is therefore necessary to compare degree programmes of similar cumulative duration, as well as completion rates for first-degree programmes.

Tertiary-type A programmes are subdivided in accordance with the theoretical duration of studies to allow for comparisons that are independent of differences in national degree structures.

To allow for comparisons that are independent of differences in national degree structures, tertiary-type A degrees are subdivided in accordance with the total theoretical duration of studies at the tertiary level. Specifically, the OECD classification divides degrees into those of medium (three to less than five years), long (five to less than six years) and very long duration (more than six years). Degrees obtained from short programmes of less than three years' duration are not considered equivalent to the completion of the tertiary-type A level of education and are therefore not included in this indicator. Second-degree programmes are classified according to the cumulative duration of the first and second-degree programme, netting out individuals who already hold a first degree.

On average in OECD countries, 32% of persons at the typical age of graduation complete tertiary-type A education…

On average across the 17 OECD countries with comparable data, 32% of persons at the typical age of graduation complete tertiary-type A education. This figure ranges from less than 20% in Austria, the Czech Republic, Germany and Switzerland to more than 40% in Australia, Finland, Iceland and Poland (Table A3.1). In general, the majority of students complete medium length programmes (three to less than five years) in countries with higher graduation rates (Chart A3.1). In Austria, the Czech Republic, France, Germany, Italy and the Slovak Republic, the majority of students complete longer programmes (of at least five years' duration), and graduation rates are 23% or below.

…while the graduation rate at the tertiary-type B level is 10%…

Tertiary-type B programmes are classified at the same level of competencies as tertiary-type A programmes but are more occupationally-oriented and lead to direct labour market access. The programmes are typically of shorter duration than type A programmes (typically two to three years). Generally they are not deemed to lead to university-level degrees. Graduation rates for tertiary-type B programmes account, on average in OECD countries, for 10% of an age cohort (Table A3.1). In Japan, 27% of the population at the typical age of graduation complete the tertiary-type B level of education. This figure is 19% in France and Switzerland.

…and 1.2% obtain an advanced research qualification.

On average across OECD countries, 1.2% of the population obtains an advanced research qualification, such as a Ph.D. Scores rank from Iceland and Mexico with 0.1% to Germany, Sweden and Switzerland with 2.0, 2.8 and 2.6%, respectively (Chart A3.2).

Survival rates at the tertiary level

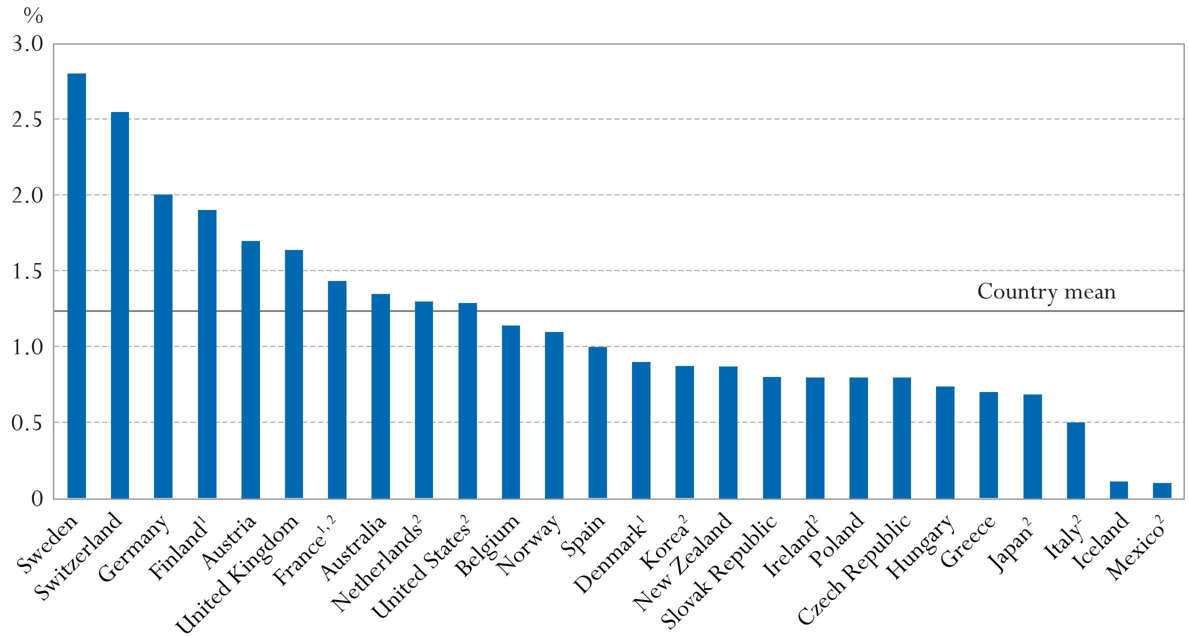
One-third of students in OECD countries "drop out" before they complete their first degree.

On average, one-third of students in OECD countries "drop out" before they complete their first degree, regardless of whether they are following tertiary-type A or tertiary-type B programmes. The "drop out" rate is much higher for advanced research programmes, with a survival rate of less than 60%.

Tertiary-type A survival rates differ widely among OECD countries, ranging from below 60% in Austria, France, Italy and Sweden to above 80% in Ireland, Japan, Turkey and the United Kingdom (Table A3.2).

Chart A3.2. Graduation rates for advanced research programmes (2002)

Sum of graduation rates for each year of age



1. Year of reference 2001.
2. Gross graduation rates were used for these countries, which were calculated as the percentage of graduates to the population at the typical age of graduation.
Countries are ranked in descending order of graduation rates for advanced research programmes.
Source: OECD. Table A3.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Tertiary-type B survival rates range from above 80% in Denmark, the Flemish Community of Belgium, Japan, Mexico, Poland and Sweden, to around 50% in Ireland and Italy (Table A3.2). In general, tertiary-type B programmes are of a shorter duration than tertiary-type A programmes. In the majority of countries with available data, most students successfully complete short programmes (two to three years). It is, however, interesting to note that a majority of students graduate from medium length type B programmes in both Denmark and the Flemish Community of Belgium (in the Flemish Community, this is the only tertiary-type B programme option).

For advanced research programmes, survival rates are high in Italy, Japan and Korea.

In Italy, Japan and Korea, survival rates for students following advanced research programmes are 85% or higher. Conversely, students are far likelier to drop out of such programmes in France and Iceland (36 and 50% survival rate, respectively) (Table A3.2).

The proportion of young people who have attained tertiary-type A or advanced research programmes qualifications has increased.

The rising skill requirements of labour markets, an increase in unemployment during recent years and higher expectations by individuals and society have influenced the proportion of young people who obtain at least a tertiary qualification. As measured by tertiary qualifications, there has been a general increase in the stock of higher-level skills in the adult population.

The proportion of 25 to 34-year-olds that has attained tertiary education is more than 36% in 12 out of the 30 OECD countries. This improvement is the result of a dramatic effort over the last 20 years, and it is approximated by the difference between different generations of citizens. For countries ranking at the top level, the gap between older and younger learners is about 13 percentage points. Only three countries have remained stable, at a high level, for the last decades (Australia, Sweden and the United States). For all tertiary education the average level of attainment in OECD countries increased from 21% to 28%, when comparing individuals aged 50 to those aged 30.

The concern remains for the lowest performing countries, which have not made progress between the generations (demonstrating a different pattern from secondary attainment, see Indicator A2). With the noticeable exceptions of Greece, Mexico and Portugal, others nations have made little progress (Chart A3.3).

Trends in tertiary attainment

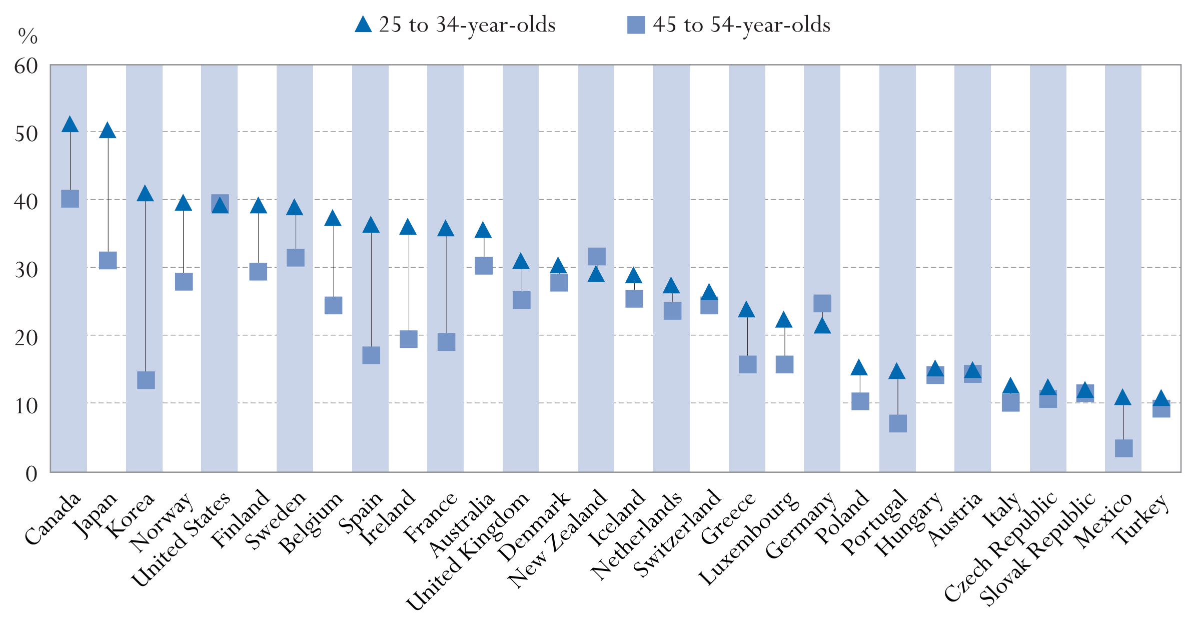
An overview of the level of educational attainment at the tertiary level (Table A3.4a) over the last years confirms the strong trend of an increasing proportion of the adult population attaining tertiary education.

Increased participation in tertiary education has moderated differences among countries…

The result of this increased participation in tertiary education has been a reduction of the differences among countries. In 2002, for the 25 to 64-year-old population, 16 out of 30 countries are closely grouped, with between 23 and 33% of the population having attained the tertiary level. Three of these

Chart A3.3. Population that has attained tertiary education (2002)

Percentage, by age group



Countries are ranked in descending order of the percentage of 25 to 34-year-olds who have attained tertiary education.
Source: OECD. Table A3.3. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

countries are performing remarkably high: Canada, Japan and the United States. Oppositely, 11 countries are significantly below 20% of tertiary attainment, some at very low levels.

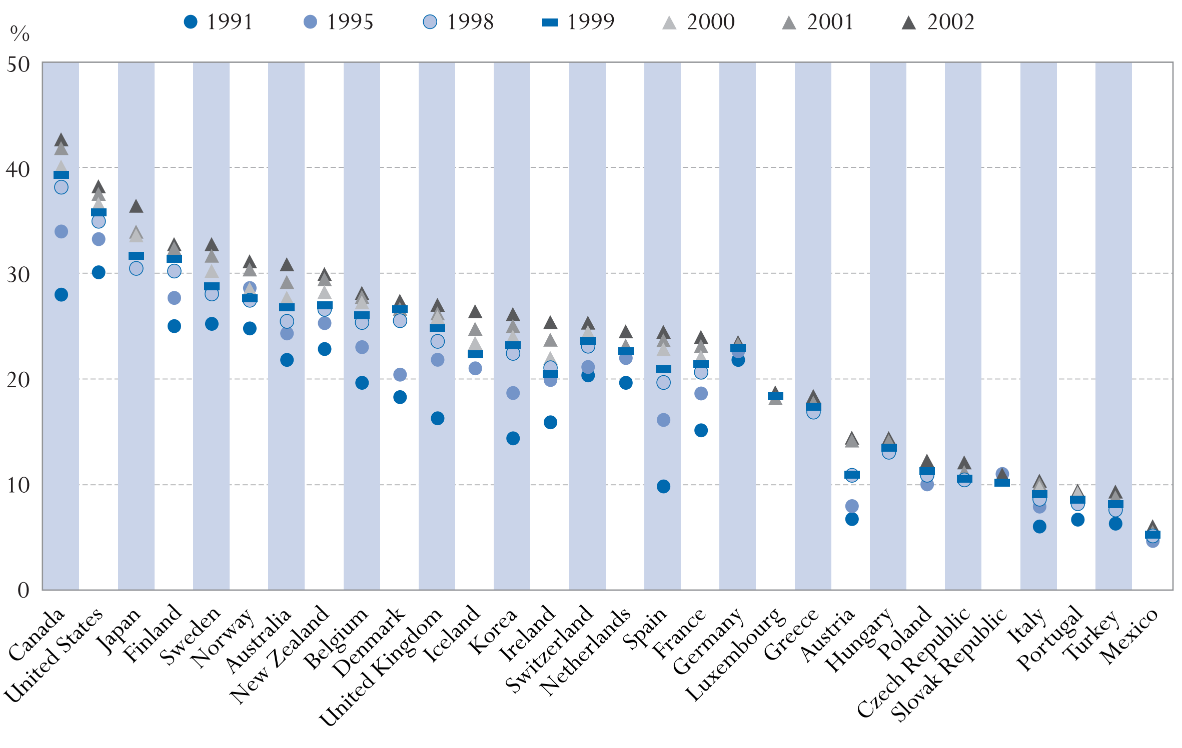
…but some countries have been left behind.

This general process is the result of constant improvements in most countries. However, the three most advanced nations continue to improve the proportion of tertiary attainment in their adult population. The other OECD countries, especially Korea and Spain, enjoyed an increased proportion of highly skilled people in the population, so levels are now more similar to the leading nations. Excepting small gains in Austria and Italy, the improvement is not perceptible at the lower side of the distribution. The proportion of people holding tertiary qualifications remains rather low in Portugal and Turkey, where there seems to have been limited improvements over the last 10 years.

Focusing on the youngest age group, from 25 to 34 years old (Tables A3.4a and A3.4b) reveals that the gain in attainment at the tertiary level between 1991 and 2002, which averages between 18 and 23% of the total population, has improved from 20 to 28% for the youngest age group. Naturally, the improvement reflects the replacement of the oldest generations by higher qualified young generations. Among the 28% of these tertiary qualified young generation, 19% have attained tertiary-type A degree or even advanced research programme qualifications. Above

Chart A3.4. Trends in educational attainment in tertiary education (1991-2002)

Percentage of 25 to 64-year-olds



Countries are ranked in descending order of educational attainment in tertiary education in 2002.
Source: OECD. Table A3.4a. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

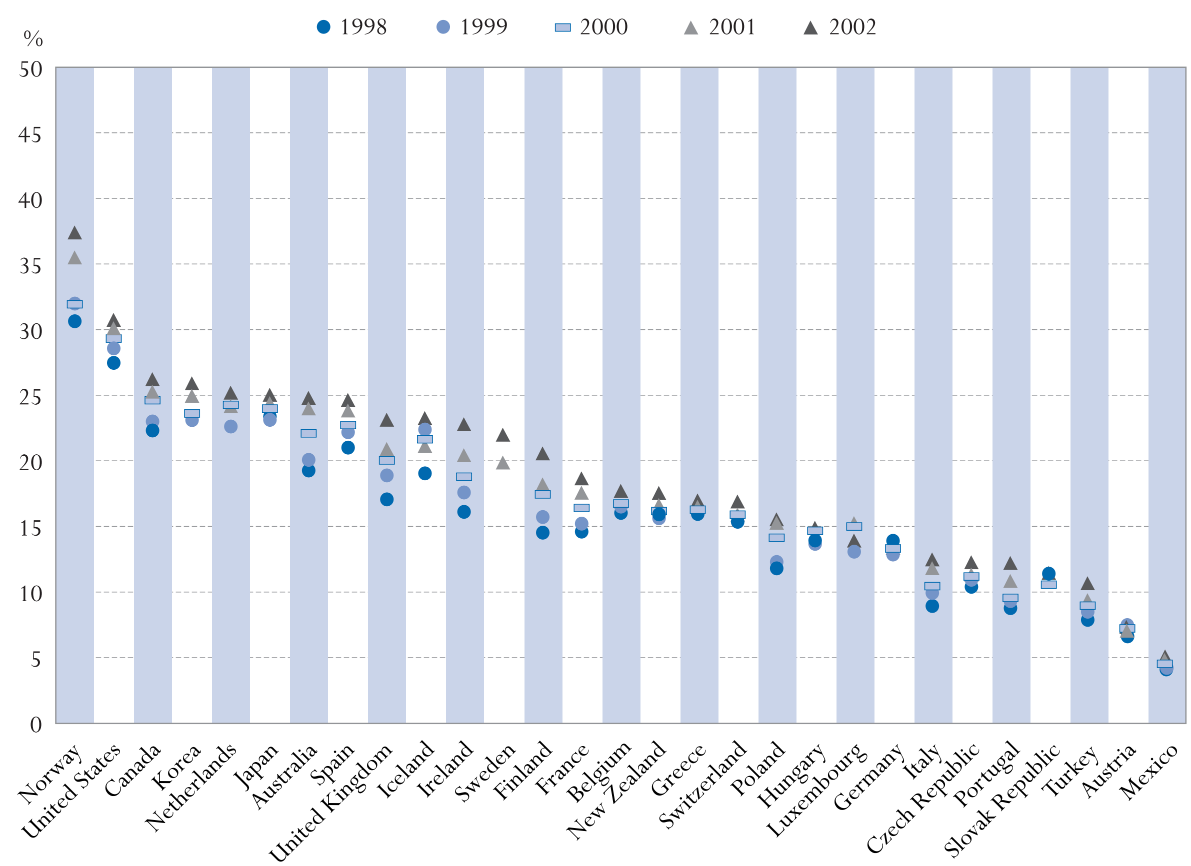
the average of 19%, there is not much difference among OECD countries. Except Norway and the United States, which rank higher than 30%, all countries range between 21% and 26%, a five-point interval. Below the average, again, positions are more scattered, particularly taking into account that some national figures include tertiary-type B programmes in the calculation (Table A3.4c).

The progression between 1998 and 2002 is particularly important for Australia, Finland, Ireland, Norway and the United Kingdom, all countries already ranking in the first half of the distribution. Canada, France and Iceland also saw more than 1 point of annual growth on average during the last four years. On the other side of the average, there has been stagnation in Austria, Germany, Switzerland and the Eastern European countries. Except Italy and Poland, the countries where the level is still low are not improving as necessary.

Higher participation and graduation for women, even at tertiary-type 5A/6 level, plays an important role in the increase of the potential qualification of the population. In 2002, for two-thirds of the countries, the proportion of young women qualified at tertiary-type A level is higher than the proportion of men. On average, the gender gap in favour of young women is around four points.

Chart A3.5. Trends in educational attainment in tertiary-type A and advanced research programmes (1998-2002)

Percentage of 25 to 34-year-olds



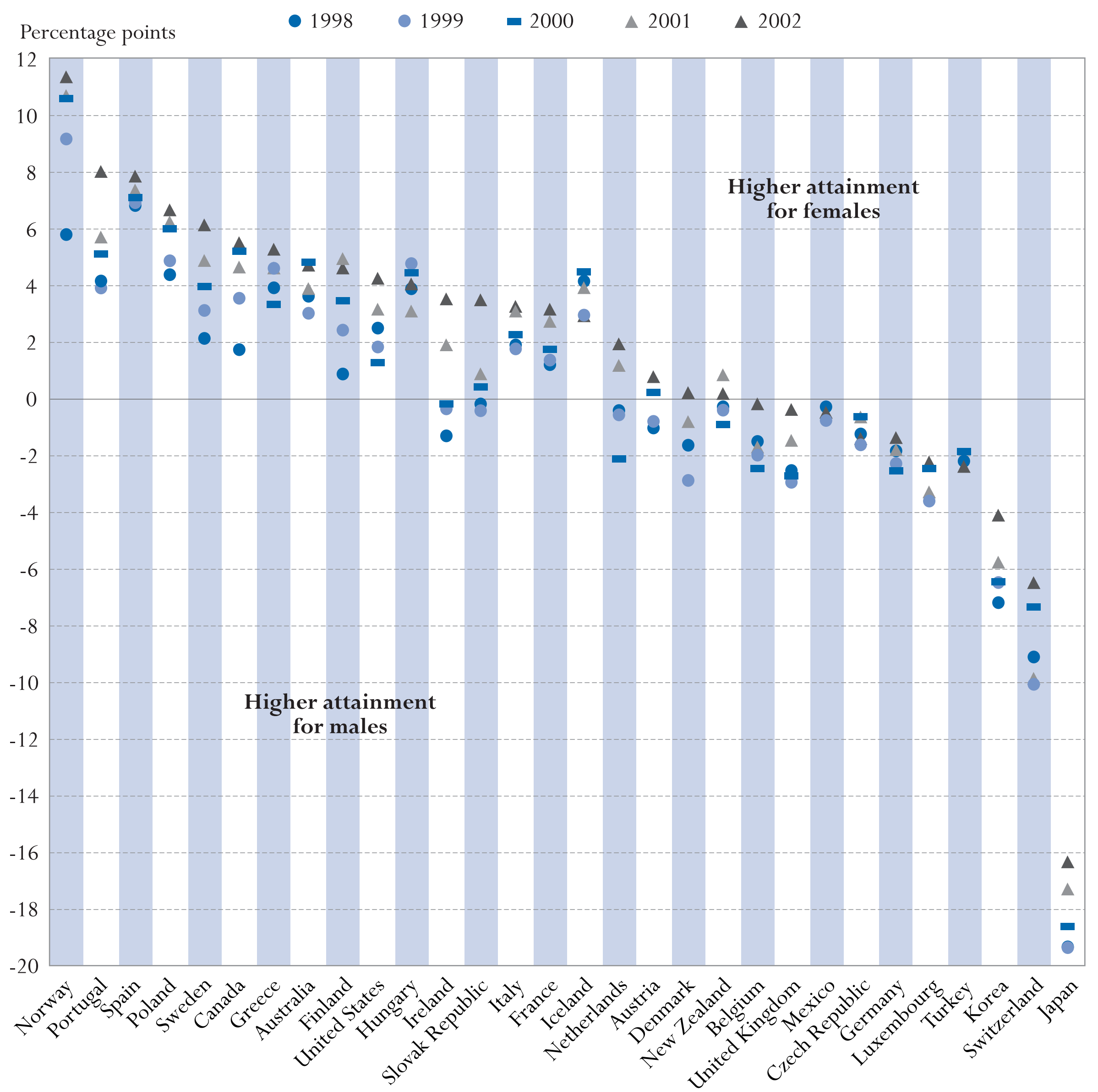
Countries are ranked in descending order of educational attainment in tertiary-type A and advanced research programmes in 2002.
Source: OECD. Table A3.4c. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

For the remaining countries the difference is not so pronounced, few above one point on average. However, it is important to note that in Korea, Japan and Switzerland, there is a gender gap for tertiary-type B level as well.

Considering trend data reveals that the gender gap is reducing even in the three countries where it is very large. However, at the same time, in countries where the advantage for women was already marked, the trend is continuing toward an even greater advantage for women.

Chart A3.6. Change in the difference between educational attainment of females and males in tertiary-type A and advanced research programmes (1998-2002)

Percentage points for 25 to 34-year-olds



Countries are ranked in descending order of the difference between educational attainment of females and males in tertiary-type A and advanced research programmes in 2002.
Source: OECD. Table A3.4c. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

A3

Definitions and methodologies

Data refer to the academic year 2001-2002 and are based on the UOE data collection on education statistics that is administered annually by the OECD.

Tertiary graduates are those who obtain a tertiary qualification in the specified reference year. This indicator distinguishes among different categories of tertiary qualifications: *i)* tertiary-type B qualifications (ISCED 5B); *ii)* tertiary-type A qualifications (ISCED 5A); and *iii)* advanced research degrees of doctorate standard (ISCED 6). For some countries, data are not available for the categories requested. In such cases, the OECD has assigned graduates to the most appropriate category. See Annex 3 at *www.oecd.org/edu/eag2004* for a list of programmes included for each country at the tertiary-type A and type B levels.

Tertiary-type A degrees are also subdivided in accordance with the total theoretical duration of studies at the level of ISCED 5A, to allow for comparisons that are independent of differences in national degree structures.

Graduation rates for first tertiary programmes (tertiary-type A and type B) are calculated as gross graduation rates. In order to calculate gross graduation rates, countries identify the age at which graduation typically occurs (see Annex 1). The graduates themselves, however, may be of any age. The number of graduates is then divided by the population at the typical graduation age. In many countries, defining a typical age of graduation is difficult, however, because graduates are dispersed over a wide range of ages.

A net graduation rate is calculated for advanced tertiary programmes (where duplication of certificates awarded does not pose a problem) as the sum of age-specific graduation rates. The net graduation rate can be interpreted as the percentage of persons within a virtual age cohort who obtain a tertiary qualification, and is thus unaffected by changes in population size or typical graduation age. Gross graduation rates are presented for those countries that cannot provide such detailed data.

Survival rate at the tertiary level is defined as the proportion of new entrants to the specified level of education who successfully complete a first qualification. Drop-outs are defined as those students who leave the specified level in the educational system without obtaining a first qualification. The first qualification refers to any degree, regardless of the duration of study, obtained at the end of a programme that does not have as a prerequisite a previous degree at the same level. The survival rate is calculated as the ratio of the number of students who are awarded an initial degree to the number of new entrants to the level n years before, n being the number of years of full-time study required to complete the degree.

Educational attainment data are derived from National Labour Force Surveys and levels are based upon the International Standard Classification of Education (ISCED-97).

Data on population and educational attainment are taken from OECD and EUROSTAT databases, which are compiled from National Labour Force Surveys. See Annex 3 at *www.oecd.org/edu/eag2004* for national sources.

The attainment profiles are based on the percentage of the population aged 25 to 64 years that has completed a specified level of education. The International Standard Classification of Education (ISCED-97) is used to define the levels of education. See Annex 3 at *www.oecd.org/edu/eag2004* for a description of ISCED-97 education programmes and attainment levels and their mappings for each country.

Table A3.1. Tertiary graduation rates (2002)

Percentage of tertiary graduates to the population at the typical age of graduation, by programme destination and duration

OECD COUNTRIES	Tertiary-type B programmes (first-time graduation)	Tertiary-type A programmes (first-time graduation)				Advanced research programmes[2]
		All programmes	3 to less than 5 years[1]	5 to 6 years[1]	More than 6 years	
	(1)	(2)	(3)	(4)	(5)	(6)
Australia	m	45.4	35.9	9.5	a	1.3
Austria	m	18.0	2.7	15.3	n	1.7
Belgium	m	m	m	m	m	1.1
Canada	m	m	m	m	m	m
Czech Republic	4.5	14.9	2.1	12.9	a	0.8
Denmark[3]	9.5	m	m	m	m	0.9
Finland[3]	3.7	45.4	27.3	17.5	0.6	1.9
France[3]	18.5	24.8	8.6	15.3	0.9	1.4
Germany	9.8	19.2	6.5	12.7	a	2.0
Greece	m	m	m	m	m	0.7
Hungary[4]	1.3	37.2	x(2)	x(2)	x(2)	0.7
Iceland	6.4	41.2	33.3	7.6	n	0.1
Ireland	12.7	31.1	23.8	7.3	x(4)	0.8
Italy[3]	0.9	22.7	2.5	20.2	n	0.5
Japan	26.7	33.8	29.3	4.5	a	0.7
Korea	m	m	m	m	m	0.9
Luxembourg	m	m	m	m	m	m
Mexico	m	m	m	m	m	0.1
Netherlands	m	m	m	m	m	1.3
New Zealand	m	m	m	m	m	0.9
Norway	4.8	m	m	m	m	1.1
Poland	n	41.5	x(2)	x(2)	x(2)	0.8
Portugal	m	m	m	m	m	m
Slovak Republic	2.7	23.0	5.0	17.9	a	0.8
Spain	13.8	33.5	x(2)	x(2)	x(2)	1.0
Sweden	3.8	32.7	31.5	1.2	a	2.8
Switzerland	18.9	17.9	x(2)	x(2)	x(2)	2.6
Turkey	m	m	m	m	m	m
United Kingdom	11.5	35.9	33.3	2.5	0.1	1.6
United States	8.8	m	m	m	m	1.3
Country mean	***9.8***	***31.8***	***21.2***	***11.4***	***1.9***	***1.2***

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2. Mismatches between the coverage of the population data and the student/graduate data mean that the participation/graduation rates for those countries that are net exporters of students may be underestimated (for instance Luxembourg) and those that are net importers may be overestimated.
1. Excluding students who subsequently completed a longer programme.
2. Net graduation rate is calculated by summing the graduation rates by single year of age, except for France, Italy, Japan, Korea, Mexico, the Netherlands and the United States.
3. Year of reference 2001.
4. Gross graduation rate may include some double counting.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

A3

Table A3.2. Survival rates in tertiary education (2000)

Number of graduates divided by the number of new entrants in the typical year of entrance, by programme destination, and distribution of graduates by duration of programme

		Tertiary-type A education				Tertiary-type B education				Advanced research programmes
		All programmes	Duration of programmes: 3 to less than 5 years	Duration of programmes: 5 to less than 6 years	Duration of programmes: 6 years or more	All programmes	Duration of programmes: 2 to less than 3 years	Duration of programmes: 3 to less than 5 years	Duration of programmes: 5 years or more	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD COUNTRIES	Australia	69	77	m	n	m	m	a	a	m
	Austria	59	74	58	n	m	m	m	m	m
	Belgium (Fl.)	60	67	58	27	88	a	88	a	m
	Czech Republic	61	74	55	a	77	75	78	a	m
	Denmark	69	69	a	a	84	65	90	a	m
	Finland	75	m	75	a	m	m	m	m	m
	France	59	m	m	m	72	72	n	a	36
	Germany	70	a	a	a	75	a	a	a	m
	Iceland	73	79	54	n	55	73	31	n	50
	Ireland	85	85	x(2)	x(2)	50	50	x(6)	a	m
	Italy	42	58	41	a	51	a	51	a	89
	Japan	94	94	x(2)	x(2)	86	86	x(6)	x(6)	85
	Korea	79	79	x(2)	a	74	73	78	a	95
	Mexico	69	69	x(2)	a	81	81	x(6)	a	54
	Netherlands	69	70	53	a	58	59	50	a	m
	Poland	m	81	m	a	84	84	a	a	m
	Spain	77	75	78	n	74	74	n	n	m
	Sweden	48	m	m	a	85	m	m	a	m
	Turkey	88	88	90	a	77	77	a	a	a
	United Kingdom	83	m	m	m	m	m	m	m	m
	United States	66	66	a	a	62	62	x(6)	x(6)	m
	Country mean	***70***	***76***	***62***	***2***	***73***	***72***	***67***	***n***	***58***
PARTNER COUNTRY	Israel	70	m	m	m	91	m	m	m	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

Table A3.3. Population that has attained tertiary education (2002)

Percentage of the population that has attained tertiary-type B education or tertiary-type A and advanced research programmes, by age group

		Tertiary-type B education					Tertiary-type A and advanced research programmes				
		25-64	25-34	35-44	45-54	55-64	25-64	25-34	35-44	45-54	55-64
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD COUNTRIES	Australia	11	11	11	11	10	20	25	21	19	13
	Austria	7	7	8	8	6	7	7	8	7	5
	Belgium	15	20	16	13	10	13	18	13	11	8
	Canada	22	25	23	21	16	21	26	20	20	16
	Czech Republic	x(6)	x(7)	x(8)	x(9)	x(10)	12	12	14	11	11
	Denmark	5	6	6	5	4	23	23	24	25	18
	Finland	17	19	21	16	12	16	21	17	14	11
	France	12	17	12	9	6	12	19	11	10	9
	Germany	10	8	11	11	10	13	13	15	14	11
	Greece	6	7	8	4	3	13	17	14	12	7
	Hungary	x(6)	x(7)	x(8)	x(9)	x(10)	14	15	14	14	13
	Iceland	6	6	7	7	4	20	23	22	19	12
	Ireland	10	14	10	7	5	16	23	15	12	9
	Italy	x(6)	x(7)	x(8)	x(9)	x(10)	10	12	11	10	7
	Japan	16	25	20	12	7	20	25	25	19	11
	Korea	8	15	7	2	1	18	26	21	11	8
	Luxembourg	7	9	8	6	5	12	14	12	10	10
	Mexico	3	6	2	2	3	2	5	1	1	2
	Netherlands	3	2	3	2	2	22	25	23	21	17
	New Zealand	15	12	15	17	17	15	18	16	15	9
	Norway	3	2	3	2	2	28	37	29	26	20
	Poland	x(6)	x(7)	x(8)	x(9)	x(10)	12	16	11	11	11
	Portugal	2	3	2	2	2	7	12	7	5	3
	Slovak Republic	1	1	1	1	1	10	11	10	11	8
	Spain	7	12	7	4	2	17	25	18	13	8
	Sweden	15	17	18	14	10	18	22	16	17	16
	Switzerland	9	10	10	9	7	16	17	17	16	14
	Turkey	x(6)	x(7)	x(8)	x(9)	x(10)	9	11	8	9	7
	United Kingdom	8	8	9	8	7	19	23	18	18	13
	United States	9	9	10	10	7	29	31	29	30	26
	Country mean	***8***	***9***	***8***	***7***	***5***	***16***	***19***	***16***	***14***	***11***
PARTNER COUNTRIES	Argentina[1]	5	6	5	4	2	9	9	10	10	6
	Brazil[1]	x(6)	x(7)	x(8)	x(9)	x(10)	8	7	9	9	6
	Chile	1	2	2	1	1	11	15	10	11	7
	Indonesia	2	2	2	2	1	2	3	2	2	1
	Israel	16	15	16	17	17	26	25	26	27	25
	Jordan	12	x(1)	x(1)	x(1)	x(1)	12	x(6)	x(6)	x(6)	x(6)
	Malaysia[1]	x(6)	x(7)	x(8)	x(9)	x(10)	10	14	10	6	4
	Paraguay[1]	2	2	2	1	2	9	11	9	7	4
	Peru[1]	7	10	8	6	3	8	8	9	8	6
	Philippines	12	15	10	x(3)	x(3)	8	9	8	x(8)	x(8)
	Thailand	3	4	3	1	1	9	10	10	7	4
	Uruguay[1]	9	8	11	10	8	x(1)	x(2)	x(3)	x(4)	x(5)

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. Year of reference 2001.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table A3.4a. Trends in educational attainment of the 25 to 64-year-old population (1991-2002)

Percentage that has attained upper secondary, post-secondary non-tertiary and tertiary education

		1991	1995	1998	1999	2000	2001	2002
OECD COUNTRIES								
Australia	Below upper secondary	48	45	44	43	41	41	39
	Upper secondary and post-secondary non-tertiary	30	31	31	31	31	30	30
	Tertiary education	22	24	25	27	27	29	31
Austria	Below upper secondary	33	31	26	25	24	23	22
	Upper secondary and post-secondary non-tertiary	61	62	63	64	62	63	63
	Tertiary education	7	8	11	11	14	14	14
Belgium	Below upper secondary	57	49	43	43	41	41	39
	Upper secondary and post-secondary non-tertiary	24	28	31	31	31	32	33
	Tertiary education	20	23	25	26	27	28	28
Canada	Below upper secondary	30	25	21	21	19	18	17
	Upper secondary and post-secondary non-tertiary	42	41	40	40	41	40	40
	Tertiary education	28	34	38	39	40	42	43
Czech Republic	Below upper secondary	m	17	15	14	14	14	12
	Upper secondary and post-secondary non-tertiary	m	73	75	75	75	75	76
	Tertiary education	m	11	10	11	11	11	12
Denmark	Below upper secondary	39	33	21	20	20	20	20
	Upper secondary and post-secondary non-tertiary	43	47	53	53	54	54	53
	Tertiary education	18	20	25	27	26	26	27
Finland	Below upper secondary	40	35	31	28	27	26	25
	Upper secondary and post-secondary non-tertiary	35	38	39	40	41	42	42
	Tertiary education	25	28	30	31	32	32	33
France	Below upper secondary	49	43	39	38	37	36	35
	Upper secondary and post-secondary non-tertiary	36	38	40	40	41	41	41
	Tertiary education	15	19	21	21	22	23	24
Germany	Below upper secondary	18	16	16	19	18	17	17
	Upper secondary and post-secondary non-tertiary	60	61	61	58	58	59	60
	Tertiary education	22	23	23	23	23	23	23
Greece	Below upper secondary	m	57	53	50	49	49	47
	Upper secondary and post-secondary non-tertiary	m	25	31	32	33	34	34
	Tertiary education	m	17	17	17	18	18	18
Hungary	Below upper secondary	m	m	37	33	31	30	29
	Upper secondary and post-secondary non-tertiary	m	m	50	54	55	56	57
	Tertiary education	m	m	13	14	14	14	14
Iceland	Below upper secondary	m	m	38	37	38	36	34
	Upper secondary and post-secondary non-tertiary	m	m	41	40	39	39	39
	Tertiary education	m	m	21	22	23	25	26
Ireland	Below upper secondary	60	53	49	45	43	41	40
	Upper secondary and post-secondary non-tertiary	24	27	30	35	36	35	35
	Tertiary education	16	20	21	20	22	24	25
Italy	Below upper secondary	72	65	58	56	56	55	54
	Upper secondary and post-secondary non-tertiary	22	27	33	34	35	35	36
	Tertiary education	6	8	9	9	9	10	10
Japan	Below upper secondary	m	m	20	19	17	17	16
	Upper secondary and post-secondary non-tertiary	m	m	50	49	49	49	47
	Tertiary education	m	m	30	32	33	34	36
Korea	Below upper secondary	49	39	34	33	32	30	29
	Upper secondary and post-secondary non-tertiary	37	42	44	44	44	45	45
	Tertiary education	14	19	22	23	24	25	26

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

Table A3.4a. (*continued*) **Trends in educational attainment of the 25 to 64-year-old population (1991-2002)**

Percentage that has attained upper secondary, post-secondary non-tertiary and tertiary education

OECD COUNTRIES		1991	1995	1998	1999	2000	2001	2002
Luxembourg	Below upper secondary	m	m	m	38	39	41	38
	Upper secondary and post-secondary non-tertiary	m	m	m	44	43	41	43
	Tertiary education	m	m	m	18	18	18	19
Mexico	Below upper secondary	m	90	89	89	88	88	87
	Upper secondary and post-secondary non-tertiary	m	5	6	6	6	7	7
	Tertiary education	m	5	5	5	5	5	6
Netherlands	Below upper secondary	44	39	36	35	35	35	34
	Upper secondary and post-secondary non-tertiary	37	39	40	42	41	42	42
	Tertiary education	20	22	24	23	23	23	24
New Zealand	Below upper secondary	33	30	27	26	25	24	24
	Upper secondary and post-secondary non-tertiary	44	45	46	47	47	46	46
	Tertiary education	23	25	27	27	28	29	30
Norway	Below upper secondary	21	19	15	15	15	14	14
	Upper secondary and post-secondary non-tertiary	54	53	57	57	57	55	55
	Tertiary education	25	29	27	28	28	30	31
Poland	Below upper secondary	m	26	22	22	20	19	18
	Upper secondary and post-secondary non-tertiary	m	64	67	67	69	69	69
	Tertiary education	m	10	11	11	11	12	12
Portugal	Below upper secondary	86	80	82	81	81	80	80
	Upper secondary and post-secondary non-tertiary	8	9	10	10	11	11	11
	Tertiary education	7	11	8	9	9	9	9
Slovak Republic	Below upper secondary	m	22	20	18	16	15	14
	Upper secondary and post-secondary non-tertiary	m	67	70	72	73	74	75
	Tertiary education	m	11	10	10	10	11	11
Spain	Below upper secondary	78	72	67	65	61	60	58
	Upper secondary and post-secondary non-tertiary	12	12	14	14	16	17	17
	Tertiary education	10	16	20	21	23	24	24
Sweden	Below upper secondary	31	25	24	23	22	19	18
	Upper secondary and post-secondary non-tertiary	44	46	48	48	47	49	49
	Tertiary education	25	28	28	29	30	32	33
Switzerland	Below upper secondary	19	18	18	18	18	13	15
	Upper secondary and post-secondary non-tertiary	60	61	59	58	58	62	59
	Tertiary education	20	21	23	24	24	25	25
Turkey	Below upper secondary	82	77	78	78	77	76	75
	Upper secondary and post-secondary non-tertiary	11	15	14	14	15	15	16
	Tertiary education	6	8	8	8	8	9	9
United Kingdom	Below upper secondary	35	23	19	18	17	17	16
	Upper secondary and post-secondary non-tertiary	49	55	57	57	57	57	57
	Tertiary education	16	22	24	25	26	26	27
United States	Below upper secondary	16	14	14	13	13	12	13
	Upper secondary and post-secondary non-tertiary	54	53	52	51	51	50	49
	Tertiary education	30	33	35	36	36	37	38
Country mean	***Below upper secondary***	***45***	***40***	***36***	***35***	***35***	***34***	***33***
	Upper secondary and post-secondary non-tertiary	***37***	***41***	***43***	***44***	***44***	***44***	***44***
	Tertiary education	***18***	***19***	***20***	***21***	***22***	***22***	***23***

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

Table A3.4b. Trends in educational attainment of the 25 to 34-year-old population (1991-2002)

Percentage that has attained upper secondary, post-secondary non-tertiary and tertiary education

OECD COUNTRIES		1991	1995	1998	1999	2000	2001	2002
Australia	Below upper secondary	43	40	36	35	32	29	27
	Upper secondary and post-secondary non-tertiary	34	35	36	36	37	37	37
	Tertiary education	23	25	28	29	31	34	36
Austria	Below upper secondary	21	19	17	17	17	16	15
	Upper secondary and post-secondary non-tertiary	71	72	71	71	68	70	70
	Tertiary education	8	9	13	13	15	14	15
Belgium	Below upper secondary	42	33	27	27	25	24	23
	Upper secondary and post-secondary non-tertiary	31	37	39	39	39	39	39
	Tertiary education	27	30	34	34	36	38	38
Canada	Below upper secondary	20	16	13	13	12	11	11
	Upper secondary and post-secondary non-tertiary	48	43	41	40	40	39	38
	Tertiary education	32	40	45	47	48	51	51
Czech Republic	Below upper secondary	m	9	8	7	8	8	6
	Upper secondary and post-secondary non-tertiary	m	79	82	82	81	81	81
	Tertiary education	m	12	10	11	11	11	12
Denmark	Below upper secondary	25	25	15	13	13	14	15
	Upper secondary and post-secondary non-tertiary	56	55	58	59	58	57	55
	Tertiary education	19	20	27	29	29	29	31
Finland	Below upper secondary	19	17	18	14	15	13	12
	Upper secondary and post-secondary non-tertiary	48	48	46	48	48	49	49
	Tertiary education	33	35	36	37	38	38	39
France	Below upper secondary	34	29	25	24	23	22	21
	Upper secondary and post-secondary non-tertiary	46	46	46	45	45	44	43
	Tertiary education	20	25	30	31	32	34	36
Germany	Below upper secondary	11	11	12	15	15	15	15
	Upper secondary and post-secondary non-tertiary	68	68	66	64	63	64	63
	Tertiary education	21	21	22	22	22	22	22
Greece	Below upper secondary	m	36	31	29	28	27	26
	Upper secondary and post-secondary non-tertiary	m	38	45	46	48	49	50
	Tertiary education	m	26	24	25	24	24	24
Hungary	Below upper secondary	m	m	23	20	19	19	18
	Upper secondary and post-secondary non-tertiary	m	m	64	66	67	66	67
	Tertiary education	m	m	14	14	15	15	15
Iceland	Below upper secondary	m	m	36	32	35	35	32
	Upper secondary and post-secondary non-tertiary	m	m	40	40	37	39	39
	Tertiary education	m	m	24	28	28	26	29
Ireland	Below upper secondary	46	36	33	28	27	24	23
	Upper secondary and post-secondary non-tertiary	35	37	37	44	43	42	41
	Tertiary education	20	27	29	28	30	33	36
Italy	Below upper secondary	57	51	45	43	41	40	38
	Upper secondary and post-secondary non-tertiary	36	41	46	47	48	48	49
	Tertiary education	7	8	9	10	10	12	12
Japan	Below upper secondary	m	m	7	7	6	6	6
	Upper secondary and post-secondary non-tertiary	m	m	48	48	47	46	44
	Tertiary education	m	m	45	45	47	48	50
Korea	Below upper secondary	27	14	8	7	7	5	5
	Upper secondary and post-secondary non-tertiary	52	57	58	58	56	55	54
	Tertiary education	21	29	34	35	37	39	41

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

Table A3.4b. (*continued*) **Trends in educational attainment of the 25 to 34-year-old population (1991-2002)**
Percentage that has attained upper secondary, post-secondary non-tertiary and tertiary education

			1991	1995	1998	1999	2000	2001	2002
OECD COUNTRIES	Luxembourg	Below upper secondary	m	m	m	32	32	34	32
		Upper secondary and post-secondary non-tertiary	m	m	m	47	45	43	46
		Tertiary education	m	m	m	21	23	23	23
	Mexico	Below upper secondary	m	84	82	81	80	79	79
		Upper secondary and post-secondary non-tertiary	m	8	9	9	10	10	10
		Tertiary education	m	8	9	10	10	10	11
	Netherlands	Below upper secondary	33	30	26	26	26	25	24
		Upper secondary and post-secondary non-tertiary	45	46	46	49	48	48	48
		Tertiary education	22	25	27	25	27	27	28
	New Zealand	Below upper secondary	26	23	6	6	7	6	5
		Upper secondary and post-secondary non-tertiary	51	53	61	59	59	56	55
		Tertiary education	23	24	33	35	35	38	40
	Norway	Below upper secondary	12	12	6	6	7	6	5
		Upper secondary and post-secondary non-tertiary	61	56	61	59	59	56	55
		Tertiary education	27	32	33	35	35	38	40
	Poland	Below upper secondary	m	12	11	11	11	10	10
		Upper secondary and post-secondary non-tertiary	m	78	77	76	75	75	75
		Tertiary education	m	10	12	12	14	15	16
	Portugal	Below upper secondary	79	69	72	70	68	67	65
		Upper secondary and post-secondary non-tertiary	12	17	17	18	19	19	20
		Tertiary education	9	14	12	12	13	14	15
	Slovak Republic	Below upper secondary	m	9	9	7	6	6	7
		Upper secondary and post-secondary non-tertiary	m	79	80	82	82	82	81
		Tertiary education	m	12	11	11	11	12	12
	Spain	Below upper secondary	60	53	47	45	44	42	41
		Upper secondary and post-secondary non-tertiary	24	21	21	21	22	22	22
		Tertiary education	16	27	32	33	34	36	37
	Sweden	Below upper secondary	16	12	13	13	13	9	9
		Upper secondary and post-secondary non-tertiary	57	59	57	55	54	54	52
		Tertiary education	27	29	31	32	34	37	39
	Switzerland	Below upper secondary	12	12	12	11	12	8	11
		Upper secondary and post-secondary non-tertiary	66	67	63	63	63	66	63
		Tertiary education	21	22	25	26	26	26	26
	Turkey	Below upper secondary	78	74	73	74	72	71	69
		Upper secondary and post-secondary non-tertiary	16	19	19	18	19	19	20
		Tertiary education	6	8	8	8	9	9	11
	United Kingdom	Below upper secondary	21	14	11	10	10	10	10
		Upper secondary and post-secondary non-tertiary	61	63	63	63	62	61	59
		Tertiary education	19	23	26	27	29	29	31
	United States	Below upper secondary	14	13	12	12	12	12	13
		Upper secondary and post-secondary non-tertiary	56	54	52	50	50	49	48
		Tertiary education	30	34	36	37	38	39	39
	Country mean	***Below upper secondary***	***33***	***29***	***25***	***25***	***24***	***23***	***22***
		Upper secondary and post-secondary non-tertiary	***46***	***49***	***50***	***50***	***50***	***49***	***49***
		Tertiary education	***20***	***22***	***25***	***25***	***26***	***27***	***28***

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

Table A3.4c. Trends in educational attainment of the 25 to 34-year-old population, by gender (1998-2002)

Percentage that has attained tertiary-type A and advanced research programmes

OECD COUNTRIES		1998	1999	2000	2001	2002
Australia	Males	17	19	20	22	22
	Females	21	22	25	26	27
	M+F	19	20	22	24	25
Austria	Males	7	8	7	7	7
	Females	6	7	7	7	8
	M+F	7	7	7	7	7
Belgium	Males	17	18	18	19	18
	Females	15	16	15	17	18
	M+F	16	17	17	18	18
Canada	Males	21	21	22	23	23
	Females	23	25	27	27	29
	M+F	22	23	25	25	26
Czech Republic	Males	11	12	12	12	13
	Females	10	10	11	11	12
	M+F	10	11	11	11	12
Finland	Males	14	14	16	16	18
	Females	15	17	19	21	23
	M+F	15	16	17	18	21
France	Males	14	15	15	16	17
	Females	15	16	17	19	20
	M+F	15	15	16	18	19
Germany	Males	15	14	15	14	14
	Females	13	12	12	13	13
	M+F	14	13	13	14	13
Greece	Males	14	14	15	14	14
	Females	18	19	18	19	20
	M+F	16	17	16	17	17
Hungary	Males	12	11	12	13	13
	Females	16	16	17	16	17
	M+F	14	14	15	15	15
Iceland	Males	17	21	20	19	22
	Females	21	24	24	23	24
	M+F	19	22	22	21	23
Ireland	Males	17	18	19	19	21
	Females	15	17	19	21	25
	M+F	16	18	19	20	23
Italy	Males	8	9	9	10	11
	Females	10	11	12	13	14
	M+F	9	10	10	12	12
Japan	Males	33	33	33	33	33
	Females	14	13	14	16	17
	M+F	23	23	24	24	25
Korea	Males	27	26	27	28	28
	Females	20	20	20	22	24
	M+F	23	23	24	25	26

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

Table A3.4c. *(continued)* **Trends in educational attainment of the 25 to 34-year-old population, by gender (1998-2002)**

Percentage that has attained tertiary-type A and advanced research programmes

OECD COUNTRIES		1998	1999	2000	2001	2002
Luxembourg	Males	m	15	16	17	15
	Females	m	11	14	13	13
	M+F	m	13	15	15	14
Mexico	Males	4	5	5	5	5
	Females	4	4	4	5	5
	M+F	4	4	5	5	5
Netherlands	Males	28	23	25	24	24
	Females	27	22	23	25	26
	M+F	27	23	24	24	25
New Zealand	Males	16	16	17	16	17
	Females	16	15	16	17	18
	M+F	16	16	16	17	18
Norway	Males	28	27	27	30	32
	Females	34	36	37	41	43
	M+F	31	32	32	35	37
Poland	Males	10	10	11	12	12
	Females	14	15	17	18	19
	M+F	12	12	14	15	16
Portugal	Males	7	7	7	8	8
	Females	11	11	12	14	16
	M+F	9	9	10	11	12
Slovak Republic	Males	11	11	10	11	10
	Females	11	11	11	12	13
	M+F	11	11	11	11	11
Spain	Males	18	19	19	20	21
	Females	24	26	26	28	29
	M+F	21	22	23	24	25
Sweden	Males	9	10	11	17	19
	Females	11	13	14	22	25
	M+F	10	11	12	20	22
Switzerland	Males	20	22	20	21	20
	Females	11	12	12	11	14
	M+F	15	17	16	16	17
Turkey	Males	9	10	10	10	12
	Females	7	7	8	8	9
	M+F	8	8	9	9	11
United Kingdom	Males	18	20	21	22	23
	Females	16	17	19	20	23
	M+F	17	19	20	21	23
United States	Males	26	28	29	28	28
	Females	29	30	30	31	33
	M+F	27	29	29	30	31
Country mean	***Males***	***16***	***16***	***17***	***17***	***18***
	Females	***16***	***16***	***17***	***18***	***20***
	M+F	***16***	***16***	***17***	***18***	***19***

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

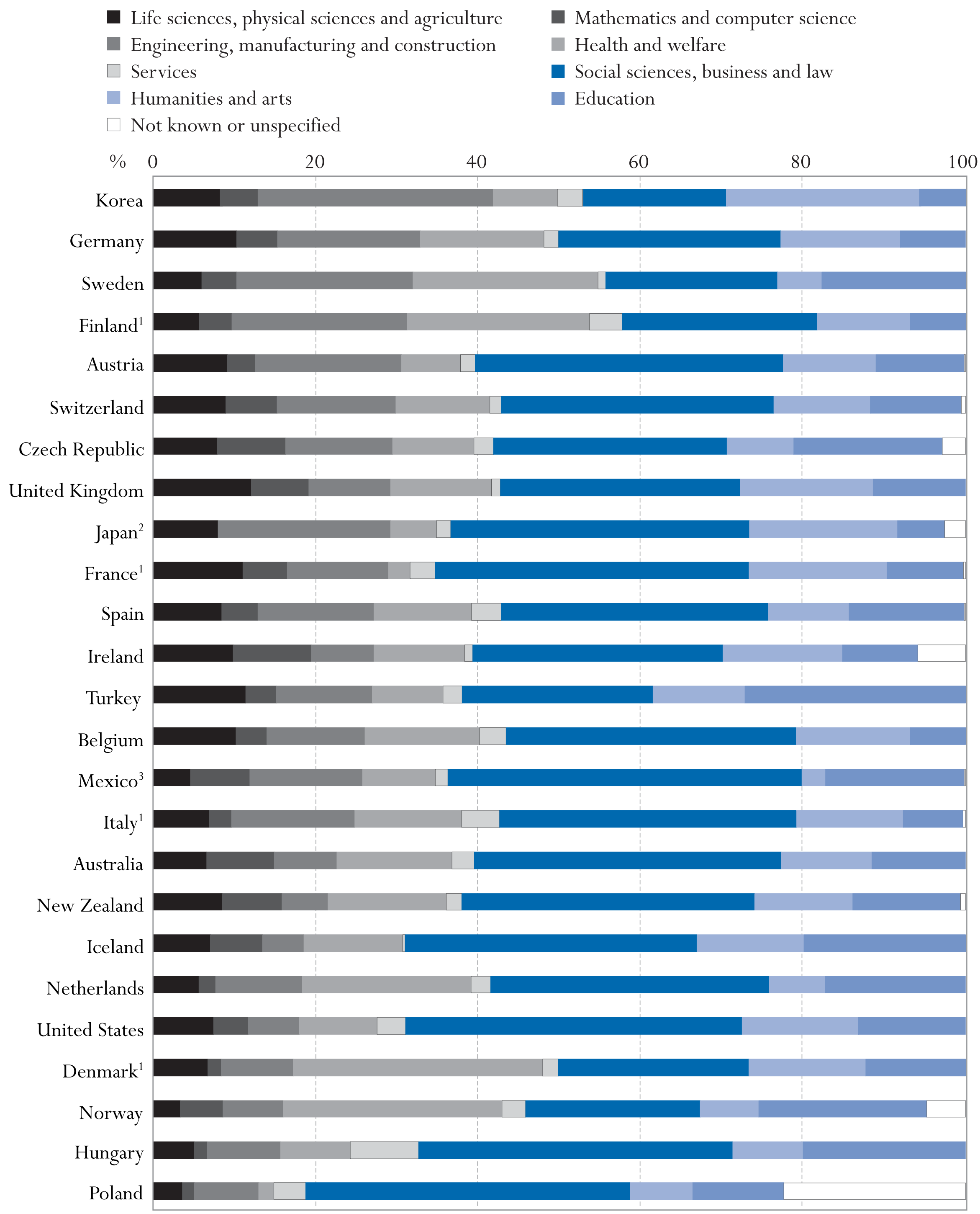
INDICATOR A4: TERTIARY GRADUATES BY FIELD OF STUDY

- On average across OECD countries, close to one-third of tertiary-type A graduates obtain a degree in social sciences, business or law. The second most popular fields are science-related (engineering, manufacturing and construction, life sciences, physical sciences and agriculture, mathematics and computing, but not including health and welfare), from which one in four students graduates, on average.
- Science-related fields – closely followed by social sciences, business and law – are the most popular fields of study at the tertiary-type B level, where programmes are more occupationally oriented.
- In humanities, arts, education, health and welfare, more than two-thirds of the tertiary-type A graduates are female on average in OECD countries. Less than one-third of graduates in mathematics and computer science, and less than one-fifth of graduates in engineering, manufacturing and construction are female.
- Tertiary-type A graduation rates for females equal or exceed those for males in most OECD countries, but males are still more likely than females to earn advanced research qualifications, such as doctorates.

A4

Chart A4.1. Tertiary graduates, by field of study (2002)

Graduates with tertiary-type A and advanced research qualifications



1. Year of reference 2001.
2. Mathematics and computer science are included in the category "life sciences, physical sciences and agriculture".
3. Excludes tertiary-type A second degree programmes.

Countries are ranked in descending order of the proportion of qualifications in life sciences, physical sciences and agriculture, mathematics and computer science, and engineering, manufacturing and construction.

Source: OECD. Table A4.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

Policy context

This indicator shows the distribution of tertiary graduates across fields of study.

Changing opportunities in the job market, relative earnings in different occupations and sectors, and admission policies and practices of tertiary education institutions may affect which fields students choose to study. In turn, the relative popularity of the various fields of study affects the demand for courses and teaching staff, as well as the supply of new graduates. This indicator sheds light on the distribution of tertiary graduates across different fields of study, as well as on the relative proportion of female graduates in those fields.

Evidence and explanations

Graduates by field of study

On average in OECD countries, close to one-third of tertiary-type A graduates obtain a degree in social sciences, business or law.

In 21 of the 26 countries providing data, the largest concentration of tertiary-type A and advanced research qualifications awarded is in the combined fields of social sciences, business and law (Table A4.1). On average in OECD countries, close to one-third of tertiary-type A graduates obtain a degree in social sciences, business or law. The percentage of tertiary-type A qualifications awarded in social sciences, business and law ranges from less than 23% in Korea, Norway and Sweden, to more than 40% in Mexico and the United States. The largest concentration of tertiary-type A and advanced research qualifications awarded is in the field of education in Turkey; in the fields of engineering, manufacturing and construction in Korea; and in the fields of health and welfare in Denmark, Norway and Sweden.

The second largest concentration of tertiary-type A and advanced research qualifications awarded is in science-related fields.

An average of 26% of tertiary-type A and advanced research students receive qualifications in science-related fields (engineering, manufacturing and construction, life sciences, physical sciences and agriculture, mathematics and computing, but not including health and welfare) in OECD countries; this includes percentages of less than 17% in Hungary, Norway and Poland, to around one-third in Germany and Sweden, and 41% in Korea. Slightly less popular on average in OECD countries are the fields of humanities, arts and education, from which 24% of tertiary-type A and advanced research students graduate.

Individual preferences, admission policies and degree structures influence the prevalence of different fields of study.

The distribution of qualifications awarded by field of study is driven by the relative popularity of these fields among students, the relative number of students admitted to these fields in universities and equivalent institutions, and the degree structure of the various disciplines in a particular country.

Part of the variation in graduation rates among countries (Table A3.1) can also be accounted for by differences in the number of tertiary-type A degrees earned in the fields of education and humanities. Countries with high graduation rates, on average, have a higher proportion of graduates in education and humanities and a lower proportion of graduates in science-related fields. In other words, there is less variation in graduation rates in science-related fields among countries than in overall graduation rates.

Graduates at the tertiary-type B level are mainly from science-related fields.

Although the same three combined fields of study yield the majority of graduates, the picture is slightly different for tertiary-type B education, where programmes are more occupationally oriented: science-related fields have the largest concentration of graduates (26%), followed by the combined field of social sciences, business and law (25%), and then the combined fields of humanities, arts and education (20%). However, health and welfare graduates are more common at this level than engineering, manufacturing and construction graduates (18 and 16%, respectively) (Table A4.1).

The selection of a field of study at this level is heavily dependent on opportunities to study similar subject matters, or to prepare for similar occupations at the post-secondary non-tertiary or tertiary-type A level. For example, if nurses in a particular country were trained primarily in tertiary-type B programmes, the proportion of students graduating with qualifications in medical sciences from that level would be higher than if nurses were primarily trained in upper secondary or tertiary-type A programmes.

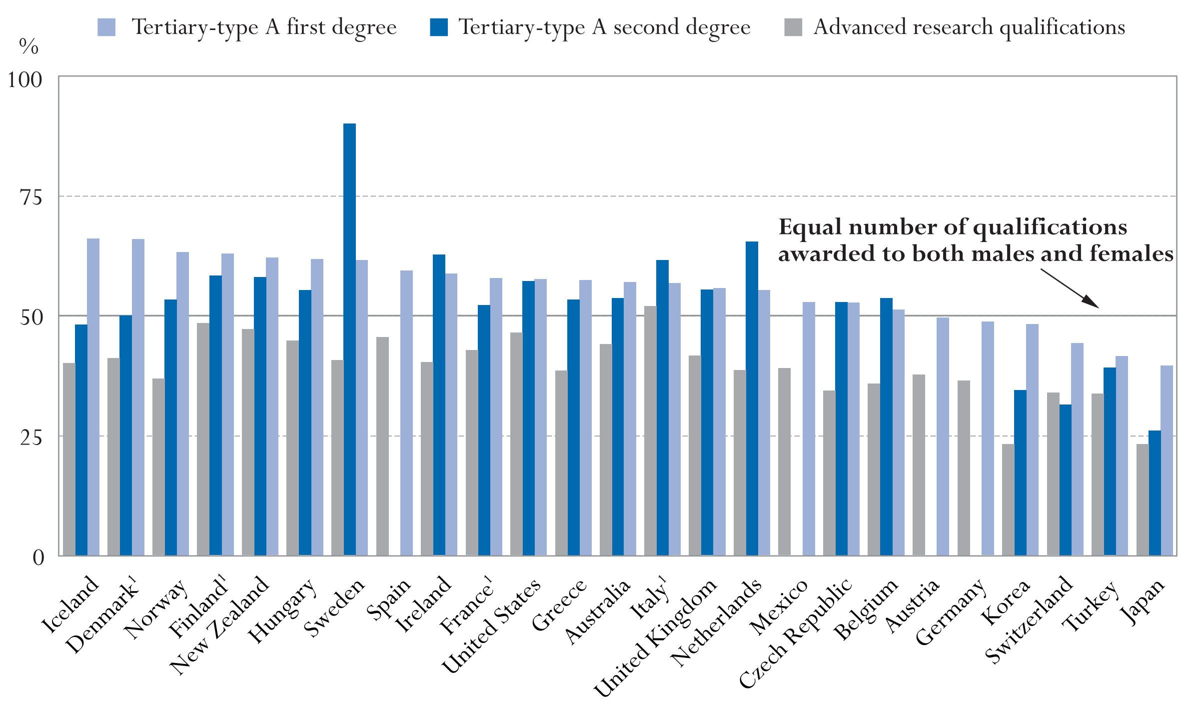
Gender differences in tertiary graduation

Tertiary-type A graduation rates for females equal or exceed those for males in most countries…

Overall, tertiary-type A graduation rates for females equal or exceed those for males in 21 out of 27 OECD countries. On average in OECD countries, 55% of all first tertiary-type A graduates are females. However, major differences remain among fields of study. In humanities, arts, education, health and welfare, more than two-thirds of the tertiary-type A graduates are females, on average

Chart A4.2. Percentage of tertiary qualifications awarded to females (2002)

Percentage of total graduates (all fields of study)



1. Year of reference 2001.

Countries are ranked in descending order of the percentage of tertiary-type A first degrees that are awarded to females.

Source: OECD. Table A4.2. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

in OECD countries, whereas less than one-third of mathematics and computer science graduates and less than one-fifth of engineering, manufacturing and construction graduates are females (Table A4.2).

...but the proportion of female graduates is 44% or below in Japan, Switzerland and Turkey.

In Denmark, Finland, Hungary, Iceland, New Zealand, Norway, Poland and Sweden, the proportion of females obtaining a first tertiary-type A qualification is more than 60%, but it is 44% or lower in Japan, Switzerland and Turkey (Table A4.2).

In OECD countries, males are still more likely than females to earn advanced research qualifications, such as doctorates.

Males remain more likely than females to obtain advanced research qualifications in OECD countries (Table A4.2). Graduation rates from advanced research, *e.g.* Ph.D., programmes are lower for females than for males in all countries except Italy. On average in OECD countries, nearly two-thirds of all graduates at this level are males. In Japan and Korea, just over three-quarters of advanced research qualifications are awarded to males.

Definitions and methodologies

Data refer to the academic year 2001-2002 and are based on the UOE data collection on education statistics that is annually administered by the OECD.

Tertiary graduates are those who obtain a tertiary qualification in the specified reference year. This indicator distinguishes among different categories of tertiary qualifications: *i)* tertiary-type B qualifications (ISCED 5B); *ii)* tertiary-type A qualifications (ISCED 5A); and *iii)* advanced research qualifications (ISCED 6). For some countries, data are not available for the categories requested. In such cases, the country has assigned graduates to the most appropriate category.

Data in Tables A4.1 and A4.2 cover graduates from all tertiary degrees reported in Table A3.1. Tertiary graduates who receive their qualification in the reference year are divided into categories based on their subject of specialisation.

Table A4.1. Tertiary graduates, by field of study (2002)

			Education	Humanities and arts	Social sciences, business and law	Services	Engineering, manufacturing and construction	Agriculture	Health and welfare	Life sciences	Physical sciences	Mathematics and statistics	Computing	Not known or unspecified
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD COUNTRIES	Australia	A	11.5	11.2	37.8	2.7	7.7	1.0	14.2	3.3	2.3	0.5	7.9	a
		B	1.5	11.3	36.0	12.2	11.3	3.8	13.1	m	m	m	m	0.1
	Austria	A	10.8	11.4	38.0	1.8	18.0	2.5	7.2	3.6	3.0	0.7	2.7	0.2
		B	m	m	m	m	m	m	m	m	m	m	m	a
	Belgium[1]	A	6.8	14.1	35.7	3.3	12.1	2.9	14.1	4.2	3.0	1.0	2.9	n
		B	23.7	6.1	26.6	1.3	9.1	0.5	27.1	0.7	0.2	n	4.8	n
	Canada	A	m	m	m	m	m	m	m	m	m	m	m	m
		B	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	A	18.3	8.2	28.7	2.4	13.2	3.6	10.0	2.0	2.3	1.0	7.4	2.9
		B	a	7.7	33.2	9.8	5.8	3.2	35.6	a	a	a	4.7	a
	Denmark[2]	A	12.3	14.4	23.5	1.9	8.9	1.5	30.7	3.0	2.3	0.6	1.1	a
		B	a	3.6	25.2	7.6	35.2	7.7	a	a	a	a	20.8	a
	Finland[2]	A	6.8	11.4	24.0	4.1	21.6	2.2	22.4	1.4	2.0	0.6	3.4	n
		B	4.6	10.2	10.0	23.3	30.3	4.0	12.4	a	a	a	5.3	a
	France[2]	A	9.4	17.0	38.6	3.1	12.5	0.3	2.7	5.8	4.9	2.5	3.0	0.3
		B	a	1.6	40.5	6.2	26.9	0.3	18.7	a	0.1	0.4	5.2	a
	Germany	A	8.0	14.7	27.4	1.8	17.6	1.9	15.2	3.4	5.0	1.7	3.3	a
		B	8.8	1.0	8.9	9.0	15.3	3.5	51.7	n	a	a	0.5	1.2
	Greece	A	m	m	m	m	m	m	m	m	m	m	m	m
		B	m	m	m	m	m	m	m	m	m	m	m	m
	Hungary[1]	A	20.0	8.7	38.7	8.4	9.1	3.7	8.5	0.7	0.7	0.2	1.4	a
		B	n	n	47.4	23.4	17.8	n	3.4	n	n	6.7	1.3	a
	Iceland	A	19.9	13.2	35.9	0.3	5.1	0.8	12.2	3.9	2.3	0.3	6.1	a
		B	30.9	6.3	41.8	n	n	n	n	n	n	n	21.1	a
	Ireland	A	9.3	14.7	30.8	1.0	7.7	1.2	11.2	5.8	2.8	0.9	8.7	5.8
		B	2.6	6.7	34.1	10.5	16.6	0.7	9.7	1.3	2.2	n	15.3	0.3
	Italy[2]	A	7.4	13.1	36.6	4.6	15.2	2.0	13.2	3.3	1.6	2.0	0.7	0.3
		B	60.8	39.2	a	a	a	a	a	a	a	a	a	a
	Japan[3]	A	5.8	18.2	36.8	1.8	21.2	3.3	5.7	4.7	x(8)	x(8)	x(8)	2.6
		B	8.3	13.7	7.6	25.3	16.5	0.6	21.5	n	x(8)	x(8)	x(8)	6.4
	Korea	A	5.2	21.4	22.3	2.9	27.4	2.6	7.1	2.1	3.5	1.9	3.5	a
		B	9.0	14.8	15.9	8.1	32.4	1.0	9.6	n	0.2	n	8.8	a
	Luxembourg	A	m	m	m	m	m	m	m	m	m	m	m	m
		B	m	m	m	m	m	m	m	m	m	m	m	m
	Mexico[4]	A	17.1	2.9	43.6	1.5	13.9	2.1	9.0	0.9	1.5	0.4	6.9	0.1
		B	0.2	1.2	26.3	10.2	38.0	1.1	6.8	0.6	0.1	n	15.5	a
	Netherlands	A	17.3	6.9	34.3	2.4	10.7	2.4	20.8	1.0	2.2	0.3	1.8	n
		B	12.1	a	28.6	11.8	2.9	a	37.6	a	a	a	7.1	a
	New Zealand	A	13.3	12.1	36.1	1.9	5.7	1.7	14.6	2.6	4.2	1.0	6.4	0.6
		B	18.9	19.6	23.3	9.5	3.9	2.4	9.4	0.5	1.3	0.6	9.9	0.7
	Norway	A	20.7	7.2	21.5	2.9	7.4	1.2	27.0	1.1	1.1	0.2	5.1	4.7
		B	a	8.2	65.4	4.2	6.0	a	1.5	0.1	a	a	14.2	0.4
	Poland	A	11.5	6.5	40.0	3.6	7.3	1.7	1.9	0.7	1.2	0.6	1.0	23.8
		B	13.5	7.6	42.1	3.1	2.7	1.4	2.0	0.9	1.1	0.7	0.3	24.6
	Portugal	A	m	m	m	m	m	m	m	m	m	m	m	m
		B	m	m	m	m	m	m	m	m	m	m	m	m
	Slovak Republic	A	17.2	5.5	30.1	6.6	17.9	3.9	9.4	2.4	2.4	0.5	4.0	a
		B	5.5	9.8	4.1	5.6	3.9	2.4	68.0	n	n	n	0.8	a
	Spain	A	14.2	10.0	32.9	3.6	14.3	2.9	12.0	2.5	3.1	1.2	3.2	0.1
		B	5.0	7.6	25.2	13.0	23.3	0.6	12.5	n	n	n	12.7	n
	Sweden	A	17.7	5.5	21.1	0.9	21.7	0.9	22.8	2.7	2.3	0.5	3.8	a
		B	6.6	10.2	16.1	13.3	24.3	4.5	8.0	0.2	0.2	0.2	16.4	a
	Switzerland	A	11.2	11.9	33.6	1.4	14.6	1.4	11.6	3.6	4.0	1.1	5.2	0.5
		B	13.9	4.1	39.3	9.5	11.1	1.7	12.5	n	n	n	7.8	n
	Turkey	A	27.2	11.3	23.5	2.3	11.8	4.5	8.8	2.0	4.9	2.8	1.0	a
		B	a	2.6	38.6	6.4	33.7	6.4	5.4	a	0.1	n	6.7	a
	United Kingdom	A	11.4	16.4	29.5	1.1	10.1	1.1	12.4	6.2	4.8	1.4	5.7	a
		B	8.5	9.2	16.7	1.3	9.8	1.7	40.2	1.8	1.9	0.4	8.5	a
	United States	A	13.2	14.4	41.4	3.5	6.3	2.3	9.6	3.7	1.4	0.9	3.4	n
		B	2.7	0.1	32.6	11.5	17.3	1.8	24.5	m	0.3	m	9.1	0.1
	Country mean	***A***	***12.9***	***11.6***	***32.3***	***2.9***	***13.3***	***2.2***	***12.9***	***2.9***	***2.8***	***1.0***	***3.9***	***1.7***
		B	***12.2***	***7.9***	***25.1***	***9.7***	***16.3***	***2.0***	***17.9***	***n***	***n***	***n***	***8.0***	***1.0***
PARTNER COUNTRY	Israel	A	16.3	13.1	41.8	a	10.7	0.9	5.3	3.4	1.7	6.6	x(10)	a
		B	m	m	m	m	m	m	m	m	m	m	m	a

Note: The column following country names specifies the level of education, where A equals tertiary-type A and advanced research programmes, and B equals tertiary-type B programmes. x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.

1. Excludes tertiary-type B second degree programmes.
2. Year of reference 2001.
3. All sciences included in life sciences.
4. Excludes tertiary-type A second degree programmes.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

A4

Table A4.2. Percentage of tertiary qualifications awarded to females, by type of tertiary education and field of study (2002)

		All fields of study					Health and welfare		Life sciences, physical sciences and agriculture	
		Tertiary-type B (First degree)	Tertiary-type B (Second degree)	Tertiary-type A (First degree)	Tertiary-type A (Second degree)	Advanced research programmes	Tertiary-type B education	Tertiary-type A and advanced research programmes	Tertiary-type B education	Tertiary-type A and advanced research programmes
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD COUNTRIES	Australia	52	42	57	54	44	82	77	m	53
	Austria	m	m	49	n	38	m	59	m	49
	Belgium	62	62	51	54	36	81	60	48	45
	Canada	m	m	m	m	m	m	m	m	m
	Czech Republic	72	a	53	53	34	88	71	60	50
	Denmark[1]	34	a	66	50	41	a	82	27	45
	Finland[1]	51	a	63	58	48	87	86	54	54
	France[1]	53	a	58	52	43	81	61	37	50
	Germany	63	a	49	a	36	83	60	13	43
	Greece	53	a	57	53	38	m	m	m	m
	Hungary	60	m	62	55	45	100	75	n	48
	Iceland	46	n	66	48	40	a	81	a	48
	Ireland	52	52	59	63	40	91	82	65	55
	Italy[1]	56	a	57	61	52	a	64	a	52
	Japan	66	a	39	26	23	77	53	53	39
	Korea	55	39	48	34	23	81	58	32	43
	Luxembourg	m	m	m	m	m	m	m	m	m
	Mexico	43	m	53	m	39	80	62	54	42
	Netherlands	59	a	55	65	38	81	74	a	40
	New Zealand	60	66	62	58	47	83	78	46	52
	Norway	52	a	63	53	37	84	83	a	49
	Poland	83	a	63	68	44	a	69	a	64
	Portugal	m	m	m	m	m	m	m	m	m
	Slovak Republic	81	a	55	42	41	91	69	66	49
	Spain	52	n	59	m	45	82	77	26	52
	Sweden	54	a	61	90	41	95	81	54	57
	Switzerland	47	43	44	31	34	77	59	10	36
	Turkey	45	a	41	39	34	61	56	50	44
	United Kingdom	61	x(1)	56	55	42	85	74	44	54
	United States	59	a	57	57	46	87	76	40	53
	Country mean	***57***	***44***	***55***	***51***	***40***	***84***	***70***	***41***	***49***
PARTNER COUNTRY	Israel	m	a	61	60	47	m	68	m	57

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. Year of reference 2001.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

Table A4.2. (*continued*) Percentage of tertiary qualifications awarded to females, by type of tertiary education and field of study (2002)

		Mathematics and computer science		Humanities, arts and education		Social sciences, business, law and services		Engineering, manufacturing and construction	
		Tertiary-type B education	Tertiary-type A and advanced research programmes	Tertiary-type B education	Tertiary-type A and advanced research programmes	Tertiary-type B education	Tertiary-type A and advanced research programmes	Tertiary-type B education	Tertiary-type A and advanced research programmes
		(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
OECD COUNTRIES	Australia	m	28	62	71	56	53	14	23
	Austria	m	19	m	68	m	51	m	17
	Belgium	12	21	71	66	58	54	17	21
	Canada	m	m	m	m	m	m	m	m
	Czech Republic	42	26	57	70	73	55	27	23
	Denmark[1]	17	28	67	70	46	45	30	23
	Finland[1]	48	39	75	79	58	68	18	21
	France[1]	21	31	57	73	68	60	16	25
	Germany	11	23	86	69	51	45	7	21
	Greece	m	m	m	m	m	m	m	m
	Hungary	56	20	n	75	68	58	19	26
	Iceland	32	20	55	80	45	59	n	27
	Ireland	40	37	69	72	59	58	10	22
	Italy[1]	a	52	56	82	a	55	a	28
	Japan	x(8)	x(9)	82	67	76	33	17	10
	Korea	40	43	72	71	55	42	34	25
	Luxembourg	m	m	m	m	m	m	m	m
	Mexico	48	42	78	64	53	57	22	25
	Netherlands	11	16	82	73	44	50	n	13
	New Zealand	27	31	71	74	62	57	25	32
	Norway	36	24	66	73	56	48	10	22
	Poland	a	41	83	76	a	67	a	24
	Portugal	m	m	m	m	m	m	m	m
	Slovak Republic	a	17	70	68	64	55	22	31
	Spain	25	32	68	73	68	60	17	29
	Sweden	42	40	55	77	69	59	31	28
	Switzerland	18	9	71	62	43	37	7	14
	Turkey	33	40	80	46	54	39	25	23
	United Kingdom	27	28	61	67	54	55	14	20
	United States	36	32	79	69	64	54	14	22
	Country mean	***31***	***30***	***67***	***70***	***59***	***53***	***18***	***23***
PARTNER COUNTRY	Israel	m	35	m	79	m	60	m	24

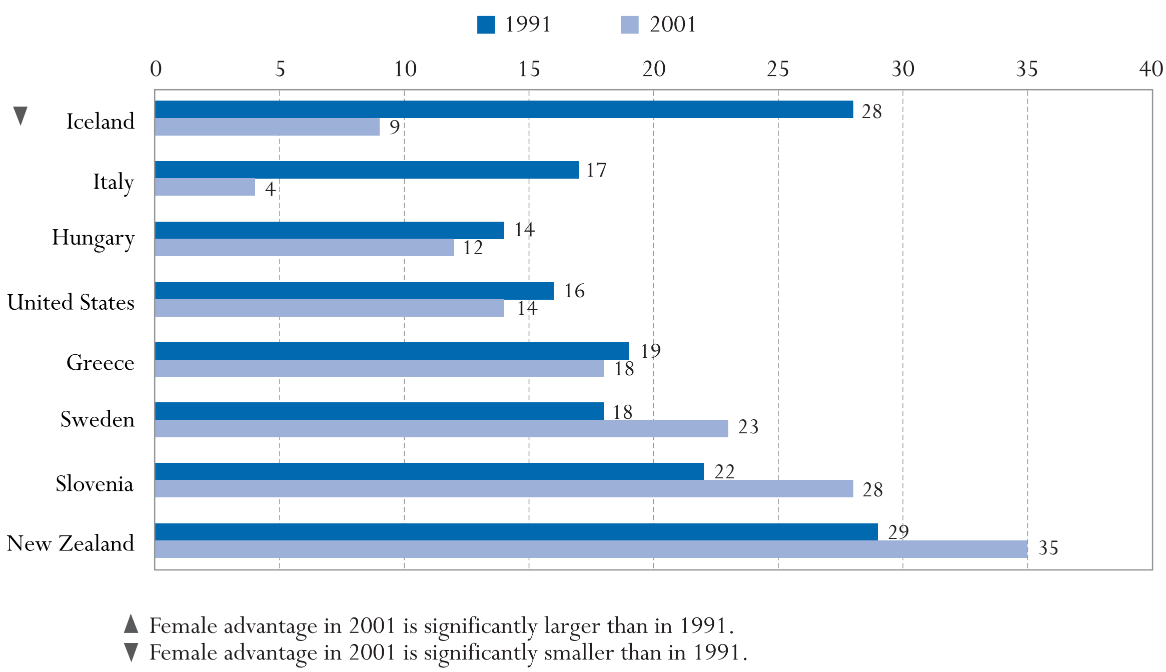
Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. Year of reference 2001.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

A5

INDICATOR A5: TRENDS IN 4TH-GRADE STUDENTS' READING LITERACY PERFORMANCE

- In a comparison involving nine countries, four (Greece, Hungary, Iceland and Slovenia) showed statistically significant increases in the average reading literacy performance of 4th graders between 1991 and 2001, ranging from an increase of 16 points in Hungary to an increase of 41 points in Greece. By contrast Sweden decreased in performance over this period, from 513 points in 1991 to 498 points in 2001.
- In Hungary improvements among the top performing quarter of students pulled up mean performance. By contrast, in Sweden a decline in the performance of the top quarter contributed to a decrease in the average performance of Swedish 3rd graders.
- In 1991, girls outperformed boys in all nine countries. In 2001, while differences favouring girls remained in most countries, measurable differences disappeared in Iceland and Italy.

Chart A5.1. Female advantage in reading literacy performance in 1991 and 2001



Countries are ranked in descending order of the magnitude of the performance difference between females and males between 1991 and 2001.
Source: IEA Trends in Reading Literacy Study, 2001.

Policy context

The ability to read, understand and use information is at the heart of academic and personal development. Reading literacy is the foundation for learning across school subjects, and it equips individuals with the ability to participate in their communities and society. It is one of the most important abilities that students acquire and develop as they progress through their school years. Towards the end of primary education, the school curriculum tends to shift from teaching basic skills, such as reading, to teaching basic knowledge. As a result, children who have trouble reading at this level of education may find themselves at increased risk of educational failure. Since the 1970s, the International Association for the Evaluation of Educational Achievement (IEA) has studied the reading literacy performance of students at the 4th-grade level twice (see Box A5.1). Using data from the recent IEA Trends in Reading Literacy Study, this indicator examines changes in reading literacy performance for students at the end of primary school between 1991 and 2001 in nine countries.

This indicator examines changes in the performance of 4th-grade students in reading literacy in nine countries, overall and by gender.

Evidence and explanations

Means and distributions

Examining countries' mean scores can be useful for obtaining an overall indication of how education systems are performing at a certain grade and in a certain subject area, and examining trends in mean scores can provide an overall picture of how education systems are performing over time.

The most common grade levels assessed among the participating countries was the 4th grade. In the following, the shorthand "4th grade" is therefore used to denote the target population. However, in New Zealand, the assessment took place at the 5th-grade level and in Hungary, Singapore, Slovenia and Sweden it took place at the 3rd-grade level.

Table A5.1 shows the mean reading literacy scores in 1991 and in 2001, as well as the differences in scores between the two years, for 4th graders in each of the nine countries participating in the study. Four countries (Greece, Hungary, Iceland and Slovenia) showed increases from 1991 to 2001 in average student performance on the reading literacy assessment, ranging from an increase of 16 points in Hungary to an increase of 41 points in Greece. Sweden showed the only statistically significant decrease in performance over the period, from 513 points in 1991 to 498 points in 2001. Four countries (Italy, New Zealand, Singapore and the United States) showed no significant change in overall performance between 1991 and 2001. When interpreting these results it should be noted, however, that the student samples were not comparable with regard to students' ages (see below).

Between 1991 and 2001, Greece, Hungary, Iceland and Slovenia showed increases in the average reading literacy performance of 4th graders.

While mean scores are useful for obtaining a general picture of performance, they often mask significant variation within countries that typically far exceeds variation among countries. For example, in 2001 the range in countries' mean scores was 38 points, whereas the range of the middle 50% of students was nearly three times that (and greater than one standard deviation) in all countries. Table A5.1 also shows, in graphic form, the distribution of scores at the 5th, 25th, 75th, and 95th percentiles for each of the two assessment years.

Overall changes in reading literacy performance were driven by different factors in different countries…

Box A5.1. PIRLS and trends in reading literacy

In 2001, the International Association for the Evaluation of Educational Achievement (IEA) launched the ***Progress in Reading Literacy Study*** (PIRLS), designed to provide an international assessment of 4th-grade students' reading literacy performance. With this study, PIRLS built on the two previous IEA Reading Literacy Studies from 1970-71 and 1990-91, and began a five-year cycle to provide data on trends in reading literacy performance. Thirty-five countries participated in the first cycle, PIRLS 2001.

Because the PIRLS 2001 reading assessment differed in a number of respects from the IEA Reading Literacy Study of 1990-91, it was not possible to link the results of the two studies directly together. However, since PIRLS 2001 was scheduled to collect data on 4th-grade students ten years after the 1991 study, PIRLS countries that participated in 1991 were given the opportunity of measuring changes in reading literacy performance over that period by re-administering the 1991 reading literacy assessment for primary school students as part of the PIRLS data collection. The resulting study is known as the ***Trends in Reading Literacy Study*** of PIRLS and is the source of data for this indicator.

The assessment on which the trend study is based was organised around three types of text (narrative, expository and document). Questions, the majority of which were multiple-choice, required students to demonstrate a variety of skills or cognitive processes, such as locating information, processing information or making inferences. However, again, because the study differs in some respects from the PIRLS 2001 assessment, countries' overall results may differ slightly between the two, with the trend study providing an indicator of change over time and the PIRLS study providing a new benchmark against a broad group of countries.

…with improvements among the top performing quarter of students in Hungary contributing to an increase in the national mean…

Looking more closely at where changes occur within the distribution of students' scores also allows reflection on changes in performance among various groups of students and how this may relate to changes in overall performance. For example, in Hungary, it appears that the increase in overall mean scores was the result of an increase in scores over the decade among students at the 75th and 95th percentiles – that is, improvements among the top performing quarter of students appeared to pull up mean performance.

…while a decline in performance among the top quarter in Sweden contributed to the decrease in the national mean.

By contrast, Sweden showed a decrease in performance among the top quarter of performers, contributing to a decrease in the average performance of Swedish 3rd graders.

Other countries with changes in performance for different groups of students include Iceland and Slovenia, where there were increases in the scores of students at all four percentiles, and Greece, where there were increases among the middle 50% of students.

Some background factors that may relate to students' reading literacy performance are summarised in a brief overview in Box A5.2.

Box A5.2. Trends in factors positively associated with reading literacy performance

Students' performance in reading can be influenced by many variables, for example, the level of support students receive at home for reading, their reading habits and their attitudes towards reading. Using information from the background questionnaires, this text box provides an overview of trends in several factors that the 1991 and/or 2001 studies found to be positively related to reading performance across most countries.

For all nine countries participating in the 2001 trend study, students who always or almost always ***speak the language of the test at home*** had higher reading performance than those speaking it only sometimes or hardly ever. These results differed somewhat from the 1991 assessment, in which the relationship between home language and performance was more variable across countries. The 2001 results show that in all countries except Italy and Singapore, at least 88% of students always or almost always speak the language of the test at home, which reflects either no change or modest decreases from 1991.

Similar to findings from 1991, in 2001 higher reading literacy performance was observed for students with more ***books in the home*** (more than 50). In 2001, the percentages of students with the most books in the home (more than 100) ranged from about one- to two-thirds (31 to 65%). For six of the countries – Hungary, Iceland, Italy, Slovenia, Sweden and the United States – this represented a decrease from 1991.

Also similar to previous results, in 2001 students who reported ***reading books for fun*** on a daily basis had higher reading performance than those reading books for fun only once a month or less. Except in Iceland, students reported either no change or less reading for fun in 2001 than a decade earlier. Iceland was the only country with an increase, and the only one where the majority of students (51%) reported reading books for fun on a daily basis.

Different from the 1991 assessment, the relationship between reading performance and the frequency of ***borrowing of books from the library*** was less pronounced among countries in 2001, perhaps related to the considerable variation and general decline in library use. In 2001, the percentages of students reporting borrowing books at least weekly ranged from moderately high (57 to 66%) in New Zealand, Singapore, Slovenia and the United States, to moderate (42%) in Iceland to relatively low (20 to 33%) in Greece, Hungary, Italy and Sweden. These levels represented a significant decline for Hungary, Singapore, Slovenia, and Sweden.

In 2001, there was considerable variation in daily ***textbook reading in classes***, ranging from 71% of the Greek students to 14% of the Swedish students; the overall trend over the decade was toward less frequent textbook reading. However, the positive relationship between textbook reading and reading performance remained, with those students reading textbooks only monthly or less showing lower reading performance, on average, than their counterparts reading more frequently. Trends in performance for various categories of textbook reading generally followed the overall trends – with Greece, Iceland, and Slovenia showing increases and Sweden showing decreases.

In Iceland, Sweden, and the United States, students reported some increases for ***homework*** given or the amount of time they spend on it. Students in New Zealand reported essentially no change in the level of homework, and those in the remaining countries reported having less homework. Interpreting the relationship between reading performance and homework, however, is difficult, since homework can be used as a tool to challenge some students or to remediate others and the time it takes to complete also will vary among students. In 2001, the pattern appears to be towards students with the least homework having the highest performance.

Gender differences

The left half of Table A5.2 shows how girls and boys performed in the two assessment years. Generally, trends in the performance for girls and boys resembled the trends in reading overall. In Greece, Hungary, Iceland and Slovenia, both girls and boys had increased scores in reading performance over the period. Gains were similar for both groups in Greece, Hungary and Slovenia, whereas in Iceland, boys showed bigger gains than girls. In Sweden, girls' and boys' averages both decreased between 1991 and 2001. There were no statistically significant changes in scores for girls or for boys in Italy, New Zealand, Singapore and the United States.

In 1991, girls outperformed boys in all nine countries whereas in 2001, while differences favouring girls remained in most countries, measurable differences disappeared in Iceland and Italy.

The right half of Table A5.2 provides another perspective, showing the differences between girls' scores and boys' scores in each of the two years, as well as indicating if those differences have increased or decreased over time. In 1991, girls outperformed boys in all nine countries. In 2001, while differences favouring girls remained in most countries, differences in Iceland and Italy were no longer statistically significant. Moreover, in Iceland, there was a significant decrease in gender differences in reading literacy performance between girls and boys (from a 28-point difference in 1991 to 9-point difference in 2001), which was related to the increase in the performance of boys described earlier (see also Chart A5.1).

Text differences

In some countries, student performance evolved differently in different aspects of reading performance.

In addition to an overall scale, the IEA Trends in Reading Literacy Study also provides information on students' performance on three subscales related to type of texts in the assessment: narrative texts, expository texts and documents. Narrative texts are continuous texts in which the writer's aim is to tell a story, factual or fictional. These types of text normally follow a linear time sequence and are intended to entertain or involve the reader emotionally. Narrative passages included in the assessment ranged from short fables to more lengthy stories of up to 1 000 words. Expository texts also are continuous, and are designed to describe, explain, or otherwise convey factual information or opinion to the reader. Documents are non-continuous texts and consist of structured information displays presented in the form of charts, tables, maps, graphs, lists, or sets of instructions.

Greece, Hungary, Iceland and Slovenia, the four countries that showed improvements in average reading literacy between 1991 and 2001, showed increases on all three subscales (Table A5.3). These four countries were also the only ones to show statistically significant improvement on the narrative and expository scales. In contrast, Sweden and the United States showed decreases on the narrative scale, and Sweden also demonstrated decreases on the expository scale.

With respect to the document scale, all but two countries (Sweden and the United States) showed an improvement on document texts in 2001 compared to 1991.

Ages and years of schooling

In interpreting the results of the trend study, it needs to be taken into account that the samples were grade-based and resulted in considerable differences in the average age of students across participating OECD countries. For example, an analysis of the 11 OECD countries participating in both PIRLS and PISA found that the average age of students explained 49% of the cross-country differences in performance in overall reading literacy. Also, because the sample was of the grade in which there was the greatest number of 9-year-olds, the number of years of formal schooling varied across countries, related to the fact that the age at which students begin school varies from country to country.

In interpreting the results, limits of the comparability of the ages of students and the grades tested need to be taken into account.

Although the same grade was tested in 1991 and 2001 in all countries, changes also occurred in the average student age in those grades in a few countries. Overall, the average age of 4th-grade students ranged from 9.3 to 10 years in 1991, and from 9.1 to 10 years in 2001. However, in two of the countries in which there were significant overall increases in mean scores, the average age of students also increased significantly. In Greece, the average age of 4th-grade students increased from 9.3 years in 1991 to 10 years in 2001, and in Hungary the increase was from 9.3 to 9.7 years.

Definitions and methodologies

The assessments are based on the IEA Reading Literacy Study, which was first administered in 1991 (except for New Zealand and Singapore, where it was administered in 1990) and then replicated in 2001 in conjunction with the administration of the IEA Progress in Reading Literacy Study (PIRLS).

The performance scores are based on assessments administered as part of the Trends in Reading Literacy Study undertaken by the International Association for the Evaluation of Educational Achievement (IEA).

The target population for the trend study was students in the grade that contained the largest proportion of 9-year-old students at the time of testing. The most common grade levels assessed among the participating countries was the 4th grade. However, in New Zealand, the assessment took place at the 5th-grade level and in Hungary, Singapore, Slovenia and Sweden it took place at the 3rd-grade level.

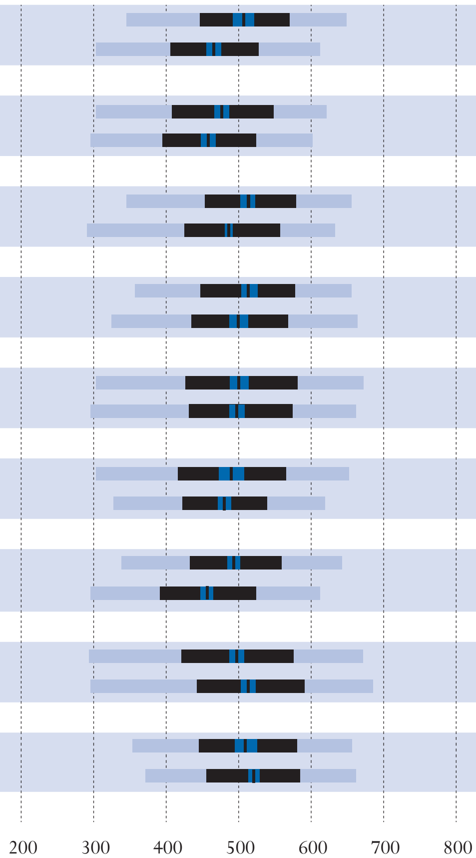
The Trends in Reading Literacy Study used item response theory (IRT) methods to summarise the performance results from both 1991 and 2001 on a common scale with a mean of 500 and a standard deviation of 100. The scale mean of 500 was set to the mean of the average scale scores of the 2001 data for the nine countries being shown in this indicator. Thus, the means reported here for 1991 will differ from the initial PIRLS report because the 1991 data were rescaled to be put on a common metric with the 2001 data.

For notes on standard errors, significance tests and multiple comparisons, see Annex 3 at *www.oecd.org/edu/eag2004*.

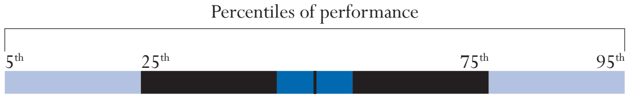
Table A5.1. Trends in reading literacy performance (1991-2001)

▲ 2001 average significantly higher than 1991 average. ▼ 2001 average significantly lower than 1991 average.

		Difference 1991 to 2001	Distribution of reading literacy performance	Average scale score	Years of formal schooling	Average age
Greece	▲	41 (7.4)				
2001				507 (5.9)	4	10.0
1991				466 (4.5)	4	9.3
Hungary	▲	16 (5.6)				
2001				475 (3.9)	3	9.7
1991				459 (4.0)	3	9.3
Iceland	▲	27 (3.7)				
2001				513 (3.5)	4	9.8
1991				486 (1.5)	4	9.8
Italy		12 (6.9)				
2001				513 (4.4)	4	9.9
1991				500 (5.4)	4	9.8
New Zealand		4 (6.8)				
2001				502 (5.3)	5	10.0
1991				498 (4.1)	5	10.0
Singapore		8 (8.7)				
2001				489 (7.9)	3	9.1
1991				481 (3.6)	3	9.3
Slovenia	▲	36 (4.9)				
2001				493 (3.7)	3	9.8
1991				458 (3.2)	3	9.7
Sweden	▼	-15 (5.7)				
2001				498 (3.9)	3	9.8
1991				513 (4.2)	3	9.8
United States		-10 (7.1)				
2001				511 (6.3)	4	10.0
1991				521 (3.2)	4	10.0



Percentiles of performance



Average and 95% Confidence Interval (±2SE)

Note: Standard errors (SE) are shown in parentheses.
Source: IEA Trends in Reading Literacy Study, 2001.

A5

Table A5.2. Trends in gender differences in reading literacy performance (1991-2001)

▲ 2001 average is significantly higher than 1991 average.
▼ 2001 average is significantly lower than 1991 average.
F Females perform significantly higher than males.
△ Gender differences in 2001 are significantly larger than gender differences in 1991.
▽ Gender differences in 2001 are significantly smaller than gender differences in 1991.

	Average scale score		Difference 1991 to 2001		Difference between females and males				Change in difference 1991 to 2001
	2001	1991				2001		1991	
Greece									
Females	516 (7.3)	476 (5.7)	▲	40 (9.2)	F	18 (6.3)	F	19 (4.8)	
Males	499 (6.0)	457 (4.4)	▲	41 (7.4)					
Hungary									
Females	481 (4.2)	467 (4.4)	▲	14 (6.0)	F	12 (3.2)	F	14 (4.4)	
Males	469 (4.2)	453 (4.7)	▲	16 (6.3)					
Iceland									
Females	517 (3.2)	501 (2.1)	▲	17 (3.7)		9 (4.8)	F	28 (3.6)	▽
Males	508 (5.1)	473 (2.6)	▲	35 (5.7)					
Italy									
Females	514 (5.2)	512 (5.6)		3 (7.6)		4 (5.5)	F	17 (5.7)	
Males	511 (5.3)	495 (6.4)		16 (8.2)					
New Zealand									
Females	520 (7.0)	514 (5.0)		6 (8.7)	F	35 (8.7)	F	29 (6.3)	
Males	485 (6.6)	485 (5.4)		0 (8.6)					
Singapore									
Females	504 (7.9)	489 (3.9)		15 (8.8)	F	29 (4.8)	F	16 (4.3)	△
Males	475 (8.5)	473 (4.5)		2 (9.6)					
Slovenia									
Females	508 (5.2)	469 (3.5)	▲	39 (6.3)	F	28 (5.7)	F	22 (3.7)	
Males	480 (4.1)	447 (3.8)	▲	33 (5.6)					
Sweden									
Females	509 (4.3)	523 (4.9)	▼	-13 (6.5)	F	23 (4.1)	F	18 (4.6)	
Males	486 (4.4)	505 (4.8)	▼	-18 (6.4)					
United States									
Females	517 (6.7)	529 (3.3)		-12 (7.5)	F	14 (5.4)	F	16 (3.4)	
Males	504 (7.1)	513 (4.0)		-9 (8.2)					

Note: Standard errors (SE) are shown in parentheses.
Source: IEA Trends in Reading Literacy Study, 2001.

Table A5.3. Trends in reading literacy performance, by subscale (1991-2001)

▲ 2001 average is significantly higher than 1991 average. ▼ 2001 average is significantly lower than 1991 average.

	Average score		Difference	
	2001	1991	1991 to 2001	
Narrative				
Greece	513 (4.8)	479 (3.7)	▲	34 (6.0)
Hungary	479 (3.1)	467 (3.2)	▲	12 (4.5)
Iceland	524 (3.3)	493 (1.6)	▲	31 (3.8)
Italy	517 (4.1)	507 (4.7)		10 (6.2)
New Zealand	496 (5.3)	500 (4.3)		-5 (6.9)
Singapore	487 (8.6)	486 (3.5)		1 (9.3)
Slovenia	490 (3.7)	465 (3.0)	▲	25 (4.8)
Sweden	496 (3.6)	513 (3.4)	▼	-17 (4.8)
United States	498 (6.8)	518 (3.3)	▼	-20 (7.7)
Expository				
Greece	509 (5.2)	476 (4.3)	▲	33 (6.8)
Hungary	464 (4.4)	443 (4.8)	▲	21 (6.4)
Iceland	502 (3.3)	483 (1.9)	▲	18 (3.9)
Italy	513 (4.5)	507 (5.5)		6 (7.1)
New Zealand	510 (5.3)	502 (3.9)		8 (6.5)
Singapore	495 (6.6)	489 (3.1)		6 (7.3)
Slovenia	489 (3.3)	455 (3.6)	▲	34 (4.9)
Sweden	496 (4.1)	519 (4.4)	▼	-23 (6.1)
United States	521 (5.4)	516 (3.2)		5 (6.2)
Document				
Greece	490 (5.2)	443 (4.9)	▲	48 (7.1)
Hungary	486 (3.7)	468 (4.3)	▲	18 (5.6)
Iceland	506 (3.4)	479 (1.7)	▲	28 (4.0)
Italy	499 (4.5)	482 (5.4)	▲	17 (6.9)
New Zealand	506 (5.2)	491 (4.0)	▲	16 (6.3)
Singapore	484 (6.8)	465 (3.1)	▲	18 (7.5)
Slovenia	502 (3.8)	456 (3.0)	▲	47 (4.9)
Sweden	506 (4.4)	504 (4.5)		2 (6.4)
United States	520 (6.1)	527 (3.2)		-7 (6.6)

Note: Standard errors (SE) are shown in parentheses.
Source: IEA Trends in Reading Literacy Study, 2001.

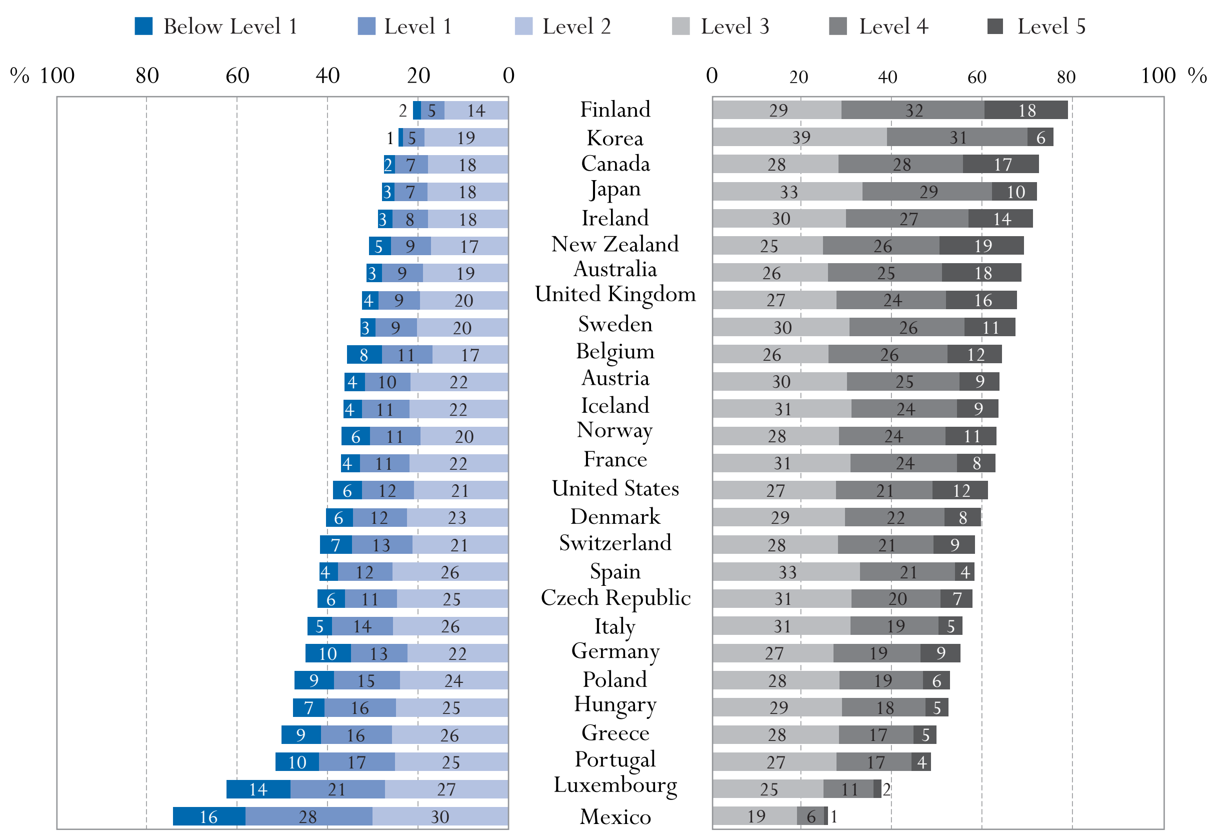
A6

INDICATOR A6: READING LITERACY OF 15-YEAR-OLDS

- On average among OECD countries, 10% of 15-year-olds demonstrated Level 5 literacy skills, which involve evaluation of information and building of hypotheses, drawing on specialised knowledge and accommodating concepts contrary to expectations. However, this percentage varies from 19% in Finland and New Zealand to below 1% in Mexico.
- An average of 12% of 15-year-olds have only acquired the most basic literacy skills at Level 1 and a further 6% fall below even that.
- Some countries, most notably Finland, Japan and Korea, achieve both a high level of average performance and a narrow range of variation in student performance.
- Six countries (the Czech Republic, Germany, Greece, Hungary, Italy and the United States) performed relatively better in PIRLS than in PISA. In the Czech Republic, Germany, Hungary and Italy, scores were above the OECD average in PIRLS and are below the OECD average in PISA. Iceland, New Zealand and Norway performed relatively better in PISA than in PIRLS. France and Sweden performed similarly relative to other countries on both assessments.

Chart A6.1. Reading proficiency of 15-year-olds (2000)

Percentage of 15-year-olds at each level of proficiency on the PISA reading literacy scale



Countries are ranked in descending order of the percentage of students at Levels 3, 4 and 5 on the PISA reading literacy scale.
Source: OECD PISA 2000 database. Table A6.1. See Annex 3 for notes and methodology *(www.oecd.org/edu/eag2004)* and *www.pisa.oecd.org.*

Policy context

The capacity of students approaching the end of compulsory education to access, manage, integrate, evaluate and reflect on written information is a foundation for further learning as well as their full participation in modern societies.

This indicator shows the performance of 15-year-olds in reading literacy.

This indicator shows the performance of 15-year-olds on tasks based on a concept of reading literacy that goes beyond the notion of decoding written material and literal comprehension. Reading in PISA incorporates understanding and reflecting on texts. Literacy involves the ability to use written information to fulfil goals, and the consequent ability of complex modern societies to use written information effectively.

When Indicators A5 and A6 are examined together, they provide a context for examining differences in reading literacy performance between the primary school age and the end of compulsory education, even if the PISA and PIRLS studies are somewhat different in orientation and design, and even if the measurement of performance at two age levels at a single point in time can only be a rough proxy for longitudinal progress.

Evidence and explanations

Percentage of 15-year-olds proficient at each level of reading literacy

This indicator examines reading literacy in several ways (see Box A6.1 for an explanation of reading literacy in PISA). First, it describes proficiency in terms of the range of scores that 15-year-olds achieve in each country. Proficiency in reading is examined at five levels, each representing tasks of increasing complexity, with Level 5 being the highest. Second, this indicator describes performance in terms of the mean scores achieved by 15-year-olds and the distribution of scores among student populations.

PISA provides an interpretative framework for performance levels in reading literacy.

Chart A6.1 presents an overall profile of proficiency on the reading literacy scale with the length of the coloured components of the bars showing the percentage of 15-year-olds proficient at each level (see Box A6.2). As can be seen from the chart, the percentage of students reaching each level of literacy and the patterns of distribution among the levels vary from country to country. Across countries, on average, 10% of students reach proficiency Level 5, 32% reach at least Level 4 (*i.e.,* Levels 4 and 5), 61% reach at least Level 3, 82% reach at least Level 2, and 94% reach at least Level 1.

10% of 15-year-olds in OECD countries have acquired Level 5 literacy skills…

Examining individual countries' performance by proficiency level is revealing: in five countries (Australia, Canada, Finland, New Zealand and the United Kingdom), 15% or more of students reach the highest level of proficiency in reading literacy. In Belgium, Ireland, Norway, Sweden and the United States, a significant percentage of students also reach proficiency Level 5 (between 11 and 15%). However, only 5% or less of the students in Greece, Luxembourg, Mexico, Portugal and Spain reach the highest level of proficiency.

…but this proportion ranges across countries from 19 to less than 1%.

Although there is a general tendency among countries with a high proportion of 15-year-olds scoring at Level 5 to have fewer students below the lowest level of

Box A6.1. What is reading literacy in PISA?

Reading literacy is the ability to understand, use and reflect on written texts in order to achieve one's goals, to develop one's own knowledge and potential, and to participate effectively in society. This definition goes beyond the notion that reading means decoding written material and literal comprehension. Rather, reading also incorporates understanding and reflecting on texts, for a variety of reasons and in a variety of contexts. PISA's assessment of reading literacy reflects three dimensions: aspect of reading task; form of reading material; and the use for which the text is constructed.

What scales are reported? PISA's assessment of reading literacy is reported on three scales. A "retrieving information" scale is based on students' ability to locate information in a text. An "interpreting" scale is based on the ability to construct meaning and draw inferences from written information. A "reflection and evaluation" scale is based on students' ability to relate a text to their knowledge, ideas and experiences. In addition, an overall reading literacy scale summarises the results from the three reading scales. Indicator A6 focuses on the latter scale, which is referred to as the "reading literacy scale".

What do the scale scores mean? The scores on each scale represent degrees of proficiency in each dimension or aspect of reading literacy. For example, a low score on a scale indicates that a student has limited skills, whereas a high score indicates that a student has advanced skills in this area.

What are proficiency levels? In an attempt to capture this progression of difficulty, each of the reading literacy scales is divided into five levels based on the type of knowledge and skills students need to demonstrate at a particular level. Students at a particular level are likely to not only demonstrate the knowledge and skills associated with that level but also the proficiencies defined by lower levels. For instance, all students proficient at Level 3 are also proficient at Levels 1 and 2.

A large proportion of high performers typically means fewer low performers, but in some countries, there are large disparities.

proficiency (see Finland, for example), this is not always the case. Belgium and the United States, for example, stand out in showing an above-average share of performers at the highest proficiency level while, at the same time, showing an above-average proportion of students scoring below Level 1 (Table A6.1).

Half of all 15-year-olds in Finland and at least 40% of students in Australia, Canada, Ireland, New Zealand and the United Kingdom reach at least Level 4 on the reading literacy scale. With the exception of Luxembourg and Mexico, at least one in five students in each OECD country reaches at least Level 4.

In one-third of OECD countries, more than two-thirds of 15-year-olds reach at least Level 3.

In one-third of OECD countries, between 67 and 79% of 15-year-old students are proficient at least at Level 3 on the reading literacy scale: Australia, Canada, Finland, Ireland, Japan, Korea, New Zealand, Sweden and the United Kingdom. Using these nine countries to explore the question "is the pattern of proficiency similar across countries?", several patterns emerge. In Canada and Finland, for instance, relatively large proportions of students reach Level 5 and at least 90% of students in each country reach at least Level 2 – these countries show strong results across the reading literacy scale. In Australia, Ireland, New Zealand and the

Box A6.2. What can students at each proficiency level do and what scores are associated with the levels?

Students proficient at ***Level 5 (over 625 points)*** are capable of completing sophisticated reading tasks, such as managing information that is difficult to find in unfamiliar texts; showing detailed understanding of such texts and inferring which information in the text is relevant to the task; and being able to evaluate critically and build hypotheses, draw on specialised knowledge and accommodate concepts that may be contrary to expectations.

Students proficient at ***Level 4 (553 to 625 points)*** are capable of difficult reading tasks, such as locating embedded information, construing meaning from nuances of language and critically evaluating a text.

Students proficient at ***Level 3 (481 to 552 points)*** are capable of reading tasks of moderate complexity, such as locating multiple pieces of information, drawing links between different parts of the text and relating it to familiar everyday knowledge.

Students proficient at ***Level 2 (408 to 480 points)*** are capable of basic reading tasks, such as locating straightforward information, making low-level inferences of various types, deciding what a well-defined part of the text means and using some outside knowledge to understand it.

Students proficient at ***Level 1 (335 to 407 points)*** are capable of completing only the least complex reading tasks developed for PISA, such as locating a single piece of information, identifying the main theme of a text or making a simple connection with everyday knowledge.

Students performing ***below Level 1 (below 335 points)*** are not able to show routinely the most basic type of knowledge and skills that PISA seeks to measure. These students may have serious difficulties in using reading literacy as an effective tool to advance and extend their knowledge and skills in other areas.

United Kingdom, there are large numbers of students at the highest level, but over 10% of students perform at or below Level 1. These countries perform well in getting students to higher levels of proficiency but succeed less well than Canada or Finland in reducing the proportion with low skills. The opposite is true in Korea, where less than 6% of students are at Level 1 or below, but where a below-average proportion (6%) reach the highest level of proficiency (Table A6.1).

In every OECD country, at least half of all students are at Level 2 or higher. Interestingly, in Spain, where only 4% of students reach Level 5, an above-average 84% reach at least Level 2. However, over 40% of students in Spain have Level 2 as their highest proficiency level (Table A6.1).

The simplest tasks in PISA require students to do more than just read words fluently.

Reading literacy, as defined in PISA, focuses on the knowledge and skills required to apply "reading to learn" rather than on the technical skills acquired in "learning to read". Since comparatively few young adults in OECD countries have not acquired technical reading skills, PISA does not seek to measure such things as the extent to which 15-year-old students are fluent readers or how well they spell or recognise words. In line with most contemporary views about reading literacy, PISA focuses on measuring the extent to which individuals are able to construct, expand and reflect on the meaning of what they have read in a wide range of texts both within and beyond school. The simplest reading tasks that can still be associated with this notion of reading literacy are those at Level 1. Students proficient at this level are capable of completing only the least complex reading tasks developed for PISA, such as locating a single piece of information, identifying the main theme of a text or making a simple connection with everyday knowledge.

While students below Level 1 may have the technical capacity to read, they may face serious difficulties in their future lives…

Students performing below 335 points, *i.e.,* below Level 1, are not capable of the most basic type of reading that PISA seeks to measure. This does not mean that they have no literacy skills. In fact, most of these students can probably read in a technical sense, and the majority of them (54%, on average, among OECD countries) are able to solve successfully at least 10% of the non-multiple choice reading tasks in PISA 2000 (6% correctly solve one-quarter of these tasks). Nonetheless, their pattern of answers in the assessment is such that they would be expected to solve fewer than half of the tasks in a test made up of items drawn solely from Level 1, and therefore perform below Level 1. Such students show serious difficulties in using reading literacy as an effective tool to advance and extend their knowledge and skills in other areas. Students with literacy skills below Level 1 may, therefore, be at risk not only of difficulties in their initial transition from education to work but also of failure to benefit from further education and learning opportunities throughout life.

…and, along with those at Level 1, may not acquire the necessary literacy skills to sufficiently benefit from educational opportunities.

Education systems with large proportions of students performing below, or even at, Level 1 should be concerned that significant numbers of their students may not be acquiring the necessary literacy knowledge and skills to benefit sufficiently from their educational opportunities. This situation is even more troublesome in light of the extensive evidence suggesting that it is difficult in later life to compensate for learning gaps in initial education. Adult literacy skills and participation in continuing education and training are strongly related, even after controlling for other characteristics affecting participation in training.

The percentage of students at or below Level 1 varies widely, from less than 10% to nearly half…

In the combined OECD area, 12% of students perform at Level 1, and 6% below Level 1, but there are wide differences among countries. In Finland and Korea, only around 5% of students perform at Level 1, and less than 2% below it, but these countries are exceptions. In all other OECD countries, between 9 and 44% of students perform at or below Level 1 (Table A6.1).

…and, in some countries, a considerable minority do not reach Level 1.

The countries with 20% or more of students at Level 1 or below are Germany, Greece, Hungary, Luxembourg, Mexico, Poland, Portugal and Switzerland. In Germany, Luxembourg, Mexico and Portugal, between 10 and 23% of students do not reach Level 1, *i.e.,* are unable routinely to show the most basic skills that PISA seeks to measure. This is most remarkable in the case of Germany, where 9% of students perform at Level 5, a relatively high figure (Table A6.1).

National means and distribution of performance in reading literacy

Average scores can usefully summarise country performances…

Another way to summarise student performance and to compare the relative standing of countries in terms of student performance in PISA 2000 is to display the mean scores for students in each country. To the extent that high average performance at age 15 can be considered predictive of a highly skilled future workforce, countries with high average performance will have an important economic and social advantage. It should be noted, however, that average performance charts often mask significant variation in performance within countries, failing to reflect different performance among many different groups of students.

…but mask wide differences in student performance within countries.

As in previous international studies of student performance, such as the Third International Mathematics and Science Study (TIMSS), only around one-tenth of PISA's total variation in student performance in reading literacy lies between countries and can, therefore, be captured through a comparison of country averages. The remaining variation in student performance occurs within countries, *i.e.,* between educational programmes, between schools, and between students within schools. Thus, this indicator also presents information on the distribution of reading literacy scores, examining the range of performance between the top and bottom quarter of students in each country.

Finland shows unparalleled overall performance, the mean score being almost two-thirds of a proficiency level above the OECD average.

On the reading literacy scale, students from Finland perform on average higher than students from any other country participating in the study (see Chart A6.2). Their mean score, 546 points, is almost two-thirds of a proficiency level above the OECD average of 500 points (or in statistical terms, almost half the international standard deviation above the mean). Eleven other OECD countries, Australia, Austria, Belgium, Canada, Iceland, Ireland, Japan, Korea, New Zealand, Sweden and the United Kingdom, score significantly above the OECD mean. Five countries perform at or about the OECD mean, and the remaining countries perform significantly below the OECD mean.

High average scores are not enough; countries also look to raise the level of performance of poor performers.

Looking at the distribution in student performance (Table A6.2) shows that the variation in student performance on the reading literacy scale within countries is large. The variation within every country far exceeds the range of country mean scores. The difference between the 75^{th} and 25^{th} percentiles, which covers the middle half of the national performance distribution, exceeds the magnitude of one proficiency level (72 score points) in all countries, and measures about two times the magnitude of one proficiency level in Australia, Belgium, Germany and New Zealand (the OECD average on this measure is 1.8 times the magnitude of one proficiency level).

Are these observed disparities inevitable?

Together, these findings suggest that educational systems in many countries face significant challenges in addressing the needs of all students, including those most in need as well as those performing exceptionally well.

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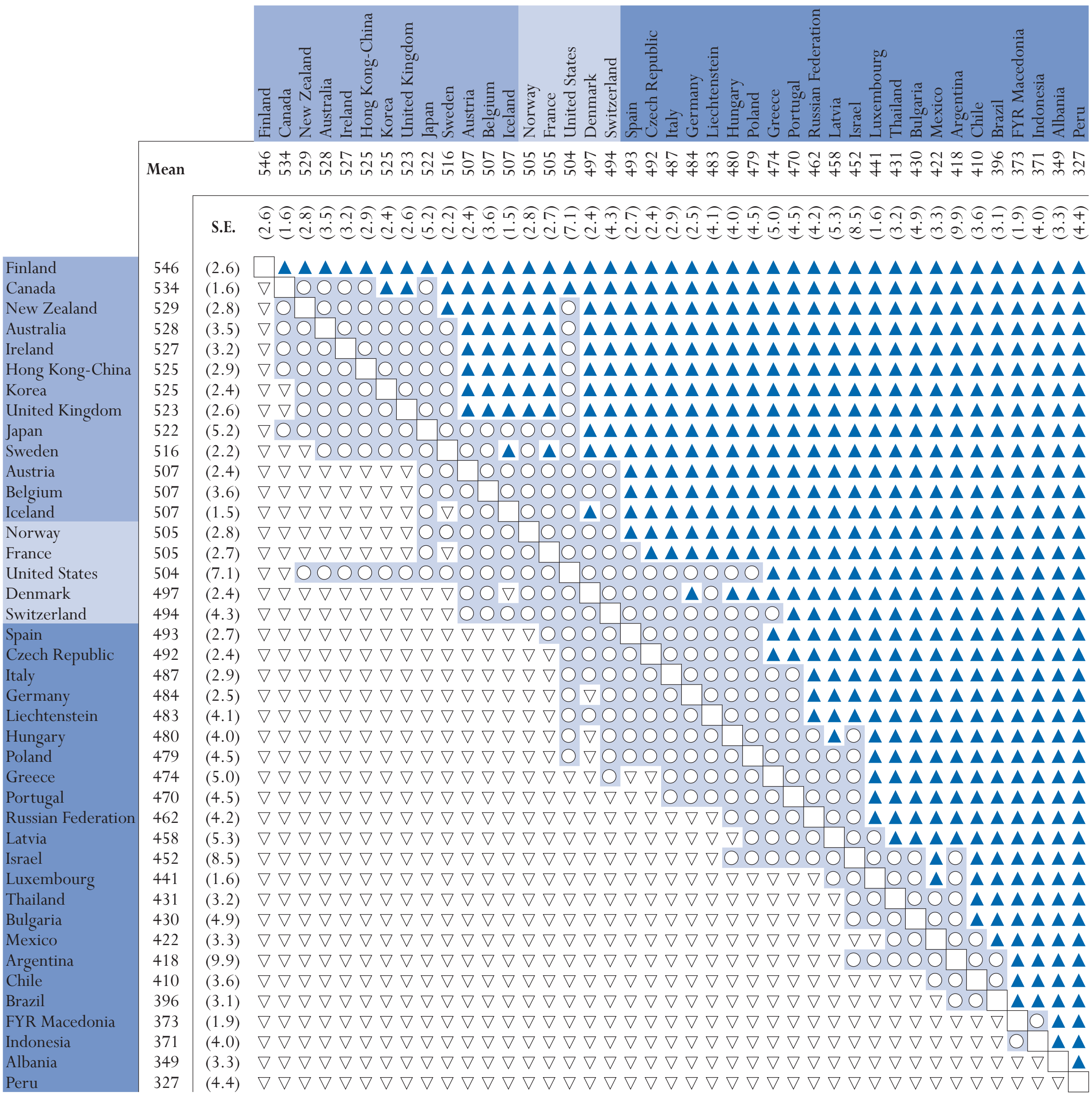
Chart A6.2. Multiple comparisons of mean performance on the PISA reading literacy scale (2000)



Instructions: Read across the row for a country to compare performance with the countries listed along the top of the chart.

Statistical significance of mean performance:

▲ Higher than for the country listed along the top of the chart.

○ No difference from the country listed along the top of the chart.

▽ Lower than for the country listed along the top of the chart.

Statistical significance of difference from OECD country mean:

Above country mean.

No difference from country mean.

Below country mean.

Note: Due to low response rates, the Netherlands is excluded from the chart.

Countries are ranked in descending order of mean performance on the PISA reading literacy scale.

Source: OECD PISA 2000 database. See Annex 3 for notes and methodology (*www.oecd.org/edu/eag2004*) and *www.pisa.oecd.org.*

Box A6.3. Reading literacy performance in PISA and PIRLS

There are significant similarities in the way that reading literacy is defined and measured in the PISA and PIRLS assessments. While direct comparisons of the results of the two studies are not possible – as PIRLS and PISA are different assessments with different approaches to defining their target populations – it is interesting to make some comparisons at a general level for the 11 countries for which there are country-wide data for both assessments.

Standing relative to OECD mean

Six countries (the Czech Republic, Germany, Greece, Hungary, Italy and the United States) performed relatively better in PIRLS than in PISA. In the Czech Republic, Germany, Hungary and Italy, scores were above the OECD average in PIRLS but are below the OECD average in PISA. Three countries performed relatively better in PISA than in PIRLS: Iceland, New Zealand and Norway. France and Sweden performed similarly relative to other countries on both assessments (Table A6.3).

Distribution of performance

In the Czech Republic and Sweden, variation in reading literacy performance is low among both 4th graders and students at age 15. In Sweden average performance is above the OECD average level in both age groups, whereas in the Czech Republic, average performance among 4th graders is above the OECD average level but performance at age 15 is below the OECD average (Table A6.2). German 4th graders perform well on average and with low disparities. By contrast, 15-year-olds perform below average and show some of the largest disparities in student performance. Students in New Zealand show some of the largest disparities in both age groups.

The comparison is based on the Czech Republic, France, Germany, Greece, Hungary, Iceland, Italy, New Zealand, Norway, Sweden and the United States. Canada and the United Kingdom are not considered in this comparison because only certain jurisdictions participated in PIRLS. The Netherlands is not considered because its mean reading score in PISA is not published due to low response rates. The Slovak Republic and Turkey, which participated in PIRLS, did not participate in PISA 2000.

In interpreting these results, it must be taken into account that, unlike in PISA, the samples for PIRLS were grade-based and resulted in considerable differences in the average age of students across participating countries. For example, students in the best performing country, Sweden, were a year older than students in Iceland and Italy and almost a year older than students in France, Greece, New Zealand and Norway. Among the 11 countries that participated in both PISA and PIRLS, the average age of students explains 49% of the cross-country performance differences, which is considerable. These differences need to be taken into account not only when interpreting average performance in PIRLS, but also when comparing performance differences in countries between PISA and PIRLS. This being said, it is noteworthy that the performance of Swedish 3rd graders remains strongest, even when an adjustment for differences in students' ages is made.

It is hard to say, but some countries contain them within a far narrower range than others…

One can also observe that countries with similar levels of average performance show considerable variation in the range of student performance. For example, Korea and the United Kingdom both show above-average mean performance on the reading literacy scale at around 525 score points. The difference between the 75th and 25th percentiles in Korea is 92 points, significantly below the OECD average, but in the United Kingdom it is 137 score points, similar to the OECD average. A similar result can be observed for countries scoring below average. Italy and Germany each perform at around 485 score points, significantly below the OECD average. In Italy the difference between the 75th and 25th percentiles is 124 points, but in Germany, it is 146 points. Bringing the bottom quarter of students closer to the mean is one way for countries with wide internal disparities to raise overall performance.

…and some countries succeed in combining high average performance with low disparities.

Finally, comparing the range of performance within a country with its average performance shows that some countries attain both relatively low differences between top and bottom performing students and relatively high levels of overall performance. There is a tendency for high performing countries to show relatively small disparities. For example, the three countries with the smallest differences between the 75th and 25th percentiles – Finland, Japan and Korea – are also among the best performing countries in reading literacy. By contrast, one of the three countries with the highest performance differences, Germany, scores significantly below the OECD average (Table A6.2).

Definitions and methodologies

The performance scores are based on assessments administered as part of the Programme for International Student Assessment (PISA) undertaken by the OECD in 2000.

The target population studied for this indicator was 15-year-old students. Operationally, this refers to students aged between 15 years and 3 (completed) months and 16 years and 2 (completed) months at the beginning of the testing period, and enrolled in an educational institution, regardless of the grade level or type of institution and of whether they participated in school full-time or part-time.

To facilitate the interpretation of the scores assigned to students in PISA, the mean score for reading literacy performance among OECD countries was set at 500 and the standard deviation at 100, with the data weighted so that each OECD country contributed equally. These reference points anchor PISA's measurement of student proficiency.

Different from PISA, the PIRLS data are reported on a scale for which the mean of all countries, including partner countries, was set to a mean of 500 and a standard deviation of 100. The international mean is thus different from the Trends in Reading Literacy Study reported in Indicator A5.

For notes on standard errors, significance tests and multiple comparisons see Annex 3 at *www.oecd.org/edu/eag2004*.

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Table A6.1. Reading proficiency of 15-year-olds (2000)

Percentage of 15-year-olds at each level of proficiency on the PISA reading literacy scale

		Proficiency levels										
		Below Level 1 (less than 335 score points)		Level 1 (from 335 to 407 score points)		Level 2 (from 408 to 480 score points)		Level 3 (from 481 to 552 score points)		Level 4 (from 553 to 625 score points)		Level 5 (above 625 score points)	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD COUNTRIES	Australia	3.3	(0.5)	9.1	(0.8)	19.0	(1.1)	25.7	(1.1)	25.3	(0.9)	17.6	(1.2)
	Austria	4.4	(0.4)	10.2	(0.6)	21.7	(0.9)	29.9	(1.2)	24.9	(1.0)	8.8	(0.8)
	Belgium	7.7	(1.0)	11.3	(0.7)	16.8	(0.7)	25.8	(0.9)	26.3	(0.9)	12.0	(0.7)
	Canada	2.4	(0.3)	7.2	(0.3)	18.0	(0.4)	28.0	(0.5)	27.7	(0.6)	16.8	(0.5)
	Czech Republic	6.1	(0.6)	11.4	(0.7)	24.8	(1.2)	30.9	(1.1)	19.8	(0.8)	7.0	(0.6)
	Denmark	5.9	(0.6)	12.0	(0.7)	22.5	(0.9)	29.5	(1.0)	22.0	(0.9)	8.1	(0.5)
	Finland	1.7	(0.5)	5.2	(0.4)	14.3	(0.7)	28.7	(0.8)	31.6	(0.9)	18.5	(0.9)
	France	4.2	(0.6)	11.0	(0.8)	22.0	(0.8)	30.6	(1.0)	23.7	(0.9)	8.5	(0.6)
	Germany	9.9	(0.7)	12.7	(0.6)	22.3	(0.8)	26.8	(1.0)	19.4	(1.0)	8.8	(0.5)
	Greece	8.7	(1.2)	15.7	(1.4)	25.9	(1.4)	28.1	(1.7)	16.7	(1.4)	5.0	(0.7)
	Hungary	6.9	(0.7)	15.8	(1.2)	25.0	(1.1)	28.8	(1.3)	18.5	(1.1)	5.1	(0.8)
	Iceland	4.0	(0.3)	10.5	(0.6)	22.0	(0.8)	30.8	(0.9)	23.6	(1.1)	9.1	(0.7)
	Ireland	3.1	(0.5)	7.9	(0.8)	17.9	(0.9)	29.7	(1.1)	27.1	(1.1)	14.2	(0.8)
	Italy	5.4	(0.9)	13.5	(0.9)	25.6	(1.0)	30.6	(1.0)	19.5	(1.1)	5.3	(0.5)
	Japan	2.7	(0.6)	7.3	(1.1)	18.0	(1.3)	33.3	(1.3)	28.8	(1.7)	9.9	(1.1)
	Korea	0.9	(0.2)	4.8	(0.6)	18.6	(0.9)	38.8	(1.1)	31.1	(1.2)	5.7	(0.6)
	Luxembourg	14.2	(0.7)	20.9	(0.8)	27.5	(1.3)	24.6	(1.1)	11.2	(0.5)	1.7	(0.3)
	Mexico	16.1	(1.2)	28.1	(1.4)	30.3	(1.1)	18.8	(1.2)	6.0	(0.7)	0.9	(0.2)
	New Zealand	4.8	(0.5)	8.9	(0.5)	17.2	(0.9)	24.6	(1.1)	25.8	(1.1)	18.7	(1.0)
	Norway	6.3	(0.6)	11.2	(0.8)	19.5	(0.8)	28.1	(0.8)	23.7	(0.9)	11.2	(0.7)
	Poland	8.7	(1.0)	14.6	(1.0)	24.1	(1.4)	28.2	(1.3)	18.6	(1.3)	5.9	(1.0)
	Portugal	9.6	(1.0)	16.7	(1.2)	25.3	(1.0)	27.5	(1.2)	16.8	(1.1)	4.2	(0.5)
	Spain	4.1	(0.5)	12.2	(0.9)	25.7	(0.7)	32.8	(1.0)	21.1	(0.9)	4.2	(0.5)
	Sweden	3.3	(0.4)	9.3	(0.6)	20.3	(0.7)	30.4	(1.0)	25.6	(1.0)	11.2	(0.7)
	Switzerland	7.0	(0.7)	13.3	(0.9)	21.4	(1.0)	28.0	(1.0)	21.0	(1.0)	9.2	(1.0)
	United Kingdom	3.6	(0.4)	9.2	(0.5)	19.6	(0.7)	27.5	(0.9)	24.4	(0.9)	15.6	(1.0)
	United States	6.4	(1.2)	11.5	(1.2)	21.0	(1.2)	27.4	(1.3)	21.5	(1.4)	12.2	(1.4)
	OECD total	***6.2***	***(0.4)***	***12.1***	***(0.4)***	***21.8***	***(0.4)***	***28.6***	***(0.4)***	***21.8***	***(0.4)***	***9.4***	***(0.4)***
	Country mean	***6.0***	***(0.1)***	***11.9***	***(0.2)***	***21.7***	***(0.2)***	***28.7***	***(0.2)***	***22.3***	***(0.2)***	***9.5***	***(0.1)***
PARTNER COUNTRIES	Brazil	23.3	(1.4)	32.5	(1.2)	27.7	(1.3)	12.9	(1.1)	3.1	(0.5)	0.6	(0.2)
	Latvia	12.7	(1.3)	17.9	(1.3)	26.3	(1.1)	25.2	(1.3)	13.8	(1.1)	4.1	(0.6)
	Liechtenstein	7.6	(1.5)	14.5	(2.1)	23.2	(2.9)	30.1	(3.4)	19.5	(2.2)	5.1	(1.6)
	Russian Federation	9.0	(1.0)	18.5	(1.1)	29.2	(0.8)	26.9	(1.1)	13.3	(1.0)	3.2	(0.5)

Note: Standard errors (SE) are shown in parentheses.
Source: OECD PISA 2000 database. See Annex 3 for notes and methodology (*www.oecd.org/edu/eag2004*) and *www.pisa.oecd.org*.

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Table A6.2. Variation in performance in reading literacy of 15-year-olds (2000)

Performance of 15-year-olds on the PISA reading literacy scale, by percentile

						Percentiles											
						5th		10th		25th		75th		90th		95th	
		Mean score	S.E.	S.D.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD COUNTRIES	Australia	528	(3.5)	102	(1.6)	354	(4.8)	394	(4.4)	458	(4.4)	602	(4.6)	656	(4.2)	685	(4.5)
	Austria	507	(2.4)	93	(1.6)	341	(5.4)	383	(4.2)	447	(2.8)	573	(3.0)	621	(3.2)	648	(3.7)
	Belgium	507	(3.6)	107	(2.4)	308	(10.3)	354	(8.9)	437	(6.6)	587	(2.3)	634	(2.5)	659	(2.4)
	Canada	534	(1.6)	95	(1.1)	371	(3.8)	410	(2.4)	472	(2.0)	600	(1.5)	652	(1.9)	681	(2.7)
	Czech Republic	492	(2.4)	96	(1.9)	320	(7.9)	368	(4.9)	433	(2.8)	557	(2.9)	610	(3.2)	638	(3.6)
	Denmark	497	(2.4)	98	(1.8)	326	(6.2)	367	(5.0)	434	(3.3)	566	(2.7)	617	(2.9)	645	(3.6)
	Finland	546	(2.6)	89	(2.6)	390	(5.8)	429	(5.1)	492	(2.9)	608	(2.6)	654	(2.8)	681	(3.4)
	France	505	(2.7)	92	(1.7)	344	(6.2)	381	(5.2)	444	(4.5)	570	(2.4)	619	(2.9)	645	(3.7)
	Germany	484	(2.5)	111	(1.9)	284	(9.4)	335	(6.3)	417	(4.6)	563	(3.1)	619	(2.8)	650	(3.2)
	Greece	474	(5.0)	97	(2.7)	305	(8.2)	342	(8.4)	409	(7.4)	543	(4.5)	595	(5.1)	625	(6.0)
	Hungary	480	(4.0)	94	(2.1)	320	(5.6)	354	(5.5)	414	(5.3)	549	(4.5)	598	(4.4)	626	(5.5)
	Iceland	507	(1.5)	92	(1.4)	345	(5.0)	383	(3.6)	447	(3.1)	573	(2.2)	621	(3.5)	647	(3.7)
	Ireland	527	(3.2)	94	(1.7)	360	(6.3)	401	(6.4)	468	(4.3)	593	(3.6)	641	(4.0)	669	(3.4)
	Italy	487	(2.9)	91	(2.7)	331	(8.5)	368	(5.8)	429	(4.1)	552	(3.2)	601	(2.7)	627	(3.1)
	Japan	522	(5.2)	86	(3.0)	366	(11.4)	407	(9.8)	471	(7.0)	582	(4.4)	625	(4.6)	650	(4.3)
	Korea	525	(2.4)	70	(1.6)	402	(5.2)	433	(4.4)	481	(2.9)	574	(2.6)	608	(2.9)	629	(3.2)
	Luxembourg	441	(1.6)	100	(1.5)	267	(5.1)	311	(4.4)	378	(2.8)	513	(2.0)	564	(2.8)	592	(3.5)
	Mexico	422	(3.3)	86	(2.1)	284	(4.4)	311	(3.4)	360	(3.6)	482	(4.8)	535	(5.5)	565	(6.3)
	New Zealand	529	(2.8)	108	(2.0)	337	(7.4)	382	(5.2)	459	(4.1)	606	(3.0)	661	(4.4)	693	(6.1)
	Norway	505	(2.8)	104	(1.7)	320	(5.9)	364	(5.5)	440	(4.5)	579	(2.7)	631	(3.1)	660	(4.6)
	Poland	479	(4.5)	100	(3.1)	304	(8.7)	343	(6.8)	414	(5.8)	551	(6.0)	603	(6.6)	631	(6.0)
	Portugal	470	(4.5)	97	(1.8)	300	(6.2)	337	(6.2)	403	(6.4)	541	(4.5)	592	(4.2)	620	(3.9)
	Spain	493	(2.7)	85	(1.2)	344	(5.8)	379	(5.0)	436	(4.6)	553	(2.6)	597	(2.6)	620	(2.9)
	Sweden	516	(2.2)	92	(1.2)	354	(4.5)	392	(4.0)	456	(3.1)	581	(3.1)	630	(2.9)	658	(3.1)
	Switzerland	494	(4.2)	102	(2.0)	316	(5.5)	355	(5.8)	426	(5.5)	567	(4.7)	621	(5.5)	651	(5.3)
	United Kingdom	523	(2.6)	100	(1.5)	352	(4.9)	391	(4.1)	458	(2.8)	595	(3.5)	651	(4.3)	682	(4.9)
	United States	504	(7.1)	105	(2.7)	320	(11.7)	363	(11.4)	436	(8.8)	577	(6.8)	636	(6.5)	669	(6.8)
	OECD total	***499***	***(2.0)***	***100***	***(0.8)***	***322***	***(3.4)***	***363***	***(3.3)***	***433***	***(2.5)***	***569***	***(1.6)***	***622***	***(2.0)***	***653***	***(2.1)***
	Country mean	***500***	***(0.6)***	***100***	***(0.4)***	***324***	***(1.3)***	***366***	***(1.1)***	***435***	***(1.0)***	***571***	***(0.7)***	***623***	***(0.8)***	***652***	***(0.8)***
PARTNER COUNTRIES	Brazil	396	(3.1)	86	(1.9)	255	(5.0)	288	(4.5)	339	(3.4)	452	(3.4)	507	(4.2)	539	(5.5)
	Latvia	458	(5.3)	102	(2.3)	283	(9.7)	322	(8.2)	390	(6.9)	530	(5.3)	586	(5.8)	617	(6.6)
	Liechtenstein	483	(4.1)	96	(3.9)	310	(15.9)	350	(11.8)	419	(9.4)	551	(5.8)	601	(7.1)	626	(8.2)
	Russian Federation	462	(4.2)	92	(1.8)	306	(6.9)	340	(5.4)	400	(5.1)	526	(4.5)	579	(4.4)	608	(5.3)

Note: Standard errors (SE) are shown in parentheses.

Source: OECD PISA 2000 database. See Annex 3 for notes and methodology (*www.oecd.org/edu/eag2004*) and *www.pisa.oecd.org*.

Table A6.3. Mean performance in reading literacy of 4th-grade students and 15-year-olds (2000, 2001)

Performance of 4th-grade students on the PIRLS reading literacy scale and of 15-year-olds on the PISA reading literacy scale

▲ Mean performance statistically significantly above the PISA OECD country mean (= 500)
▼ Mean performance statistically significantly below the PISA OECD country mean (= 500)
△ Mean performance statistically significantly above the PIRLS OECD country mean (= 529)
▽ Mean performance statistically significantly below the PIRLS OECD country mean (= 529)

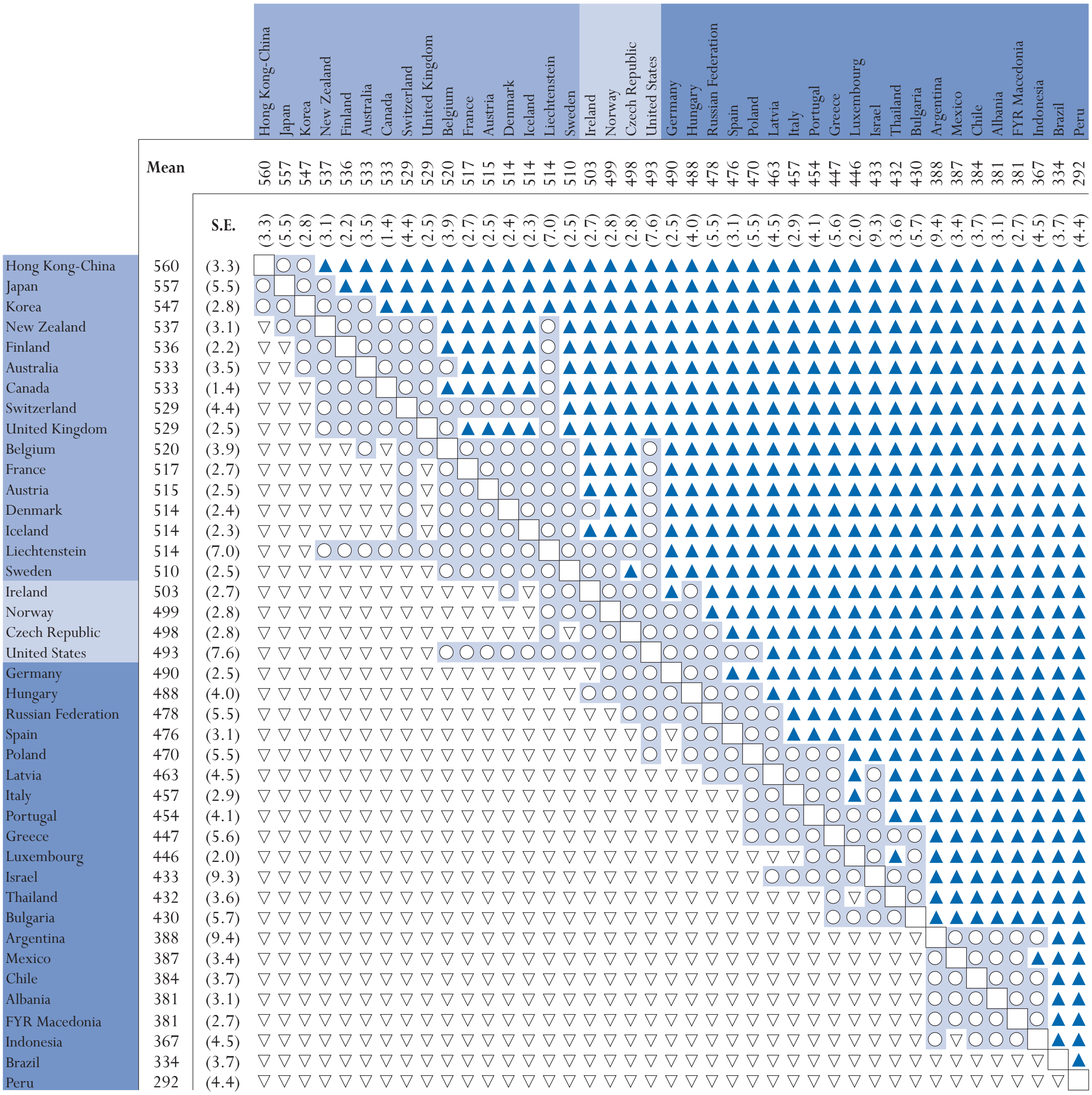
	Performance of 15-year-olds on the PISA reading literacy scale			Performance of 4th-grade students on the PIRLS reading literacy scale		
Czech Republic	▼	492	(2.4)	△	537	(2.3)
France		505	(2.7)		525	(2.4)
Germany	▼	484	(2.5)	△	539	(1.9)
Greece	▼	474	(5.0)		524	(3.5)
Hungary	▼	480	(4.0)	△	543	(2.2)
Iceland	▲	507	(1.5)	▽	512	(1.2)
Italy	▼	487	(2.9)	△	541	(2.4)
New Zealand	▲	529	(2.8)		529	(3.6)
Norway		505	(2.8)	▽	499	(2.9)
Sweden	▲	516	(2.2)	△	561	(2.2)
United States		504	(7.1)	△	542	(3.8)

Note: Standard errors (SE) are shown in parentheses.
Source: IEA Progress in Reading Literacy Study (PIRLS) 2001 and OECD PISA 2000 database.

INDICATOR A7: MATHEMATICAL AND SCIENTIFIC LITERACY OF 15-YEAR-OLDS

- 15-year-olds in Japan display the highest mean scores in mathematical literacy, although their scores cannot be distinguished statistically from students in two other top-performing countries, Korea and New Zealand. On the scientific literacy scale, students in Japan and Korea demonstrate the highest average performance.
- While there are large differences in mean performance among countries, the variation of performance among 15-year-olds within each country is many times larger. However, wide disparities in performance are not a necessary condition for a country to attain a high level of overall performance. On the contrary, five of the countries with the smallest variation in performance on the mathematical literacy scale, namely Canada, Finland, Iceland, Japan and Korea, all perform significantly above the OECD average, and four of them, Canada, Finland, Japan and Korea, are among the six best-performing countries in mathematical literacy.

Chart A7.1. Multiple comparisons of mean performance on the PISA mathematical literacy scale (2000)



Instructions: Read across the row for a country to compare performance with the countries listed along the top of the chart.

Statistical significance of mean performance:

▲ Higher than for the country listed along the top of the chart.

○ No difference from the country listed along the top of the chart.

▽ Lower than for the country listed along the top of the chart.

Statistical significance of difference from OECD country mean:

Above country mean.

No difference from country mean.

Below country mean.

Note: Due to low response rates, the Netherlands is excluded from the chart.

Countries are ranked in descending order of mean performance on the PISA mathematical literacy scale.

Source: OECD PISA 2000 database. See Annex 3 for notes and methodology (*www.oecd.org/edu/eag2004*) and *www.pisa.oecd.org*.

Policy context

Mathematics and science skills are necessary for the many, not just the few…

The need to provide foundations for the professional training of a small number of mathematicians, scientists and engineers dominated the content of school mathematics and science curricula for much of the past century. With the growing role of science, mathematics and technology in modern life, however, the objectives of personal fulfilment, employment and full participation in society increasingly require all adults to be mathematically, scientifically and technologically literate.

…if people are to understand and participate in the modern world.

Deficiencies in mathematical and scientific literacy can have grave consequences, not only for the labour market and earnings prospects of individuals, but also for the competitiveness of nations. Conversely, the performance of a country's best students in mathematics and science-related subjects can have implications for the part that country will play in tomorrow's advanced technology sector. Aside from meeting workplace requirements, mathematical and scientific literacy also are important for understanding the environmental, medical, economic and other issues that confront modern societies and that rely heavily on technological and scientific advances.

This indicator shows the performance of 15-year-olds in mathematical and scientific literacy.

Consequently, policy makers and educators alike attach great importance to mathematics and science education. Addressing the increasing demand for mathematical and scientific skills requires excellence throughout educational systems, and it is important to monitor how well nations provide young adults with fundamental skills in these areas. The Programme for International Student Assessment (PISA) provides information about how well 15-year-olds perform in these areas with a focus on assessing the knowledge and skills that prepare students for life and lifelong learning (Box A7.1).

Evidence and explanations

Charts A7.1 and A7.2 order countries by the mean performance of their students on the mathematical and scientific literacy scales. The charts also show which countries perform above, below, or about the same as the OECD average and how their students perform in comparison with students in every other country.

Japan shows the highest mean score in mathematical literacy…

Students in Japan display the highest mean scores in mathematical literacy, although their scores cannot be distinguished statistically from students in Korea and New Zealand. Other OECD countries that score significantly above the OECD average include Australia, Austria, Belgium, Canada, Denmark, Finland, France, Iceland, Sweden, Switzerland and the United Kingdom (Chart A7.1).

…and together with Korea in scientific literacy.

On the scientific literacy scale, students in Korea and Japan demonstrate the highest average performance compared to students in other OECD countries. Australia, Austria, Canada, the Czech Republic, Finland, Ireland, New Zealand, Sweden and the United Kingdom are among other countries that score significantly above the OECD average (Chart A7.2).

Box A7.1. What are mathematical and scientific literacy in PISA?

What is *mathematical* literacy? Mathematical literacy in PISA concerns students' ability to recognise and interpret mathematical problems encountered in their world, to translate these problems into a mathematical context, to use mathematical knowledge and procedures to solve the problems within their mathematical context, to interpret the results in terms of the original problem, to reflect upon the methods applied, and to formulate and communicate the outcomes.

What do different points along the mathematical literacy scale mean? The scale can be described in terms of the knowledge and skills students must demonstrate at various points along the mathematical literacy scale:

- Towards the top end of the mathematical literacy scale, around 750 score points, students typically take a creative and active role in their approach to mathematical problems.
- Around 570 score points on the scale, students are typically able to interpret, link and integrate different representations of a problem or different pieces of information; and/or use and manipulate a given model, often involving algebra or other symbolic representations; and/or verify or check given propositions or models.
- At the lower end of the scale, around 380 score points, students are usually able to complete only a single processing step consisting of reproducing basic mathematical facts or processes or applying simple computational skills.

What is *scientific* literacy? Scientific literacy reflects students' ability to use scientific knowledge, to recognise scientific questions and to identify what is involved in scientific investigations, to relate scientific data to claims and conclusions, and to communicate these aspects of science.

What do different points along the scientific literacy scale mean? The scale can be described in terms of increasingly difficult tasks required for students:

- Towards the top end of the scientific literacy scale, around 690 score points, students generally are able to create or use simple conceptual models to make predictions or give explanations; analyse scientific investigations in relation to, for example, experimental design or the identification of an idea being tested; relate data as evidence to evaluate alternative viewpoints or different perspectives; and communicate scientific arguments and/or descriptions in detail and with precision.
- Around 550 score points, students typically are able to use scientific concepts to make predictions or provide explanations; recognise questions that can be answered by scientific investigation and/or identify details of what is involved in a scientific investigation; and select relevant information from competing data or chains of reasoning in drawing or evaluating conclusions.
- Towards the lower end of the scale, around 400 score points, students are able to recall simple scientific factual knowledge (*e.g.*, names, facts, terminology, simple rules) and use common science knowledge in drawing or evaluating conclusions.

As can be inferred by reading the lists of above-average performers in the previous paragraphs, in general, countries that perform well in one subject area also perform well in the other subject area (*i.e.*, mean mathematics and science scores are highly correlated). However, there are some exceptions. For example, the scores for mathematical literacy of the Czech Republic and Ireland are not significantly different from the OECD average, but their students perform significantly above the OECD average on the scientific literacy scale. Conversely, students in Belgium, France, Iceland and Switzerland perform significantly above the OECD average on the mathematical literacy scale, but their score in scientific literacy is not statistically different from the OECD average. Students in Denmark, while above the OECD mean in mathematical literacy, are below the OECD mean in scientific literacy.

While there are large differences in mean performance among countries, the variation of performance among students within each country is many times larger.

While there are large differences in mean performance among countries, the variation of performance among students within each country is many times larger. Tables A7.1 and A7.2 show how students perform at the 5th, 25th, 75th and 95th percentiles in each county. The distributions of student performance on the mathematical literacy scale in Belgium, Germany, Greece, Hungary, New Zealand, Poland, Switzerland and the United States, show a relatively large gap between the 75th and 25th percentiles – between 135 and 149 score points. Finland, Iceland, Ireland, Japan and Korea show comparatively smaller disparities, with 113 score points or less separating the 75th and 25th percentiles.

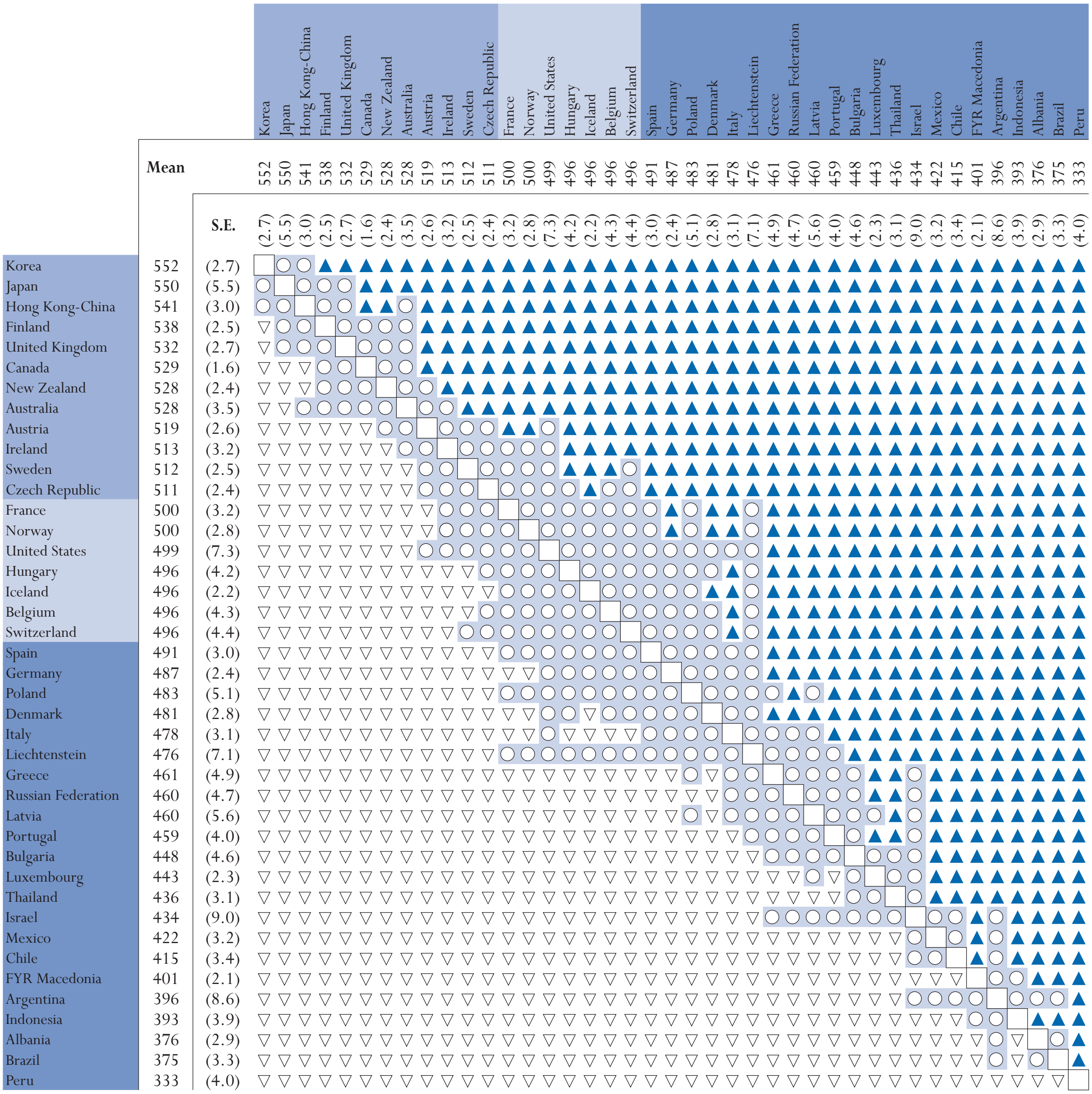
In scientific literacy, Belgium, Denmark, France, Germany, Hungary, New Zealand, Switzerland and the United States exhibit relatively large gaps between students at the 75th and 25th percentiles – between 140 and 154 score points each – while Finland, Japan, Korea and Mexico exhibit relatively small differences between these groups of students, with differences all less than 118 score points.

Disparities in performance are not a necessary condition for a country to attain a high level of overall performance.

It is useful to relate the range of performance to average performance. This comparison shows that wide disparities in student performance are not a necessary condition for a country to attain a high level of overall performance. On the contrary, it is striking to see that six of the countries with the smallest differences between the 75th and 25th percentiles on the mathematical literacy scale, namely Canada, Finland, Iceland, Ireland, Japan and Korea, all perform significantly above the OECD average (Table A7.1). Furthermore, four of them, Canada, Finland, Japan and Korea are among the six best-performing OECD countries in mathematical literacy. A similar pattern is observed for scientific literacy. Again, Canada, Finland, Japan and Korea are among the six countries with the smallest differences between 75th and 25th percentiles, as well as among the six best-performing countries.

Conversely, the countries with the largest internal disparities tend to perform below the OECD mean. In mathematical literacy, for example, among the six countries (Belgium, Germany, Greece, Hungary, Poland and the United States) with the largest differences between the students at the 75th and 25th percentiles, only two (Belgium and the United States) do not perform significantly below the OECD average.

Chart A7.2. Multiple comparisons of mean performance on the PISA scientific literacy scale (2000)



Instructions: Read across the row for a country to compare performance with the countries listed along the top of the chart.

Statistical significance of mean performance:

▲ Higher than for the country listed along the top of the chart.

○ No difference from the country listed along the top of the chart.

▽ Lower than for the country listed along the top of the chart.

Statistical significance of difference from OECD country mean:

Above country mean.

No difference from country mean.

Below country mean.

Note: Due to low response rates, the Netherlands is excluded from the chart.

Countries are ranked in descending order of mean performance on the PISA scientific literacy scale.

Source: OECD PISA 2000 database. See Annex 3 for notes and methodology (*www.oecd.org/edu/eag2004*) and *www.pisa.oecd.org*.

Definitions and methodologies

The performance scores are based on assessments administered as part of the Programme for International Student Assessment (PISA) undertaken by the OECD in 2000.

The target population studied for this indicator was 15-year-old students. Operationally, this refers to students aged between 15 years and 3 (completed) months and 16 years and 2 (completed) months at the beginning of the testing period and enrolled in an educational institution, irrespective of the grade level or type of institution and of whether they participated in school full-time or part-time.

To facilitate the interpretation of the scores assigned to students in PISA, the mean score for mathematical and scientific literacy performance among OECD countries was set at 500 and the standard deviation at 100, with the data weighted so that each OECD country contributed equally.

For notes on standard errors, significance tests and multiple comparisons see Annex 3 at *www.oecd.org/edu/eag2004*.

A7

Table A7.1. Variation in performance in mathematical literacy of 15-year-olds (2000)

Performance of 15-year-olds on the PISA mathematical literacy scale, by percentile

	Mean		Percentiles											
			5th		10th		25th		75th		90th		95th	
	Mean score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD COUNTRIES														
Australia	533	(3.5)	380	(6.4)	418	(6.4)	474	(4.4)	594	(4.5)	647	(5.7)	679	(5.8)
Austria	515	(2.5)	355	(5.3)	392	(4.6)	455	(3.5)	581	(3.8)	631	(3.6)	661	(5.2)
Belgium	520	(3.9)	322	(11.0)	367	(8.6)	453	(6.5)	597	(3.0)	646	(3.9)	672	(3.5)
Canada	533	(1.4)	390	(3.2)	423	(2.5)	477	(2.0)	592	(1.7)	640	(1.9)	668	(2.6)
Czech Republic	498	(2.8)	335	(5.4)	372	(4.2)	433	(4.1)	564	(3.9)	623	(4.8)	655	(5.6)
Denmark	514	(2.4)	366	(6.1)	401	(5.1)	458	(3.1)	575	(3.1)	621	(3.7)	649	(4.6)
Finland	536	(2.2)	400	(6.5)	433	(3.6)	484	(4.1)	592	(2.5)	637	(3.2)	664	(3.5)
France	517	(2.7)	364	(6.4)	399	(5.4)	457	(4.7)	581	(3.1)	629	(3.2)	656	(4.6)
Germany	490	(2.5)	311	(7.9)	349	(6.9)	423	(3.9)	563	(2.7)	619	(3.6)	649	(3.9)
Greece	447	(5.6)	260	(9.0)	303	(8.1)	375	(8.1)	524	(6.7)	586	(7.8)	617	(8.6)
Hungary	488	(4.0)	327	(7.1)	360	(5.7)	419	(4.8)	558	(5.2)	615	(6.4)	648	(6.9)
Iceland	514	(2.3)	372	(5.7)	407	(4.7)	459	(3.5)	572	(3.0)	622	(3.1)	649	(5.5)
Ireland	503	(2.7)	357	(6.4)	394	(4.7)	449	(4.1)	561	(3.6)	606	(4.3)	630	(5.0)
Italy	457	(2.9)	301	(8.4)	338	(5.5)	398	(3.5)	520	(3.5)	570	(4.4)	600	(6.1)
Japan	557	(5.5)	402	(11.2)	440	(9.1)	504	(7.4)	617	(5.2)	662	(4.9)	688	(6.1)
Korea	547	(2.8)	400	(6.1)	438	(5.0)	493	(4.2)	606	(3.4)	650	(4.3)	676	(5.3)
Luxembourg	446	(2.0)	281	(7.4)	328	(4.2)	390	(3.8)	509	(3.4)	559	(3.2)	588	(3.9)
Mexico	387	(3.4)	254	(5.5)	281	(3.6)	329	(4.1)	445	(5.2)	496	(5.6)	527	(6.6)
New Zealand	537	(3.1)	364	(6.1)	405	(5.4)	472	(3.9)	607	(4.0)	659	(4.2)	689	(5.2)
Norway	499	(2.8)	340	(7.0)	379	(5.2)	439	(4.0)	565	(3.9)	613	(4.5)	643	(4.5)
Poland	470	(5.5)	296	(12.2)	335	(9.2)	402	(7.0)	542	(6.8)	599	(7.7)	632	(8.5)
Portugal	454	(4.1)	297	(7.3)	332	(6.1)	392	(5.7)	520	(4.3)	570	(4.3)	596	(5.0)
Spain	476	(3.1)	323	(5.8)	358	(4.3)	416	(5.3)	540	(4.0)	592	(3.9)	621	(3.1)
Sweden	510	(2.5)	347	(5.8)	386	(4.0)	450	(3.3)	574	(2.6)	626	(3.3)	656	(5.5)
Switzerland	529	(4.4)	353	(9.1)	398	(6.0)	466	(4.8)	601	(5.2)	653	(5.8)	682	(4.8)
United Kingdom	529	(2.5)	374	(5.9)	412	(3.6)	470	(3.2)	592	(3.2)	646	(4.3)	676	(5.9)
United States	493	(7.6)	327	(11.7)	361	(9.6)	427	(9.7)	562	(7.5)	620	(7.7)	652	(7.9)
OECD total	***498***	***(2.1)***	***318***	***(3.1)***	***358***	***(3.4)***	***429***	***(3.0)***	***572***	***(2.1)***	***628***	***(1.9)***	***658***	***(2.1)***
Country mean	***500***	***(0.7)***	***326***	***(1.5)***	***367***	***(1.4)***	***435***	***(1.1)***	***571***	***(0.8)***	***625***	***(0.9)***	***655***	***(1.1)***
PARTNER COUNTRIES														
Brazil	334	(3.7)	179	(5.5)	212	(5.2)	266	(4.2)	399	(5.5)	464	(7.5)	499	(8.9)
Latvia	463	(4.5)	288	(9.0)	328	(8.9)	393	(5.7)	536	(6.2)	593	(5.6)	625	(6.6)
Liechtenstein	514	(7.0)	343	(19.7)	380	(18.9)	454	(15.5)	579	(7.5)	635	(16.9)	665	(15.0)
Russian Federation	478	(5.5)	305	(9.0)	343	(7.4)	407	(6.6)	552	(6.6)	613	(6.8)	648	(7.8)

Note: Standard errors (SE) are shown in parentheses.
Source: OECD PISA 2000 database. See Annex 3 for notes and methodology (*www.oecd.org/edu/eag2004*) and *www.pisa.oecd.org.*

A7

Table A7.2. Variation in performance in scientific literacy of 15-year-olds (2000)

Performance of 15-year-olds on the PISA scientific literacy scale, by percentile

		Mean		Percentiles											
				5th		10th		25th		75th		90th		95th	
		Mean score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD COUNTRIES	Australia	528	(3.5)	368	(5.1)	402	(4.7)	463	(4.6)	596	(4.8)	646	(5.1)	675	(4.8)
	Austria	519	(2.6)	363	(5.7)	398	(4.0)	456	(3.8)	584	(3.5)	633	(4.1)	659	(4.3)
	Belgium	496	(4.3)	292	(13.5)	346	(10.2)	424	(6.6)	577	(3.5)	630	(2.6)	656	(3.0)
	Canada	529	(1.6)	380	(3.7)	412	(3.4)	469	(2.2)	592	(1.8)	641	(2.2)	670	(3.0)
	Czech Republic	511	(2.4)	355	(5.6)	389	(4.0)	449	(3.6)	577	(3.8)	632	(4.1)	663	(4.9)
	Denmark	481	(2.8)	310	(6.0)	347	(5.3)	410	(4.8)	554	(3.5)	613	(4.4)	645	(4.7)
	Finland	538	(2.5)	391	(5.2)	425	(4.2)	481	(3.5)	598	(3.0)	645	(4.3)	674	(4.3)
	France	500	(3.2)	329	(6.1)	363	(5.4)	429	(5.3)	575	(4.0)	631	(4.2)	663	(4.9)
	Germany	487	(2.4)	314	(9.5)	350	(6.0)	417	(4.9)	560	(3.3)	618	(3.5)	649	(4.7)
	Greece	461	(4.9)	300	(9.3)	334	(8.3)	393	(7.0)	530	(5.3)	585	(5.3)	616	(5.8)
	Hungary	496	(4.2)	328	(7.5)	361	(4.9)	423	(5.5)	570	(4.8)	629	(5.1)	659	(8.5)
	Iceland	496	(2.2)	351	(7.0)	381	(4.3)	436	(3.7)	558	(3.1)	607	(4.1)	635	(4.8)
	Ireland	513	(3.2)	361	(6.5)	394	(5.7)	450	(4.4)	578	(3.4)	630	(4.6)	661	(5.4)
	Italy	478	(3.1)	315	(7.1)	349	(6.2)	411	(4.4)	547	(3.5)	602	(4.0)	633	(4.4)
	Japan	550	(5.5)	391	(11.3)	430	(9.9)	495	(7.2)	612	(5.0)	659	(4.7)	688	(5.7)
	Korea	552	(2.7)	411	(5.3)	442	(5.3)	499	(4.0)	610	(3.4)	652	(3.9)	674	(5.7)
	Luxembourg	443	(2.3)	278	(7.2)	320	(6.8)	382	(3.4)	510	(2.8)	563	(4.4)	593	(4.0)
	Mexico	422	(3.2)	303	(4.8)	325	(4.6)	368	(3.1)	472	(4.7)	525	(5.5)	554	(7.0)
	New Zealand	528	(2.4)	357	(5.6)	392	(5.2)	459	(3.8)	600	(3.4)	653	(5.0)	683	(5.1)
	Norway	500	(2.8)	338	(7.3)	377	(6.6)	437	(4.0)	569	(3.5)	619	(3.9)	649	(6.2)
	Poland	483	(5.1)	326	(9.2)	359	(5.8)	415	(5.5)	553	(7.3)	610	(7.6)	639	(7.5)
	Portugal	459	(4.0)	317	(5.0)	343	(5.1)	397	(5.2)	521	(4.7)	575	(5.0)	604	(5.3)
	Spain	491	(3.0)	333	(5.1)	367	(4.3)	425	(4.4)	558	(3.5)	613	(3.9)	643	(5.5)
	Sweden	512	(2.5)	357	(5.7)	390	(4.6)	446	(4.1)	578	(3.0)	630	(3.4)	660	(4.5)
	Switzerland	496	(4.4)	332	(5.8)	366	(5.4)	427	(5.1)	567	(6.4)	626	(6.4)	656	(9.0)
	United Kingdom	532	(2.7)	366	(6.8)	401	(6.0)	466	(3.8)	602	(3.9)	656	(4.7)	687	(5.0)
	United States	499	(7.3)	330	(11.7)	368	(10.0)	430	(9.6)	571	(8.0)	628	(7.0)	658	(8.4)
	OECD total	*502*	*(2.0)*	*332*	*(3.3)*	*368*	*(3.1)*	*431*	*(2.8)*	*576*	*(2.1)*	*631*	*(1.9)*	*662*	*(2.3)*
	Country mean	*500*	*(0.7)*	*332*	*(1.5)*	*368*	*(1.0)*	*431*	*(1.0)*	*572*	*(0.8)*	*627*	*(0.8)*	*657*	*(1.2)*
PARTNER COUNTRIES	Brazil	375	(3.3)	230	(5.5)	262	(5.9)	315	(3.7)	432	(4.9)	492	(7.8)	531	(8.2)
	Latvia	460	(5.6)	299	(10.1)	334	(8.8)	393	(7.7)	528	(5.7)	585	(7.2)	620	(8.0)
	Liechtenstein	476	(7.1)	314	(23.5)	357	(20.0)	409	(12.3)	543	(12.7)	595	(12.4)	629	(24.0)
	Russian Federation	460	(4.7)	298	(6.5)	333	(5.4)	392	(6.2)	529	(5.8)	591	(5.9)	625	(5.7)

Note: Standard errors (SE) are shown in parentheses.

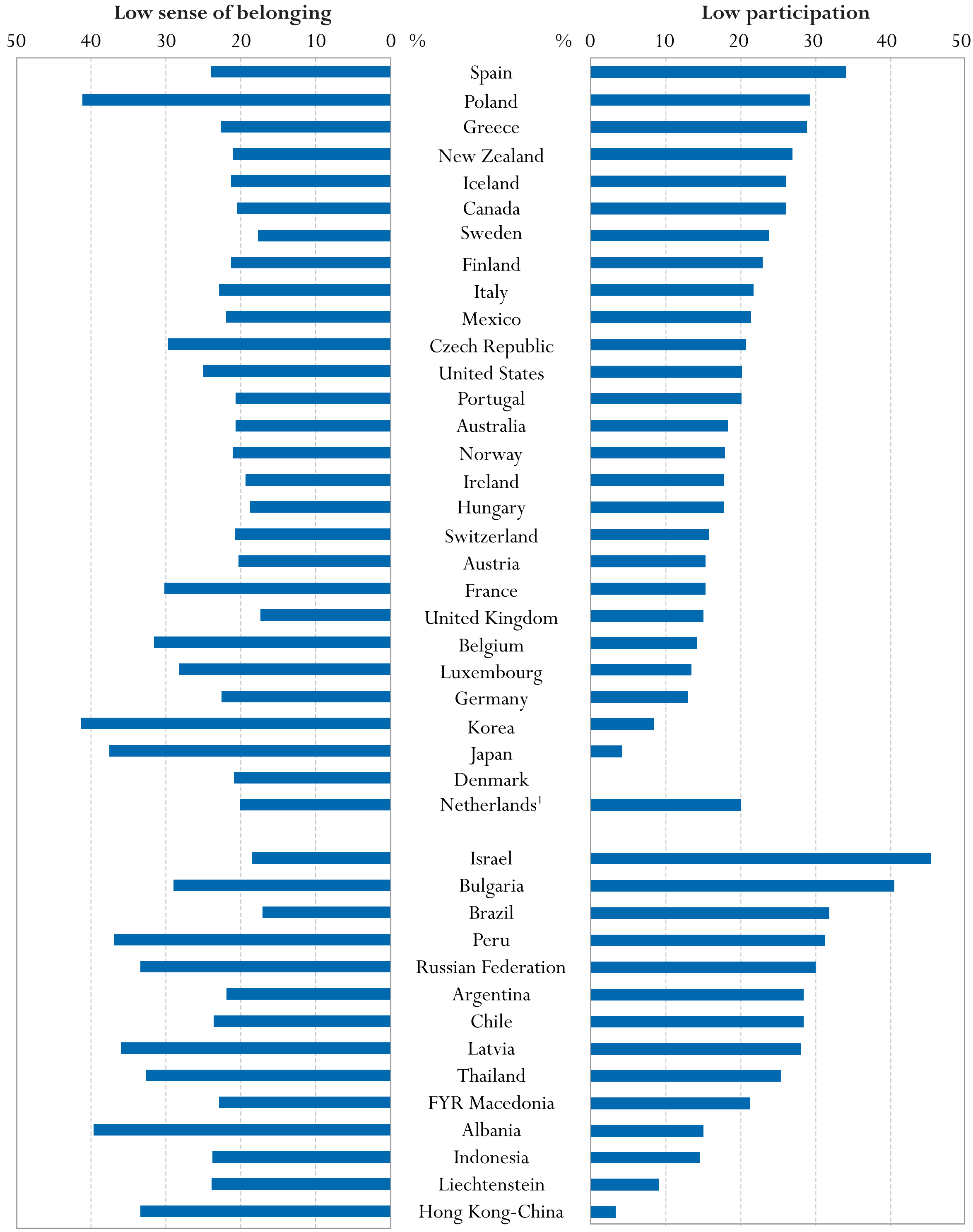
Source: OECD PISA 2000 database. See Annex 3 for notes and methodology (*www.oecd.org/edu/eag2004*) and *www.pisa.oecd.org*.

INDICATOR A8: 15-YEAR-OLDS' ENGAGEMENT IN SCHOOL – A SENSE OF BELONGING AND PARTICIPATION

- On average, nearly a quarter of 15-year-olds express negative views about their sense of belonging at school, and an average of one in five reported recently missing school, arriving late or skipping classes.
- Students in Austria, Sweden and Switzerland reported a particularly high sense of belonging, while students in Belgium, the Czech Republic, Japan, Korea and Poland reported a below-average sense of belonging.
- In most countries, the prevalence of students with a low sense of belonging varied significantly among schools and the between-school variation was even greater for student participation.
- At the level of individual students, the relationship between student participation and sense of belonging is weak, suggesting that there are many students who lack a sense of belonging but still attend school regularly, and vice versa.
- By contrast, at the school level students' sense of belonging and their participation tend to go hand in hand and are closely related to school performance, suggesting that schools with high levels of engagement also tend to have high levels of academic performance.
- The analysis reveals, in particular, that a considerable portion of students with comparatively high academic performance still report a low sense of belonging.

A8

Chart A8.1. Prevalence of students with low sense of belonging and low participation (2000)



1. Response rate is too low to ensure comparability.
Countries are ranked in descending order of prevalence of students with low participation.
Source: OECD PISA 2000 database. Table A8.2.

Policy context

School is a major aspect of the daily lives of young people, and their perception of schooling is reflected in their participation in academic, as well as non-academic, pursuits. Most students participate in academic and non-academic life at school, and develop a sense of belonging – their friends are there, they have good relations with teachers and other students, and they identify with and value schooling outcomes. However, other students do not share this sense of belonging, and do not believe that academic success will have a strong bearing on their future, potentially resulting in their withdrawal from school life. Meeting the needs of this group of students is one of the biggest challenges facing teachers and school administrators.

This indicator examines the extent to which average scores on two measures of school engagement, and the prevalence of youths with very low scores on these two measures, vary across countries…

In the research literature, engagement has both a psychological component pertaining to students' sense of belonging and acceptance of school values, and a behavioural component pertaining to their participation in school activities. In 2000, the Programme for International Student Assessment (PISA) measured student engagement with respect to both components. The indicator first examines the extent to which average scores on the two measures of school engagement, as well as the prevalence of youths with very low scores on these two measures, vary across countries. It also estimates the range of prevalence of disaffected students across schools within countries, which has important implications for how to target policies aimed at reducing student disaffection.

…estimates the variation of student engagement across schools…

A common approach to the study of engagement is to presume that engagement precedes academic outcomes, and that when students become disengaged from school, their academic performance begins to suffer. This may be the case for some students. However, another plausible model is that failure to succeed in academic work results in student disaffection and the withdrawal from school activities. It also could be that a range of other factors, including individual, family and school factors, jointly influence both engagement and academic outcomes. Moreover, it may be that causal relationships differ depending on students' temperament, academic ability, and family and school contexts. Although PISA cannot determine the causal relationships among engagement and achievement outcomes, it can provide an indication of how strong the relationships are among these outcomes, both affective and academic, for students at age 15. To shed light on this, the second part of the indicator looks at the inter-relationships between student engagement in school and performance. It first examines the strength of the relationships among measures of engagement and measures of students' reading, mathematical and scientific literacy and then identifies profiles of students with regard to engagement and literacy outcomes.

…and examines the inter-relationship between student engagement and reading literacy performance.

Evidence and explanations

The term student engagement is used in this indicator to refer to students' attitudes towards schooling and their participation in school activities. This measure of engagement differs from "reading engagement", described in the PISA reports, which refers specifically to students' motivation and interest in reading and the time they spend reading for pleasure and reading diverse mate-

The indicator examines two aspects of student engagement in school, namely…

rials. The construct of student engagement at school derived from PISA 2000 has two dimensions: sense of belonging and participation.

…students' sense of belonging,…

Sense of belonging was based on students' responses to questions describing their personal feelings about being accepted by their peers and whether or not they felt lonely, "like an outsider" or "out of place". Like literacy performance or virtually any schooling outcome, sense of belonging is affected by students' experiences at home and in their community, as well as by their school experiences.

…and their attendance and participation in school.

The second component, participation, was measured by the frequency of absence, class-skipping and late arrival at school during the two weeks before the PISA 2000 survey. (For more information on issues relating to how the two constructs – particularly participation – were measured see *Student Engagement at School – A Sense of Belonging and Participation*, OECD 2003.)

Variation among countries in student engagement

On average, students in Austria, Sweden and Switzerland reported a particularly high sense of belonging,…

The OECD mean for both measures of student engagement was fixed at 500, and therefore countries with scores significantly above 500 have more favourable engagement scores than at the OECD average level, while those with scores below 500 have less favourable scores. Table A8.1 shows that OECD countries varied in their levels of sense of belonging, ranging from 461 score points in Korea and Poland to 520 score points or more in Austria, Sweden and Switzerland.

…while students in Belgium, the Czech Republic, Japan, Korea and Poland reported a below-average sense of belonging.

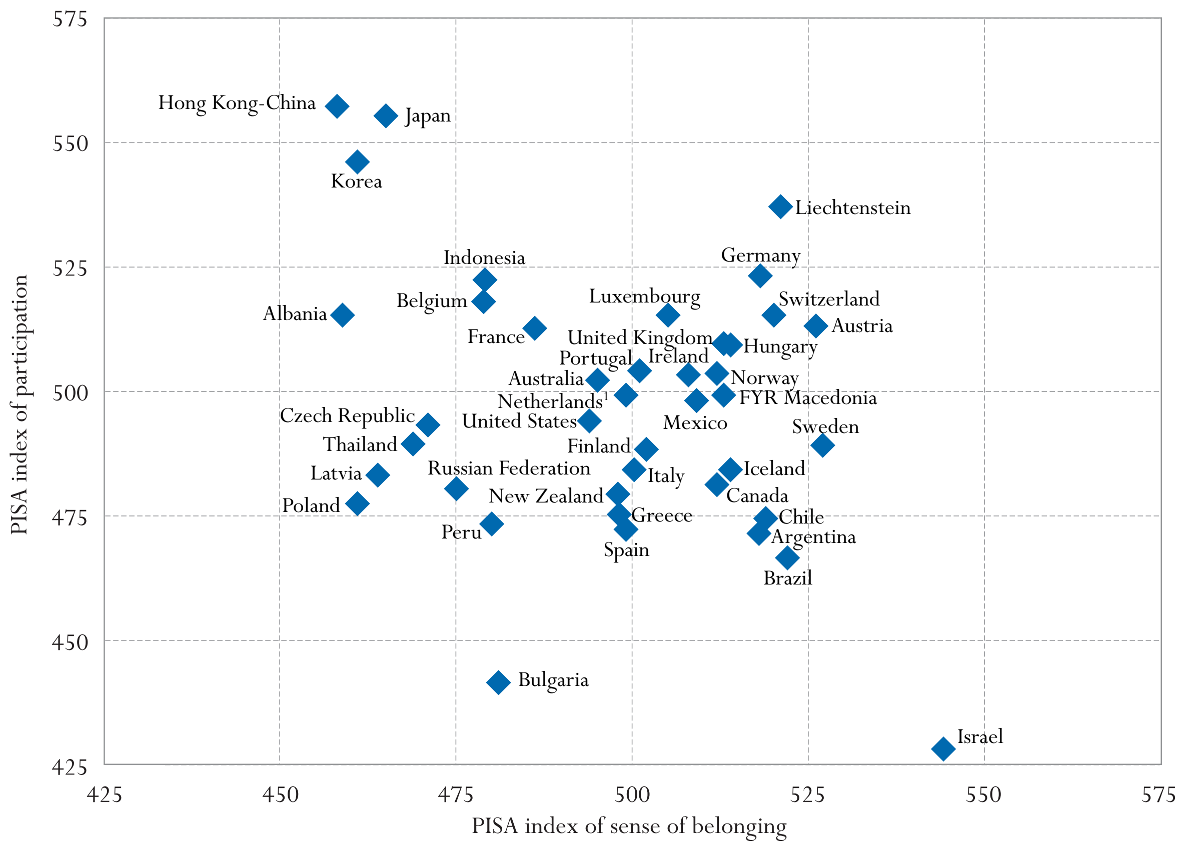
The countries that scored significantly below the OECD average are: Belgium, the Czech Republic, Japan, Korea and Poland. Among the partner countries, two countries, Brazil and Israel, had scores that were significantly above the OECD average, while eight of the other partner countries had relatively low scores, at least 19 points below the OECD average.

More variation was observed in levels of participation, with scores ranging from 472 in Spain to 555 in Japan. Three OECD countries had scores significantly above the OECD average: Japan, Korea and Germany. Five countries scored below the OECD average: Canada, Greece, New Zealand, Poland and Spain. Among the partner countries, four were above the OECD mean, and eight were significantly below it.

In some countries, students' sense of belonging is high but their participation is low, while in others the reverse is true.

Looking at the two measures together (Chart A8.2), it is interesting to note that, among OECD countries, Sweden had relatively high scores on the sense of belonging measure, but relatively low scores on the participation measure. By contrast, Japan and Korea had relatively high scores on the participation measure, but relatively low scores on the sense of belonging measure. Other geographic clustering was also observed on these measures, such as in Austria, Germany and Switzerland in which both participation and sense of belonging are relatively high. Another cluster is among the South American partner countries, Argentina, Chile and Brazil, where students tend to have a relatively higher sense of belonging than participation in school.

Chart A8.2. Mean scores on two indices of students' engagement in school (2000)



1. Response rate is too low to ensure comparability.
Source: OECD PISA 2000 database. Table A8.1.

Variation among countries in low sense of belonging and low participation

Another way to examine this topic is to examine the prevalence of students who are *disengaged* from school, who feel they do not belong and have withdrawn from school activities in a significant way. These students may be considered "disaffected." Analyses of PISA 2000 data identified students with a low sense of belonging and low participation relative to their peers overall. Students were considered to have a low sense of belonging or low participation if they scored below specified cut-off points based on substantive and empirical considerations. Although the choices of cut-off points do not materially affect international comparisons, they do affect the estimates of prevalence. Thus, when making substantive interpretations of "low sense of belonging" and "low participation", the reader should be aware of the more detailed definitions described in the technical notes below.

On average, nearly a quarter of 15-year-olds express negative views about how well they fit in at school…

In most countries the share of youth with a low sense of belonging was around 25% (Chart A8.1). However, there were five countries with averages above 30%, namely Belgium, France, Japan, Korea and Poland. The prevalence of students with a low sense of belonging was below 20% in four countries, Hungary, Ireland, Sweden and the United Kingdom.

…and an average of one in five reported recently missing school, arriving late or skipping classes.

As with the mean scores on these measures, the prevalence of students with low participation varied more among countries than did the prevalence of students with a low sense of belonging. Although the average percentage of students with low participation was 20% (and lower than its counterpart measure on low sense of belonging), there were more countries with relatively high percentages and more with relatively low percentages of students with low participation.

Six countries in which the prevalence of low participation was above 25% are Canada, Greece, Iceland, New Zealand, Poland and Spain. Five countries in which the prevalence was below 15% are Belgium, Germany, Japan, Korea and Luxembourg – with particularly low prevalence of low participation in Japan, at only 4%.

Variation among schools in low sense of belonging and low participation

The prevalence of students with a low sense of belonging may also vary considerably among schools within each country. Determining the extent of this variation is important for at least two reasons. First, if there is considerable variation among schools, then it may be more efficient to target certain schools for intervention, whereas if the prevalence is fairly uniform across most schools in a country, then a more universal intervention is likely to be preferable. Second, if there is considerable variation among schools in the prevalence of disaffected students, it may be possible to discern whether particular school factors are related to either sense of belonging or participation, thereby providing some direction for what kinds of intervention might be most effective.

For each country, the prevalence of students with a low sense of belonging and low participation was calculated for each school using multilevel analysis techniques. The variation in the estimates of the prevalence of disaffected students across schools in each country can be shown as distributions, which identify the median prevalence for all schools in the country, and the 5^{th}, 25^{th}, 75^{th}, and 95^{th} percentiles for the distribution of prevalence estimates for all schools in the country.

In most countries, the prevalence of students with a low sense of belonging varied significantly among schools…

The results show that, within every country except Iceland, New Zealand and Sweden, the prevalence of students with a low sense of belonging varied significantly among schools. The average interquartile range was 5% and the average range from the 5^{th} to the 95^{th} percentiles was 13%. In three countries, Korea, Luxembourg and Poland, the range exceeded 20%, indicating relatively large variation among schools.

…and the between-school variation was even greater for student participation.

The prevalence of low participation students varied significantly among schools in every OECD country. The average interquartile range was 7%, and the average range between the 5th and 95th percentiles was 20%. These figures indicate that there was considerably more variation among schools in the prevalence of students with low participation than for low sense of belonging. In Belgium, Hungary, Italy, Poland, Spain, Switzerland and the United States, the range in the prevalence of low participation students exceeded 25%.

Student engagement and performance

Although PISA cannot determine the causal relationships among engagement and achievement outcomes, it can provide an indication of how strong the relationships are among these outcomes, both affective and academic. This analysis discerns whether students who are more engaged in schooling tend to have better literacy skills and vice versa. The correlations between two outcome variables can also be partitioned into within- and between-school components. The within-school component indicates how closely two variables are related among students within the same school. The school-level component indicates whether schools that have higher average scores on one outcome measure also tend to have higher average scores on the other outcome measure, and vice versa.

At the level of individual students, the relationship between student participation and sense of belonging is weak …

Chart A8.3 shows the average relationships among these variables for all participating OECD countries. Student-level correlations are shown below the diagonal, while school-level correlations are shown above the diagonal. At the student level, the average correlation between sense of belonging and participation is only 0.07, a very weak correlation, suggesting that the two variables are markedly different outcome measures.

…suggesting that there are many students who lack a sense of belonging but still attend school regularly, and vice versa.

There may thus be many students who lack a sense of belonging, but despite these feelings, still attend school regularly. Similarly, there may be many students who have a strong sense of belonging, but miss school often, and regularly skip classes and arrive late for school. The relationships between sense of belonging and the three measures of literacy performance also are very weak, ranging from 0.04 to 0.06. The relationships between participation and academic performance are somewhat stronger, ranging from 0.13 to 0.14. In contrast, the correlations among the three measures of literacy are fairly high, ranging from 0.68 to 0.79 at the student level.

By contrast, at the school level, students' sense of belonging and their participation tend to go hand in hand…

By contrast, the correlation between sense of belonging and participation at the school level is 0.37, indicating a much stronger relationship. Thus, schools with high average levels of sense of belonging also tend to have high average levels of participation.

…and are closely related to school performance…

The school-level correlations between each of the two engagement outcomes and each of the three measures of literacy performance also are moderately strong, ranging from 0.48 to 0.51. In contrast, the school-level correlations among the three measures of literacy performance are very strong, ranging from 0.97 to 0.99. These findings have a number of implications for policy and practice. The weak correlations at the student level suggest that teachers and

Chart A8.3. Correlations among measures of students' engagement in school and performance on the PISA reading, mathematical and scientific literacy scales[1] (2000)

■ Student-level correlations ■ School-level correlations

	Sense of belonging	Participation	Reading literacy performance	Mathematical literacy performance	Scientific literacy performance
Sense of belonging		0.37	0.51	0.48	0.50
Participation	0.07		0.48	0.50	0.49
Reading literacy performance	0.06	0.14		0.97	0.99
Mathematical literacy performance	0.04	0.13	0.71		0.99
Scientific literacy performance	0.04	0.14	0.79	0.68	

1. Only OECD countries are included.
Source: OECD PISA 2000 database.

guidance counsellors are likely to encounter students who have a very low sense of belonging, even though they participate in school activities and their literacy skills are fairly strong. Students with low participation are likely to have somewhat poorer literacy than those who have attended most classes; however, there are many students who miss school, skip classes, and arrive late for school who also show reasonably strong literacy skills.

…suggesting that schools with high levels of engagement also tend to have high levels of academic performance.

The moderately strong school-level correlations among the engagement measures and literacy performance suggest that schools that have high levels of engagement also tend to have high levels of academic performance. However, it cannot be inferred from these findings that efforts to increase student engagement, even at the school level, are likely to lead to better academic performance.

Cluster analysis allows further examination of these relationships and partitions students into:…

An approach to further examine the inter-relationships is the formation of clusters of individuals based on how similar they are with respect to the engagement and performance outcomes. Chart A8.4 displays the results for the cluster analysis of OECD countries. The figure shows the percentages of students in each of five clusters, as well as the average scores on each of four outcome variables (belonging, participation, reading literacy, mathematical literacy) for each cluster of students.

…students with strong academic performance as well as above-average sense of belonging and participation…

The first cluster, which comprises about one-quarter of all students, is labelled *top students*. These students are engaged in schooling and have relatively high scores on reading and mathematical literacy. On average, students in this cluster scored 610 points on the reading literacy scale, 609 points on the mathematical literacy scale, 530 points on the participation scale and 531 points on the sense of belonging scale.

Chart A8.4. Percentage of students and mean scores on four outcome measures, by cluster of students' engagement[1] (2000)

Student category	Percentage of students	Mean score on index			
		Sense of belonging	Participation	Reading literacy	Mathematical literacy
Top students	25.6	531	530	610	609
Engaged students	27.3	575	529	491	488
Students feeling isolated	20.4	387	526	521	522
Absentee students	9.6	490	271	449	454
Non-academic students	17.1	472	509	366	369
All clusters	100.0	500	500	500	500

1. Only OECD countries are included.
Source: OECD PISA 2000 database.

The second group, *engaged students*, have above average scores on the two engagement measures, but on average have reading and mathematical literacy scores that are about 10 points below the OECD average of 500. Although these students do not tend to be among those with high literacy skills, they feel they belong at school and they are not absent from school on a regular basis. They also comprise about one-quarter of all students.

...students with a high sense of belonging, above average participation and average academic performance...

The third group of students, labelled *students feeling isolated*, comprise about one-fifth of all students. These students on average have low scores on the sense of belonging scale, but above average levels of participation. Their achievement scores tend to be fairly strong – on average about 20 points above the OECD average.

...students with a low sense of belonging but at least average participation and performance...

The fourth group of students, labelled *absentee students*, has very low participation scores. Their literacy skills also tend to be below average – by about 50 points on average – but their sense of belonging is close to the OECD average. These students comprise about 10% of the sample.

...frequently absent students...

The last group, labelled *non-academic students*, comprises students who have low literacy skills, on average about 130 to 135 points below the OECD average. These students on average have low scores on the sense of belonging scale, but are not absent from school on a regular basis. They comprise about 17% of 15-year-old students across the OECD area.

...and non-academic students.

An important finding revealed by this analysis is that students who have a low sense of belonging are found in two separate groups. There are students who feel lonely and isolated from their classmates, even though they have relatively high academic performance. There are other students who have these feelings and have very poor academic performance. This split to some extent explains

A considerable portion of students with comparatively high academic performance still report a low sense of belonging.

the relatively low correlations between sense of belonging and academic performance (see Chart A8.3). An important further question concerning these results is whether or not students in the cluster with high literacy skills but low sense of belonging tend to pursue additional education beyond the period of compulsory schooling.

The cluster analysis also shows that students with very low literacy skills are not generally those with particularly low scores on both measures of engagement. The analysis did not yield a cluster of students who had low scores on all four outcome measures.

Definitions and methodologies

The engagement and performance measures are based on assessments administered as part of the Programme for International Student Assessment (PISA) undertaken by the OECD in 2000.

The index scores and percentages are based on background questionnaires administered as part of the Programme for International Student Assessment (PISA) in 2000. The target population studied for this indicator was 15-year-old students. Operationally, this referred to students who were from 15 years and 3 (completed) months to 16 years and 2 (completed) months at the beginning of the testing period and who were enrolled in an educational institution, regardless of the grade level or type of institution in which they were enrolled or whether they participated in school full-time or part-time.

Students were considered to have a low sense of belonging if they scored below 3.0 on the sense of belonging scale (before standardisation). These students, on average for the six items, responded "disagree" or "strongly disagree" more frequently than "agree" or "strongly agree". Students who feel that they "belong" can be expected on average at least to "agree" with the positive statements and "disagree" with the negative ones. Those with a lower average score are classified as having a "low sense of belonging". This does not mean that they express negative attitudes overall, but they do in at least one respect. Also, analyses of the distribution of the scaled scores suggested that 3.0 was an appropriate cut-off point. The sense of belonging scale was negatively skewed (-0.70 for participating OECD countries), which indicates that there were a number of students with exceedingly low scores. One-quarter of all students scored below 3.0 on the unstandardised scale, which corresponded to scores at or below 426 on the standardised scale. There is a marked break in the distribution at this point. Students with scores of 3.0 or higher had scaled scores of 460 or higher. Thus, the criterion used for classifying students as having a low sense of belonging has a simple substantive interpretation and is based on a significant break in the observed distribution of scores.

Students were considered to have low participation if they scored less than or equal to 10 on the unstandardised participation scale. Note that the scale does not distinguish between justified and unjustified absences. This also has an appealing substantive interpretation. For example, all students were considered to have low participation if they responded "1 or 2 times" to all three items, or "3 or 4 times" to "miss school", or "3 or 4 times" to both "skip classes" and "arrive late for school". The participation variable was also strongly negatively skewed (-1.82 for OECD countries). As with the sense of belonging scores, this indicates that there are a number of students with exceedingly low scores. With these criteria set at 10 or lower on the participation scale, 20% of students in participating OECD countries were classified as having low participation.

For notes on standard errors, significance tests and multiple comparisons see Annex 3 at *www.oecd.org/edu/eag2004*.

A8

Table A8.1. Mean scores on two indices of students' engagement in school (2000)

		Sense of belonging			Participation		
		Mean index	S.E.	S.D.	Mean index	S.E.	S.D.
OECD COUNTRIES	Australia	495	(2.0)	97	502	(2.1)	89
	Austria	526	(2.3)	109	513	(2.2)	85
	Belgium	479	(1.3)	90	518	(1.7)	94
	Canada	512	(1.1)	110	481	(1.1)	104
	Czech Republic	471	(1.6)	78	493	(2.2)	99
	Denmark	513	(2.2)	104	m	m	m
	Finland	502	(1.4)	96	488	(2.1)	103
	France	486	(1.6)	94	512	(2.1)	93
	Germany	518	(1.8)	107	523	(1.9)	85
	Greece	498	(2.0)	95	475	(2.7)	112
	Hungary	514	(1.6)	97	509	(1.9)	96
	Iceland	514	(1.8)	109	484	(1.8)	110
	Ireland	508	(1.7)	101	503	(2.1)	89
	Italy	500	(1.6)	92	484	(2.6)	98
	Japan	465	(1.9)	89	555	(1.9)	57
	Korea	461	(1.6)	81	546	(1.5)	71
	Luxembourg	505	(1.8)	110	515	(1.4)	96
	Mexico	509	(2.2)	98	498	(2.1)	89
	New Zealand	498	(1.9)	98	479	(2.1)	110
	Norway	512	(2.2)	104	503	(2.0)	102
	Poland	461	(1.9)	85	477	(3.7)	119
	Portugal	501	(1.9)	88	504	(1.8)	91
	Spain	499	(1.6)	91	472	(2.5)	118
	Sweden	527	(1.8)	103	489	(1.5)	99
	Switzerland	520	(2.0)	105	515	(1.9)	90
	United Kingdom	513	(1.4)	101	509	(1.5)	86
	United States	494	(3.1)	111	494	(3.9)	100
	Country mean	***500***	***(0.4)***	***100***	***500***	***(0.4)***	***100***
PARTNER COUNTRIES	Albania	459	(1.6)	80	515	(2.1)	89
	Argentina	518	(3.7)	107	471	(6.2)	124
	Brazil	522	(2.4)	102	466	(2.9)	109
	Bulgaria	481	(1.9)	85	441	(3.4)	133
	Chile	519	(2.3)	110	474	(2.9)	111
	Hong Kong-China	458	(1.3)	73	557	(1.2)	51
	Indonesia	479	(1.7)	72	522	(1.7)	79
	Israel	544	(2.9)	115	428	(5.3)	129
	Latvia	464	(2.1)	79	483	(2.7)	103
	Liechtenstein	521	(5.5)	113	537	(4.1)	79
	FYR Macedonia	513	(1.7)	98	499	(1.6)	109
	Peru	480	(2.5)	99	473	(2.5)	113
	Russian Federation	475	(1.6)	85	480	(2.5)	114
	Thailand	469	(1.5)	77	489	(2.1)	97
	Netherlands[1]	499	(2.8)	84	499	(2.8)	92

Note: Standard errors (SE) are shown in parentheses. SD: Standard deviation.
1. Response rate is too low to ensure comparability.
Source: OECD PISA 2000 database.

A8

Table A8.2. Prevalance of students with low sense of belonging and low participation (2000)

		Low sense of belonging		Low participation	
		Percentage	S.E.	Percentage	S.E.
OECD COUNTRIES	Australia	20.7	(0.8)	18.3	(0.8)
	Austria	20.3	(0.7)	15.3	(0.8)
	Belgium	31.6	(0.6)	14.1	(0.6)
	Canada	20.5	(0.4)	26.0	(0.5)
	Czech Republic	29.8	(0.7)	20.7	(0.8)
	Denmark	20.9	(0.7)	m	m
	Finland	21.3	(0.7)	22.9	(0.9)
	France	30.2	(0.7)	15.3	(0.7)
	Germany	22.6	(0.6)	12.9	(0.7)
	Greece	22.7	(0.9)	28.8	(1.0)
	Hungary	18.8	(0.6)	17.7	(0.7)
	Iceland	22.4	(0.7)	26.0	(0.8)
	Ireland	19.4	(0.7)	17.8	(0.7)
	Italy	22.9	(0.8)	21.7	(0.9)
	Japan	37.6	(1.0)	4.2	(0.6)
	Korea	41.4	(1.1)	8.4	(0.6)
	Luxembourg	28.3	(0.8)	13.4	(0.5)
	Mexico	22.0	(0.9)	21.4	(0.8)
	New Zealand	21.1	(0.8)	26.9	(0.9)
	Norway	21.1	(0.8)	17.9	(0.8)
	Poland	41.2	(1.2)	29.2	(1.3)
	Portugal	20.7	(0.9)	20.1	(0.7)
	Spain	24.0	(0.7)	34.0	(1.0)
	Sweden	17.7	(0.5)	23.8	(0.6)
	Switzerland	20.8	(0.7)	15.7	(0.7)
	United Kingdom	17.4	(0.6)	15.0	(0.6)
	United States	25.0	(1.0)	20.2	(1.1)
	Country mean	***24.5***	***(0.2)***	***20.0***	***(0.2)***
PARTNER COUNTRIES	Albania	39.7	(0.9)	15.0	(0.8)
	Argentina	21.9	(1.7)	28.4	(2.6)
	Brazil	17.1	(0.7)	31.8	(1.2)
	Bulgaria	29.0	(1.2)	40.5	(1.1)
	Chile	23.6	(0.9)	28.4	(1.2)
	Hong Kong-China	33.4	(0.8)	3.3	(0.3)
	Indonesia	23.8	(1.1)	14.5	(0.6)
	Israel	18.5	(0.9)	45.4	(1.9)
	Latvia	36.0	(1.1)	28.0	(1.3)
	Liechtenstein	23.9	(2.1)	9.1	(1.7)
	FYR Macedonia	22.9	(0.7)	21.2	(0.6)
	Peru	36.9	(1.2)	31.2	(1.0)
	Russian Federation	33.4	(1.0)	30.0	(0.9)
	Thailand	32.7	(0.9)	25.4	(0.9)
	Netherlands[1]	20.1	(1.2)	20.0	(1.2)

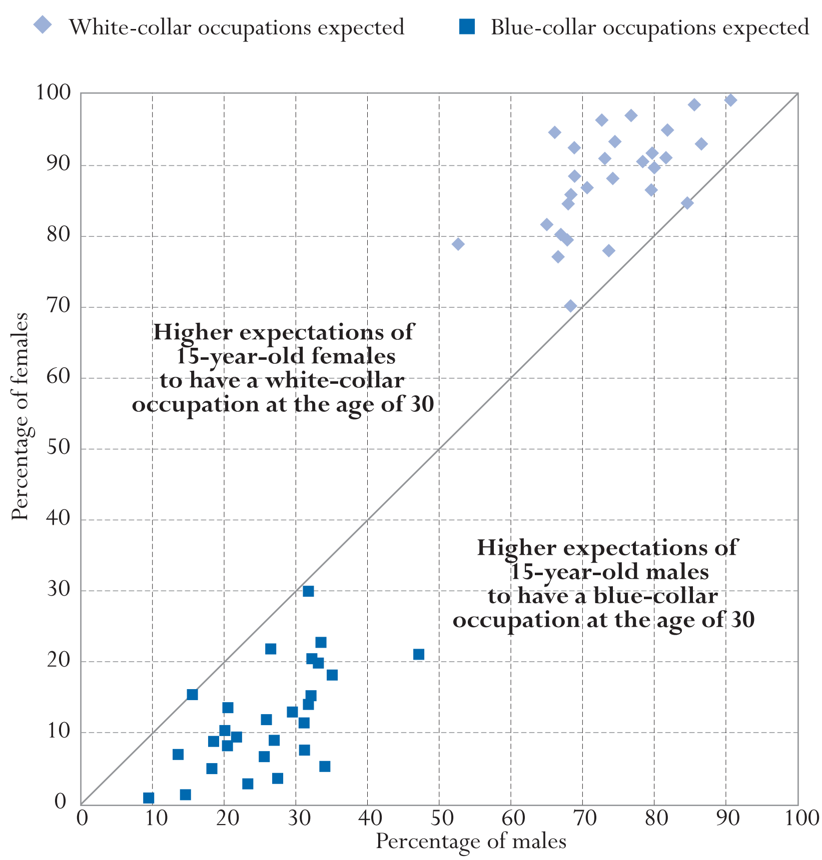
Note: Standard errors (SE) are shown in parentheses.
1. Response rate is too low to ensure comparability.
Source: OECD PISA 2000 database.

A9

INDICATOR A9: GENDER DIFFERENCES IN STUDENT PERFORMANCE

- At the 4th-grade level, females significantly outperform males in reading literacy, on average, and at age 15 the gender gap in reading tends to be large.
- In mathematics, 15-year-old males tend to be at a slight advantage in most countries; in science, gender patterns are less pronounced and uneven.
- In civic knowledge, few gender differences emerge among 14-year-olds.
- Notwithstanding these overall patterns, countries differ widely in the magnitude of gender differences in the different subject areas.
- Females seem to have higher expectation towards future occupations than males, but there is considerable variation in expectations for both genders among countries.
- In about half the countries, females preferred co-operative learning more than males did, whereas males in most countries tended to prefer competitive learning more than females did.

Chart A9.1. Expectations of 15-year-olds to have a white- or blue-collar occupation at the age of 30, by gender (2000)



Source: OECD PISA 2000 database. Table A9.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Policy context

This indicator examines gender differences in students' performance in various subject areas, as well as on various other attitudinal scales.

Recognising the impact that education has on participation in labour markets, occupational mobility and the quality of life, policy makers and educators emphasise the importance of reducing educational differences between males and females. Significant progress has been achieved in reducing the gender gap in educational attainment (see Indicators A1 and A2), although in certain fields of study, such as mathematics and computer science, gender differences favouring males still exist (see Indicator A4).

As females have closed the gap and then surpassed males in many aspects of education in OECD countries, there is now concern about the underachievement of males in certain areas, such as reading. Gender differences in student performance, as well as in attitudes toward and strategies for learning, therefore need close attention from policy makers if greater gender equity in educational outcomes is to be achieved. Furthermore, students' perceptions of what occupations lie ahead for them can affect their academic decisions and performance. An important policy objective should therefore be to strengthen the role that the education system can play in moderating gender differences in performance in different subject areas. This indicator begins by examining data from OECD's PISA study on gender differences in the occupations which 15-year old students expect to practice by the age of 30 and then goes on to analyse gender differences in performance, attitudes and learning strategies by drawing upon findings from PISA as well as the International Association for the Evaluation of Educational Achievement's (IEA) PIRLS and Civic Education Studies.

Evidence and explanations

Students' aspirations and expectations for the future can affect their academic performance and choices.

PISA explored students' expected occupations at the age of 30 in order to understand their future aspirations and expectations. These expectations are likely to affect their academic performance as well as the courses and educational pathways that they pursue. Students with higher academic aspirations are also more likely to be engaged with school and related activities (see *www.pisa.oecd.org*).

Perhaps not surprisingly, PISA suggests that students' expected occupations are associated with their parents' professions, although the correlations are only weak to moderate. On average across countries the correlation of students' expected occupations with fathers' occupations is 0.19 and that of mothers' occupations is 0.15.

The occupations they expect to have by age 30 seem to be predictive of their future career choices.

More importantly, the occupations that students expect to have at the age of 30 seem to be predictive for the career choices that they make later on. For example, female students in the participating countries are far more likely than males to report expected occupations related to life sciences and health, including biology, pharmacy, medicine and medical assistance, dentistry, nutrition and nursing, as well as professions related to teaching: 20% of females expect to be in life sciences or health related professions compared to only 7% of males; 9% of females compared to 3% of males expect to be in occupations associated with teaching. Male students, on the other hand, more often expect careers associated with physics, mathematics or engineering (18% of males versus 5% of females) or occupations related to metal, machinery and related trades (6% of males versus less than 1% of females).

Females seem to have higher expectations towards future occupations than males….

PISA classified students' expected professions at the age of 30 into four socio-economic categories, namely white-collar high-skilled, white-collar low-skilled, blue-collar high-skilled and blue-collar low-skilled. A comparison based on a taxonomy in which professions were ordered by their predictive power on future earnings shows that in 39 out of the 42 countries females seem to have higher expectation towards their future occupations than males. Chart A9.1 indicates this relationship. Each symbol represents one country, with diamonds representing the percentage of students expecting a white-collar occupation at the age of 30 and the squares representing the percentage of students expecting to have a blue-collar occupation at the age of 30. In Belgium, the Czech Republic and Denmark, 25% more females than males expect to have a white-collar occupation at the age of 30. Mexico and Korea are countries where large percentages of males and females seem to have high expectations for a white-collar occupation (more than 80%), with small differences found in males' and females' expectations (less than 10%) (see Table A9.1).

…..but there is considerable variation in expectations among countries for both genders.

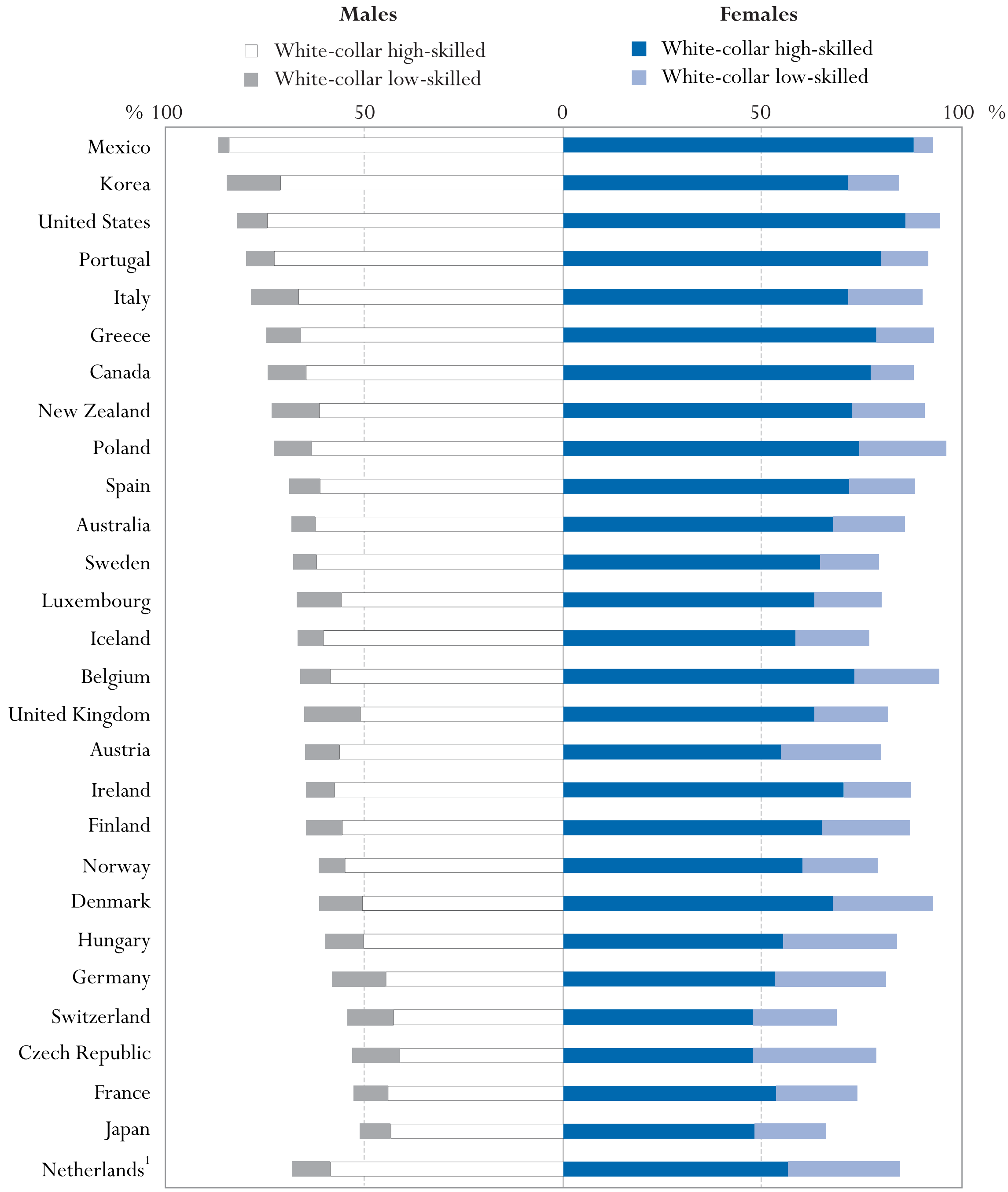
Chart A9.2 provides further detail by showing the percentage of male and female students who expect to have a white-collar profession, either high- or low-skilled. The left side of the chart shows the percentage of males and the right side the percentage for females. The percentages of females expecting to hold a white-collar position at the age of 30 range from around 95% in Belgium, Poland and the United States to 66% in Japan. Similar patterns are found for males ranging from more than 80% in Korea, Mexico and the United States to 51% in Japan (see Table A9.1).

These results are of significance for policy development. Combining the PISA data on the occupations that 15-year-old males and females expect to have at age 30 with data on today's gender patterns in choices relating to educational pathways and occupations suggests that gender differences in occupational expectations at age 15 are likely to persist and to have a significant influence on the future of students. An important policy objective should be to strengthen the role that education systems play in moderating gender differences in occupational expectations and – to the extent that these are related to gender patterns in student performance and student interest – to reduce performance gaps in different subject areas.

By the 4th-grade level, females tend to outperform males in reading literacy…

On average, and in all countries, 4th-grade females outperform 4th-grade males on the reading literacy scale (Chart A9.3). The difference between females' scores and males' scores ranges from 8 points in Italy to more than 20 points (one-fifth of an international standard deviation) in England, Greece, New Zealand, Norway and Sweden, and in all countries, the differences are statistically significant.

Chart A9.2. Expectations of 15-year-olds to have a low or high-skilled white-collar occupation at age 30, by gender (2000)

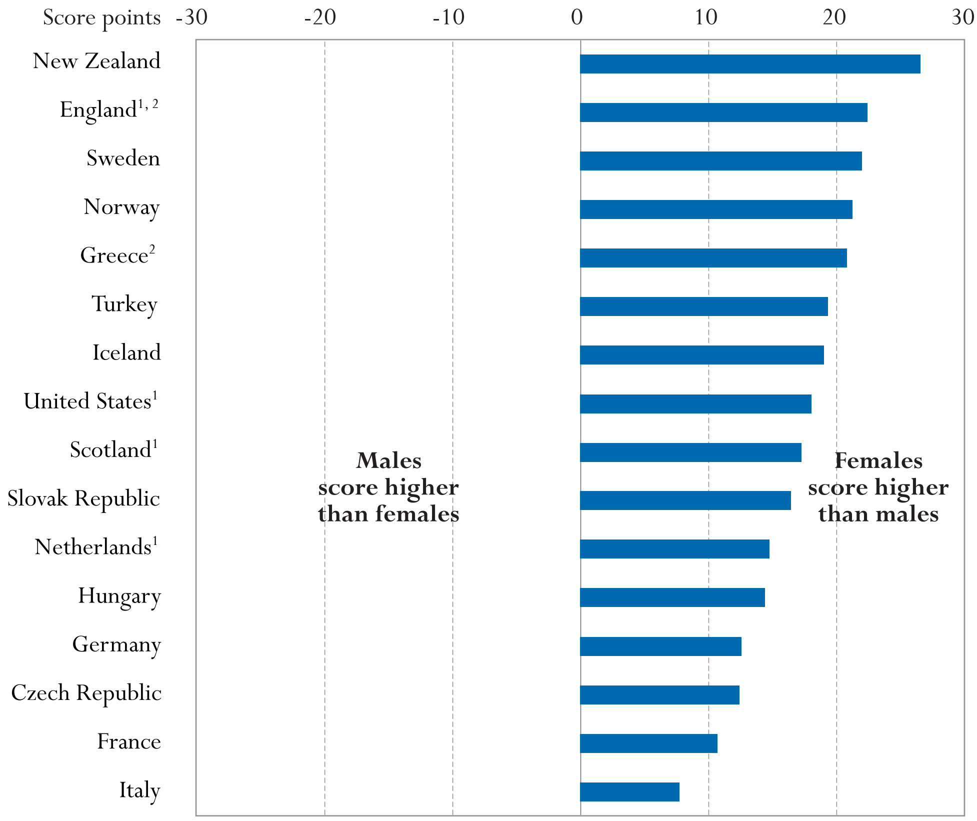


1. Response rate is too low to ensure comparability.

Countries are ranked in descending order of male white-collar occupation expectations.

Source: OECD PISA 2000 database. Table A9.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Chart A9.3. Gender differences in performance of 4th-grade students on the PIRLS reading literacy scale (2001)



1. Met guidelines for sample participation rates only after replacement schools were included.
2. National defined population covers less than 95% of national desired population.
Countries are ranked in descending order of magnitude of the difference between mean scores of females and males on the PIRLS reading literacy scale.
Source: IEA Progress in Reading Literacy Study (PIRLS), 2001. Table A9.2. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

...and at age 15, the gender gap in reading tends to be large.

Among 15-year-olds, PISA shows even larger differences in reading literacy performance. In every country and on average, females reach higher levels of performance in reading literacy than do males. This difference is not only universal but also large: 32 points (or one-third of an international standard deviation) on average (Table A9.3 and Chart A9.4).

Although gender differences appear to be more pronounced among 15-year-olds, the measures from the PISA and PIRLS assessments are highly correlated among countries (r = 0.81).

In mathematics, 15-year-old males tend to be at a slight advantage...

In mathematical literacy, there are statistically significant differences in about half the countries, in all of which males perform better. The average gap between males and females in mathematical literacy is 11 points (one-tenth of an international standard deviation) (Table A9.3 and Chart A9.4).

Measures of scientific literacy from PISA 2000 show fewer disparities between males and females than measures of reading and mathematical literacy, and the pattern of the differences is not as consistent among countries. Twenty-five OECD countries show no statistically significant gender differences in science performance (Table A9.3 and Chart A9.4).

…whereas in science, gender patterns are less pronounced and more uneven…

Gender differences in civic knowledge, as measured by the IEA Civic Education Study, are relatively small (Table A9.4). The civic knowledge test, which was administered to 14-year-olds in 28 countries in 1999, was designed to test students' knowledge of fundamental democratic principles and their skills in interpreting material with civic or political content. The study found that, without controlling for other variables, both civic content knowledge and skills in interpreting political communication are unrelated to gender among 14-year-olds in most countries. When other factors related to civic knowledge (such as students' predicted level of educational attainment and home literacy resources) are held constant, slight differences arise favouring males, but only in about one-third of the 28 countries surveyed.

…and the IEA Civic Education Study shows few gender differences in civic knowledge.

The fact that the direction of gender differences in reading and mathematics tends to be somewhat consistent among countries suggests that there are underlying features of education systems or societies and cultures that may foster such gender gaps. However, the wide variation among countries in the magnitude of gender differences suggests that current differences may be the result of variations in students' learning experiences and are thus amenable to changes in policy.

Countries differ widely, however, in the magnitude of gender differences in the different subject areas.

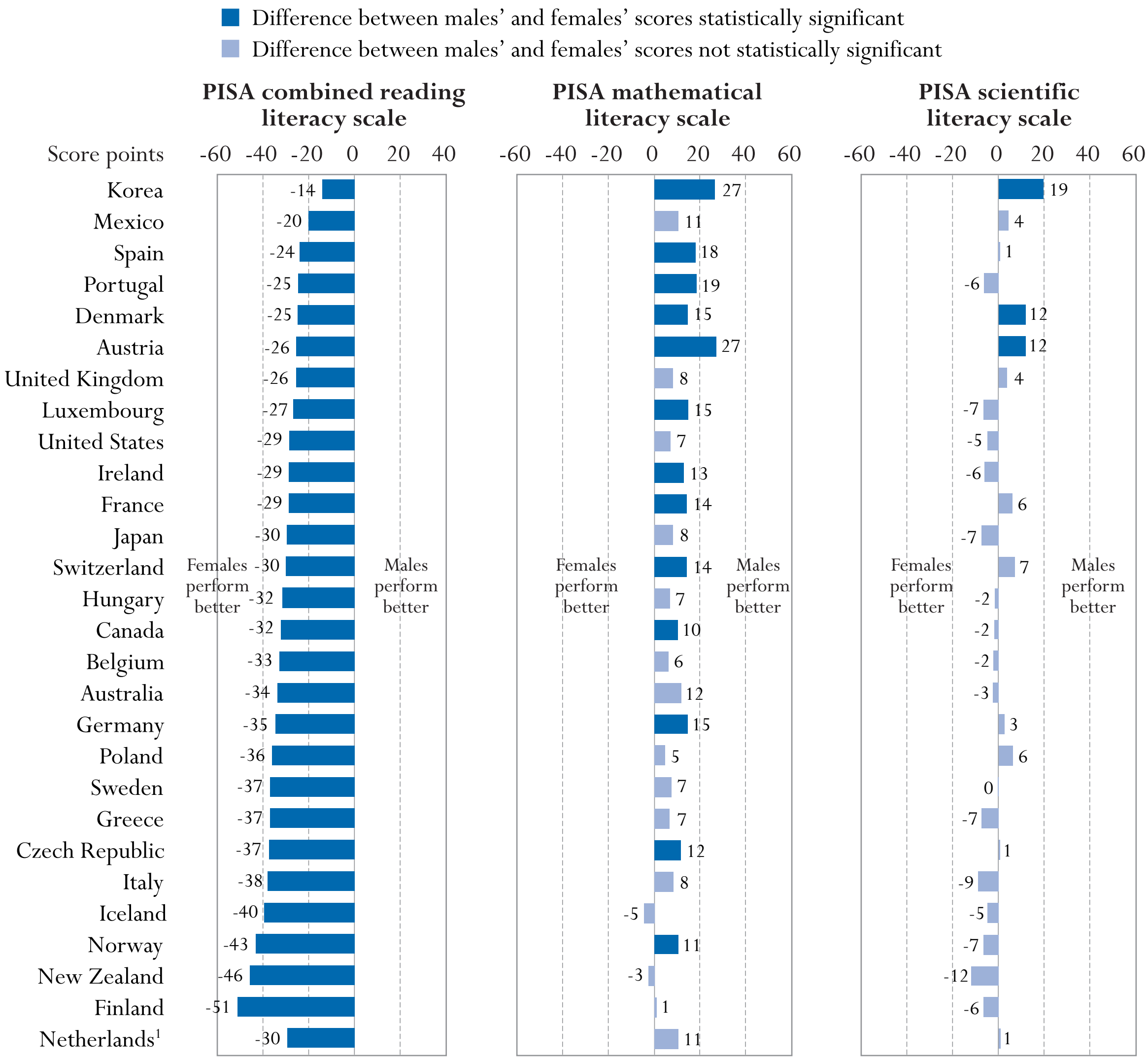
Box A9.1. Gender differences among low performers

Fostering high performance and gender parity in education will require that attention be paid to students who are among the lowest performers. In all OECD countries, 15-year-old males are more likely to be among the lowest-performing students in reading literacy (*i.e.* to perform at or below Level 1 on the combined reading literacy scale); the average ratio of males to females at this level is 1.7 among OECD countries, ranging from 1.3 in Mexico to 3.5 in Finland.

Because 15-year-old males tend to perform better than females on the mathematical literacy scale, one might expect that females would be more represented among the lowest performing students in mathematics. However, much of the gender difference in mathematical literacy scores is attributable to larger differences in favour of males among the better students, not a relative absence of males among the poorer performers. In 15 of the OECD countries in PISA, 15-year-old males are more likely to be among the best-performing students; the same is not true for females in any country. However, among students who perform at least 100 points below the OECD mean on the mathematical literacy scale, the proportion of females and males is roughly equal. These findings suggest that the underachievement of young males across subject domains is a significant challenge for education policy that will need particular attention if the proportion of students at the lowest levels of proficiency is to be reduced.

For more information and data on low performers, see *Knowledge and Skills for Life – First Results from PISA 2000* (OECD, 2001).

Chart A9.4. Gender differences in performance of 15-year-olds on the PISA combined reading, mathematical and scientific literacy scales (2000)



1. Response rate is too low to ensure comparability.

Countries are ranked in ascending order of the difference between the mean performance of females and males on the PISA combined reading literacy scale.

Source: OECD PISA 2000 database. Table A9.3. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

The gap between scores of 15-year-old males and females in reading literacy in PISA ranged from 25 points or less in Denmark, Korea, Mexico, Portugal, and Spain to about twice that amount in Finland. The gap in mathematical literacy ranged from statistically insignificant differences in 14 OECD countries to 27 points in Austria and Korea. Thus, some countries do appear to provide a learning environment that benefits both genders equally, either as a direct result of educational efforts or because of a more favourable social context. In reading literacy, Korea, and to a lesser extent Japan and the United Kingdom, achieve both high mean scores and below average gender differences. In mathematical literacy, Belgium, Finland, Japan, New Zealand and the United Kingdom similarly achieve both high mean performance and relatively small gender differences (Table A9.3 and Indicators A6 and A7).

Self-regulated learning scales

Gender differences exist not only in student performance, but also in attitudes, habits and approaches to learning.

Gender differences exist not only on measures of proficiency in different subjects, but in attitudinal and other measures related to learning habits. PISA 2000 collected data on a variety of skills and attitudes that are considered prerequisites for students' abilities to manage the learning process, or their self-regulated learning. These 13 self-regulated learning scales address students' uses of learning strategies, motivation, self-related cognitions, and learning preferences (see *Learners for Life: Student Approaches to Learning*, OECD, 2003). By identifying differences between males and females in the self-regulated learning scales (Table A9.5), this indicator points to their relative strengths and weaknesses. Targeting interventions to account for differences in students' learning strategies or attitudes could have important impacts on pedagogy. However, some of these measures are difficult to compare across countries.

Learning strategies

In the majority of countries, 15-year-old females tend to emphasise memorisation strategies…

Differences in the learning strategies that males and females use may provide information on possible strategies to reduce gender differences in performance. In the majority of countries, 15-year-old females report emphasising memorisation strategies (*e.g.*, reading material aloud several times and learning key facts) more than males do (Table A9.5).

…while males tend to be stronger on elaboration strategies.

Conversely, males report using elaboration strategies (*e.g.*, exploring how material relates to things one has learned in other contexts) more than females. However, in almost all countries with statistically significant gender differences on the control strategies scale, females report using control strategies (*i.e.*, strategies that allow them to control the learning process) more often than do males. Norway and Sweden are exceptions. This suggests that females are more likely to adopt a self-evaluating perspective during the learning process. Males, on the other hand, perhaps could benefit from more general assistance in planning, organising and structuring learning activities (Table A9.5).

Motivation

In all countries, females express much more interest in reading…

In all countries, females express much more interest in reading than males. They also tend to be more involved readers of books, particularly fiction, and to be more engaged in reading than males.

…while males tend to express more interest in mathematics…

By contrast, males express more interest in mathematics than do females in almost every country in the study, even though these differences are much smaller than in the case of reading. In fact, Portugal and Mexico are the only countries where females and males report similar levels of interest in mathematics.

…and both differences are closely mirrored in performance patterns.

Gender differences in performance in reading and mathematical literacy are closely mirrored in student interest in their respective subjects. These gender differences in attitudes may reveal inequalities in the effective-

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ness with which schools and societies promote motivation and interest in different subject areas.

Self-related cognitions

Gender differences are also observed with regard to students' confidence in their abilities and whether they believe in the benefits of learning…

Students' confidence in their abilities and their beliefs about the benefits of learning are also factors that have a close relationship to performance and also vary by gender. In all countries except Korea, females express a stronger self-concept than do males in reading. These differences are especially pronounced in Finland, the Czech Republic, Germany, Italy, Norway and the United States. In mathematical literacy, males tend to express a higher self-concept than females, particularly in Germany, Norway and Switzerland. In terms of their general self-efficacy, or belief that one's goals can be achieved, males score significantly higher than females, overall and in most countries. The differences between males and females are particularly pronounced in Denmark, Finland, Norway and Sweden (Table A9.5).

Learning styles

…as well as in student attitudes to co-operative and competitive learning.

In about half the countries, females preferred co-operative learning more than males did, whereas males in most countries tended to prefer competitive learning more than females did. On the co-operative learning scale, these gender differences are most pronounced in Ireland, Italy and the United States. On the competitive learning scale, they are most evident in Ireland, Portugal and Scotland (Table A9.5).

Definitions and methodologies

The reading performance scores of 4th graders are based on the IEA Progress in Reading Literacy Study of 2001.

The PIRLS target population was students in the upper of the two adjacent grades that contained the largest proportion of 9-year-old students at the time of testing. Beyond the age criterion embedded in the definition, the target population should represent that point in the curriculum where students have essentially finished learning the basic reading skills and will focus more on "reading to learn" in the subsequent grades. Thus the PIRLS target grade was expected to be the 4th grade (Table A9.2).

The civic knowledge scores are based on the Civic Education Study undertaken by the IEA in 1999.

The scores on the civic knowledge test are based on assessments of students during the second phase of the International Association for the Evaluation of Educational Achievement's Civic Education Study. The internationally desired population includes all students enrolled on a full-time basis in that grade in which most students aged 14 years to 14 years and 11 months are found at the time of testing. Time of testing for most countries was the first week of the 8th month of the school year (Table A9.4).

The PISA target population studied for this indicator was 15-year-old students. Operationally, this referred to students who were from 15 years and 3 (completed) months to 16 years and 2 (completed) months at the beginning of the testing period and who were enrolled in an educational institution, regardless of the grade level or type of institution and of whether they participated in school full-time or part-time.

Twenty-two of the 28 OECD countries that participated in PISA 2000 administered the self-regulated learning component on which this indicator is based: Australia, Austria, the Flemish Community of Belgium, the Czech Republic, Denmark, Finland, Germany, Hungary, Ireland, Iceland, Italy, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Portugal, Scotland, Sweden, Switzerland and the United States. Note that Belgium and the United Kingdom, countries that did participate in the main PISA assessments, are represented in the self-regulated learning option only by participating jurisdictions: the Flemish Community and Scotland, respectively. Canada, France, Greece, Japan and Spain, as well as the French Community of Belgium and England did not participate in this option.

The reading, mathematics and science performance scores for 15-year-olds are based on assessments administered as part of the Programme for International Student Assessment (PISA) undertaken by the OECD in 2000.

For notes on standard errors, significance tests and multiple comparisons, see Annex 3 at *www.oecd.org/edu/eag2004*.

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Table A9.1. 15-year-olds' occupational expectations by age 30, by gender (2000)
Percentage of 15-year-olds expecting to have a white or blue-collar occupation

		All students				Males				Females			
		White-collar high-skilled	White-collar low-skilled	Blue-collar high-skilled	Blue-collar low-skilled	White-collar high-skilled	White-collar low-skilled	Blue-collar high-skilled	Blue-collar low-skilled	White-collar high-skilled	White-collar low-skilled	Blue-collar high-skilled	Blue-collar low-skilled
OECD COUNTRIES	Australia	65.0	11.7	10.4	12.9	62.4	6.0	19.0	12.7	67.8	17.9	1.2	13.1
	Austria	55.3	17.2	11.7	15.8	56.3	8.6	21.9	13.3	54.8	25.1	2.2	17.9
	Belgium	65.6	14.2	15.4	4.9	58.5	7.6	27.9	6.0	73.1	21.3	1.8	3.7
	Canada	70.9	10.2	7.1	11.8	64.6	9.7	13.0	12.8	77.1	10.8	1.2	10.8
	Czech Republic	44.5	22.0	16.2	17.3	41.1	11.9	28.3	18.7	47.6	31.1	5.3	16.0
	Denmark	58.5	17.5	19.6	4.3	50.5	10.9	34.1	4.5	67.7	25.1	2.9	4.2
	Finland	60.4	15.8	12.2	11.5	55.5	9.1	21.4	14.0	65.0	22.0	3.7	9.2
	France	48.9	14.7	9.9	26.5	44.1	8.5	18.7	28.7	53.4	20.5	1.7	24.4
	Germany	48.8	20.9	17.2	13.2	44.7	13.3	30.1	11.9	53.1	28.0	4.6	14.3
	Greece	72.3	11.7	9.4	6.6	66.0	8.6	17.9	7.6	78.5	14.6	1.3	5.6
	Hungary	52.7	19.0	16.6	11.7	50.3	9.5	28.0	12.2	55.3	28.5	5.1	11.1
	Iceland	59.2	12.6	7.9	20.3	60.3	6.4	13.5	19.8	58.4	18.5	2.4	20.7
	Ireland	64.1	12.2	11.7	12.1	57.5	7.2	22.6	12.7	70.3	16.9	1.3	11.5
	Italy	69.1	15.2	5.8	9.9	66.6	11.9	10.6	10.9	71.6	18.7	0.9	8.8
	Japan	45.8	12.9	4.0	37.4	43.3	7.7	7.3	41.7	48.2	17.9	0.7	33.2
	Korea	71.2	13.2	1.6	13.9	71.1	13.4	2.4	13.0	71.4	13.0	0.6	15.0
	Luxembourg	59.6	14.3	8.7	17.4	55.7	11.3	15.4	17.6	63.0	16.9	2.8	17.2
	Mexico	86.0	3.6	2.1	8.2	84.0	2.5	3.4	10.1	88.0	4.7	0.8	6.4
	New Zealand	67.0	15.1	8.5	9.4	61.3	11.8	16.5	10.4	72.4	18.3	0.8	8.4
	Norway	57.4	12.7	12.9	17.1	55.0	6.4	23.2	15.4	60.1	18.9	2.3	18.7
	Poland	68.8	15.4	14.2	1.7	63.3	9.4	24.4	2.9	74.5	21.7	3.5	0.4
	Portugal	76.5	9.5	5.1	9.0	72.7	7.0	9.8	10.5	79.8	11.7	0.8	7.7
	Spain	66.6	12.2	8.2	13.1	61.2	7.7	16.1	15.0	71.7	16.6	0.7	11.0
	Sweden	63.2	10.3	8.1	18.5	62.0	5.8	13.6	18.6	64.5	14.8	2.4	18.3
	Switzerland	45.3	16.4	15.0	23.3	42.7	11.5	26.9	18.8	47.6	21.0	3.9	27.4
	United Kingdom	57.1	16.3	7.6	19.0	51.0	14.0	14.5	20.5	63.0	18.6	0.8	17.6
	United States	80.5	8.2	5.1	6.2	74.4	7.5	9.8	8.4	85.8	8.8	1.0	4.3
	Country mean	***62.2***	***13.9***	***10.1***	***13.8***	***58.4***	***9.1***	***18.2***	***14.4***	***66.1***	***18.6***	***2.1***	***13.2***
PARTNER COUNTRIES	Argentina	79.7	7.2	1.9	11.2	74.3	7.3	4.4	14.1	83.6	7.1	0.1	9.1
	Brazil	87.4	7.8	2.4	2.3	86.0	4.7	4.5	4.8	88.6	10.4	0.7	0.2
	Chile	68.9	10.2	7.6	13.3	64.8	5.7	14.5	15.0	72.6	14.2	1.5	11.8
	Hong Kong-China	58.6	17.2	0.6	23.7	54.1	19.5	0.6	25.8	63.1	14.9	0.5	21.5
	Indonesia	76.2	6.8	3.8	13.2	78.2	1.3	6.0	14.5	74.2	12.1	1.7	12.0
	Israel	63.7	5.6	1.1	29.7	64.8	3.5	2.2	29.5	62.9	7.0	0.3	29.8
	Latvia	63.1	18.0	13.4	5.5	55.0	13.8	22.7	8.5	70.5	21.8	5.0	2.7
	Liechtenstein	36.3	17.1	14.2	32.4	40.6	13.9	24.4	21.1	32.2	20.4	3.1	44.2
	Peru	84.1	7.9	6.2	1.8	82.9	2.6	11.0	3.4	85.2	13.1	1.4	0.2
	Russian Federation	58.6	6.9	11.0	23.5	47.6	4.8	15.9	31.7	69.1	9.0	6.2	15.7
	Thailand	43.3	17.4	10.9	28.4	33.5	12.5	22.0	32.0	49.8	20.8	3.4	26.0
	Netherlands[1]	57.6	18.6	8.4	15.5	58.6	9.4	15.7	16.3	56.4	28.1	0.8	14.7

1. Response rate is too low to ensure comparability.
Source: OECD PISA 2000 database.

Table A9.2. Performance of 4th-grade students and gender (2001)

Mean performance of 4th-grade students on the PIRLS reading literacy scale

OECD COUNTRIES	Females		Males		Difference[1]	
	Mean score	S.E.	Mean score	S.E.	Score difference	S.E.
Czech Republic	543	(2.8)	531	(2.6)	**12**	(2.8)
England[2, 3]	564	(3.9)	541	(3.7)	**22**	(3.3)
France	531	(2.7)	520	(3.0)	**11**	(3.3)
Germany	545	(2.2)	533	(2.5)	**13**	(2.7)
Greece[3]	535	(3.8)	514	(4.0)	**21**	(3.9)
Hungary	550	(2.4)	536	(2.5)	**14**	(3.8)
Iceland	522	(1.9)	503	(1.5)	**19**	(2.4)
Italy	545	(2.6)	537	(2.7)	**8**	(2.5)
Netherlands[2]	562	(2.7)	547	(2.8)	**15**	(2.2)
New Zealand	542	(4.7)	516	(4.2)	**27**	(5.4)
Norway	510	(3.5)	489	(3.4)	**21**	(3.9)
Scotland[2]	537	(3.9)	519	(4.2)	**17**	(4.0)
Slovak Republic	526	(3.0)	510	(3.3)	**16**	(3.0)
Sweden	572	(2.6)	550	(2.5)	**22**	(2.6)
Turkey	459	(4.0)	440	(3.7)	**19**	(3.1)
United States[2]	551	(3.8)	533	(4.9)	**18**	(4.1)
Country mean	*538*	*(0.8)*	*521*	*(0.8)*	*17*	*(0.8)*

Note: Standard errors (SE) are shown in parentheses.

1. Positive differences indicate that females perform better than males while negative differences indicate that males perform better than females. Differences that are statistically significant are indicated in bold.

2. Met guidelines for sample participation rates only after replacement schools were included.

3. National defined population covers less than 95% of national desired population.

Source: IEA Progress in Reading Literacy Study (PIRLS), 2001.

Table A9.3. Performance of 15-year-olds by gender (2000)

Mean performance of 15-year-olds on the PISA reading, mathematical and scientific literacy scales

		Reading literacy						Mathematical literacy						Scientific literacy					
		Males		Females		Difference[1]		Males		Females		Difference[1]		Males		Females		Difference[1]	
		Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.	Mean score	S.E.	Mean score	S.E.	Score dif.	S.E.
OECD COUNTRIES	Australia	513	(4.0)	546	(4.7)	**-34**	(5.4)	539	(4.1)	527	(5.1)	12	(6.2)	526	(3.9)	529	(4.8)	-3	(5.3)
	Austria	495	(3.2)	520	(3.6)	**-26**	(5.2)	530	(4.0)	503	(3.7)	**27**	(5.9)	526	(3.8)	514	(4.3)	**12**	(6.3)
	Belgium	492	(4.2)	525	(4.9)	**-33**	(6.0)	524	(4.6)	518	(5.2)	6	(6.1)	496	(5.2)	498	(5.6)	-2	(6.7)
	Canada	519	(1.8)	551	(1.7)	**-32**	(1.6)	539	(1.8)	529	(1.6)	**10**	(1.9)	529	(1.9)	531	(1.7)	-2	(1.9)
	Czech Republic	473	(4.1)	510	(2.5)	**-37**	(4.7)	504	(4.4)	492	(3.0)	**12**	(5.2)	512	(3.8)	511	(3.2)	1	(5.1)
	Denmark	485	(3.0)	510	(2.9)	**-25**	(3.3)	522	(3.1)	507	(3.0)	**15**	(3.7)	488	(3.9)	476	(3.5)	**12**	(4.8)
	Finland	520	(3.0)	571	(2.8)	**-51**	(2.6)	537	(2.8)	536	(2.6)	1	(3.3)	534	(3.5)	541	(2.7)	-6	(3.8)
	France	490	(3.5)	519	(2.7)	**-29**	(3.4)	525	(4.1)	511	(2.8)	**14**	(4.2)	504	(4.2)	498	(3.8)	6	(4.8)
	Germany	468	(3.2)	502	(3.9)	**-35**	(5.2)	498	(3.1)	483	(4.0)	**15**	(5.1)	489	(3.4)	487	(3.4)	3	(4.7)
	Greece	456	(6.1)	493	(4.6)	**-37**	(5.0)	451	(7.7)	444	(5.4)	7	(7.4)	457	(6.1)	464	(5.2)	-7	(5.7)
	Hungary	465	(5.3)	496	(4.3)	**-32**	(5.7)	492	(5.2)	485	(4.9)	7	(6.2)	496	(5.8)	497	(5.0)	-2	(6.9)
	Iceland	488	(2.1)	528	(2.1)	**-40**	(3.1)	513	(3.1)	518	(2.9)	-5	(4.0)	495	(3.4)	499	(3.0)	-5	(4.7)
	Ireland	513	(4.2)	542	(3.6)	**-29**	(4.6)	510	(4.0)	497	(3.4)	**13**	(5.1)	511	(4.2)	517	(4.2)	-6	(5.5)
	Italy	469	(5.1)	507	(3.6)	**-38**	(7.0)	462	(5.3)	454	(3.8)	8	(7.3)	474	(5.6)	483	(3.9)	-9	(7.7)
	Japan	507	(6.7)	537	(5.4)	**-30**	(6.4)	561	(7.3)	553	(5.9)	8	(7.4)	547	(7.2)	554	(5.9)	-7	(7.2)
	Korea	519	(3.8)	533	(3.7)	**-14**	(6.0)	559	(4.6)	532	(5.1)	**27**	(7.8)	561	(4.3)	541	(5.1)	**19**	(7.6)
	Luxembourg	429	(2.6)	456	(2.3)	**-27**	(3.8)	454	(3.0)	439	(3.2)	**15**	(4.7)	441	(3.6)	448	(3.2)	-7	(5.0)
	Mexico	411	(4.2)	432	(3.8)	**-20**	(4.3)	393	(4.5)	382	(3.8)	11	(4.9)	423	(4.2)	419	(3.9)	4	(4.8)
	New Zealand	507	(4.2)	553	(3.8)	**-46**	(6.3)	536	(5.0)	539	(4.1)	-3	(6.7)	523	(4.6)	535	(3.8)	-12	(7.0)
	Norway	486	(3.8)	529	(2.9)	**-43**	(4.0)	506	(3.8)	495	(2.9)	**11**	(4.0)	499	(4.1)	505	(3.3)	-7	(5.0)
	Poland	461	(6.0)	498	(5.5)	**-36**	(7.0)	472	(7.5)	468	(6.3)	5	(8.5)	486	(6.1)	480	(6.5)	6	(7.4)
	Portugal	458	(5.0)	482	(4.6)	**-25**	(3.8)	464	(4.7)	446	(4.7)	**19**	(4.9)	456	(4.8)	462	(4.2)	-6	(4.3)
	Spain	481	(3.4)	505	(2.8)	**-24**	(3.2)	487	(4.3)	469	(3.3)	**18**	(4.5)	492	(3.5)	491	(3.6)	1	(4.0)
	Sweden	499	(2.6)	536	(2.5)	**-37**	(2.7)	514	(3.2)	507	(3.0)	7	(4.0)	512	(3.5)	513	(2.9)	0	(3.9)
	Switzerland	480	(4.9)	510	(4.5)	**-30**	(4.2)	537	(5.3)	523	(4.8)	**14**	(5.0)	500	(5.7)	493	(4.7)	7	(5.4)
	United Kingdom	512	(3.0)	537	(3.4)	**-26**	(4.3)	534	(3.5)	526	(3.7)	8	(5.0)	535	(3.4)	531	(4.0)	4	(5.2)
	United States	490	(8.4)	518	(6.2)	**-29**	(4.1)	497	(8.9)	490	(7.3)	7	(5.4)	497	(8.9)	502	(6.5)	-5	(5.3)
	Country mean	*485*	*(0.8)*	*517*	*(0.7)*	*-32*	*(0.9)*	*506*	*(1.0)*	*495*	*(0.9)*	*11*	*(1.2)*	*501*	*(0.9)*	*501*	*(0.8)*	*0*	*(1.0)*
PARTNER COUNTRIES	Brazil	388	(3.9)	404	(3.4)	**-17**	(4.0)	349	(4.7)	322	(4.7)	**27**	(5.6)	376	(4.8)	376	(3.8)	0	(5.6)
	Latvia	432	(5.5)	485	(5.4)	**-53**	(4.2)	467	(5.3)	460	(5.6)	6	(5.8)	449	(6.4)	472	(5.8)	**-23**	(5.4)
	Liechtenstein	468	(7.3)	500	(6.8)	**-31**	(11.5)	521	(11.5)	510	(11.1)	**12**	(17.7)	484	(10.9)	468	(9.3)	16	(14.7)
	Russian Federation	443	(4.5)	481	(4.1)	**-38**	(2.9)	478	(5.7)	479	(6.2)	-2	(4.8)	453	(5.4)	467	(5.2)	**-14**	(4.5)
	Netherlands[2]	517	(4.8)	547	(3.8)	**-30**	(5.7)	569	(4.9)	558	(4.6)	11	(6.2)	529	(6.3)	529	(5.1)	1	(8.1)

Note: Standard errors (SE) are shown in parentheses.

1. Positive differences indicate that males perform better than females while negative differences indicate that females perform better than males. Differences that are statistically significant are indicated in bold.

2. Response rate is too low to ensure comparability.

Source: OECD PISA 2000 database.

Table A9.4. Civic knowledge of 14-year-olds by gender (1999)

Mean performance of 14-year-olds on the civic knowledge scale

		Males		Females		Difference[1]	
		Mean score	S.E.	Mean score	S.E.	Score difference	S.E.
OECD COUNTRIES	Australia	101	(1.1)	103	(0.9)	-2	(1.4)
	Belgium (Fr.)[2]	93	(1.3)	97	(1.1)	-5	(1.7)
	Czech Republic	104	(1.0)	102	(0.8)	2	(1.3)
	Denmark[2]	102	(0.7)	99	(0.7)	3	(1.0)
	England[3]	100	(1.0)	99	(0.8)	0	(1.3)
	Finland	108	(0.8)	110	(0.9)	-2	(1.2)
	Germany[4]	101	(0.7)	99	(0.6)	1	(0.9)
	Greece	107	(0.9)	109	(0.8)	-2	(1.2)
	Hungary	101	(0.8)	102	(0.7)	-1	(1.0)
	Italy	104	(1.1)	106	(0.9)	-2	(1.4)
	Norway[2]	103	(0.7)	103	(0.6)	1	(0.9)
	Poland	109	(1.5)	112	(2.2)	-3	(2.6)
	Portugal[5]	97	(0.9)	96	(0.8)	1	(1.2)
	Slovak Republic	105	(0.9)	105	(0.8)	0	(1.1)
	Sweden[3]	99	(1.1)	100	(0.8)	-1	(1.3)
	Switzerland	100	(0.9)	97	(0.8)	2	(1.2)
	United States[3]	106	(1.3)	107	(1.2)	-2	(1.8)

Note: Standard errors (SE) are shown in parentheses.
1. Positive differences indicate that males perform better than females while negative differences indicate that females perform better than males. Differences that are statistically significant are indicated in bold.
2. Countries' overall participation rate after replacement less than 85%.
3. Countries with testing date at beginning of school year.
4. Does not cover all of the national population.
5. Grade 8 selected instead of Grade 9 due to average age.
Source: IEA Civic Education Study (2001).

Table A9.5. Gender differences among 15-year-olds in self-regulated learning (2000)

Difference between male and female 15-year-old students' scores on PISA self-regulated learning indices

		Index of memorisation strategies		Index of elaboration strategies		Index of control strategies		Index of instrumental motivation		Index of interest in reading		Index of interest in mathematics		Index of effort and persistence	
		Difference[1]	Effect size	Difference[1]	Effect size	Difference[1]	Effect size	Difference[1]	Effect size	Difference[1]	Effect size	Difference[1]	Effect size	Difference[1]	Effect size
OECD COUNTRIES	Australia	-0.07	0.07	0.10	-0.12	-0.15	0.14	0.10	-0.12	-0.29	0.36	0.22	-0.28	-0.05	0.08
	Austria	-0.29	0.28	0.14	-0.14	-0.17	0.19	-0.35	-0.05	-0.61	0.62	0.39	-0.38	-0.05	0.08
	Belgium (Fl.)	-0.15	0.14	0.19	-0.19	-0.14	0.16	0.04	-0.05	-0.47	0.54	0.10	-0.16	-0.13	0.21
	Czech Republic	-0.31	0.31	0.04	-0.05	-0.31	0.34	-0.09	0.12	-0.79	0.79	0.22	-0.26	-0.12	0.20
	Denmark	0.07	-0.09	0.12	-0.13	-0.02	0.04	0.19	-0.25	-0.52	0.53	0.31	-0.28	-0.07	0.12
	Finland	-0.08	0.09	0.12	-0.14	-0.10	0.12	-0.01	0.02	-0.87	0.96	0.25	-0.28	-0.15	0.25
	Germany	-0.28	0.28	0.08	-0.08	-0.19	0.21	0.00	0.00	-0.63	0.60	0.34	-0.38	-0.10	0.16
	Hungary	-0.28	0.33	0.10	-0.11	-0.24	0.27	-0.03	0.05	-0.52	0.49	0.03	-0.05	-0.10	0.17
	Iceland	0.00	-0.02	0.10	-0.11	-0.02	0.01	-0.01	0.01	-0.40	0.45	-0.03	-0.02	-0.14	0.21
	Ireland	-0.26	0.26	-0.05	0.05	-0.33	0.31	0.08	-0.08	-0.56	0.53	0.14	-0.13	-0.17	0.23
	Italy	0.00	-0.02	0.04	-0.04	-0.36	0.38	0.20	-0.22	-0.57	0.58	0.06	-0.09	-0.17	0.26
	Korea	-0.07	0.07	0.02	-0.01	-0.06	0.05	0.04	-0.05	-0.03	0.02	0.04	-0.07	0.02	-0.03
	Luxembourg	-0.40	0.36	-0.06	0.06	-0.29	0.29	-0.21	0.15	-0.42	0.43	0.25	-0.27	-0.16	0.24
	Mexico	0.04	-0.03	-0.07	0.08	-0.19	0.20	0.00	0.01	-0.21	0.32	-0.02	0.02	-0.13	0.20
	New Zealand	-0.12	0.12	0.02	-0.01	-0.20	0.19	0.05	-0.06	-0.35	0.37	0.21	-0.24	-0.06	0.09
	Norway	0.26	-0.29	0.20	-0.21	0.16	-0.18	0.07	-0.09	-0.63	0.60	0.47	-0.38	-0.02	0.03
	Portugal	-0.03	0.02	-0.03	0.03	-0.31	0.34	-0.08	0.11	-0.71	0.80	-0.11	0.02	-0.18	0.29
	Scotland	-0.09	0.14	0.07	-0.11	-0.13	0.22	0.01	-0.02	-0.43	0.43	0.14	-0.17	-0.08	0.14
	Sweden	0.09	-0.11	0.28	-0.29	0.02	-0.02	0.06	-0.08	-0.34	0.47	0.26	-0.35	-0.01	0.02
	Switzerland	-0.16	0.17	0.02	-0.04	-0.22	0.24	-0.03	0.04	-0.65	0.68	0.46	-0.51	-0.10	0.16
	United States	-0.21	0.17	-0.10	0.08	-0.35	0.31	-0.04	0.05	-0.35	0.36	0.05	-0.08	-0.22	0.31
	Country mean	***-0.11***	***0.10***	***0.06***	***-0.06***	***-0.18***	***0.18***	***0.02***	***-0.02***	***-0.50***	***0.53***	***0.18***	***-0.20***	***-0.11***	***0.16***
PARTNER COUNTRIES	Brazil	-0.10	0.10	-0.11	0.11	-0.18	0.17	-0.10	0.13	-0.34	0.43	0.10	-0.08	-0.12	0.19
	Latvia	-0.13	0.18	0.03	-0.03	-0.19	0.25	-0.10	0.14	-0.54	0.61	0.03	-0.03	-0.09	0.15
	Liechtenstein	-0.15	0.18	0.21	-0.21	-0.11	0.12	0.06	-0.08	-0.43	0.42	0.48	-0.71	-0.07	0.11
	Russian Federation	-0.15	0.20	0.09	-0.09	-0.17	0.19	-0.11	0.16	-0.42	0.41	-0.03	0.03	-0.12	0.18
	Netherlands[2]	-0.03	0.03	0.17	-0.19	-0.04	0.05	0.25	-0.17	-0.70	0.70	0.58	-0.48	-0.05	0.08

1. Positive differences indicate that males perform better than females while negative differences indicate that females perform better than males.
2. Response rate is too low to ensure comparability.
Source: OECD PISA 2000 database.

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Table A9.5. (*continued*) **Gender differences among 15-year-olds in self-regulated learning (2000)**

Difference between male and female 15-year-old students' scores on PISA self-regulated learning indices

		Index of co-operative learning		Index of competitive learning		Index of self-efficacy		Index of self-concept in reading		Index of self-concept in mathematics		Index of academic self-concept	
		Difference[1]	Effect size	Difference[1]	Effect size	Difference[1]	Effect size	Difference[1]	Effect size	Difference[1]	Effect size	Difference[1]	Effect size
OECD COUNTRIES	Australia	-0.14	0.03	0.20	-0.32	0.13	-0.22	-0.17	0.21	0.23	-0.29	0.03	-0.05
	Austria	-0.30	0.17	0.12	-0.15	0.20	-0.32	-0.35	0.34	0.29	-0.30	-0.06	0.10
	Belgium (Fl.)	-0.22	0.14	0.19	-0.23	0.14	-0.24	-0.13	0.18	0.18	-0.27	0.04	-0.08
	Czech Republic	-0.33	0.15	0.00	-0.01	0.17	-0.30	-0.36	0.37	0.26	-0.31	-0.04	0.05
	Denmark	-0.11	-0.02	0.29	-0.25	0.28	-0.45	-0.32	0.31	0.39	-0.40	0.10	-0.16
	Finland	-0.29	0.11	0.22	-0.30	0.21	-0.34	-0.42	0.45	0.35	-0.36	-0.03	0.04
	Germany	-0.24	0.10	0.13	-0.16	0.13	-0.21	-0.45	0.43	0.42	-0.42	0.00	0.00
	Hungary	-0.23	0.01	-0.06	0.02	0.11	-0.19	-0.32	0.33	0.12	-0.13	-0.06	0.08
	Iceland	-0.18	0.08	0.22	-0.28	0.18	-0.26	-0.20	0.20	0.20	-0.19	-0.04	0.05
	Ireland	-0.42	-0.23	0.41	-0.39	0.12	-0.17	-0.15	0.13	0.09	-0.13	-0.02	0.03
	Italy	-0.49	-0.27	0.13	-0.14	0.12	-0.19	-0.44	0.40	0.18	-0.11	-0.15	0.21
	Korea	0.09	-0.14	0.09	-0.12	0.10	-0.15	0.02	-0.03	0.15	-0.16	0.09	-0.12
	Luxembourg	-0.36	0.19	0.04	-0.13	0.12	-0.18	-0.21	0.18	0.28	-0.28	-0.04	0.06
	Mexico	-0.20	0.11	0.10	-0.13	0.00	-0.01	-0.21	0.25	0.05	-0.09	-0.04	0.06
	New Zealand	-0.23	0.08	0.23	-0.28	0.12	-0.19	-0.29	0.27	0.26	-0.26	0.04	-0.05
	Norway	-0.34	0.15	0.31	-0.34	0.22	-0.33	-0.38	0.37	0.50	-0.44	0.04	-0.05
	Portugal	-0.35	0.14	0.35	-0.38	0.08	-0.14	-0.31	0.32	0.14	-0.16	0.01	-0.02
	Scotland	-0.03	-0.05	0.35	-0.42	0.19	-0.32	-0.10	0.14	0.22	-0.24	0.02	-0.03
	Sweden	-0.05	0.05	0.21	-0.27	0.24	-0.37	-0.30	0.37	0.36	-0.41	0.05	-0.08
	Switzerland	-0.28	0.14	0.24	-0.30	0.13	-0.22	-0.31	0.35	0.50	-0.55	0.03	-0.05
	United States	-0.42	0.21	0.05	-0.13	0.04	-0.06	-0.39	0.36	0.09	-0.13	-0.08	0.11
	Country mean	***-0.27***	***0.10***	***0.18***	***-0.21***	***0.14***	***-0.22***	***-0.29***	***0.29***	***0.25***	***-0.25***	***-0.02***	***0.02***
PARTNER COUNTRIES	Brazil	-0.24	0.12	0.21	-0.21	0.06	-0.09	0.28	0.30	0.25	-0.21	0.03	-0.05
	Latvia	-0.31	0.15	-0.11	0.11	0.03	-0.05	0.51	0.51	0.18	-0.18	-0.07	0.11
	Liechtenstein	-0.17	0.09	0.27	-0.36	0.07	-0.12	0.37	0.37	0.39	-0.58	0.00	-0.01
	Russian Federation	-0.20	0.05	-0.15	0.10	0.07	-0.11	0.52	0.48	0.02	0.00	-0.08	0.11
	Netherlands[2]	-0.33	0.20	0.36	-0.34	0.24	-0.44	0.25	0.26	0.65	-0.57	0.12	-0.20

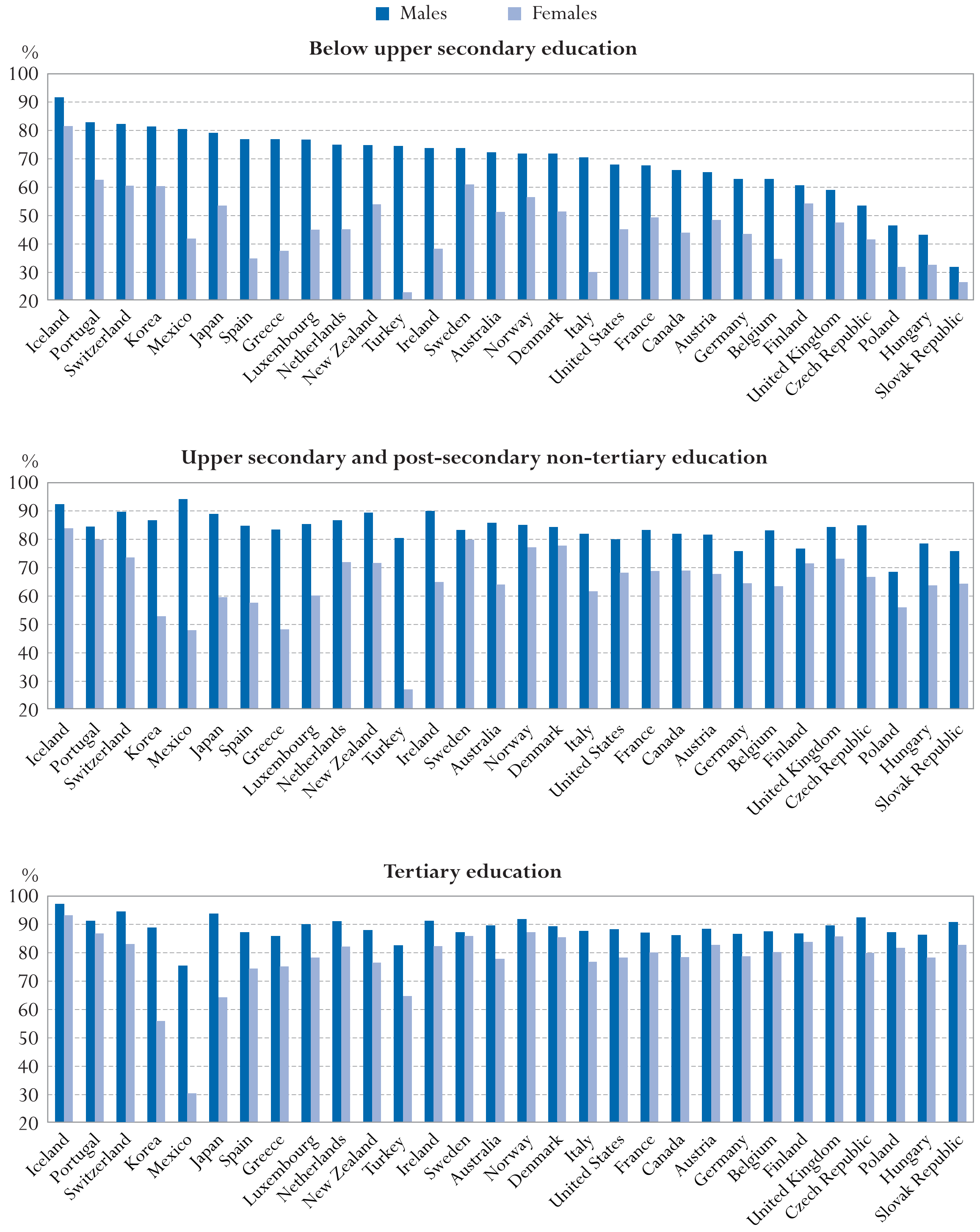
1. Positive differences indicate that males perform better than females while negative differences indicate that females perform better than males.
2. Response rate is too low to ensure comparability.
Source: OECD PISA 2000 database.

INDICATOR A10: LABOUR FORCE PARTICIPATION BY LEVEL OF EDUCATIONAL ATTAINMENT

- Employment ratios rise with educational attainment in most OECD countries. With very few exceptions, the employment ratio for graduates of tertiary education is markedly higher than the ratio for upper secondary graduates. For males, the gap is particularly wide between upper secondary graduates and those without an upper secondary qualification.
- The employment ratio for females with less than upper secondary attainment is particularly low. Ratios for females with tertiary type-A attainment exceed 75% in all but four countries, but remain below those of males in all countries.
- The gender gap in employment ratios decreases with increasing educational attainment. The gap is 23 percentage points among persons without upper secondary education and 11 points among those with the highest educational attainment.

Chart A10.1. Employment ratios by educational attainment (2002)

Percentage of 25 to 64-year-olds who are employed



Countries are ranked in descending order of the employment rates of males having attained below upper secondary education.

Source: OECD. Table A10.1a. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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This indicator examines the relationship between educational attainment and labour-market status.

Policy context

OECD economies and labour markets are becoming increasingly dependent on a stable supply of well-educated workers to further their economic development and to maintain their competitiveness. As levels of skill tend to rise with educational attainment, the costs incurred when those with higher levels of education do not work also rise; and as populations in OECD countries age, higher and longer participation in the employed labour force can lower dependency ratios and help to alleviate the burden of financing public pensions.

This indicator examines the relationship between educational attainment and labour force activity, comparing employment ratios first, and then ratios of unemployment, their prevalence by gender and changes over time. 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.

Evidence and explanations

Employment participation

Employment ratios for males vary less between countries than those for females.

Variation among countries in employment participation by females is a primary factor in the differences in overall employment ratios. The overall employment ratios for males aged 25 to 64 range from 76% or less in Finland, Hungary, Poland and the Slovak Republic to 86% and above in Iceland, Japan, Korea, New Zealand and Switzerland (Table A10.1a). By contrast, reflecting very different cultural and social patterns, employment participation among females ranges from 48% or less in Greece, Italy, Mexico, Spain and Turkey, to over 78% in Iceland, Norway and Sweden. Prolonged education and unemployment are two factors that contribute to these disparities.

Employment ratios for males rise with educational attainment in most OECD countries.

Employment ratios for males are generally higher among those with higher educational qualifications. With the exception of Mexico and New Zealand where the pattern is different, the employment ratio for graduates of tertiary education is markedly higher – around 5 percentage points on average for OECD countries – than that for upper secondary graduates. The difference ranges from a few percentage points to 10 percentage points and more in Finland, Germany, Poland and the Slovak Republic. It may stem mainly from the fact that the less skilled leave the labour market earlier. Those with higher educational attainment tend to remain in employment longer (Chart A10.1).

The gap in male employment ratios is particularly wide between those with and those without an upper secondary qualification.

The gap in employment ratios of males aged 25 to 64 years is particularly wide between upper secondary graduates and those who have not completed an upper secondary qualification. In 22 out of 30 OECD countries, the difference in the ratio of participation between upper secondary graduates and those without such a qualification is 10 percentage points or more. The extreme cases are the Czech and Slovak Republics and Hungary, where between one-third and around half of the male population without upper secondary education, but more than 80% with such attainment, participate in employment. The gap in employment ratios between males with and without upper secondary attainment is less than 6 percentage points in Iceland, Korea, Portugal and Turkey (Chart A10.1 and Table A10.1a).

Among females, the difference in employment ratios by level of educational attainment is even wider.

Employment ratios for females aged 25 to 64 years show more marked differences, not only between those with below upper secondary and those with upper secondary attainment (15 percentage points or more in 22 out of the 30 OECD countries) but also between those with upper secondary and those with tertiary-type A or advanced research programmes attainment (9 percentage points or more in 23 countries). Particular exceptions are Japan, Korea, New Zealand, Sweden and Portugal where employment ratios for females with upper secondary qualifications approach those for females with a tertiary qualification (a difference of around 3 to 7 percentage points) (Chart A10.1 and Table A10.1a).

Employment ratios among females with qualifications below upper secondary is particularly low…

Employment ratios for females with lower secondary attainment are particularly low, averaging 49% over all OECD countries and standing at around 35% or below in Hungary, Poland, the Slovak Republic and Turkey. Employment ratios for females with tertiary type-A attainment exceed 75% everywhere except in Japan, Korea, Mexico and Turkey, but remain below those of males in all countries (Table A10.1a).

…but the gender gap in employment decreases with increasing educational attainment.

Although the gender gap in employment remains among those with the highest educational attainment, it is much narrower than among those with lower qualifications. On average among OECD countries, with each additional level attained, the difference between the employment ratio of males and females decreases significantly: from 23 percentage points at below upper secondary level, to 19 percentage points at upper secondary and 11 percentage points at tertiary level (Chart A10.1).

The gap is unevenly distributed among countries at all levels of attainment. Below upper secondary, it is lower than 10 percentages points in the Slovak Republic and Finland but higher than 40 percentage points in Greece, Italy, Spain and Turkey. At the upper secondary level, again, the gap is below 10 percentage points in Nordic countries and Portugal and remains higher than 34 points in Korea, Greece, Mexico and Turkey. At the tertiary level, the gap tends to be reduced significantly except for Japan, Korea and Mexico.

The education gap in male participation in employment is strongly influenced by differences among the older population.

Much of the overall gap between the employment ratios of males with differing levels of educational attainment is explained by the large differences within older populations. The patterns reflect a number of underlying causes. Since earnings tend to increase with educational attainment, the monetary incentive to participate is greater for individuals with higher qualifications. In addition, those individuals often work on more interesting and stimulating tasks, and hold functions of higher responsibility, which increase their motivation to remain in the labour force. Conversely, hard physical work, generally associated with rather low levels of education, can lead to a need for early retirement. Moreover, industrial restructuring in many countries has reduced job opportunities for unskilled workers, or for workers with skills that have been made obsolete by new technologies. In countries with well-developed and long-standing pension systems, individuals with low education entered the labour market earlier than those with higher levels and, hence, could draw on pension income often years earlier, even in the absence of any other provisions. A sizeable number of these people have left the labour market either through early retirement schemes or because there are only limited job opportunities. The educational attainment of females and their participation in the labour market have historically been lower than those of males, and in spite of considerable advances over the last few decades, current employment ratios continue to show the impact of these historical factors.

Unemployment ratios by level of educational attainment

Those with low educational attainment are both less likely to be labour force participants and more likely to be unemployed.

The unemployment ratio is a measure of an economy's ability to supply a job to everyone who wants one. To the extent that educational attainment is assumed to be an indicator of skill, it can signal to employers the potential knowledge, capacities and workplace performance of candidates for employment. The employment prospects of individuals with varying levels of educational attainment depend both on the requirements of labour markets and on the supply of workers with different skills. Those with low educational qualifications are at particular risk of economic marginalisation since they are both less likely to be labour force participants and more likely to be without a job if they are actively seeking one.

Unemployment ratios fall with higher educational attainment.

On average among OECD countries, male labour force participants aged 25 to 64 with a qualification below upper secondary education are around 1.5 times as likely to be unemployed as their counterparts who have completed upper secondary education. Similarly, on average across the OECD countries, the unemployment ratio for male upper secondary graduates is around 1.5 times the unemployment ratio among tertiary Type A graduates. The association between unemployment ratios and educational attainment is similar among females, although the gap between upper secondary and tertiary attainment is even wider in many countries.

Higher unemployment ratios for females across the levels of educational attainment are generally the rule in Greece, Italy and Spain. On the other hand, unemployment ratios are generally higher for men across all levels of educational attainment in Canada, Ireland, Japan, Korea, Mexico, New Zealand, Norway, Sweden, the United Kingdom and the United States. Differences in unemployment ratios among males and females according to educational attainment are not strongly pronounced in Finland, Iceland and the Netherlands. In Germany, Hungary, Poland and Turkey, males with lower qualifications tend to have higher unemployment ratios than females, whilst the reverse is true for the more highly qualified. The pattern is more mixed across the levels for the remaining countries (Table A10.1b).

The changes in the added value of education with regard to unemployment

The differences in unemployment ratios of those with low educational attainment are changing with the characteristics of the supply of jobs.

The difference between the unemployment ratios of 25 to 64-year-olds without upper secondary education and those with upper secondary education is a measure of the benefit of pursuing education up to the upper secondary level; this is considered to be the minimum level allowing a satisfactory position in the labour market. On the other hand, the different ratios may denote the exclusion or discrimination in accessing employment, which affects those who have not attained the minimum education level. Depending on the structure of the supply of jobs, the gap is widely variable among countries, generally in disfavour of the less qualified.

In Greece and Korea, and to a lesser extent in Italy, Norway, Portugal, Spain and Turkey, completing upper secondary education does not offer a reduced risk of being unemployed; this has changed over the last decade (Table A10.2b). The supply of jobs, probably in the agricultural (primary) sector that do not require secondary qualifications remains sufficient in relation to the structure of educational attainment of the adult population. This has been continuously verified over the last decade in these countries, but is a relatively recent phenomenon in Norway. It is also notable that in 1991, unemployment ratios of individuals in Switzerland with below upper secondary education were lower than those of individuals with upper secondary attainment.

In all other countries, the benefit of upper secondary education compared to below upper secondary level represents a lower unemployment ratio, by an average of 1.1 percentage points; however, the trends differ significantly among countries.

In a number of countries such as Canada, Germany, Japan, Sweden, Switzerland, the United Kingdom and the United States the relative benefit to employment prospects of upper secondary education has remained pretty stable over the last few years. However, there has been evidence since 1991 of increased employment prospects for those with upper secondary education compared with those without, in a number of countries such as Australia, Austria, Finland, Hungary and Turkey and more recently in the Slovak Republic. The reverse trend has been evident in Belgium, Ireland and Norway. Overall, however, the threshold of upper secondary education makes less of a difference in the labour market than tertiary education does (Table A10.2b).

Lower unemployment ratios associated with higher educational attainment are not always guaranteed.

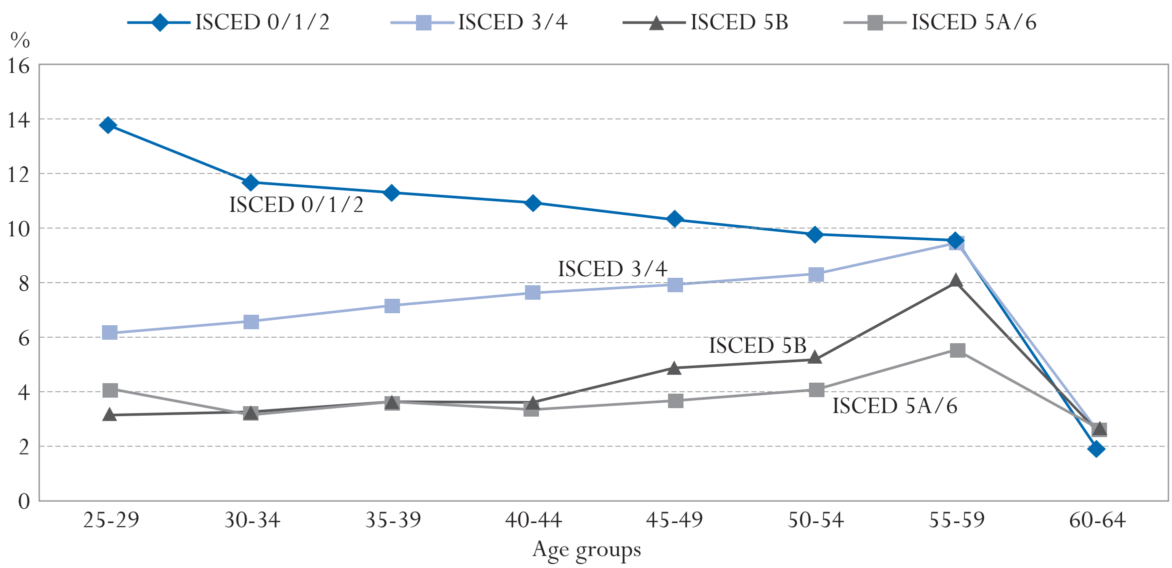
The benefit of tertiary education compared to upper secondary level generally confirms the expected trend, but there are important nuances for some countries. For seven OECD countries in 2002 – Denmark, Korea, Luxembourg, Netherlands, New Zealand, Switzerland and Turkey – the unemployment ratio of the adult population with tertiary education is higher than that for those who attained upper secondary education. This is a recent phenomenon.

Considering all OECD countries since 1995, on average the benefit of tertiary education expressed in terms of lower unemployment ratios has decreased slightly. Unemployment ratios for those with tertiary education were on average 1.4 percentage points lower than those with upper secondary education in 2002 compared with a difference of 1.9 percentage points in 1995. Countries where this trend has been most evident are Denmark, Portugal, Switzerland and Turkey. On the other hand, the reverse trend with, greater labour market advantage accruing to tertiary graduates, is also evident, for example in Austria and Germany (Table A10.2b).

Box A10.1. Germany: labour market risk for dual system graduates in many occupations

In Germany, as in other countries, different levels of educational attainment often correspond with different ratios of employment, unemployment and non-participation in the labour market (data source: "European Labour Force Survey" and the national "Mikrozensus").

Unemployment to population ratios by level of educational attainment and age groups (2002)



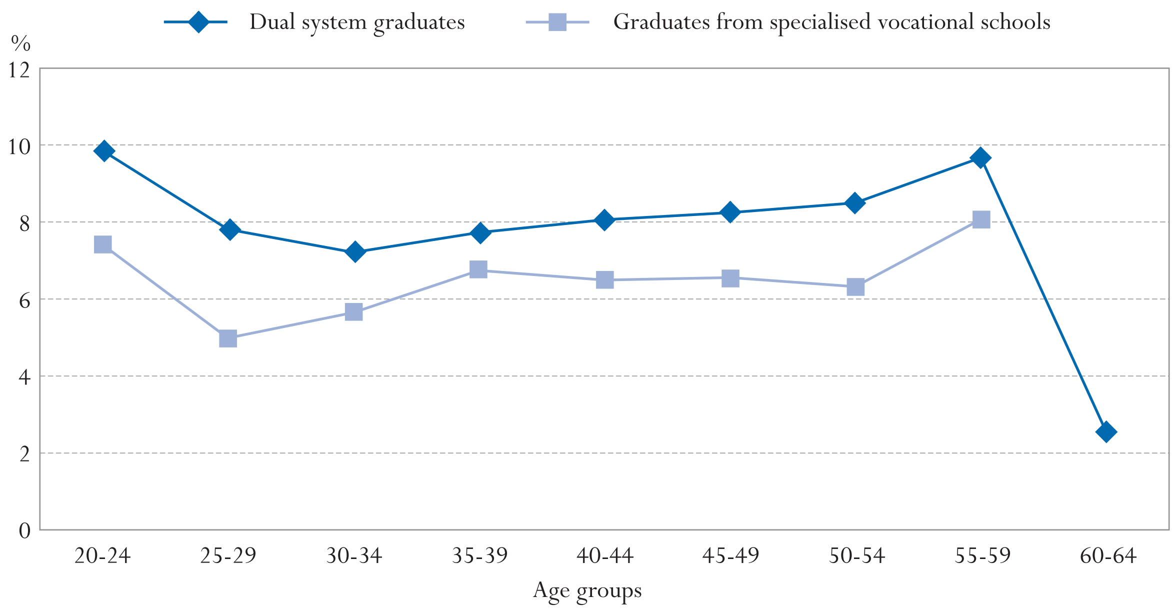
In the light of the high number of persons with an upper secondary qualification, a more detailed analysis of vocational programmes is of particular interest, especially in countries such as Germany, Austria or Switzerland where dual system programmes (apprenticeship opportunities comprising education and training both at a vocational school and in an enterprise) are of special importance. Dual system programmes generally ensure a favourable combination of practical and theoretical elements that facilitates the establishment of graduates in the labour market.

In Germany, the vast majority (21.5 million) of the 22.8 million persons aged 25 to 64 with a vocational upper secondary qualification as their highest level of education or training in 2002 completed a dual system programme. Previously, degrees from specialised vocational schools (*Berufsfachschulen*) have been of lesser importance (1.2 million persons). However, specialised vocational schools have continuously gained in attractiveness over the last 10 years. In 1993 about every ninth student in vocational upper secondary programmes attended a specialised vocational school; in school year 2003/2004, every fifth student is enrolled in such a programme.

An analysis of the labour market status of persons with a dual system qualification, as opposed to those with a degree from specialised vocational schools, shows that the employment ratio of persons aged 25 to 64 trained in the dual system (70%) is lower than the ratio for persons with a degree from specialised vocational schools (73%). A difference also exists for persons not participating in the labour force. Their proportion amounts to 23% for dual system graduates and to 21% for graduates from specialised vocational schools. Similar results can also be seen in earlier years than in 2002.

The unemployment to population ratios also differ significantly by age. For all age groups, the ratio is higher for dual system graduates than for graduates of specialised vocational schools. The difference for persons aged 20 to 24 is particularly obvious. In this age group, the ratio for dual system graduates is 10% as opposed to 7% for graduates of specialised vocational schools. Similar results are found for the age group 25 to 29, where the ratios are 8% and 5% respectively. The reason for this might be different occupational fields for graduates of the dual system and of the specialised vocational schools.

Unemployment to population ratios for persons with an upper secondary qualification, by age group (2002)



More than half (54%) of 20 to 24-year-old dual system graduates are employed in the 10 most common occupational fields (according to the National Classification of Occupations: clerks, health associate professionals, protective service workers, salespersons, wholesales and retail sales clerks-sales associate professionals, electrical and electronic mechanics, vehicle engineering and maintenance workers, social work professionals, building finishers and related trades workers and mechanical engineering and maintenance workers). An analysis of the unemployment ratio shows considerable differences among occupations. Security services workers and clerks (both 6%) seem to have relatively good employment opportunities. By contrast, among building finishers (18%), a markedly high number of young persons are unemployed. Moreover, the unemployment ratios for 20 to 24-year-olds in the majority of these 10 fields are higher than the ratios for 25 to 64-year-olds in the same occupational fields. A more detailed analysis is necessary to find out whether the young unemployed transit to working life in occupations that match their training or whether they choose other occupations. The high number of dual system graduates as motor-vehicle drivers and messengers might point to the latter aspect.

A corresponding analysis of graduates from specialised vocational schools broken down by occupation is not possible due to the considerably smaller overall number of these graduates, which leads to sampling results that are not sufficiently reliable.

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Data are derived from National Labour Force Surveys.

Definitions and methodologies

The unemployment ratio is the number of unemployed persons as a percentage of the total number of persons in the population.

The employment ratio is the number of employed persons as a percentage of the total number of persons in the population.

The ratio of the population not in the labour force is the number of people not in the labour force as a percentage of the total number of persons in the population.

The unemployed are defined as individuals who are without work, actively seeking employment and currently available to start work. The employed are defined as those who during the survey reference week: *i)* work for pay (employees) or profit (self-employed and unpaid family workers) for at least one hour, or *ii)* have a job but are temporarily not at work (through injury, illness, holiday, strike or lock-out, educational or training leave, maternity or parental leave, etc.) and have a formal attachment to their job. Those not in the labour force are those who are neither employed or unemployed.

For Tables A10.1 (a, b, c) and A10.2 (a, b, c) the population by level of educational attainment is allocated to the three groups: employed, unemployed, not in the labour force.

The level of educational attainment is based on the definitions of ISCED-97.

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Table A10.1a. Employment ratio and educational attainment (2002)

Number of 25 to 64-year-olds in employment as a percentage of the population aged 25 to 64, by level of education attained and gender

		Pre-primary and primary education	Lower secondary education	Upper secondary education: ISCED 3C Short	Upper secondary education: ISCED 3C Long/3B	Upper secondary education: ISCED 3A	Post-secondary non-tertiary education	Tertiary education: Type B	Tertiary education: Type A and advanced research programmes	All levels of education
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD COUNTRIES										
Australia	Males	x(2)	72	a	87	85	x(5)	87	91	83
	Females	x(2)	51	a	65	64	x(5)	73	81	63
Austria	Males	x(2)	65	a	82	77	85	86	91	80
	Females	x(2)	48	a	65	66	84	81	85	64
Belgium	Males	49	74	a	83	83	87	87	88	77
	Females	25	45	a	59	65	68	79	82	57
Canada	Males	55	72	a	x(5)	82	83	86	86	81
	Females	31	51	a	x(5)	68	71	78	79	69
Czech Republic	Males	a	55	x(4)	83	88	x(5)	x(8)	92	84
	Females	a	42	x(4)	62	71	x(5)	x(8)	80	64
Denmark	Males	a	73	x(2)	85	84	79	88	92	83
	Females	a	52	x(2)	78	71	92	86	84	74
Finland	Males	x(2)	61	a	a	77	a	84	89	76
	Females	x(2)	54	a	a	72	a	83	85	72
France	Males	57	77	83	85	83	a	88	86	79
	Females	43	56	67	74	71	a	80	80	64
Germany	Males	54	65	a	76	63	84	84	88	77
	Females	33	45	a	64	54	75	78	80	62
Greece	Males	75	84	86	85	83	86	81	88	81
	Females	36	42	51	51	45	61	73	76	47
Hungary	Males	18	46	a	78	79	80	a	86	71
	Females	8	35	a	61	66	69	a	78	56
Iceland	Males	92	92	93	a	91	95	95	98	93
	Females	81	82	85	a	84	85	92	94	86
Ireland	Males	64	86	a	a	89	91	91	91	84
	Females	30	47	a	a	63	70	80	84	60
Italy	Males	52	79	80	85	82	85	x(8)	88	77
	Females	18	39	56	62	61	73	x(8)	77	46
Japan	Males	x(2)	79	a	x(5)	89	x(9)	94	94	89
	Females	x(2)	53	a	x(5)	60	x(9)	62	68	60
Korea	Males	79	84	a	x(5)	87	a	90	88	86
	Females	60	60	a	x(5)	53	a	56	56	56
Luxembourg	Males	73	83	87	85	88	81	87	92	84
	Females	46	44	42	60	68	49	80	77	57
Mexico	Males	78	95	a	94	a	a	82	67	81
	Females	41	48	a	48	a	a	36	23	42
Netherlands	Males	63	82	x(4)	86	91	82	91	91	84
	Females	35	50	x(4)	71	74	76	80	82	64
New Zealand	Males	x(2)	75	a	91	87	90	86	90	86
	Females	x(2)	54	a	73	71	73	75	79	69
Norway	Males	a	73	a	85	86	88	94	92	85
	Females	a	57	a	77	77	80	89	87	78
Poland	Males	x(2)	46	65	a	74	80	x(8)	87	67
	Females	x(2)	32	47	a	61	69	x(8)	82	55
Portugal	Males	82	88	x(5)	x(5)	85	x(5)	84	93	84
	Females	60	77	x(5)	x(5)	80	x(5)	78	90	67
Slovak Republic	Males	5	33	x(4)	71	83	x(5)	83	91	73
	Females	3	27	x(4)	58	70	x(5)	78	83	60
Spain	Males	69	86	a	89	83	a	88	87	81
	Females	28	44	a	57	58	a	68	76	48
Sweden	Males	67	80	a	x(5)	83	x(7)	85	89	83
	Females	51	69	a	x(5)	80	x(7)	83	88	79
Switzerland	Males	73	85	96	91	83	89	95	94	91
	Females	56	62	66	73	74	81	85	82	73
Turkey	Males	74	78	a	80	81	a	x(8)	83	77
	Females	23	17	a	30	26	a	x(8)	65	26
United Kingdom	Males	a	59	83	83	88	x(9)	88	90	82
	Females	a	48	70	74	77	x(9)	84	86	72
United States	Males	67	69	x(5)	x(5)	80	x(5)	86	89	82
	Females	39	49	x(5)	x(5)	68	x(5)	77	79	69
Country mean	***Males***	***62***	***73***	***84***	***84***	***83***	***85***	***88***	***89***	***81***
	Females	***37***	***49***	***61***	***63***	***66***	***73***	***76***	***78***	***62***
PARTNER COUNTRY										
Israel	Males	28	63	x(5)	x(5)	73	x(7)	80	84	74
	Females	10	29	x(5)	x(5)	60	x(7)	70	80	60

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
Source: OECD. See Annex 3 for a description of ISCED-97 levels, ISCED-97 country mappings and national data sources (*www.oecd.org/edu/eag2004*).

Table A10.1b. Unemployment ratio and educational attainment (2002)

Number of 25 to 64-year-olds who are unemployed as a percentage of the population aged 25 to 64, by level of education attained and gender

			Pre-primary and primary education	Lower secondary education	Upper secondary education: ISCED 3C Short	Upper secondary education: ISCED 3C Long/3B	Upper secondary education: ISCED 3A	Post-secondary non-tertiary education	Tertiary education: Type B	Tertiary education: Type A and advanced research programmes	All levels of education
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD COUNTRIES	Australia	Males	x(2)	6.8	a	2.9	4.3	x(5)	4.1	2.6	4.5
		Females	x(2)	3.4	a	3.6	3.2	x(5)	3.7	2.0	3.1
	Austria	Males	x(2)	5.9	a	3.2	1.5	2.6	1.0	2.2	3.2
		Females	x(2)	2.9	a	2.5	2.7	1.5	1.0	2.4	2.5
	Belgium	Males	6.7	5.3	a	6.5	3.6	5.9	2.6	3.1	4.5
		Females	4.5	6.0	a	6.4	4.8	4.6	2.8	3.9	4.6
	Canada	Males	7.8	8.6	a	x(5)	5.8	5.9	5.4	4.5	5.9
		Females	4.5	5.7	a	x(5)	5.0	5.1	3.9	3.9	4.6
	Czech Republic	Males	a	14.8	x(4)	4.4	2.2	x(5)	x(8)	1.6	4.2
		Females	a	8.6	x(4)	7.2	3.9	x(5)	x(8)	1.6	5.6
	Denmark	Males	a	3.5	x(2)	2.9	1.4	7.2	3.5	3.2	3.1
		Females	a	4.6	x(2)	2.7	2.9	4.7	2.5	4.8	3.2
	Finland	Males	x(2)	8.0	a	a	7.4	a	4.8	3.1	6.5
		Females	x(2)	8.1	a	a	7.0	a	4.8	3.1	6.2
	France	Males	6.0	9.8	4.4	3.8	6.0	a	5.0	4.8	5.8
		Females	5.4	9.4	7.0	6.7	6.0	a	3.9	4.8	6.4
	Germany	Males	17.7	12.8	a	8.1	5.4	5.2	3.9	3.6	7.4
		Females	7.7	6.4	a	6.5	3.7	3.9	4.7	3.8	5.9
	Greece	Males	3.4	5.6	5.4	7.2	4.4	5.9	4.6	3.6	4.3
		Females	3.9	8.8	9.7	16.1	7.8	12.6	8.4	7.0	6.6
	Hungary	Males	7.1	6.2	a	4.4	2.7	1.9	a	1.0	4.0
		Females	2.5	3.1	a	3.7	2.3	4.7	a	1.5	2.7
	Iceland	Males	a	3.0	1.8	a	2.7	1.8	2.8	1.2	2.3
		Females	a	2.7	3.3	a	2.5	1.5	1.0	1.7	2.3
	Ireland	Males	5.6	4.0	a	a	2.8	1.7	2.3	1.9	3.3
		Females	1.7	2.5	a	a	2.0	2.3	1.4	1.1	1.9
	Italy	Males	4.8	5.2	3.6	3.0	4.1	6.6	x(8)	3.3	4.5
		Females	3.2	6.1	9.3	5.5	5.6	10.5	x(8)	5.9	5.4
	Japan	Males	x(2)	6.8	a	x(5)	5.1	x(9)	4.3	3.1	4.8
		Females	x(2)	2.6	a	x(5)	3.2	x(9)	3.1	2.7	3.0
	Korea	Males	2.2	2.7	a	x(5)	2.8	a	4.2	2.6	2.8
		Females	0.7	1.0	a	x(5)	1.1	a	1.9	1.1	1.1
	Luxembourg	Males	2.5	1.1	n	0.7	1.0	1.6	3.6	0.8	1.4
		Females	2.3	3.4	1.1	1.5	0.4	n	n	2.3	1.8
	Mexico	Males	2.5	1.5	a	1.7	a	a	2.1	1.1	2.2
		Females	1.5	0.5	a	0.5	a	a	0.2	0.1	1.2
	Netherlands	Males	2.8	2.4	x(4)	1.4	1.6	1.7	1.1	1.9	1.9
		Females	2.1	2.2	x(4)	1.9	2.1	2.7	1.7	2.0	2.1
	New Zealand	Males	x(2)	4.7	a	2.1	3.2	3.0	3.3	3.0	3.2
		Females	x(2)	3.0	a	3.9	2.1	3.9	2.7	2.4	2.9
	Norway	Males	a	2.4	a	2.8	3.0	1.4	1.5	2.2	2.5
		Females	a	2.1	a	2.2	2.0	2.9	2.1	1.7	2.0
	Poland	Males	x(2)	17.1	16.4	a	10.2	9.6	x(8)	5.1	13.5
		Females	x(2)	11.2	16.9	a	12.0	9.8	x(8)	6.1	12.3
	Portugal	Males	3.0	3.6	x(5)	x(5)	3.5	x(5)	4.5	1.8	3.1
		Females	3.4	5.0	x(5)	x(5)	4.0	x(5)	2.8	4.8	3.8
	Slovak Republic	Males	35.8	28.8	x(4)	14.8	8.2	x(5)	6.3	3.1	12.9
		Females	19.8	16.0	x(4)	14.4	8.5	x(5)	5.3	3.1	11.2
	Spain	Males	6.5	6.5	a	5.2	5.0	a	4.7	4.7	5.8
		Females	5.8	10.1	a	12.1	8.6	a	10.4	8.4	8.3
	Sweden	Males	3.8	4.5	a	x(5)	4.5	x(7)	3.3	3.2	4.0
		Females	4.4	3.9	a	x(5)	3.3	x(7)	2.4	2.1	3.1
	Switzerland	Males	2.0	4.6	n	1.7	1.5	1.7	1.0	2.3	2.0
		Females	4.8	2.7	1.3	2.1	2.1	2.1	0.9	2.9	2.3
	Turkey	Males	7.9	7.4	a	6.3	6.1	a	x(8)	5.7	7.3
		Females	1.3	3.1	a	5.2	5.2	a	x(8)	6.5	2.3
	United Kingdom	Males	a	6.8	4.5	3.5	3.1	x(9)	2.6	2.5	3.8
		Females	a	3.2	3.4	2.9	2.4	x(9)	1.5	1.8	2.7
	United States	Males	6.9	7.9	x(5)	x(5)	5.3	x(5)	3.8	2.8	4.7
		Females	5.1	5.5	x(5)	x(5)	3.7	x(5)	2.5	2.1	3.3
	Country mean	***Males***	***6.7***	***6.9***	***4.5***	***4.3***	***4.1***	***4.0***	***3.5***	***2.9***	***4.6***
		Females	***4.2***	***5.1***	***6.5***	***5.4***	***4.1***	***4.6***	***3.0***	***3.3***	***4.1***
PARTNER COUNTRY	Israel	Males	6.1	10.2	x(5)	x(5)	6.9	x(7)	6.4	5.2	7.0
		Females	2.0	4.7	x(5)	x(5)	7.7	x(7)	5.4	5.1	5.9

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
Source: OECD. See Annex 3 for a description of ISCED-97 levels, ISCED-97 country mappings and national data sources (*www.oecd.org/edu/eag2004*).

Table A10.1c. Ratio of the population not in the labour force and educational attainment (2002)

Number of 25 to 64-year-olds not in the labour force as a percentage of the population aged 25 to 64, by level of education attained and gender

			Pre-primary and primary education	Lower secondary education	Upper secondary education: ISCED 3C Short	Upper secondary education: ISCED 3C Long/3B	Upper secondary education: ISCED 3A	Post-secondary non-tertiary education	Tertiary education: Type B	Tertiary education: Type A and advanced research programmes	All levels of education
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD COUNTRIES	Australia	Males	x(2)	21	a	10	11	x(5)	8	7	13
		Females	x(2)	45	a	32	33	x(5)	23	17	34
	Austria	Males	x(2)	29	a	15	21	13	13	7	17
		Females	x(2)	49	a	32	31	15	18	13	33
	Belgium	Males	44	21	a	11	13	7	11	9	19
		Females	71	49	a	34	30	27	18	15	38
	Canada	Males	38	20	a	x(5)	12	11	8	10	13
		Females	64	44	a	x(5)	27	24	18	17	26
	Czech Republic	Males	a	30	x(4)	12	10	x(5)	x(8)	6	12
		Females	a	49	x(4)	31	25	x(5)	x(8)	19	30
	Denmark	Males	a	24	x(2)	12	15	14	9	5	14
		Females	a	44	x(2)	19	26	3	12	12	22
	Finland	Males	x(2)	31	a	a	16	a	11	8	18
		Females	x(2)	38	a	a	22	a	13	12	22
	France	Males	37	13	12	11	11	a	7	9	15
		Females	52	35	26	19	23	a	16	16	29
	Germany	Males	29	23	a	16	32	11	12	8	16
		Females	59	49	a	29	42	21	18	17	32
	Greece	Males	22	10	9	8	13	9	14	8	15
		Females	60	49	40	33	47	26	19	17	46
	Hungary	Males	75	48	a	17	18	18	a	13	25
		Females	89	62	a	35	32	27	a	20	42
	Iceland	Males	8	5	5	a	6	3	2	1	4
		Females	19	16	12	a	14	13	7	4	12
	Ireland	Males	30	10	a	a	8	7	7	7	13
		Females	68	50	a	a	35	27	19	15	39
	Italy	Males	43	16	16	12	14	9	x(8)	9	19
		Females	79	55	35	32	33	16	x(8)	17	49
	Japan	Males	x(2)	14	a	x(5)	6	x(9)	2	3	6
		Females	x(2)	44	a	x(5)	37	x(9)	35	30	37
	Korea	Males	19	14	a	x(5)	10	a	5	9	11
		Females	39	39	a	x(5)	46	a	42	43	43
	Luxembourg	Males	25	15	13	15	11	17	9	8	15
		Females	52	53	57	38	31	51	20	21	42
	Mexico	Males	20	4	a	4	a	a	16	32	16
		Females	58	52	a	52	a	a	64	77	57
	Netherlands	Males	34	16	x(4)	13	8	16	8	7	14
		Females	63	47	x(4)	27	24	22	19	16	34
	New Zealand	Males	x(2)	20	a	7	10	7	11	7	11
		Females	x(2)	43	a	23	27	23	23	18	28
	Norway	Males	a	25	a	12	11	11	5	6	12
		Females	a	41	a	21	21	17	9	11	20
	Poland	Males	x(2)	37	19	a	15	10	x(8)	8	20
		Females	x(2)	57	36	a	27	21	x(8)	12	33
	Portugal	Males	15	9	x(5)	x(5)	12	x(5)	11	5	13
		Females	36	18	x(5)	x(5)	16	x(5)	19	5	29
	Slovak Republic	Males	59	38	x(4)	14	9	x(5)	11	6	14
		Females	77	57	x(4)	28	22	x(5)	17	14	29
	Spain	Males	24	8	a	6	12	a	7	9	13
		Females	66	46	a	30	34	a	21	15	44
	Sweden	Males	29	16	a	x(5)	12	x(7)	11	8	13
		Females	45	27	a	x(5)	17	x(7)	15	10	18
	Switzerland	Males	25	10	4	8	16	9	4	4	7
		Females	39	36	33	25	24	17	14	15	25
	Turkey	Males	18	15	a	13	13	a	x(8)	12	16
		Females	75	80	a	65	69	a	x(8)	29	71
	United Kingdom	Males	a	34	12	13	9	x(9)	9	7	14
		Females	a	49	26	23	20	x(9)	14	12	25
	United States	Males	27	23	x(5)	x(5)	15	x(5)	10	8	14
		Females	56	46	x(5)	x(5)	28	x(5)	21	19	27
	Country mean	***Males***	***31***	***20***	***11***	***11***	***13***	***11***	***9***	***8***	***14***
		Females	***58***	***46***	***33***	***31***	***30***	***22***	***21***	***19***	***34***
PARTNER COUNTRY	Israel	Males	66	27	x(5)	x(5)	20	x(7)	13	11	19
		Females	88	66	x(5)	x(5)	33	x(7)	24	15	34

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.

Source: OECD. See Annex 3 for a description of ISCED-97 levels, ISCED-97 country mappings and national data sources (*www.oecd.org/edu/eag2004*).

Table A10.2a. Trends in employment ratio by educational attainment (1991-2002)

Number of 25 to 64-year-olds in employment as a percentage of the population aged 25 to 64, by level of education attained

OECD COUNTRIES		1991	1995	1998	1999	2000	2001	2002
Australia	Below upper secondary	54	60	59	59	61	60	60
	Upper secondary and post-secondary non-tertiary	71	75	76	76	77	78	78
	Tertiary education	81	83	84	82	83	83	83
Austria	Below upper secondary	52	56	53	53	54	54	55
	Upper secondary and post-secondary non-tertiary	73	77	75	76	75	75	75
	Tertiary education	88	88	86	87	87	86	86
Belgium	Below upper secondary	49	47	47	49	51	49	49
	Upper secondary and post-secondary non-tertiary	75	72	72	75	75	74	74
	Tertiary education	85	84	84	85	85	84	84
Canada	Below upper secondary	55	53	54	55	55	55	55
	Upper secondary and post-secondary non-tertiary	75	74	74	75	76	76	76
	Tertiary education	82	81	82	82	83	82	82
Czech Republic	Below upper secondary	m	56	50	47	47	47	45
	Upper secondary and post-secondary non-tertiary	m	82	78	76	76	76	76
	Tertiary education	m	92	89	87	87	88	87
Denmark	Below upper secondary	62	61	61	62	62	62	61
	Upper secondary and post-secondary non-tertiary	81	76	79	81	81	81	81
	Tertiary education	89	89	87	88	88	87	87
Finland	Below upper secondary	64	54	56	59	57	58	58
	Upper secondary and post-secondary non-tertiary	78	70	73	74	75	75	74
	Tertiary education	88	81	83	85	84	85	85
France	Below upper secondary	58	57	56	56	57	58	58
	Upper secondary and post-secondary non-tertiary	78	76	75	75	76	77	77
	Tertiary education	85	82	82	82	83	84	83
Germany	Below upper secondary	51	49	48	49	51	52	51
	Upper secondary and post-secondary non-tertiary	74	71	69	70	70	71	70
	Tertiary education	86	84	83	83	84	83	84
Greece	Below upper secondary	m	56	56	55	55	55	56
	Upper secondary and post-secondary non-tertiary	m	62	65	65	65	65	66
	Tertiary education	m	79	80	81	81	80	81
Hungary	Below upper secondary	m	m	36	36	36	37	37
	Upper secondary and post-secondary non-tertiary	m	m	71	72	72	72	72
	Tertiary education	m	m	81	82	82	83	82
Iceland	Below upper secondary	m	m	85	86	87	87	86
	Upper secondary and post-secondary non-tertiary	m	m	89	91	89	89	89
	Tertiary education	m	m	95	95	95	95	95
Ireland	Below upper secondary	46	49	53	54	56	57	57
	Upper secondary and post-secondary non-tertiary	63	67	72	75	77	77	77
	Tertiary education	81	83	85	87	88	87	87
Italy	Below upper secondary	54	49	47	48	48	49	50
	Upper secondary and post-secondary non-tertiary	74	70	70	70	71	72	72
	Tertiary education	87	81	81	81	81	82	82
Japan	Below upper secondary	m	m	69	68	67	68	67
	Upper secondary and post-secondary non-tertiary	m	m	76	74	74	74	74
	Tertiary education	m	m	80	80	79	80	80
Korea	Below upper secondary	70	71	66	67	68	68	68
	Upper secondary and post-secondary non-tertiary	70	71	66	66	69	69	70
	Tertiary education	80	80	76	75	75	76	76

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Table A10.2a. *(continued)* **Trends in employment ratio by educational attainment (1991-2002)**

Number of 25 to 64-year-olds in employment as a percentage of the population aged 25 to 64, by level of education attained

OECD COUNTRIES		1991	1995	1998	1999	2000	2001	2002
Luxembourg	Below upper secondary	m	m	m	55	58	58	59
	Upper secondary and post-secondary non-tertiary	m	m	m	73	73	74	74
	Tertiary education	m	m	m	85	84	86	85
Mexico	Below upper secondary	m	59	62	62	62	61	60
	Upper secondary and post-secondary non-tertiary	m	68	72	71	70	70	71
	Tertiary education	m	49	53	55	54	53	53
Netherlands	Below upper secondary	50	52	55	57	58	59	59
	Upper secondary and post-secondary non-tertiary	73	74	77	78	79	80	80
	Tertiary education	85	83	85	87	86	86	87
New Zealand	Below upper secondary	57	58	59	60	61	62	64
	Upper secondary and post-secondary non-tertiary	73	80	79	80	80	81	81
	Tertiary education	80	82	80	81	81	82	82
Norway	Below upper secondary	62	61	68	67	65	63	64
	Upper secondary and post-secondary non-tertiary	80	80	84	83	83	83	81
	Tertiary education	90	89	90	90	90	90	89
Poland	Below upper secondary	m	50	49	47	43	41	38
	Upper secondary and post-secondary non-tertiary	m	70	71	70	67	65	62
	Tertiary education	m	85	87	87	85	84	84
Portugal	Below upper secondary	62	67	72	72	73	73	73
	Upper secondary and post-secondary non-tertiary	84	77	80	82	83	83	82
	Tertiary education	92	89	89	90	91	91	88
Slovak Republic	Below upper secondary	m	39	37	33	31	30	28
	Upper secondary and post-secondary non-tertiary	m	75	75	72	71	70	70
	Tertiary education	m	88	89	87	86	87	87
Spain	Below upper secondary	49	46	49	51	54	55	56
	Upper secondary and post-secondary non-tertiary	72	65	67	70	72	72	72
	Tertiary education	79	75	76	78	80	81	81
Sweden	Below upper secondary	83	78	66	66	68	69	68
	Upper secondary and post-secondary non-tertiary	91	84	79	80	82	82	82
	Tertiary education	94	89	85	86	87	87	86
Switzerland	Below upper secondary	78	67	69	69	66	69	70
	Upper secondary and post-secondary non-tertiary	80	80	81	81	82	81	81
	Tertiary education	92	90	90	91	91	92	91
Turkey	Below upper secondary	60	64	57	57	53	51	50
	Upper secondary and post-secondary non-tertiary	67	63	66	64	62	63	62
	Tertiary education	87	74	81	79	78	78	76
United Kingdom	Below upper secondary	61	55	53	53	54	54	53
	Upper secondary and post-secondary non-tertiary	78	77	79	79	79	79	79
	Tertiary education	86	86	87	88	88	88	88
United States	Below upper secondary	52	54	58	58	58	58	57
	Upper secondary and post-secondary non-tertiary	74	75	76	76	77	76	74
	Tertiary education	85	86	85	85	85	84	83
Country mean	***Below upper secondary***	***59***	***56***	***57***	***57***	***57***	***57***	***57***
	Upper secondary and post-secondary non-tertiary	***76***	***74***	***75***	***75***	***75***	***75***	***75***
	Tertiary education	***86***	***83***	***83***	***84***	***84***	***84***	***83***

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

Table A10.2b. Trends in unemployment ratio by educational attainment (1991-2002)

Number of 25 to 64-year-olds who are unemployed as a percentage of the population aged 25 to 64, by level of education attained

OECD COUNTRIES

		1991	1995	1998	1999	2000	2001	2002
Australia	Below upper secondary	5.5	5.7	5.9	5.4	4.9	4.9	4.8
	Upper secondary and post-secondary non-tertiary	5.2	5.0	4.7	4.1	3.6	3.8	3.5
	Tertiary education	3.3	3.5	2.9	2.9	3.1	2.6	2.8
Austria	Below upper secondary	2.6	3.4	3.9	3.5	3.6	3.7	4.0
	Upper secondary and post-secondary non-tertiary	2.4	2.3	2.8	2.5	2.3	2.3	2.7
	Tertiary education	1.3	1.8	1.8	1.7	1.4	1.3	1.6
Belgium	Below upper secondary	6.5	7.3	7.2	6.7	5.5	4.5	5.6
	Upper secondary and post-secondary non-tertiary	3.3	5.8	5.8	5.3	4.2	4.3	4.7
	Tertiary education	1.7	3.1	2.8	2.7	2.4	2.4	3.0
Canada	Below upper secondary	8.8	8.0	7.2	6.6	6.2	6.4	6.9
	Upper secondary and post-secondary non-tertiary	7.2	6.7	6.0	5.4	4.7	5.0	5.5
	Tertiary education	5.5	5.3	4.1	3.9	3.5	4.1	4.4
Czech Republic	Below upper secondary	m	4.7	8.4	10.9	11.2	11.1	10.5
	Upper secondary and post-secondary non-tertiary	m	1.8	3.7	5.3	5.4	5.0	4.5
	Tertiary education	m	0.7	1.7	2.4	2.2	1.8	1.6
Denmark	Below upper secondary	10.2	10.5	4.6	4.6	4.2	3.3	4.0
	Upper secondary and post-secondary non-tertiary	8.1	8.4	3.8	3.4	3.3	2.7	2.8
	Tertiary education	4.6	4.2	3.0	2.8	2.4	2.9	3.2
Finland	Below upper secondary	6.1	14.9	9.0	8.8	7.9	7.5	8.0
	Upper secondary and post-secondary non-tertiary	6.1	14.0	8.7	7.8	7.3	7.0	7.2
	Tertiary education	3.1	8.1	5.1	4.2	4.2	3.9	4.0
France	Below upper secondary	6.8	9.0	9.8	10.2	9.2	7.8	7.7
	Upper secondary and post-secondary non-tertiary	5.5	7.5	7.9	7.6	6.5	5.7	5.6
	Tertiary education	3.3	5.7	5.7	5.4	4.4	4.2	4.6
Germany	Below upper secondary	4.1	7.6	9.2	9.2	8.1	8.1	9.2
	Upper secondary and post-secondary non-tertiary	3.6	6.1	7.9	6.8	6.2	6.3	6.9
	Tertiary education	2.9	4.3	4.8	4.4	3.6	3.7	3.9
Greece	Below upper secondary	m	3.8	4.5	5.1	4.8	4.5	4.4
	Upper secondary and post-secondary non-tertiary	m	6.2	7.6	7.9	7.9	7.1	7.0
	Tertiary education	m	7.0	5.3	6.6	6.3	5.6	5.5
Hungary	Below upper secondary	m	m	4.6	4.5	4.0	4.1	4.3
	Upper secondary and post-secondary non-tertiary	m	m	4.7	4.5	4.1	3.4	3.3
	Tertiary education	m	m	1.4	1.1	1.1	1.0	1.3
Iceland	Below upper secondary	m	m	3.0	2.0	2.2	2.1	2.7
	Upper secondary and post-secondary non-tertiary	m	m	1.2	0.9	1.4	1.6	2.4
	Tertiary education	m	m	0.8	0.6	0.8	0.9	1.5
Ireland	Below upper secondary	11.7	9.5	7.0	5.5	4.2	3.4	3.6
	Upper secondary and post-secondary non-tertiary	5.0	5.5	3.4	2.8	1.9	1.9	2.2
	Tertiary education	3.5	3.6	2.6	1.5	1.4	1.2	1.6
Italy	Below upper secondary	3.3	4.9	5.7	5.6	5.3	4.9	4.9
	Upper secondary and post-secondary non-tertiary	5.7	6.1	6.3	6.1	5.6	5.2	5.0
	Tertiary education	4.6	6.4	6.0	6.0	5.1	4.6	4.6
Japan	Below upper secondary	m	m	3.1	4.0	4.3	4.3	4.7
	Upper secondary and post-secondary non-tertiary	m	m	2.6	3.4	3.6	3.7	4.1
	Tertiary education	m	m	2.2	2.7	2.9	2.6	3.2
Korea	Below upper secondary	0.7	0.7	4.2	3.8	2.4	2.1	1.5
	Upper secondary and post-secondary non-tertiary	1.4	1.2	4.8	4.5	2.7	2.4	2.0
	Tertiary education	2.2	1.6	3.9	3.7	2.7	2.6	2.4

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Table A10.2b. (*continued*) **Trends in unemployment ratio by educational attainment (1991-2002)**

Number of 25 to 64-year-olds who are unemployed as a percentage of the population aged 25 to 64, by level of education attained

OECD COUNTRIES		1991	1995	1998	1999	2000	2001	2002
Luxembourg	Below upper secondary	m	m	m	2.1	1.9	1.1	2.4
	Upper secondary and post-secondary non-tertiary	m	m	m	0.8	1.2	0.8	0.9
	Tertiary education	m	m	m	0.9	0.8	1.1	1.5
Mexico	Below upper secondary	m	4.2	2.3	1.6	1.7	1.6	1.8
	Upper secondary and post-secondary non-tertiary	m	2.7	1.1	0.9	1.0	1.0	1.1
	Tertiary education	m	1.8	0.5	0.6	0.8	0.6	0.9
Netherlands	Below upper secondary	4.7	4.4	0.5	2.9	2.3	1.8	2.3
	Upper secondary and post-secondary non-tertiary	3.5	3.7	1.3	1.9	1.8	1.3	1.8
	Tertiary education	1.3	3.5	n	1.5	1.7	1.1	1.9
New Zealand	Below upper secondary	8.1	5.3	6.9	5.8	5.1	4.5	3.8
	Upper secondary and post-secondary non-tertiary	5.7	2.7	3.9	3.8	2.9	2.7	2.8
	Tertiary education	4.0	2.7	3.7	3.4	3.0	2.7	2.8
Norway	Below upper secondary	4.5	4.2	2.0	1.7	1.5	2.2	2.2
	Upper secondary and post-secondary non-tertiary	3.7	3.4	2.0	2.2	2.2	2.3	2.5
	Tertiary education	1.8	2.2	1.4	1.2	1.7	1.5	1.9
Poland	Below upper secondary	m	8.1	7.9	9.2	11.1	12.1	13.9
	Upper secondary and post-secondary non-tertiary	m	8.8	7.1	8.3	10.7	12.3	13.8
	Tertiary education	m	2.5	2.2	2.8	3.8	4.5	5.7
Portugal	Below upper secondary	3.5	4.5	3.3	3.0	2.7	2.7	3.4
	Upper secondary and post-secondary non-tertiary	4.0	5.3	4.3	3.8	3.0	2.8	3.7
	Tertiary education	1.7	3.0	2.6	2.8	2.5	2.6	3.6
Slovak Republic	Below upper secondary	m	12.2	12.0	14.4	17.6	19.2	20.7
	Upper secondary and post-secondary non-tertiary	m	8.0	7.3	9.7	11.8	12.2	11.7
	Tertiary education	m	2.4	3.0	3.6	4.1	3.8	3.2
Spain	Below upper secondary	7.9	12.0	10.2	8.8	8.5	6.3	7.0
	Upper secondary and post-secondary non-tertiary	10.1	14.8	12.1	10.3	8.9	6.6	7.5
	Tertiary education	8.1	12.7	11.5	9.6	8.3	6.0	6.8
Sweden	Below upper secondary	2.2	8.7	7.7	6.6	5.9	4.3	4.2
	Upper secondary and post-secondary non-tertiary	2.1	7.9	6.7	5.5	4.6	4.0	3.9
	Tertiary education	1.1	4.2	3.9	3.4	2.7	2.4	2.7
Switzerland	Below upper secondary	0.9	4.1	4.1	3.6	3.5	2.6	3.5
	Upper secondary and post-secondary non-tertiary	1.2	2.3	2.4	1.9	1.7	1.7	1.9
	Tertiary education	1.2	1.8	2.6	1.6	1.2	1.2	2.0
Turkey	Below upper secondary	3.6	3.2	2.7	3.2	2.6	3.8	4.8
	Upper secondary and post-secondary non-tertiary	5.2	4.7	4.6	5.6	3.6	4.9	5.8
	Tertiary education	2.8	2.5	4.0	4.1	3.0	3.7	6.0
United Kingdom	Below upper secondary	7.1	8.1	6.2	5.8	5.2	4.5	4.9
	Upper secondary and post-secondary non-tertiary	5.5	6.2	4.1	4.1	3.8	3.2	3.4
	Tertiary education	3.0	3.4	2.3	2.4	1.9	1.8	2.2
United States	Below upper secondary	7.3	6.0	5.4	4.8	4.9	5.1	6.5
	Upper secondary and post-secondary non-tertiary	5.2	4.0	3.5	3.0	2.9	3.0	4.5
	Tertiary education	2.6	2.4	1.8	1.8	1.5	1.8	2.6
Country mean	***Below upper secondary***	***5.5***	***6.7***	***5.8***	***5.7***	***5.4***	***5.1***	***5.6***
	Upper secondary and post-secondary non-tertiary	***4.7***	***5.8***	***4.9***	***4.7***	***4.4***	***4.2***	***4.5***
	Tertiary education	***3.0***	***3.9***	***3.2***	***3.1***	***2.8***	***2.7***	***3.1***

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

Table A10.2c. Trends in the ratio of the population not in the labour force by educational attainment (1991-2002)

Number of 25 to 64-year-olds not in the labour force as a percentage of the population aged 25 to 64, by level of education attained

OECD COUNTRIES		1991	1995	1998	1999	2000	2001	2002
Australia	Below upper secondary	40	34	35	36	34	35	35
	Upper secondary and post-secondary non-tertiary	24	20	19	20	20	18	19
	Tertiary education	16	13	13	15	14	14	14
Austria	Below upper secondary	46	41	43	43	43	43	41
	Upper secondary and post-secondary non-tertiary	24	21	22	22	23	23	22
	Tertiary education	10	10	12	11	12	12	12
Belgium	Below upper secondary	45	45	45	44	44	46	46
	Upper secondary and post-secondary non-tertiary	21	22	22	20	21	22	21
	Tertiary education	13	13	13	12	12	13	13
Canada	Below upper secondary	36	39	39	39	39	39	38
	Upper secondary and post-secondary non-tertiary	18	19	19	19	19	19	19
	Tertiary education	12	13	14	14	14	14	14
Czech Republic	Below upper secondary	m	40	42	42	42	42	44
	Upper secondary and post-secondary non-tertiary	m	16	18	18	19	19	19
	Tertiary education	m	7	10	10	11	10	11
Denmark	Below upper secondary	28	28	35	34	33	35	35
	Upper secondary and post-secondary non-tertiary	11	15	17	16	16	17	16
	Tertiary education	6	7	10	9	9	10	10
Finland	Below upper secondary	30	31	35	33	35	34	34
	Upper secondary and post-secondary non-tertiary	16	16	18	18	18	18	18
	Tertiary education	9	11	12	11	11	11	11
France	Below upper secondary	36	34	34	33	34	34	34
	Upper secondary and post-secondary non-tertiary	16	17	17	17	18	18	18
	Tertiary education	12	12	13	13	12	12	12
Germany	Below upper secondary	45	43	43	42	41	40	40
	Upper secondary and post-secondary non-tertiary	23	23	23	23	23	23	23
	Tertiary education	11	12	12	13	13	13	13
Greece	Below upper secondary	m	40	40	40	40	40	40
	Upper secondary and post-secondary non-tertiary	m	32	27	27	27	28	27
	Tertiary education	m	14	14	13	13	15	14
Hungary	Below upper secondary	m	m	59	60	60	59	59
	Upper secondary and post-secondary non-tertiary	m	m	24	23	24	25	25
	Tertiary education	m	m	18	17	17	16	17
Iceland	Below upper secondary	m	m	12	12	11	11	12
	Upper secondary and post-secondary non-tertiary	m	m	10	8	9	9	8
	Tertiary education	m	m	4	4	4	4	3
Ireland	Below upper secondary	42	42	40	40	40	40	39
	Upper secondary and post-secondary non-tertiary	32	28	25	22	21	21	21
	Tertiary education	16	13	12	11	11	12	12
Italy	Below upper secondary	43	46	47	47	47	46	45
	Upper secondary and post-secondary non-tertiary	21	24	24	24	23	23	23
	Tertiary education	9	13	13	13	13	14	13
Japan	Below upper secondary	m	m	28	28	29	28	29
	Upper secondary and post-secondary non-tertiary	m	m	22	22	23	22	22
	Tertiary education	m	m	18	18	18	17	17
Korea	Below upper secondary	29	28	30	29	30	30	30
	Upper secondary and post-secondary non-tertiary	28	28	29	29	29	28	27
	Tertiary education	18	19	20	22	22	22	22

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Table A10.2c. (continued) Trends in the ratio of the population not in the labour force by educational attainment (1991-2002)

Number of 25 to 64-year-olds not in the labour force as a percentage of the population aged 25 to 64, by level of education attained

OECD COUNTRIES		1991	1995	1998	1999	2000	2001	2002
Luxembourg	Below upper secondary	m	m	m	43	40	41	38
	Upper secondary and post-secondary non-tertiary	m	m	m	26	26	25	26
	Tertiary education	m	m	m	14	15	13	13
Mexico	Below upper secondary	m	37	36	37	37	38	38
	Upper secondary and post-secondary non-tertiary	m	29	27	29	29	29	28
	Tertiary education	m	49	47	45	46	47	46
Netherlands	Below upper secondary	45	43	44	40	40	39	39
	Upper secondary and post-secondary non-tertiary	23	22	22	20	19	19	19
	Tertiary education	14	14	15	11	12	13	11
New Zealand	Below upper secondary	35	36	35	35	34	33	33
	Upper secondary and post-secondary non-tertiary	22	17	17	16	17	17	16
	Tertiary education	16	16	16	16	16	16	16
Norway	Below upper secondary	33	35	30	31	33	35	34
	Upper secondary and post-secondary non-tertiary	17	16	14	15	15	15	16
	Tertiary education	8	9	8	9	8	9	9
Poland	Below upper secondary	m	42	43	44	46	46	48
	Upper secondary and post-secondary non-tertiary	m	21	22	22	23	23	24
	Tertiary education	m	13	11	11	12	11	10
Portugal	Below upper secondary	35	28	25	25	25	24	24
	Upper secondary and post-secondary non-tertiary	12	18	16	14	14	15	14
	Tertiary education	6	8	8	7	7	7	8
Slovak Republic	Below upper secondary	m	49	51	52	52	50	51
	Upper secondary and post-secondary non-tertiary	m	17	18	18	18	18	18
	Tertiary education	m	9	8	9	10	9	10
Spain	Below upper secondary	43	42	40	40	38	39	37
	Upper secondary and post-secondary non-tertiary	17	20	21	20	19	22	21
	Tertiary education	13	13	12	13	12	13	12
Sweden	Below upper secondary	15	14	26	27	26	27	28
	Upper secondary and post-secondary non-tertiary	7	9	14	15	14	14	14
	Tertiary education	5	7	11	11	11	11	11
Switzerland	Below upper secondary	21	29	27	27	31	28	27
	Upper secondary and post-secondary non-tertiary	19	18	16	17	16	17	17
	Tertiary education	7	8	7	7	8	7	7
Turkey	Below upper secondary	36	33	40	40	45	45	45
	Upper secondary and post-secondary non-tertiary	28	32	29	31	35	33	33
	Tertiary education	10	23	15	17	18	18	18
United Kingdom	Below upper secondary	32	37	41	42	41	42	42
	Upper secondary and post-secondary non-tertiary	16	17	17	17	17	17	17
	Tertiary education	11	10	10	10	10	10	10
United States	Below upper secondary	41	40	37	37	37	36	37
	Upper secondary and post-secondary non-tertiary	21	21	21	21	20	21	22
	Tertiary education	12	12	13	14	13	14	14
Country mean	***Below upper secondary***	***36***	***37***	***37***	***37***	***38***	***38***	***37***
	Upper secondary and post-secondary non-tertiary	***20***	***21***	***20***	***20***	***20***	***21***	***20***
	Tertiary education	***11***	***13***	***13***	***13***	***13***	***14***	***13***

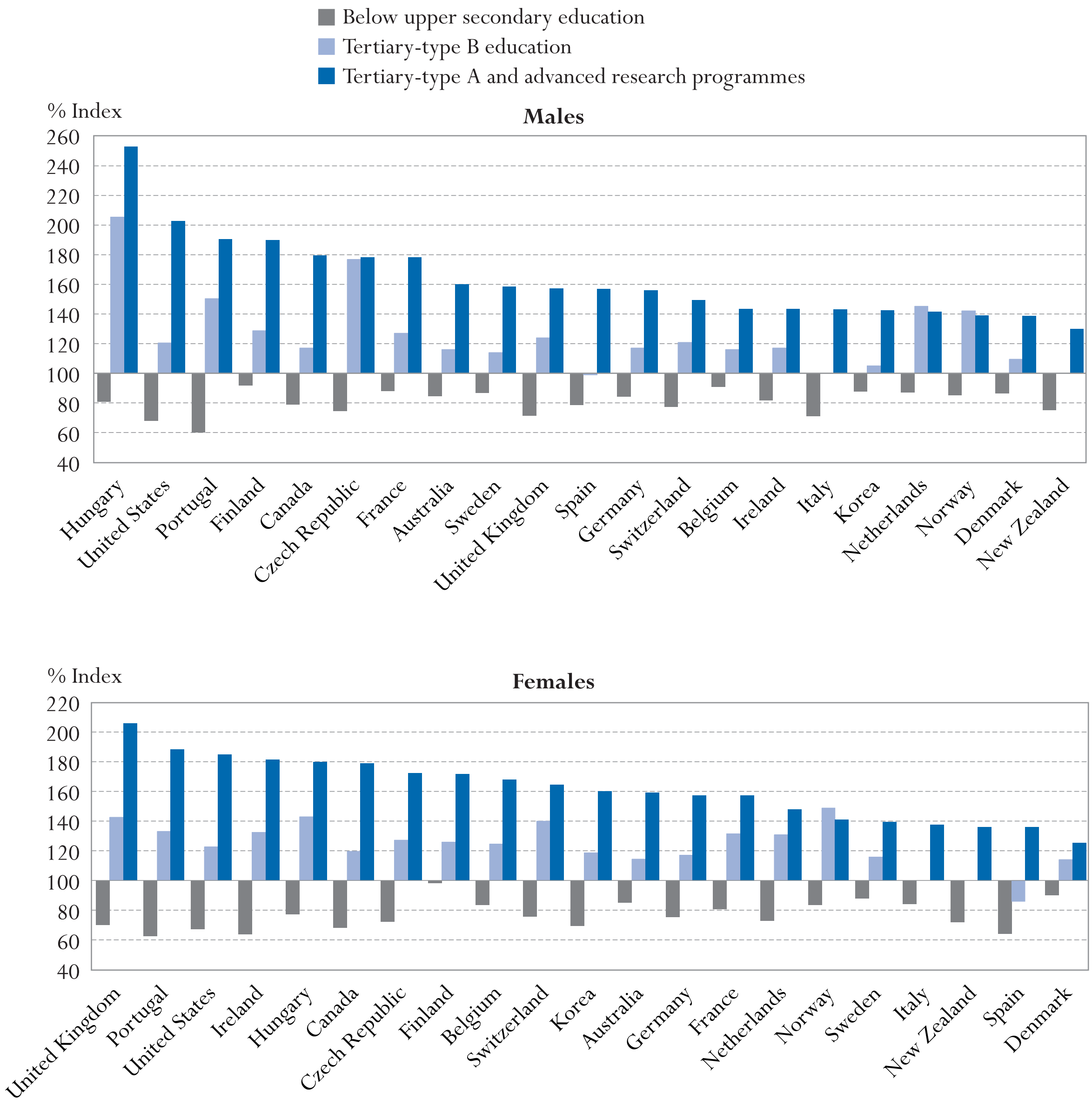
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

INDICATOR A11: THE RETURNS TO EDUCATION: EDUCATION AND EARNINGS

- 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.
- Earnings of people with below upper secondary education tend to range from 60 to 90% of those of upper secondary and post-secondary non-tertiary graduates.
- Females still earn less than males with similar levels of educational attainment.

Chart A11.1. Relative earnings from employment (2002)

By level of educational attainment and gender for 25 to 64-year-olds (upper secondary education = 100)



Countries are ranked in descending order of relative earnings of the population having attained tertiary-type A and advanced research programmes.
Source: OECD. Table A11.1a. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Policy context

One way in which markets provide incentives for individuals to develop and maintain appropriate levels of skills is through wage differentials, in particular through the enhanced earnings accorded to persons completing additional education. The pursuit of higher levels of education can also be viewed as an investment in human capital. Human capital includes the stock of skills that

This indicator examines the earnings of workers with differing levels of educational attainment…

individuals maintain or develop, usually through education or training, and then offer in return for earnings in the labour market. The higher the earnings that result from increases in human capital, the higher the returns on that investment and the premium paid for enhanced skills and/or for higher productivity.

…as well as the returns to educational investment.

At the same time, education involves costs, which must be considered when examining the returns to investment in education. This indicator examines these returns and the various costs and benefits that influence them.

Evidence and explanations

Education and earnings

Earnings differentials are a key measure of the current financial incentives in a particular country for an individual to invest in further education.

Earnings differentials according to educational attainment are a key measure of the current financial incentives in a particular country for an individual to invest in further education. Earnings differentials may also reflect differences in the supply of educational programmes at different levels or the barriers to access to those programmes. The earnings benefit of completing tertiary education can be seen by comparing the ratio of the mean annual earnings of those who graduated from tertiary education with the mean annual earnings of upper secondary or post-secondary non-tertiary graduates. The earnings disadvantage from not completing upper secondary education is apparent from a similar comparison. Variations in relative earnings (before taxes) among countries reflect a number of factors, including the demand for skills in the labour market, minimum wage legislation, the strength of unions, the coverage of collective bargaining agreements, the supply of workers at the various levels of educational attainment, the range of work experience of workers with high and low levels of educational attainment, the distribution of employment among occupations and the relative incidence of part-time and part-year work among workers with varying levels of educational attainment.

Education and earnings are positively linked, in all socio-economic systems and at all levels of economic development.

Chart A11.1 shows a strong positive relationship between educational attainment and earnings. 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, suggesting that in many countries upper secondary (and with a small number of exceptions, post-secondary non-tertiary) education forms a break-point beyond which additional education attracts a particularly high premium. Table A11.1a shows that, among those countries which report gross earnings, the earnings premium for males aged 25 to 64 years with tertiary-level education, relative to upper secondary education, ranges from 30% in New Zealand to 152% in Hungary.

The earnings data shown in this indicator differ among countries in a number of ways. Caution should therefore be exercised in interpreting the results. In particular, in countries reporting annual earnings, differences in the incidence of part-year work among individuals with different levels of educational attainment will have an effect on relative earnings that is not reflected in the data for countries reporting weekly or monthly earnings (see the "Definitions and methodologies" section below).

Education and gender disparity in earnings

Tertiary education enhances earnings relative to upper secondary education more for females than for males in Belgium, Ireland, Korea, the Netherlands, New Zealand, Norway, Switzerland and the United Kingdom. The reverse is true in the remaining countries, with the exception of Germany where, relative to upper secondary education, the earnings of males and females are equally enhanced by tertiary education (Table A11.1a).

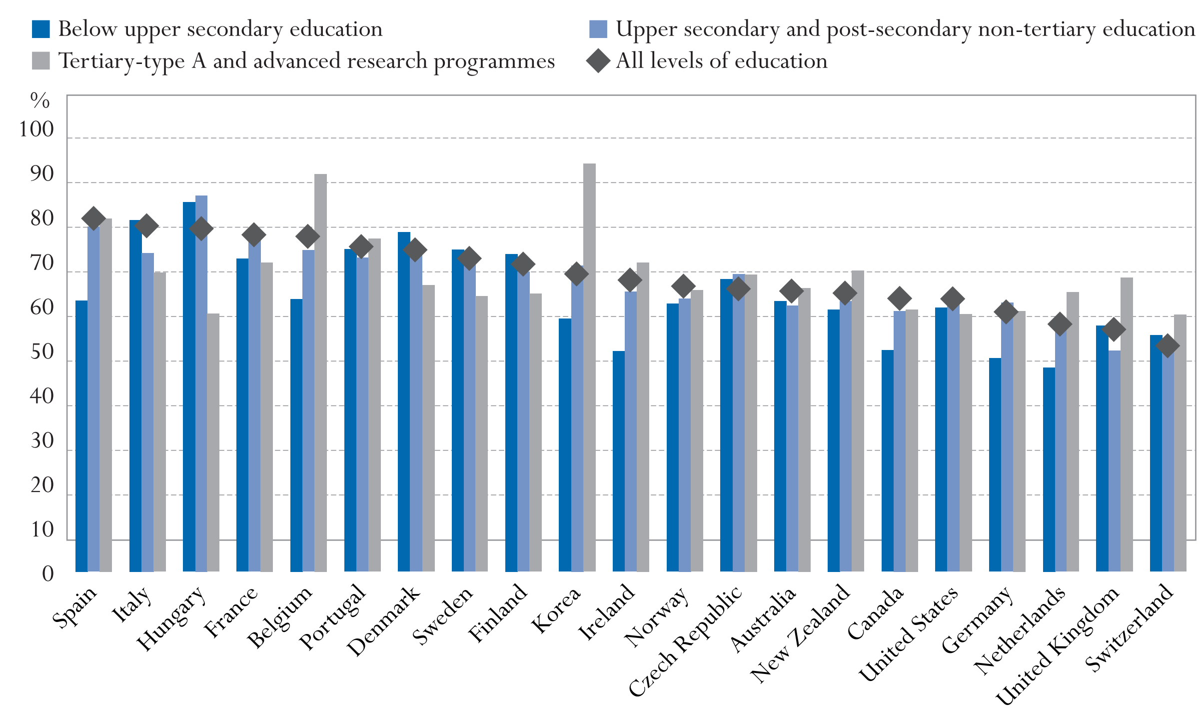
Earnings differentials between males and females with the same educational attainment remain substantial…

Although both males and females with upper secondary, post-secondary non-tertiary or tertiary attainment have substantial earnings advantages compared with those of the same gender who do not complete upper secondary education, earnings differentials between males and females with the same educational attainment remain substantial (Chart A11.2 and Table A11.1b).

When all levels of education are taken together, the earnings of females between the ages of 30 and 44 range from 50% of those of males in Switzerland to 79% of those of males in Spain (Chart A11.2 and Table A11.1b).

Chart A11.2. Differences in earnings between females and males (2002)

Average annual earnings of females as a percentage of average annual earnings of males (30-44 age group), by level of educational attainment



Countries are ranked in descending order of the average annual earnings of females as a percentage of the average annual earnings of 30 to 44-year-old males, for all levels of education.

Source: OECD. Table A11.1b. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

…with some of the differences explained by career choices, the time spent in the labour force, and the incidence of part-time work among females.

The gap in earnings between males and females may be explained in part by different choices of career and occupation, differences in the amount of time that males and females spend in the labour force, and the relatively high incidence of part-time work among females (in Table A11.1b, part-time employment is excluded in Hungary, Portugal and the United States).

Private internal rates of return to investment in education

The overall incentives for individuals to invest in human capital can be summarised in the private internal rate of return.

The incentives to invest in human capital reflect the associated labour market benefits and terms of educational financing, and can be summarised in estimates of private internal rates of return. The rate of return represents a measure of the benefits obtained, over time, relative to the costs of the investment in education. It is expressed as a percentage and is analogous to percentage returns from investing in a savings account (see Annex 3 at *www.oecd.org/edu/eag2004* for an explanation of the methodology).

This indicator estimates the incentives for investment in education faced by working-age adults under a range of study scenarios.

Rates of return to investments in education have commonly been estimated across the lifetime of individuals who have completed different stages of education during youth and early adulthood. By contrast, this indicator refers to investments in education made by working-age adults. Specifically, the estimates of private rates of return presented in Tables A11.4 and A11.5 apply to the case of a hypothetical individual, aged 40, who returns to formal education to attain the next highest level of qualification. As such, these calculations are relevant to current policy concerns regarding the encouragement of lifelong learning in many OECD member countries.

Transitions from two different levels of education are examined. The first, in Table A11.4, presents private rates of return for an individual who has invested in obtaining upper secondary or post-secondary non-tertiary education (ISCED level 3/4), from an original lower secondary level of education (ISCED level 0/1/2). The second transition, presented in Table A11.5, concerns an individual who has invested in obtaining a tertiary-level education, up to the attainment of an advanced research qualification (ISCED level 5(A,B)/6), starting from an upper secondary level of education (ISCED level 3/4). Estimates were calculated for the following scenarios:

- The individual studies on a full-time basis.
- The student has no work activity and hence no earnings while studying. Rates of return are here calculated for two cases. In the first, the individual bears the direct costs of tuition (as reported by national education authorities), as well as foregone earnings net of taxes (only taxes levied by central government are considered) adjusted for the probability of being employed. In the second case, the individual bears no direct tuition costs, but again bears the costs of foregone earnings.
- In youth, the individual has continued directly to the next highest level of education before entering the labour market.

Results are presented separately for males and females. In all of the above scenarios, the benefits that result from investing in education are comprised of the gains in post-tax earnings (based on average differences in post-tax earnings between individuals with the original and acquired levels of education) adjusted for higher employment probability. Assumptions have been made regarding the earnings of a hypothetical 40-year-old who returns to the labour force with the next highest level of education. It is assumed that s/he immediately experiences a 10% increase in wages relative to the wages associated with the original level of qualification. The individual's wage then converges in a linear fashion with the average wage of individuals who already hold the higher level of qualification. The convergence period lasts for three years, when wage parity is achieved (see "Definitions and methodologies" and "The interpretation of the internal rates of return" for a discussion of these assumptions and a consideration of how an alternative convergence period affects the results).

The calculated rates of return are likely to be biased upwards on account of the fact that social transfers, such as unemployment benefits, are not taken into account. However, the non-inclusion of other sources of non-wage income (such as private pensions, real estate, other assets, etc.) will bias the calculated rates of return downwards, particularly for better-educated groups. The rate of return calculations reported in this indicator do not take into account possible non-monetary benefits of education (such as the enjoyment of learning, enhanced social status and improved health).

High rates of return exist for individuals who obtain education early and reap the benefits of education across the life cycle.

Notable in Tables A11.4 and A11.5 are the high rates of return that result for both males and females who proceed directly to the next highest level of education before entering the labour market. The rates of return are strikingly high for the attainment of upper secondary education (Table A11.4), reaching up to 98% for females in the United States. These high returns are driven by the significant differential in wages and salaries that follow the achievement of upper secondary education. They underline the poor earnings prospects of those who fail to complete upper secondary education. In every country (except for Spain, in the case of males), private rates of return are higher when the individual proceeds directly from upper secondary to tertiary education, in comparison to returns achieved when entering full-time education at age 40 (Table A11.5). The fact that private rates of return are generally higher when the next level of education is attained at an earlier age, regardless of the level of qualification achieved, is explained by the longer time horizon over which education-enhanced earnings accrue, as well as the lower level of foregone earnings in youth and early adulthood.

The impact on incentives of eliminating tuition costs tends to be modest, but is higher at the tertiary level of education.

As expected, in both Tables A11.4 and A11.5, the rates of return rise when direct tuition costs are eliminated. However, overall, the additional incentive created by eliminating tuition costs is not remarkable, at 0.6 of a percentage point on average for the achievement of an upper secondary qualification, and 1.8 percentage points on average for the achievement of a tertiary level qualification (and 1.3 percentage points if one omits the very high figures for the United

States). Overall, the increase to the rate of return that results from not having to pay tuition costs is notably higher for the attainment of tertiary education, reflecting the higher tuition costs to individuals at the tertiary level. However, in countries such as Denmark and Finland the impact on private rates of return of not incurring tuition costs is rather small, reflecting the low costs of tuition to the individual in those countries (indeed, in Denmark, there is no tuition fee for initial tertiary education, although fees do apply to non-regular education for adults). Conversely, in countries such as Australia, Hungary, Spain, the United Kingdom and the United States, eliminating tuition costs leads to a significant increase in the private rate of return.

For attainment of the upper secondary level, in Table A11.4, countries fall into four groups based on the estimated values of the rate of return:

- First, with particularly high rewards from the attainment of upper secondary education – ranging from 9.9 to 17.5% – Hungary, Spain and the United States form a separate group.
- Second, Switzerland and the United Kingdom both have high rates of return, although somewhat below those of the previous group.
- Third, Denmark forms a group by itself, with very low positive rates of return.
- Fourth, Australia and Sweden have negative rates of return, as does Finland. In the cases of Australia and Finland the negative rates of return are due in large measure to the effects of taxation, as post-tax earnings for those with an upper secondary qualification are below post-tax earnings for those with lower secondary education (although not for all age groups). Tax effects have a similar impact in Sweden.

Table A11.5 presents a number of salient features regarding achievement of a tertiary-level qualification:

- Hungary constitutes a group by itself, with exceedingly high rates of return.
- Finland and Spain stand out with rates of return of between 8.1 and 12.1%.
- The United Kingdom and the United States also register high rates of return, although slightly below those of the preceding group.
- The remaining countries have moderate, but in most cases positive, rates of return.

In attaining the upper secondary level, the gender differential in the rates of return is limited in most countries. However, rates of return are considerably higher for women than men in Hungary, Spain and Switzerland. In these three countries, under both cost scenarios, the rate of return for females is an average of 3.8 percentage points higher than for males. This divergence is largely due to the lower level of foregone earnings for women in these countries. It is noteworthy that, in attaining the tertiary level of education, the private rate of return for females lags behind that for males in all countries except Switzerland and the United Kingdom.

Social internal rates of return to investment in education

The benefits to society of additional education can be assessed on the basis of a social internal rate of return…

The benefits to society of additional education can be assessed on the basis of social rates of return. The social rate of return reflects the costs and benefits to society of investment in education, which can differ in magnitude from private costs and benefits. The social cost includes foregone production of output during study periods as well as the full cost of providing education, rather than only the cost borne by the individual. The social benefit includes the increased productivity associated with the investment in education as well as a range of possible indirect benefits, which also have economic repercussions (such as lower crime, better health, more social cohesion and more informed and effective citizens).

While data on social costs are available for most OECD countries, information on the full range of social benefits is less readily available. To the extent that productivity gains are reflected in labour cost differentials, the latter can be used as a measure of the economic gains of education for society. However, the possibility of externalities associated with education suggests that the observed earnings differentials might not fully account for the economy-wide efficiency gains. On the other hand, studies suggest that a (small) part of the wage premiums received by better educated individuals is due to the signals of inherent ability that educational attainments provide to employers, rather than productivity differentials due to increases in human capital. Furthermore, while the indirect benefits of education are important, it is often difficult to translate these into monetary values for inclusion in rate of return calculations.

Tables A11.6 and A11.7 present estimates of the social internal rates of return for three scenarios:

- The individual proceeds directly to the next highest level of education prior to entering the labour market.
- The individual, at age 40, enters full-time studies in order to obtain the next highest level of education.
- The individual studies on a part-time basis while continuing to work. The duration of tuition is here assumed to be twice that of the scenario in which the student enters full-time studies.

…which can, however, currently only be estimated in a narrow sense excluding non-economic benefits.

Given the difficulties of constructing comprehensive social rates of return, these calculations present estimates of a "narrow" definition that abstracts from any externality effects. To the extent that there are significant positive externalities related to human capital investment by the average student these estimates will thus be biased downwards. Arithmetically, social costs and benefits are simply the addition of individual and public costs and benefits. Hence, the social rate of return is unchanged whether the individual bears the costs of tuition or not. This is because costs eliminated for the individual become public costs. Hence, Tables A11.6 and A11.7 do not report separate social rates of return for the cases in which the individual does or does not bear tuition costs, as the social rates of return (but not the public rate of return) are identical in both instances.

The estimates presented in Table A11.6 suggest that the social internal rate of return is particularly high at the upper secondary level in Hungary, Spain and the United States, while it is lowest, and indeed significantly negative, in Finland. At the tertiary level (Table A11.7), the social internal rate of return is particularly high in Finland, Hungary, Spain, the United Kingdom and the United States, while it is lowest in Denmark.

Social internal rates of return are generally lower than private rates of return, due to the significant social costs of education.

At both the upper secondary and tertiary levels the "narrow" social internal rates of return are lower than the private internal rates of return in most countries. This finding primarily reflects the fact that the social cost of education is typically much higher than the private cost. The principal exceptions are Sweden, at the upper secondary level, and Australia and the United Kingdom, at the tertiary level. The differences (private returns higher than social returns) are particularly significant at the tertiary level in Denmark, Finland, Hungary and Switzerland, ranging from 2 to 5.4 percentage points. At the upper secondary level, differentials between private and social rates of return (private returns higher than social returns) are notably wide in Denmark and Switzerland.

Examining the scenario in which the individual stays in work, but studies part-time, it is notable that the rates of return for attaining the upper secondary level are systematically higher than when the individual studies full-time at age 40. However, the picture is more mixed for tertiary-level qualification. Higher rates of return for both males and females are seen in Sweden and the United Kingdom in the part-time studies scenario. However, in some countries higher rates exist for males only, as occurs in Australia, Denmark, Finland, Spain and Switzerland.

The interpretation of the internal rates of return

Few adults currently leave work in mid-career to pursue full-time studies. The scenario considered in Tables A11.6 and A11.7, in which a working-age adult undertakes part-time studies in order to attain the next highest level of qualification, is more common. The results presented are somewhat sensitive to assumptions regarding the earnings of working-age individuals who return to the labour force after attaining the next highest level of education. When the earnings convergence period is doubled, from three to six years, the private rate of return decreases by an average of 1 percentage point. However, as described above, the empirical basis for the earnings assumptions is weak. These data also report accounting rates of return only. The results would no doubt differ from econometric estimates that control for the inherent ability, and other features, of those who decide to invest in education.

With some exceptions, policies that reduce the direct costs of education have only a modest impact on individuals' decisions to invest in mid-career learning.

For persons acquiring upper secondary education, as well as individuals attaining a tertiary level qualification, private internal rates of return in a number of countries are higher than the real interest rate, often significantly. In these countries, human capital investment appears to be an attractive way for the average person to build wealth. In other countries there are weak incentives for investment in education. Furthermore, and with some exceptions, policies that eliminate (or reduce) the direct costs of education have only a modest impact on individuals' decisions to invest in mid-career learning.

In many countries, private and social rates of return to investments in education are above the risk-free real interest rate.

In the majority of cases, the reported private and social internal rates of return are above – and in a number of countries significantly above – the risk-free real interest rate. However, returns on human capital accumulation are not risk-free, as indicated by the wide dispersion of earnings among the better educated. Therefore, individuals contemplating an investment in education are likely to require a compensating risk premium. However, in a number of countries, the size of the premium of the internal rates of return over the real interest rate is higher than would seem to be warranted by considerations of risk alone. A policy implication is that if returns to this form of investment are high relative to investments of similar risk there is some obstacle to individuals making the investment. High risk-adjusted private rates of return provide *prima facie* grounds for policy intervention to alleviate the relevant constraints.

High rates of return have more than one possible interpretation.

One interpretation of high rates of return is that they indicate a shortage of better-educated workers, driving up earnings for better-qualified workers. Such a situation might be temporary, with high returns to education eventually generating sufficient supply response to push the rates into line with returns to other productive assets. However, the adjustment period could be protracted and the speed of adjustment would depend largely on the capacity of the education system to respond to the derived increase in demand and the capacity of the labour market to absorb the changing relative supplies of labour. The rebalancing mechanism could be accelerated by making better information about the returns to different courses of study available to students, helping them to make more informed choices.

Part of the high returns may also be compatible with market equilibrium. This would be the case if the marginal rates are significantly lower than the average rates. The marginal rate would be lower than the average rate if the students at the margin are of lower ability and motivation than the average students, and thus unlikely to be able to command the average wage premium. According to this interpretation, the high internal rates of return would partly reflect economic rents on a scarce resource, namely ability and motivation. If the returns to education at the margin are lower, the case for public intervention to stimulate human capital accumulation is lessened if the quality of the marginal student cannot be improved. On the other hand, to the extent that the education system can improve cognitive and non-cognitive skills of young people, education policy could make a significant contribution to efficiency and equity in the longer run.

Definitions and methodologies

Earnings data in Table A11.1 are annual in Canada, the Czech Republic, Finland, Italy, the Netherlands, Norway, Spain, Sweden and the United States. Earnings are reported weekly in Australia, Ireland, New Zealand and the United Kingdom, and monthly in the remaining countries (although the reporting period for Denmark has not been indicated to the OECD Secretariat). In Hungary, Portugal and the United States, data cover the earnings of full-time employees only. Part-year and seasonal employment is also excluded in

Hungary, Korea and Portugal. The French data exclude the self-employed, while earnings of business owners are omitted in France, Hungary, Ireland, Korea, the Netherlands, Portugal and Spain. Observed differences in relative earnings between countries therefore reflect variations not only in wage rates but also in coverage, in the number of weeks worked per year and in hours worked per week. Since lower educational attainment is associated with fewer hours of work (in particular with part-time work) and with less stable employment (more likelihood of temporary employment or more susceptibility to unemployment over the course of a year), the relative earnings shown for higher educational attainment in the tables and charts will be greater than what would be evident from an examination of relative rates of pay. The observed differences in relative earnings of males and females within a country can likewise be affected by some of these factors.

Earnings assumptions were made in calculating rates of return for an individual who recommences work, in mid-career, after having attained the next highest level of education. The assumptions concerned the immediate earnings increase (10%) and the time required for convergence with the average wage of individuals already holding the next highest level of educational qualification (3 years). These assumptions are somewhat *ad hoc*. Empirical evidence on the earnings of adults who return to work following part-time or full-time studies is scarce, especially for individuals attaining an upper secondary qualification. However, Canadian data indicate a convergence period of just two years for 30 to 49-year-olds who obtain a university degree, with a still shorter catch-up time for those who obtain a college certificate (OECD [2003], *Education Policy Analysis*, Paris). It should be noted, nevertheless, that the Canadian data are derived from a small sample of individuals and do not control for the fact that those who invested in education may differ in important ways – such as motivation and inherent ability – by comparison with those who did not.

For the methods employed for the calculation of the rates of return in Tables A11.4 to A11.7, see Annex 3 at *www.oecd.org/edu/eag2004*.

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Table A11.1a. Relative earnings of the population with income from employment (2002)

By level of educational attainment and gender for 25 to 64-year-olds and 30 to 44-year-olds (upper secondary education = 100)

OECD COUNTRIES			Below upper secondary education		Post-secondary non-tertiary education		Tertiary-type B education		Tertiary-type A and advanced research programmes		All tertiary education	
			25-64	30-44	25-64	30-44	25-64	30-44	25-64	30-44	25-64	30-44
Australia	2001	Males	85	83	m	m	116	108	160	157	145	141
		Females	85	84	m	m	114	119	159	168	142	151
		M+F	77	75	m	m	106	102	148	148	133	132
Belgium	2002	Males	91	97	c	c	116	120	144	149	132	136
		Females	84	83	c	c	124	124	168	185	140	146
		M+F	91	95	c	c	114	115	152	162	132	136
Canada	2001	Males	79	78	104	106	117	115	179	183	147	147
		Females	68	65	101	96	119	120	179	179	145	145
		M+F	79	78	105	105	115	113	177	178	143	142
Czech Republic	1999	Males	75	77	a	a	177	182	178	176	178	177
		Females	72	75	a	a	127	124	172	176	170	174
		M+F	68	70	a	a	151	151	180	182	179	181
Denmark	2001	Males	87	83	106	108	110	109	139	135	132	128
		Females	90	89	124	128	114	112	125	122	124	121
		M+F	87	85	118	120	114	113	127	123	125	121
Finland	2001	Males	92	89	m	m	129	125	190	180	163	155
		Females	98	94	m	m	126	124	172	167	146	141
		M+F	95	92	m	m	121	115	181	171	150	141
France	2002	Males	88	86	m	m	127	132	178	173	159	157
		Females	81	80	m	m	131	135	157	159	146	148
		M+F	84	84	m	m	125	129	167	165	150	150
Germany	2002	Males	85	87	110	110	117	113	156	152	142	137
		Females	75	72	132	136	117	112	157	153	142	138
		M+F	78	80	116	116	120	115	161	154	146	139
Hungary	2001	Males	81	81	140	137	205	182	252	253	252	253
		Females	77	80	128	124	143	128	180	174	179	174
		M+F	77	78	131	126	164	144	210	203	210	202
Ireland	2000	Males	82	77	79	60	117	123	143	140	135	133
		Females	64	61	94	78	132	126	181	155	161	144
		M+F	87	83	82	67	124	130	163	152	149	143
Italy	2000	Males	71	72	m	m	m	m	143	140	143	140
		Females	84	80	m	m	m	m	137	132	137	132
		M+F	78	77	m	m	m	m	138	133	138	133
Korea	1998	Males	88	90	m	m	105	109	143	136	132	129
		Females	69	75	m	m	118	138	160	181	141	164
		M+F	78	80	m	m	106	113	147	142	135	134
Netherlands	1997	Males	88	86	126	121	145	130	141	133	142	132
		Females	73	73	120	124	131	136	148	154	146	152
		M+F	85	84	121	119	139	131	144	139	144	138
New Zealand	2001	Males	76	74	m	m	m	m	130	122	130	122
		Females	72	72	m	m	m	m	136	135	136	135
		M+F	74	75	m	m	m	m	133	128	133	128
Norway	2002	Males	86	90	118	114	142	145	139	139	139	139
		Females	83	88	121	116	149	152	141	142	141	143
		M+F	85	91	125	121	155	152	135	135	137	136
Portugal	1999	Males	60	57	m	m	150	155	190	194	180	185
		Females	63	58	m	m	133	139	188	206	170	185
		M+F	62	58	m	m	141	146	192	202	178	187
Spain	2001	Males	79	82	m	m	99	97	157	135	138	122
		Females	64	65	m	m	86	88	136	138	125	126
		M+F	78	80	m	m	95	95	141	133	129	122
Sweden	2001	Males	87	86	128	134	114	114	158	162	146	149
		Females	88	85	108	111	116	109	139	137	130	126
		M+F	89	87	127	132	110	105	148	148	135	133
Switzerland	2003	Males	77	79	110	106	121	122	149	149	138	138
		Females	76	85	118	120	140	150	164	174	156	166
		M+F	76	81	112	111	141	146	168	170	158	161
United Kingdom	2001	Males	72	67	m	m	124	126	157	162	147	151
		Females	70	74	m	m	142	133	206	216	183	183
		M+F	67	68	m	m	128	124	174	181	159	161
United States	2002	Males	68	70	122	125	120	122	202	205	193	195
		Females	67	67	118	117	122	122	185	191	176	182
		M+F	71	71	120	121	118	118	195	196	186	187

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

Table A11.1b. Differences in earnings between females and males (2002)

Average annual earnings of females as a percentage of average annual earnings of males, by level of educational attainment, 30 to 44 and 55 to 64 age groups

			Below upper secondary education		Upper secondary and post-secondary non-tertiary education		Tertiary-type B education		Tertiary-type A and advanced research programmes		All levels of education	
			30-44	55-64	30-44	55-64	30-44	55-64	30-44	55-64	30-44	55-64
OECD COUNTRIES	Australia	2001	61	59	60	70	65	58	64	58	63	60
	Belgium	2002	61	65	72	66	74	81	89	82	75	67
	Canada	2001	50	60	59	70	63	57	59	55	61	62
	Czech Republic	1999	66	58	67	64	45	62	67	63	63	61
	Denmark	2001	76	68	71	70	73	74	64	64	72	67
	Finland	2001	71	77	67	76	67	73	62	68	69	71
	France	2002	70	65	76	72	78	68	69	66	76	62
	Germany	2002	48	66	60	55	57	56	59	65	58	54
	Hungary	2001	83	81	84	94	59	48	58	69	77	78
	Ireland	2000	50	48	63	39	64	47	69	80	65	56
	Italy	2000	79	78	72	53	m	m	67	83	77	69
	Korea	1998	57	62	69	70	87	96	92	99	67	50
	Netherlands	1997	46	43	55	50	57	39	63	50	55	45
	New Zealand	2001	59	57	61	70	m	m	68	54	62	61
	Norway	2002	60	62	61	63	65	66	63	62	64	61
	Portugal	1999	72	70	70	67	63	57	75	68	73	66
	Spain	2001	61	48	78	74	70	57	79	42	79	47
	Sweden	2001	72	73	71	69	70	73	62	66	70	71
	Switzerland	2003	53	47	50	51	61	51	58	59	50	46
	United Kingdom	2001	55	43	50	53	53	81	66	66	54	54
	United States	2001	59	65	61	61	62	69	58	59	61	58

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table A11.2. Trends in relative earnings: adult population (1997-2002)

By educational attainment, for 25 to 64-year-old population (upper secondary and post-secondary non-tertiary education = 100)

OECD COUNTRIES		1997	1998	1999	2000	2001	2002
Australia	Below upper secondary	79	m	80	m	77	m
	Tertiary education	124	m	134	m	133	m
Belgium	Below upper secondary	m	m	m	92	m	91
	Tertiary education	m	m	m	128	m	132
Canada	Below upper secondary	84	78	80	80	78	m
	Tertiary education	127	138	136	140	141	m
Czech Republic	Below upper secondary	68	68	68	m	m	m
	Tertiary education	179	179	179	m	m	m
Denmark	Below upper secondary	85	86	86	m	87	m
	Tertiary education	123	124	124	m	124	m
Finland	Below upper secondary	97	96	96	m	95	m
	Tertiary education	148	148	153	m	150	m
France	Below upper secondary	84	84	84	m	m	84
	Tertiary education	149	150	150	m	m	150
Germany	Below upper secondary	81	78	79	75	m	77
	Tertiary education	134	130	135	143	m	143
Hungary	Below upper secondary	68	68	70	71	71	m
	Tertiary education	179	184	200	194	194	m
Ireland	Below upper secondary	75	79	m	89	m	m
	Tertiary education	146	142	m	153	m	m
Italy	Below upper secondary	m	58	m	78	m	m
	Tertiary education	m	127	m	138	m	m
Korea	Below upper secondary	m	78	m	m	m	m
	Tertiary education	m	135	m	m	m	m
Netherlands	Below upper secondary	83	m	m	m	m	m
	Tertiary education	141	m	m	m	m	m
New Zealand	Below upper secondary	77	76	76	74	74	m
	Tertiary education	148	136	139	133	133	m
Norway	Below upper secondary	85	84	84	m	m	84
	Tertiary education	138	132	133	m	m	135
Portugal	Below upper secondary	62	62	62	m	m	m
	Tertiary education	176	177	178	m	m	m
Spain	Below upper secondary	76	80	m	m	78	m
	Tertiary education	149	144	m	m	129	m
Sweden	Below upper secondary	90	89	89	m	86	m
	Tertiary education	129	130	131	m	131	m
Switzerland	Below upper secondary	74	75	76	78	m	77
	Tertiary education	152	153	151	157	m	156
United Kingdom	Below upper secondary	64	65	65	67	67	m
	Tertiary education	153	157	159	159	159	m
United States	Below upper secondary	70	67	65	65	m	66
	Tertiary education	168	173	166	172	m	172
Country mean	***Below upper secondary***	***78***	***76***	***77***	***77***	***79***	***80***
	Tertiary education	***148***	***148***	***151***	***152***	***144***	***148***

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Table A11.2a. Trends in relative earnings: male population (1997-2002)

By educational attainment, for 25 to 64-year-old males (upper secondary and post-secondary non-tertiary education = 100)

			1997	1998	1999	2000	2001	2002
OECD COUNTRIES	Australia	Below upper secondary	87	m	86	m	85	m
		Tertiary education	136	m	139	m	145	m
	Belgium	Below upper secondary	m	m	m	93	m	92
		Tertiary education	m	m	m	128	m	132
	Canada	Below upper secondary	85	78	80	81	78	m
		Tertiary education	127	140	138	144	145	m
	Czech Republic	Below upper secondary	75	75	75	m	m	m
		Tertiary education	178	178	178	m	m	m
	Denmark	Below upper secondary	86	87	87	m	87	m
		Tertiary education	130	132	133	m	132	m
	Finland	Below upper secondary	94	93	93	m	92	m
		Tertiary education	159	159	167	m	163	m
	France	Below upper secondary	88	88	88	m	m	88
		Tertiary education	158	159	159	m	m	159
	Germany	Below upper secondary	88	77	80	80	m	84
		Tertiary education	130	126	138	141	m	140
	Hungary	Below upper secondary	74	72	73	75	75	m
		Tertiary education	213	218	238	232	232	m
	Ireland	Below upper secondary	72	78	m	84	m	m
		Tertiary education	131	131	m	138	m	m
	Italy	Below upper secondary	m	54	m	71	m	m
		Tertiary education	m	138	m	143	m	m
	Korea	Below upper secondary	m	88	m	m	m	m
		Tertiary education	m	132	m	m	m	m
	Netherlands	Below upper secondary	86	m	m	m	m	m
		Tertiary education	139	m	m	m	m	m
	New Zealand	Below upper secondary	82	76	76	76	76	m
		Tertiary education	148	137	140	130	130	m
	Norway	Below upper secondary	85	85	85	m	m	84
		Tertiary education	138	133	135	m	m	138
	Portugal	Below upper secondary	60	61	60	m	m	m
		Tertiary education	178	178	180	m	m	m
	Spain	Below upper secondary	78	82	m	m	79	m
		Tertiary education	154	152	m	m	138	m
	Sweden	Below upper secondary	88	87	87	m	84	m
		Tertiary education	135	136	138	m	141	m
	Switzerland	Below upper secondary	81	81	80	81	m	78
		Tertiary education	134	135	134	139	m	136
	United Kingdom	Below upper secondary	73	73	72	72	72	m
		Tertiary education	147	149	150	147	147	m
	United States	Below upper secondary	69	65	63	64	m	63
		Tertiary education	168	176	167	178	m	178
	Country mean	***Below upper secondary***	***81***	***78***	***79***	***78***	***81***	***82***
		Tertiary education	***150***	***151***	***156***	***152***	***153***	***147***

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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Table A11.2b. Trends in relative earnings: female population (1997-2002)

By educational attainment, for 25 to 64-year-old females (upper secondary and post-secondary non-tertiary education = 100)

OECD COUNTRIES		1997	1998	1999	2000	2001	2002
Australia	Below upper secondary	85	m	89	m	85	m
	Tertiary education	137	m	146	m	142	m
Belgium	Below upper secondary	m	m	m	82	m	83
	Tertiary education	m	m	m	132	m	140
Canada	Below upper secondary	75	68	70	70	68	m
	Tertiary education	132	144	140	140	145	m
Czech Republic	Below upper secondary	72	72	72	m	m	m
	Tertiary education	170	170	170	m	m	m
Denmark	Below upper secondary	88	89	90	m	90	m
	Tertiary education	122	124	123	m	124	m
Finland	Below upper secondary	100	99	99	m	98	m
	Tertiary education	143	143	145	m	146	m
France	Below upper secondary	80	79	79	m	m	81
	Tertiary education	146	145	145	m	m	146
Germany	Below upper secondary	88	86	83	72	m	73
	Tertiary education	131	130	123	137	m	137
Hungary	Below upper secondary	66	67	68	71	71	m
	Tertiary education	154	159	167	164	164	m
Ireland	Below upper secondary	57	59	m	65	m	m
	Tertiary education	156	145	m	163	m	m
Italy	Below upper secondary	m	61	m	84	m	m
	Tertiary education	m	115	m	137	m	m
Korea	Below upper secondary	m	69	m	m	m	m
	Tertiary education	m	141	m	m	m	m
Netherlands	Below upper secondary	71	m	m	m	m	m
	Tertiary education	143	m	m	m	m	m
New Zealand	Below upper secondary	69	74	75	72	72	m
	Tertiary education	143	129	129	136	136	m
Norway	Below upper secondary	84	84	83	m	m	83
	Tertiary education	140	136	135	m	m	140
Portugal	Below upper secondary	62	62	63	m	m	m
	Tertiary education	168	171	170	m	m	m
Spain	Below upper secondary	64	66	m	m	64	m
	Tertiary education	145	137	m	m	125	m
Sweden	Below upper secondary	89	89	88	m	87	m
	Tertiary education	125	125	126	m	129	m
Switzerland	Below upper secondary	74	73	72	73	m	74
	Tertiary education	146	145	142	150	m	151
United Kingdom	Below upper secondary	64	68	69	70	70	m
	Tertiary education	167	173	178	183	183	m
United States	Below upper secondary	62	63	61	62	m	63
	Tertiary education	166	163	163	164	m	165
Country mean	***Below upper secondary***	***75***	***74***	***77***	***72***	***78***	***76***
	Tertiary education	***146***	***144***	***147***	***151***	***144***	***146***

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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Table A11.3. Trends in differences in earnings between females and males (1997-2002)

Average annual earnings of females as a percentage of average annual earnings of males, by level of educational attainment of 25 to 64-year-olds

OECD COUNTRIES		1997	1998	1999	2000	2001	2002
Australia	Below upper secondary	60	m	66	m	62	m
	Upper secondary and post-secondary non-tertiary	62	m	64	m	62	m
	Tertiary education	62	m	67	m	61	m
Belgium	Below upper secondary	m	m	m	64	m	65
	Upper secondary and post-secondary non-tertiary	m	m	m	72	m	72
	Tertiary education	m	m	m	74	m	76
Canada	Below upper secondary	54	53	53	53	53	m
	Upper secondary and post-secondary non-tertiary	61	61	61	62	61	m
	Tertiary education	64	62	62	60	61	m
Czech Republic	Below upper secondary	66	66	66	m	m	m
	Upper secondary and post-secondary non-tertiary	69	69	69	m	m	m
	Tertiary education	66	65	65	m	m	m
Denmark	Below upper secondary	73	73	73	m	74	m
	Upper secondary and post-secondary non-tertiary	72	71	71	m	71	m
	Tertiary education	68	66	66	m	67	m
Finland	Below upper secondary	78	77	77	m	76	m
	Upper secondary and post-secondary non-tertiary	74	72	72	m	71	m
	Tertiary education	66	65	62	m	63	m
France	Below upper secondary	68	68	68	m	m	70
	Upper secondary and post-secondary non-tertiary	75	75	75	m	m	77
	Tertiary education	69	69	69	m	m	70
Germany	Below upper secondary	63	74	70	56	m	53
	Upper secondary and post-secondary non-tertiary	64	67	68	63	m	61
	Tertiary education	63	68	60	61	m	60
Hungary	Below upper secondary	79	80	84	83	83	m
	Upper secondary and post-secondary non-tertiary	88	86	89	88	88	m
	Tertiary education	64	63	62	62	62	m
Ireland	Below upper secondary	46	48	m	46	m	m
	Upper secondary and post-secondary non-tertiary	59	63	m	60	m	m
	Tertiary education	70	70	m	71	m	m
Italy	Below upper secondary	m	70	m	76	m	m
	Upper secondary and post-secondary non-tertiary	m	62	m	65	m	m
	Tertiary education	m	52	m	62	m	m
Korea	Below upper secondary	m	56	m	m	m	m
	Upper secondary and post-secondary non-tertiary	m	70	m	m	m	m
	Tertiary education	m	75	m	m	m	m
Netherlands	Below upper secondary	46	m	m	m	m	m
	Upper secondary and post-secondary non-tertiary	56	m	m	m	m	m
	Tertiary education	57	m	m	m	m	m
New Zealand	Below upper secondary	52	61	65	61	61	m
	Upper secondary and post-secondary non-tertiary	62	63	67	64	64	m
	Tertiary education	60	59	61	67	67	m
Norway	Below upper secondary	60	60	61	m	m	61
	Upper secondary and post-secondary non-tertiary	61	61	62	m	m	63
	Tertiary education	63	62	62	m	m	64
Portugal	Below upper secondary	72	71	71	m	m	m
	Upper secondary and post-secondary non-tertiary	69	69	69	m	m	m
	Tertiary education	66	66	65	m	m	m
Spain	Below upper secondary	60	61	m	m	58	m
	Upper secondary and post-secondary non-tertiary	72	76	m	m	71	m
	Tertiary education	68	69	m	m	64	m
Sweden	Below upper secondary	73	74	74	m	74	m
	Upper secondary and post-secondary non-tertiary	72	72	73	m	71	m
	Tertiary education	67	66	67	m	65	m
Switzerland	Below upper secondary	51	51	53	51	m	51
	Upper secondary and post-secondary non-tertiary	55	57	58	57	m	53
	Tertiary education	60	61	62	62	m	59
United Kingdom	Below upper secondary	47	50	51	50	50	m
	Upper secondary and post-secondary non-tertiary	53	53	53	52	52	m
	Tertiary education	60	62	63	64	64	m
United States	Below upper secondary	53	60	59	59	m	63
	Upper secondary and post-secondary non-tertiary	59	62	61	60	m	63
	Tertiary education	59	58	59	56	m	58
Country mean	***Below upper secondary***	***61***	***64***	***66***	***60***	***66***	***60***
	Upper secondary and post-secondary non-tertiary	***66***	***67***	***67***	***64***	***68***	***65***
	Tertiary education	***64***	***64***	***64***	***64***	***64***	***65***

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

Table A11.4. Private internal rates of return (RoR) for individuals obtaining an upper secondary or post-secondary non-tertiary education (ISCED 3/4) from a lower secondary level of education (ISCED 0/1/2) (2001)

	RoR when the individual immediately acquires the next higher level of education		RoR when the individual, at age 40, begins the next higher level of education in full-time studies, and the individual bears…			
			direct costs and foregone earnings		no direct costs, but foregone earnings	
	Males	Females	Males	Females	Males	Females
Australia	40.0	40.0	(2)	-17.7	(2)	-17.5
Denmark	(1)	(1)	1.7	1.4	1.8	1.4
Finland	(1)	(1)	(2)	(2)	(2)	(2)
Hungary	97.2	74.9	9.9	12.9	10.3	13.3
Spain	11.5	20.6	11.6	16.8	11.9	17.5
Sweden	(1)	(1)	-1.3	-4.7	-1.3	-4.7
Switzerland	47.5	50.7	4.4	6.5	5.6	9.2
United Kingdom	60.5	73.0	6.7	6.4	7.5	7.5
United States	92.7	98.1	14.3	13.7	14.8	14.6

(1) Negligible or zero costs cause excessively high estimates.
(2) Negative benefits owing to tax effects cause excessively low estimates.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

Table A11.5. Private internal rates of return (RoR) for individuals obtaining a tertiary-level degree or an advanced research qualification (ISCED 5 (A, B)/6) from an upper secondary or post-secondary non-tertiary level of education (ISCED 3/4) (2001)

	RoR when the individual immediately acquires the next higher level of education		RoR when the individual, at age 40, begins the next higher level of education in full-time studies, and the individual bears…			
			direct costs and foregone earnings		no direct costs, but foregone earnings	
	Males	Females	Males	Females	Males	Females
Australia	6.6	6.5	3.3	-0.8	5.4	2.7
Denmark	6.7	6.1	4.9	3.0	5.0	3.1
Finland	14.2	15.2	10.6	8.1	10.8	8.4
Hungary	19.8	11.3	16.4	8.7	18.7	10.8
Spain	9.2	8.5	11.2	8.2	12.1	9.7
Sweden	8.8	7.3	6.9	4.5	7.6	5.4
Switzerland	9.8	7.8	a	a	6.3	9.1
United Kingdom	11.2	13.7	4.0	9.9	4.9	12.1
United States	11.0	7.9	7.4	2.7	11.9	8.6

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

Table A11.6. Social internal rates of return (RoR) for individuals obtaining an upper secondary or post-secondary non-tertiary education (ISCED 3/4) from a lower secondary level of education (ISCED 0/1/2) (2001)

	RoR when the individual immediately acquires the next higher level of education		RoR when the individual, at age 40, begins the next higher level of education in full-time studies		RoR when the individual returns, at age 40, to acquire the next higher level of education in part-time studies (duration is doubled)	
	Males	Females	Males	Females	Males	Females
Australia	20.8	17.4	-0.5	-1.1	10.8	5.4
Denmark	18.8	14.6	-1.3	-1.9	2.2	0.0
Finland	22.9	16.1	-5.5	-3.9	-1.5	-1.7
Hungary	21.5	17.4	8.6	10.7	11.2	12.4
Spain	10.4	12.6	11.7	14.2	17.4	15.2
Sweden	40.4	33.3	3.8	1.7	12.7	7.6
Switzerland	20.3	21.1	3.6	4.0	6.1	2.9
United Kingdom	21.6	22.0	6.5	4.9	9.7	5.0
United States	22.3	21.9	13.6	10.9	16.3	9.5

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

Table A11.7. Social internal rates of return (RoR) for individuals obtaining a tertiary-level degree or an advanced research qualification (ISCED 5 (A, B)/6) from an upper secondary or post-secondary non-tertiary level of education (ISCED 3/4) (2001)

	RoR when the individual immediately acquires the next higher level of education		RoR when the individual, at age 40, begins the next higher level of education in full-time studies		RoR when the individual returns, at age 40, to acquire the next higher level of education in part-time studies (duration is doubled)	
	Males	Females	Males	Females	Males	Females
Australia	8.3	7.6	5.5	1.7	6.9	-0.1
Denmark	4.9	3.5	2.7	0.2	3.6	-0.5
Finland	10.5	8.7	8.6	5.4	8.9	4.3
Hungary	16.1	9.1	13.4	6.6	11.6	5.1
Spain	8.1	6.7	10.2	6.2	12.3	4.9
Sweden	8.2	6.5	6.5	3.9	12.7	7.6
Switzerland	6.7	4.9	a	a	4.6	1.8
United Kingdom	12.6	13.7	6.2	10.3	11.8	10.9
United States	11.1	7.9	8.0	3.2	7.3	0.8

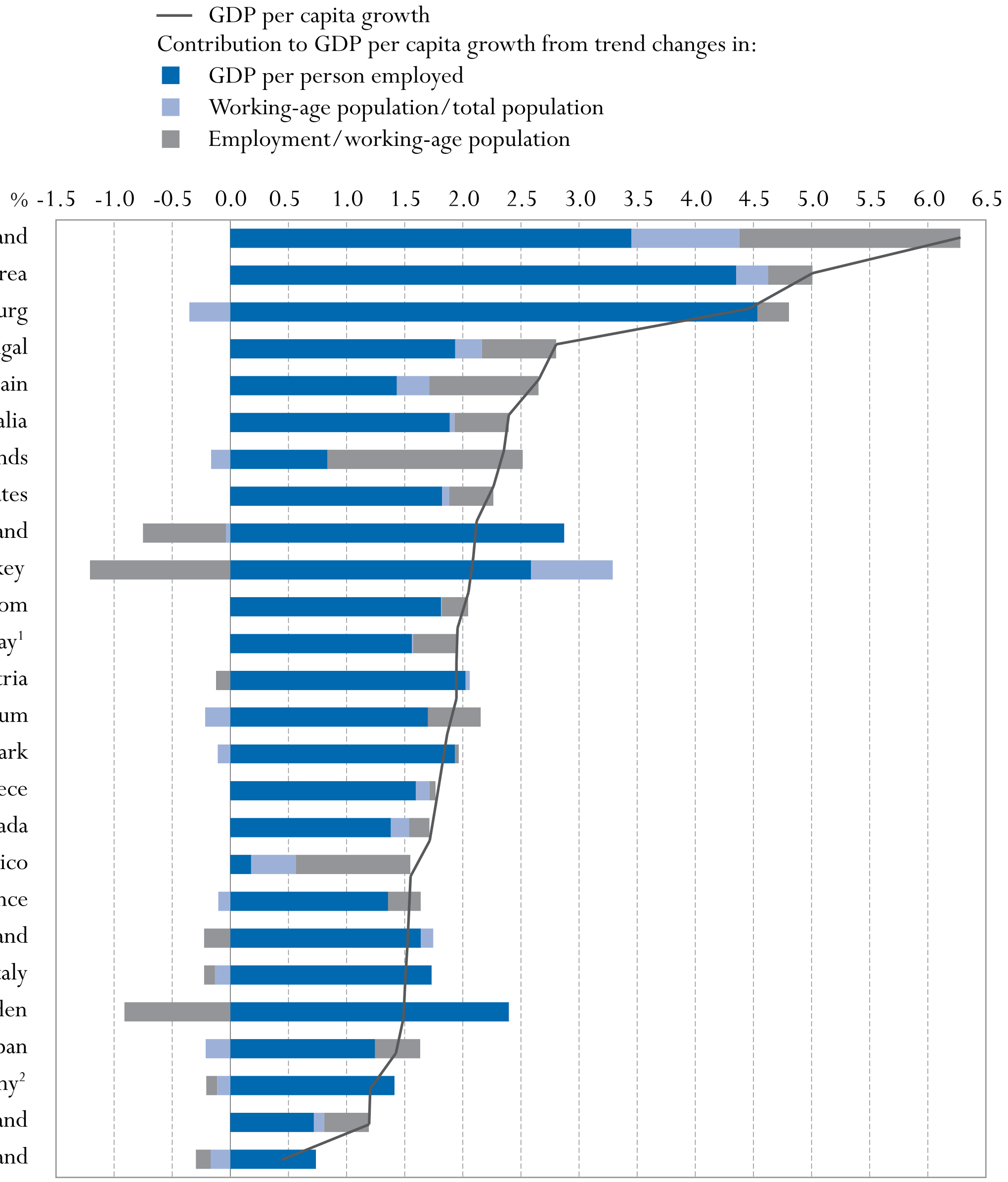
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

INDICATOR A12: THE RETURNS TO EDUCATION: LINKS BETWEEN HUMAN CAPITAL AND ECONOMIC GROWTH

- Recent analyses of human capital across 14 OECD economies – based on literacy scores – suggest significant positive effects on growth.
- 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 over the period 1990-2000.
- Increases in the stock of human capital raise labour productivity, and also serve as a driver of technological progress.
- The estimated long-run effect on economic output of one additional year of education in the OECD area generally falls between 3 and 6%.

Chart A12.1. The driving forces of GDP per capita growth (1990-2000)

Trend series, average annual percentage change



1. Mainland only.
2. Years of reference 1991-2000.
Countries are ranked in descending order of GDP per capita growth.
Source: OECD.

Policy context

This indicator estimates the effect of changes in explanatory variables, including human capital, on changes in output per capita.

Since the mid-1980s, economic growth has occupied centre-stage in macroeconomic research (see Box A12.1). Research has gained impetus from new theoretical insights – in particular new-growth theory – and new approaches to the empirics of growth. "Human capital" – the knowledge and skills embodied in workers – has been critical to renewed thinking about growth. Significant differences among OECD member countries in their recent macroeconomic performance have also spurred interest in the causes of growth. Such differences were a principal motivation for the development of the "OECD Growth Project". *Education at a Glance 2003* reported key findings from the OECD Growth Project. This work drew attention to the importance for growth of stable and conducive macroeconomic conditions, as well as institutional structures and policy settings that favour competition and flexibility in capital and labour markets. Growth prospects were also shown to be strongly affected by the development of new technologies and the dissemination of innovations and technological change. A central element in all of this is human capital. This indicator focuses on the role of human capital as a determinant of the level and rate of growth of output per capita. The indicator complements Indicator A11, which examines the relationship between human capital and economic returns at the individual level. While Indicator A11 examines what happens to the earnings of an individual as his or her level of schooling rises, Indicator A12 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.

This indicator should be interpreted in conjunction with the individual returns to education examined in Indicator A11.

Comparisons of micro-level estimates of returns to education (such as those portrayed in Indicator A11) and macro-econometric estimates as reflected in this indicator, are potentially of great policy relevance because discrepancies between them can point to differences in the private and public returns to schooling that may call for corrective policy action. For instance, following a rise in school attainment, if productivity at the aggregate level of the economy is raised in ways additional to the increases in productivity of each worker, then the first of these effects will constitute an externality. This externality will generate a tendency for underinvestment in education because individuals will fail to take into account the indirect social benefits that can arise from their schooling choices. In this context, micro-econometric estimates of wage equations with individual cross-section data for a given country only pick up the effects on individuals of schooling, whereas macro-econometric estimates with cross-country data should also capture the social externality.

Evidence and explanations

During the 1990s, productivity accelerated in some countries but slowed in others.

Reporting on the Growth Project findings, *Education at a Glance 2003* noted that in 2000 most OECD countries lagged behind per capita GDP in the United States by 25-35 percentage points. For each country, productivity differences were broken down into three components: demographic effect, labour utilisation and labour productivity. The demographic effect refers to the ratio of the working age population to total population, and in most countries accounted for only a minor part of productivity differences relative to the United States. Analysis of the utilisation of available labour (employment rates combined with hours worked) showed a number of countries (*e.g.* the United States and Japan) with high employment rates and higher than average hours worked. While most of the Nordic countries had higher employment rates, this was offset by fewer hours worked. In some countries that combined low employment rates with relatively low hours (*e.g.* Belgium, France, Italy, the Netherlands), almost all of the gap between their per capita GDP and that of the United States was attributable to lower labour utilisation. Labour utilisation is therefore an important factor in accounting for differences in GDP per capita across countries. Of the 25 countries for which data were available, only five (Belgium, Ireland, Italy, the Netherlands and Norway) surpassed the United States in terms of labour productivity (GDP per hour worked). For a number of countries in which labour utilisation was relatively high (such as the Czech Republic, Iceland, Japan, Korea, Mexico and New Zealand), differences in GDP per capita as compared to the United States were attributable principally to a significantly lower level of labour productivity.

Demography had a significant impact on growth in only a few countries during the 1990s…

Illustrating the relative importance of the key drivers of growth in GDP per capita over the years 1990 to 2000, Chart A12.1 shows that, for most OECD countries, demographic change had a relatively minor impact. The only countries where demographic change made a positive and significant contribution to growth in GDP per capita were Ireland, Korea, Mexico and Turkey. However, in some OECD countries (such as Belgium, Denmark, France, Italy, Japan, Germany, Luxembourg, the Netherlands and Switzerland) demographic trends have begun (in this accounting sense) to act as a slight drag on growth in GDP per capita. This tendency is set to strengthen in the future as the total population ages more rapidly.

…while rising labour productivity accounted for at least half of growth in per capita GDP in most OECD economies.

Chart A12.1 shows that rising labour productivity accounted for at least half of GDP per capita growth in most OECD countries over the 1990s. Indeed, in a number of countries, growth in labour productivity produced almost all of the increase in GDP per capita (this includes Austria, Denmark, Finland, Germany, Greece, Italy, Korea, Luxembourg, Sweden and the United Kingdom). Since hours worked fell in most countries during the 1990s, especially in continental Europe, labour productivity growth was higher on an hourly basis than when measured on a head-count basis. Declines in hours worked were a reflection of both shorter statutory (or collectively agreed) working weeks as well as, especially in a number of European countries, a substantial increase in part-time work. Changes in productivity trends were accompanied by different employment patterns across countries. For instance, among the G-7 economies, significant employment increases in the United States (as well as in Canada and Japan, with no acceleration in productivity) contrasted sharply with employment declines in Germany and Italy.

Box A12.1. Estimating the macroeconomic returns to education

A large body of empirical research has confirmed a positive link between education and productivity. Better educated employees are generally more productive, and may raise the productivity of co-workers. Higher stocks of human capital facilitate investments in physical capital and enhance the development and diffusion of new technologies. A range of indirect benefits from education are also likely to have positive economic consequences. For instance, greater education is associated with superior health status, lower risks of unemployment, reduced crime, more social cohesion and higher levels of political participation. Knowing the macroeconomic returns to education is important for policy making. Accurate assessment of macroeconomic returns can identify externalities associated with education. Such externalities provide a necessary rationale for public action. Knowledge of the macroeconomic returns to education can also indicate whether investment in human capital represents a better use of public resources than investment in alternative assets. Furthermore, the education-growth nexus is of increasing importance in the contemporary context of rapid technological change.

Studies of the macroeconomic returns to education are methodologically diverse and based on two broad theoretical approaches. The first, a neo-classical approach, models the relationship between the stock of education and the long-run level of GDP. Most studies follow this tradition. A second approach derives from "new-growth" theory and models the relationship between the stock of education and the rate of growth of GDP. Whether increases in the stock of education primarily affect the level of output, or its growth rate, is still unclear. Concerning the magnitude of the returns, the available studies indicate that in the neo-classical models a one-year increase in average education raises the level of output per capita by between 3 and 6%. Studies of the "new-growth" variety find that the same increase in average education raises the rate of growth of output by around 1%. The two theoretical approaches yield results that differ significantly in magnitude over the medium- to long-term, because the absolute effect on output of a cumulative 1% increase in the rate of growth soon exceeds a once-only increment to the level of output of even 6% (the upper bound). However, over a period of a few years the absolute size of the predicted effects on output is comparable in both theoretical frameworks.

Various conceptual and methodological hurdles have hindered the estimation of education's impact on growth. A central issue relates to the direction of causality in the growth relationship: does education spur growth, or does growth cause individuals to consume more education? In practice, it is likely that causality operates in both directions. In a related manner, efficiency in producing educational outputs may simply be associated with efficiency in other areas of the economy as well. The results of many studies have also been weakened by data deficiencies. For instance, low correlations have been observed between measures of education from some key sources of educational data. Furthermore, growth studies have relied on a variety of proxies for human capital, such as average years of education, adult literacy rates and school enrolment ratios (and different studies have used a variety of dependent variables). Such proxies pose a number of difficulties. For instance, they include formal education only, omitting the skills and competencies acquired through on-the-job training, experience and other channels, as well as the loss of skills caused, for instance, by disuse. Similarly, adult literacy rates capture only one dimension of human capital, omitting such competencies as numeracy and technical knowledge. And variations in the quality of education systems mean that indicators of educational attainment are often not fully comparable across countries.* Indeed, different specifications of human capital lead to major divergences in estimates of the stock of human capital across countries. Different types of education can also be expected to have varied impacts on growth: a cohort of graduates in engineering disciplines is likely to affect productivity in different ways than a similar-sized cohort of graduates in the arts. But this differential effect is not captured in the usual aggregated proxies of human capital. And there is confusion in some studies as to whether school enrolment rates are intended to serve as a stock or flow measure of investment in human capital.

Cross-country growth regressions also usually assume that the impact of education is linear, and constant across countries. However, research suggests that the assumption of constant growth effects of education across countries is unfounded. There is also evidence of diminishing effects on growth above an average of 7.5 years of education (see "Definitions and methodologies"). This is well below the average years of education across the OECD as a whole (in 1998, this was 11.3 years, across 20 OECD member countries for which data were available).

Much remains uncertain in education-growth research. As noted above, it is still unclear whether education and increases in the stock of human capital affect the level of GDP or its growth rate. Policy-relevant issues that could be addressed by further research include:

- how is growth affected by investment in different stages of education (from pre-school to advanced tertiary education and work-related training)?
- after how many years, and at which levels of education, do diminishing growth returns become important?
- how is growth affected by investment in different types of education, such as engineering disciplines or the arts?
- how is growth affected by the quality of education?
- how, if at all, are growth effects from the expansion of one stage of education affected by the level of attainment achieved at an earlier stage?

* International surveys, such as the Adult Literacy and Life Skills survey, and the OECD's Programme for the International Assessment of Adult Competencies, now under development, can provide internationally comparable multidimensional indicators of skills.

Source: Sianesi, B. and J. Van Reenan (2003), "The Returns to Education: Macroeconomics", *The Journal of Economic Surveys*, Vol. 17, No. 2, pp. 157-200, and De la Fuente, A. and A. Ciccone (2003), *Human Capital in a Global and Knowledge-based Economy*, European Commission, DG for Employment and Social Affairs, Office for official publications of the European Communities, Luxembourg.

Labour productivity can be increased in a number of ways…

Labour productivity can be increased in several ways: by improving the quality of labour used in the production process, by increasing the use of capital per worker and improving its quality, or by attaining greater overall efficiency in how these factors of production are used together, which economists call multi-factor productivity. Multi-factor productivity reflects many types of efficiency improvements, such as improved managerial practices and organisational changes, and innovations leading to more valuable output being produced with a given combination of capital and labour. The skills and competencies embodied in workers – or human capital – play a fundamental role in raising labour productivity. Rising levels of educational attainment among workers over the 1990s is only one sign of this role. Increases in the level of post-educational skills may be even more important, although few hard measures are available. Consequently, as a variety of empirical studies have found (see Boxes A12.1 and A12.2), human capital is a significant determinant of economic growth. The OECD Growth Project estimated that in the OECD area, the long-run effect on output of one additional year of education in the adult population generally falls between 3 and 6%.

…and human capital plays a key role in raising output per worker…

Chart A12.2 shows that growth in output per employed person is partly attributable to increases in the human capital of those in employment. The chart displays the impact of changes in the average human capital of workers on growth in cyclically adjusted GDP per hour worked. Essentially, the chart decomposes average annual percentage changes in GDP per capita over the period 1990 to 2000 into three components: *i)* changes in average hours worked, *ii)* changes in average years of formal education (used here as a proxy for changes in the quality of labour), and *iii)* changes in the hourly GDP per efficient unit of labour, which is equivalent to changes in GDP per worker once changes in working hours and changes in the average quality of labour are accounted for. The latter is based on a measure of labour input that sums up shares of workers with different levels of formal education, each weighted by their relative wage. Two assumptions underlie this

Box A12.2. Literacy and growth in 14 OECD member countries

Recent research has sought to estimate the relationship between human-capital and economic growth using a direct measure of human capital based on internationally comparable literacy scores. This approach goes some way to avoiding the problem of the imperfect comparability of measures of educational attainment across different national education systems. The literacy measures were obtained from the 1994 International Adult Literacy Survey (IALS). IALS tested the skills of individuals aged between 16 and 64 in prose, quantitative and document literacy. The data cover 14 countries, all members of the OECD. Using these survey findings, a synthetic time series was constructed for the period 1960-1995. The literacy results of individuals aged 17 to 25 in a given period were then used as proxies for investment in human capital during the previous period (the authors note that the imputation of literacy skills early in life, based on data collected in adulthood, requires adjustment for the changes in human capital that occur over the life-cycle. This adjustment was not made, and represents a disadvantage of this synthetic indicator in comparison to indicators of schooling. However, the procedure used to remove mean values from the cross-sectional data would afford the required adjustment, if the process of adjustment in human capital over the life-cycle is homogeneous across countries). Time series and cross-country information was pooled in a panel data set. The authors note that the non-inclusion of information on immigration flows in this indicator is a weakness.

The research indicates that literacy scores, as a direct measure of human capital, perform better in growth regressions than indicators of schooling. 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 other countries. The authors offer two explanations as to why literacy data should contain more information on the relative well-being of nations than data on years of schooling. One is that literacy might be a superior measure of some key driver of growth, such as social infrastructure. Another is that data on literacy skills might be more comparable across countries than data on years of schooling. To assess these interpretations, the authors propose future research using both indicators of human capital to compare growth effects across regions within a given country. This could help to surmount problems of imperfect international comparability. The relative performance of the two indicators would reveal which performed best as a measure of human capital and which was most closely associated with economic growth.

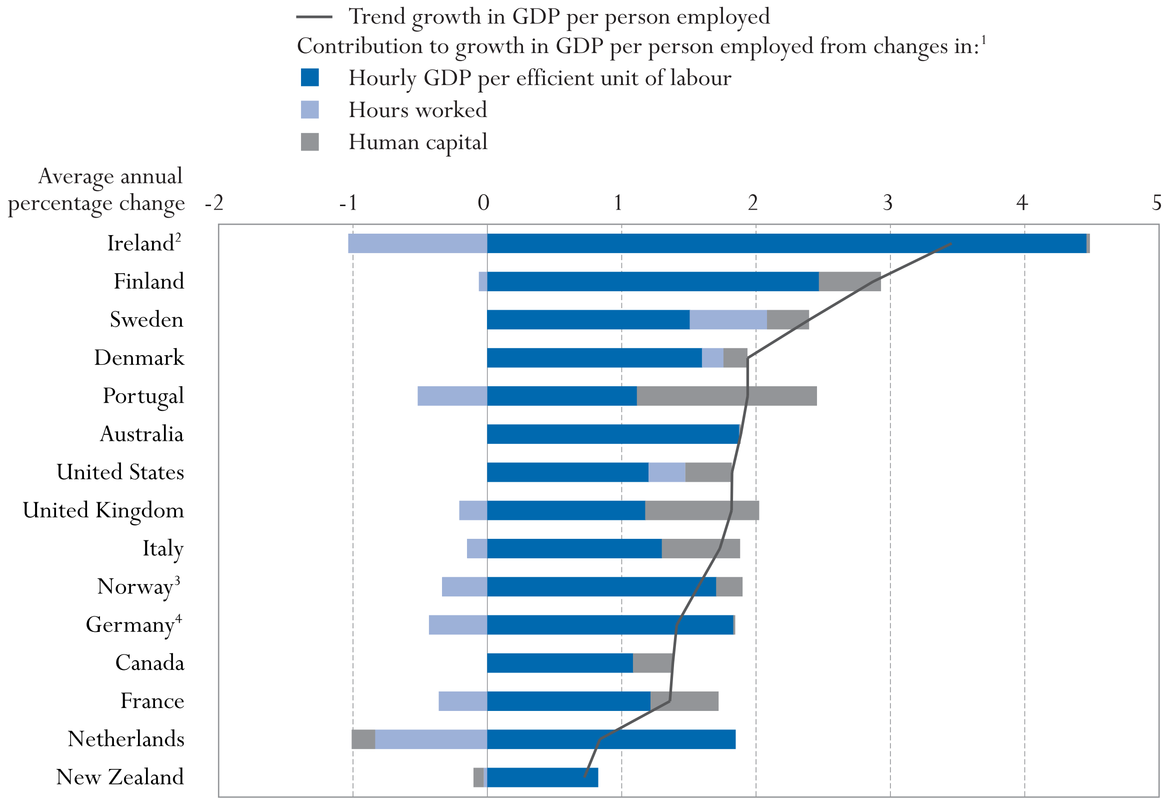
Measures based on average literacy scores across all individuals were shown to serve as much better indicators of aggregate human capital than measures based on the share of individuals attaining high levels of literacy. This finding is in line with the idea that the principal impact of education on growth is to raise the productivity of the workforce as a whole, rather than to increase the number of individuals able to bring about radical innovations. A striking finding was that increases in literacy skills among women have a much larger effect on growth than increases in literacy among men. Various possible explanations for this finding were advanced: investment in the education of women may have been provided to particularly high-ability individuals who were previously held back by social barriers; the rate of return to education among women may have been high owing to low initial levels of literacy; increased education might allow a reallocation of male and female labour across occupations, allowing more men and women to subsequently work in occupations for which they have a comparative advantage; if male and female labour is not perfectly substitutable, increased education of women might be associated with a period of fast-growth rebalancing of the stock of human and physical capital prior to achieving a new steady state level; possible statistical effects stemming from greater variation in women's literacy scores across countries; and the fact that women's literacy could be associated with omitted variables that affect growth, such as a country's level of social development.

Source: Coulombe, S., J-F. Tremblay and S. Marchand (2004), *Literacy Scores, Human Capital and Growth Across 14 OECD Countries*, Statistics Canada and Human Resources and Skills Development Canada, Ottawa.

measure: educational attainment accounts for a good proportion of human capital embodied in workers, and relative wages provide a reasonable quantitative proxy for the relative productivity of workers with different levels of education.

During the decade 1990-2000, skill upgrading amongst workers was particularly marked in Europe, although it was accompanied by sluggish employment growth. Productivity gains were achieved in part by dismissals or by not employing workers with low skills. By contrast, in Australia, Canada, Denmark, the Netherlands, New Zealand, Norway, Sweden and the United States, skill upgrading played a modest role in GDP growth per employed person.

Chart A12.2. Enhancements in human capital contributing to labour productivity growth (1990-2000)



1. Based on the following decomposition: growth in GDP per person employed = (changes in hourly GDP per efficient unit of labour) + (changes in average hours worked) + (changes in human capital).
2. Years of reference 1990-1999.
3. Mainland only.
4. Years of reference 1991-2000.

Countries are ranked in descending order of trend growth in GDP per person employed.
Source: OECD.

…as well as being a determinant of the rate of technological progress.

One of the key economic roles of education is its impact on technological progress, which in turn affects output per worker. A key reason for the renewed interest in the productivity-enhancing role of human capital is that human capital complements new technologies. Skills and competencies are critical to the development, diffusion and effective adoption of new technologies. During the 1990s, in the OECD countries for which data are available, the rise in the number of knowledge workers (scientists, engineers and others, such as ICT specialists and technicians who generate knowledge) accounted for nearly 30% of recorded net employment growth. Wages have followed a similar pattern. For example, in the United States, wages among knowledge workers have risen much faster than wages of other occupations. Between 1985 and 1998, real earnings of knowledge-intensive workers grew by almost 17%, cumulatively, compared with 5.3% for the average employee in the United States. During the same period "goods-producing" occupations suffered a cut in their real earnings of nearly 2.5%.

Box A12.3. Human capital and converging incomes across Canada's provinces

Many OECD economies exhibit marked geographic concentrations in economic well-being, labour market performance and key social desiderata. Reducing regional economic and social disparities is a policy priority for a number of OECD governments. In Canada, since the early 1950s, incomes and productivity have tended to converge, albeit gradually, across the country's provinces. Recent research has examined this process of convergence using a growth model that incorporates human capital. It was found that for the period 1951 to 1996, across Canada's provinces, roughly 50% of the differences in the growth of per capita income, and more than 80% of the relative income levels, can be explained in terms of convergence in the stocks of human capital. In this open-economy model, with perfect capital mobility, changes in the stock of human capital are seen to drive the accumulation of physical capital across provinces. The measure of human capital used is an index, based on census data, of the share of the population that has achieved given benchmark levels of education (growth and income effects were seen to be particularly sensitive to an indicator of advanced education). Some of the difficulties of using proxies for human capital are avoided in this work by taking relative measures of the human capital stock in a context of more or less homogeneous educational systems operating across subnational regions.

As noted by the authors, the explanatory power of the study might have been increased with the use of data on immigration and inter-regional redistribution. Nevertheless, this research provides insights into why economic convergence can be slow, even within a national economy possessing integrated financial markets and no formal barriers to capital mobility. Because physical and human capital complement each other, regions lacking physical capital might face difficulties in attracting additional physical capital if their human-capital base is relatively underdeveloped. As older individuals have less of an incentive to invest in education than young people, regional convergence is slowed on account of the large numbers of less-educated older individuals who remain in poorer provinces. The authors estimate that convergence would have been up to two to three times faster had all persons invested in education at the same rate at which the young are making these investments. This work also affords an analytical framework for assessing the effects of redistributing public resources – from wealthy to less wealthy provinces – for the purpose of financing education.

Source: Coulombe, S. and J-F. Tremblay (2001), "Human Capital and Regional Convergence in Canada", *Journal of Economic Studies*, Vol. 28, No. 3, pp. 154-180.

Definitions and methodologies

Human capital was estimated on the basis of completed levels of education and average years of schooling at each level in the working-age population. This measure of human capital was derived from OECD data combined with data from De la Fuente, A. and Doménech, R. (2000), *Human Capital in Growth Regressions: How Much Difference does Data Quality Make?*, Economics Department Working Papers, No. 262., OECD, Paris. For further information on definitions, methods and sources see *The Sources of Economic Growth in OECD Countries* (OECD, 2003) and *The New Economy: Beyond the Hype* (OECD, 2001). The figures shown are as published in these reports and do not take account of the subsequent revisions that have been made to some countries' GDP data. These revisions do not, however, affect the general messages from the analysis.

In connection with Box A12.1, an assessment of how different specifications of human capital affect international comparative estimates of stocks of human capital is provided in Wösmann, L. (2003), "Specifying Human Capital", *Journal of Economic Surveys*, Vol. 17, No. 3, pp. 239-270. Evidence that the growth effects of education are not constant across countries, and diminish above an average of 7.5 years of education, is provided in Krueger, A.B. and Lindhal, M. (2001), "Education and Growth: Why and for Whom?", *Journal of Economic Literature*, Vol. XXXIX, pp. 1101-1136.

Chapter

B

FINANCIAL AND HUMAN RESOURCES INVESTED IN EDUCATION

Classification of educational expenditure

Educational expenditure in this indicator is classified through three dimensions:

- The first dimension – represented by the horizontal axis in the diagram below – relates to the location where spending occurs. Spending on schools and universities, education ministries and other agencies directly involved in providing and supporting education is one component of this dimension. Spending on education outside these institutions is another.
- The second dimension – represented by the vertical axis in the diagram below – classifies the goods and services that are purchased. Not all expenditure on educational institutions can be classified as direct educational or instructional expenditure. Educational institutions in many OECD countries offer various ancillary services – such as meals, transports, housing, etc. – in addition to teaching services to support students and their families. At the tertiary level spending on research and development can be significant. Not all spending on educational goods and services occurs within educational institutions. For example, families may purchase textbooks and materials themselves or seek private tutoring for their children.
- The third dimension – represented by the colours in the diagram below – distinguishes among the sources from which funding originates. These include the public sector and international agencies (indicated by the light blue colour), and households and other private entities (indicated by the mid-blue colour). Where private expenditure on education is subsidised by public funds, this is indicated by cells in the dark blue colour. The diagram is repeated at the beginning of each indicator to illustrate each indicator visually.

	Spending on educational institutions *(e.g., schools, universities, educational administration and student welfare services)*	**Spending on education outside educational institutions** *(e.g., private purchases of educational goods and services, including private tutoring)*
Spending on educational core services	*e.g.,* public spending on instructional services in educational institutions	*e.g.,* subsidised private spending on books
	e.g., subsidised private spending on instructional services in educational institutions	*e.g.,* private spending on books and other school materials or private tutoring
	e.g., private spending on tuition fees	
Spending on research and development	*e.g.,* public spending on university research	
	e.g., funds from private industry for research and development in educational institutions	
Spending on educational services other than instruction	*e.g.,* public spending on ancillary services such as meals, transport to schools, or housing on the campus	*e.g.,* subsidised private spending on student living costs or reduced prices for transport
	e.g., private spending on fees for ancillary services	*e.g.,* private spending on student living costs or transport

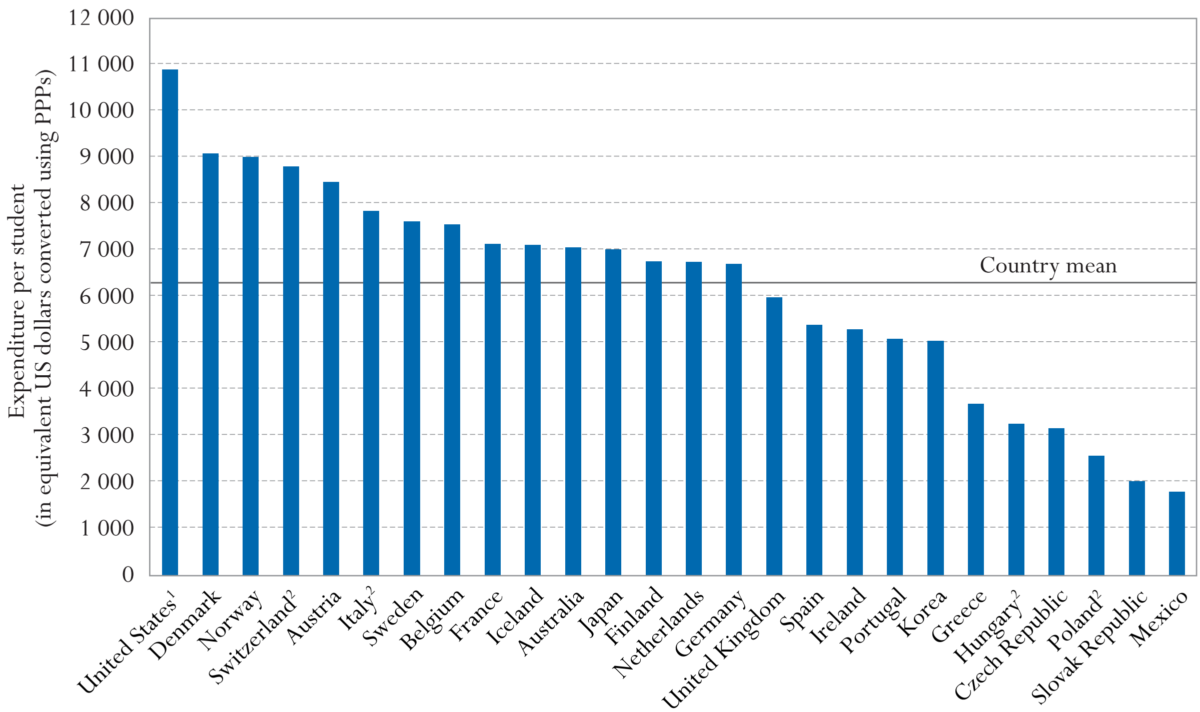
Public sources of funds **Private sources of funds** **Private funds publicly subsidised**

INDICATOR B1: EDUCATIONAL EXPENDITURE PER STUDENT

- OECD countries spend US$ 4 819 per primary student, US$ 6 688 per secondary student and US$ 12 319 per tertiary student, but these averages mask a broad range of expenditure across countries. On average, as represented by the simple mean across all OECD countries, countries spend 2.2 times as much per student at the tertiary level than at the primary level.
- Excluding R&D activities, expenditure in tertiary educational institutions represents on average US$ 7 203 and ranges from US$ 4 000 or below in Greece, Mexico, Poland and Turkey to more than US$ 8 000 in Australia, Belgium, Denmark, Ireland, the Netherlands, Sweden, 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, Finland, Ireland, Korea and the United Kingdom, 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 key subject areas.
- There are significant differences between the proportion of money invested in and the proportion of students enrolled in tertiary education. On average among the 24 OECD countries for which data are available, 24% of all expenditure on educational institutions is allocated to tertiary education whereas only 14% of students are enrolled at this level of education.
- Expenditure per primary, secondary and post-secondary non-tertiary student increased by 29% or more between 1995 and 2001 in Australia, Greece, Ireland, Poland, Portugal, Spain and Turkey. At the tertiary level, spending on education has not always kept pace with the rapid expansion of enrolments.
- In seven out of 22 OECD countries for which data are available expenditure on educational institutions per tertiary student expressed in US$ decreased between 1995 and 2001, while GDP per capita increased over the same time period.

Chart B1.1. Annual expenditure on educational institutions per student (2001)

In equivalent US dollars converted using PPPs, for primary to tertiary education, based on full-time equivalents



1. Public and independent private institutions only.
2. 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/eag2004).*

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Policy context

Effective schools require the right combination of trained and talented personnel, adequate facilities, state-of-the-art equipment and motivated students ready to learn. The demand for high-quality education, which can translate into higher costs per student, must be balanced against placing undue burden on taxpayers.

This indicator shows annual and cumulative expenditure on education per student in absolute terms…

As a result, the question of whether the resources devoted to education yield adequate returns to the investments made figures prominently in the public debate. Although it is difficult to assess the optimal volume of resources required to prepare each student for life and work in modern societies, international comparisons of spending on education per student can provide a starting point for evaluating the effectiveness of different models of educational provision.

…and relative to GDP per capita.

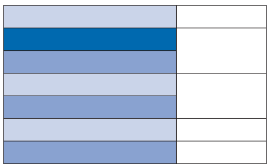
Policy makers must balance the importance of improving the quality of educational services with the desirability of expanding access to educational opportunities, notably at the tertiary level. The comparative review of how trends in educational expenditure per student have evolved shows that in many OECD countries the expansion of enrolments, particularly in tertiary education, has not always been paralleled by changes in educational investment.

It also compares trends in the development of expenditure on education per student.

Finally, decisions on the allocation of funds among the various levels of education are also important. For example, some OECD countries emphasise broad access to higher education while others invest in near-universal education for children as young as three or four years of age.

Evidence and explanations

What this indicator covers and what it does not cover



Coverage diagram *(see page 197 for explanations)*

The indicator shows direct public and private expenditure on educational institutions in relation to the number of full-time equivalent students enrolled in these institutions.

Public subsidies for students' living expenses have been excluded to ensure international comparability of the data. Expenditure data for students in private educational institutions are not available for certain OECD countries, and some other countries do not report complete data on independent private institutions. Where this is the case, only the expenditure on public and government-dependent private institutions has been taken into account. Note that variation in expenditure on education per student may reflect not only variation in the material resources provided to students (*e.g.,* variations in the ratio of students to teaching staff) but also variation in relative salary levels.

At the primary and secondary levels, educational expenditure is dominated by spending on instructional services; at the tertiary level other services, particularly those related to R&D activities or ancillary services, can account for a significant proportion of educational spending. Indicator B6 provides further information on how spending is distributed by different types of services provided.

Expenditure on education per student in equivalent US dollars

In eight out of 26 countries, spending on education between primary and tertiary education falls between US$ 5 900 and 7 100 per student.

Annual per-student expenditure on educational institutions between primary and tertiary education provides an assessment of the investment made in each student. OECD countries as a whole spend US$ 6 821 per student between primary and tertiary education. Spending on education at that level ranges from US$ 3 300 per student or less in the Czech Republic, Hungary, Mexico, Poland and the Slovak Republic to more than US$ 8 000 per student in Austria, Denmark, Norway, Switzerland and the United States. In eight out of 26 countries, spending on education falls between US$ 5 900 and 7 100 per student (Chart B1.1).

As a whole, OECD countries spend US$ 4 819 per primary student, US$ 6 688 per secondary student and US$ 12 319 per tertiary student…

However, even if overall spending per student is similar in some OECD countries, the ways in which resources are allocated across the different levels of education varies widely. OECD countries as a whole spend US$ 4 819 per student at the primary level, US$ 6 688 per student at the secondary level and US$ 12 319 per student at the tertiary level. At the tertiary level, these averages are influenced by high expenditure in a few large OECD countries, most notably the United States. Spending on education per student in the "typical" OECD country, as represented by the simple mean across all OECD countries, amounts to US$ 4 850 at the primary level, US$ 6 510 at the secondary level and US$ 10 052 at the tertiary level of education (Table B1.1).

These averages mask a broad range of expenditure on education per student across OECD countries. At the primary level, expenditure on educational institutions ranges from US$ 1 252 per student in the Slovak Republic to US$ 7 873 per student in Luxembourg. Differences among OECD countries are even greater at the secondary level, where spending on education per student varies by a factor of 6, from US$ 1 874 in the Slovak Republic to US$ 10 916 in Switzerland. Expenditure on education per tertiary student ranges from US$ 3 579 in Poland to US$ 22 234 in the United States (Table B1.1).

…but these averages mask a broad range of expenditure across OECD countries.

These comparisons are based on purchasing power parities, not market exchange rates, and therefore reflect the amount of a national currency that will buy the same basket of goods and services in a given country as that produced by the US dollar in the United States.

On average, expenditure on research and development (R&D) at the tertiary level represents 26% of all tertiary expenditure. In five out of 19 OECD countries for which tertiary expenditure are separated by type of services, R&D expenditure in tertiary institutions represents more than 35% of tertiary expenditure. On a per-student basis this can translate into significant amounts, as in Australia, Austria, Belgium, Denmark, Finland, Germany, Italy, the Netherlands and Sweden, where expenditure for R&D in tertiary institutions amounts to more than US$ 3 000 per student (Chart B1.2 and Tables B1.1 and B6.2).

R&D expenditure in tertiary institutions exceeds US$ 3 000 per student in Australia, Austria, Belgium, Denmark, Finland, Germany, Italy, the Netherlands and Sweden.

R&D spending in tertiary educational institutions depends on both total R&D expenditure in a country, and the national infrastructure for R&D activities. OECD countries in which most R&D is performed by tertiary educational institutions tend to report higher expenditure per tertiary student than countries in which a large part of R&D is performed in other public institutions or by industry. Excluding R&D activities, expenditure in tertiary educational institutions represents on average US$ 7 203 and ranges from US$ 4 000 or below in Greece, Mexico, Poland and Turkey to more than US$ 8 000 in Australia, Belgium, Denmark, Ireland, the Netherlands, Sweden, the United Kingdom and the United States (Table B1.1 and Chart B1.2).

Excluding R&D activities, expenditure in tertiary educational institutions represents an average of US$ 7 203.

The labour intensiveness of the traditional model of classroom education accounts for the predominance of teachers' salaries in overall costs. Differences in the average class size and in the ratio of students to teaching staff (Indicator D2), in staffing patterns, in teachers' salaries (Indicator D3) and in teaching materials and facilities influence the differences in cost among levels of education, types of programme and types of school.

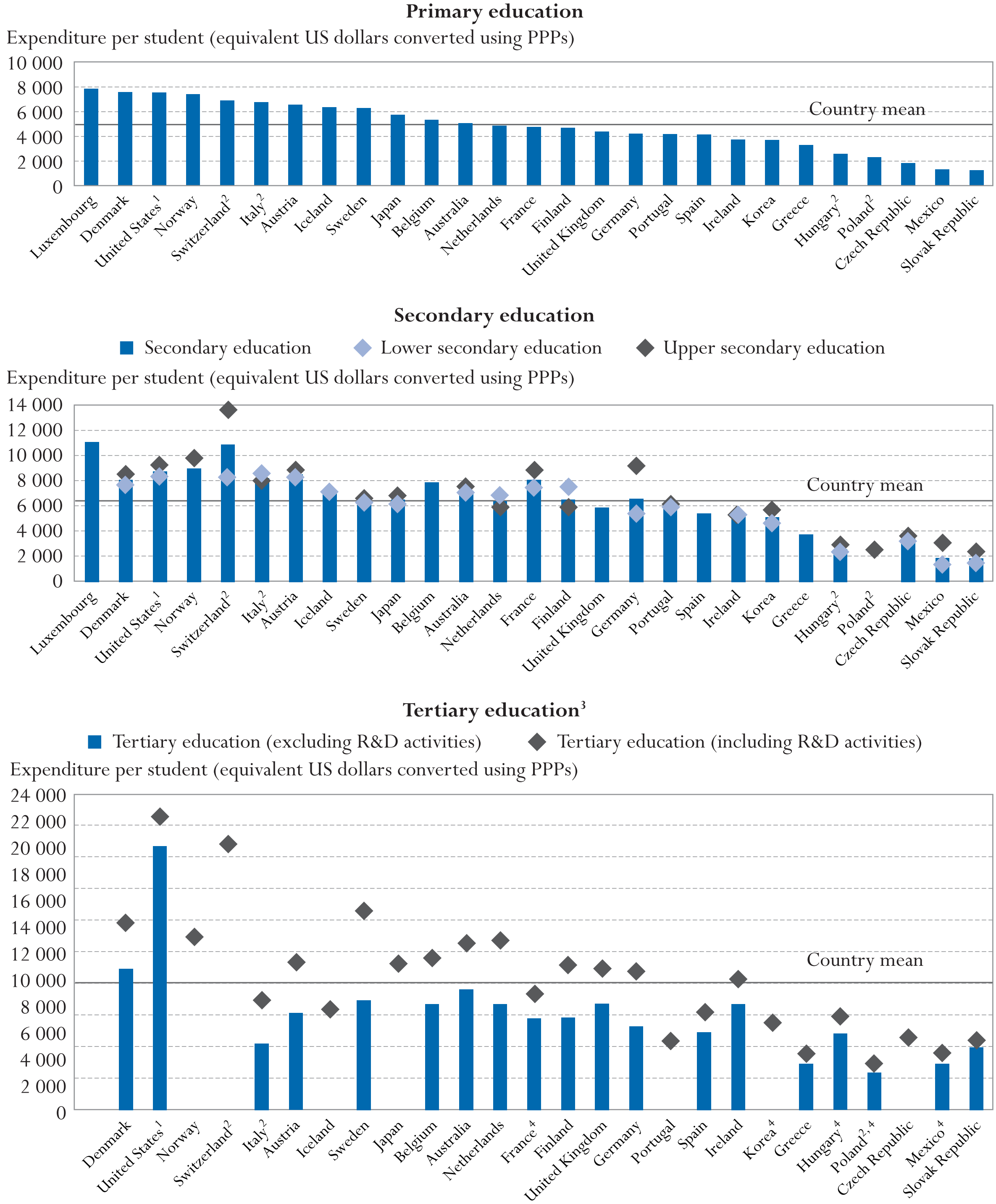
The labour intensiveness of education accounts for the predominance of teachers' salaries in overall costs.

It would be misleading to equate lower unit expenditure generally with lower quality of educational services. Australia, Finland, Ireland, Korea and the United Kingdom, 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 key subject areas (see the PISA study).

Lower unit expenditure cannot simply be equated with lower student performance.

Chart B1.2. Annual expenditure on educational institutions per student, by level of education (2001)

In equivalent US dollars converted using PPPs, based on full-time equivalents



1. Public and independent private institutions only.
2. Public institutions only.
3. The bar represents total expenditure at tertiary level and excludes research and development expenditure.
4. Research and development expenditure at tertiary level and thus total expenditure including R&D activities are underestimated.

Countries are ranked in descending order of expenditure per student in primary education.

Source: OECD. Tables B1.1 and B6.2. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Differences in educational expenditure per student between levels of education

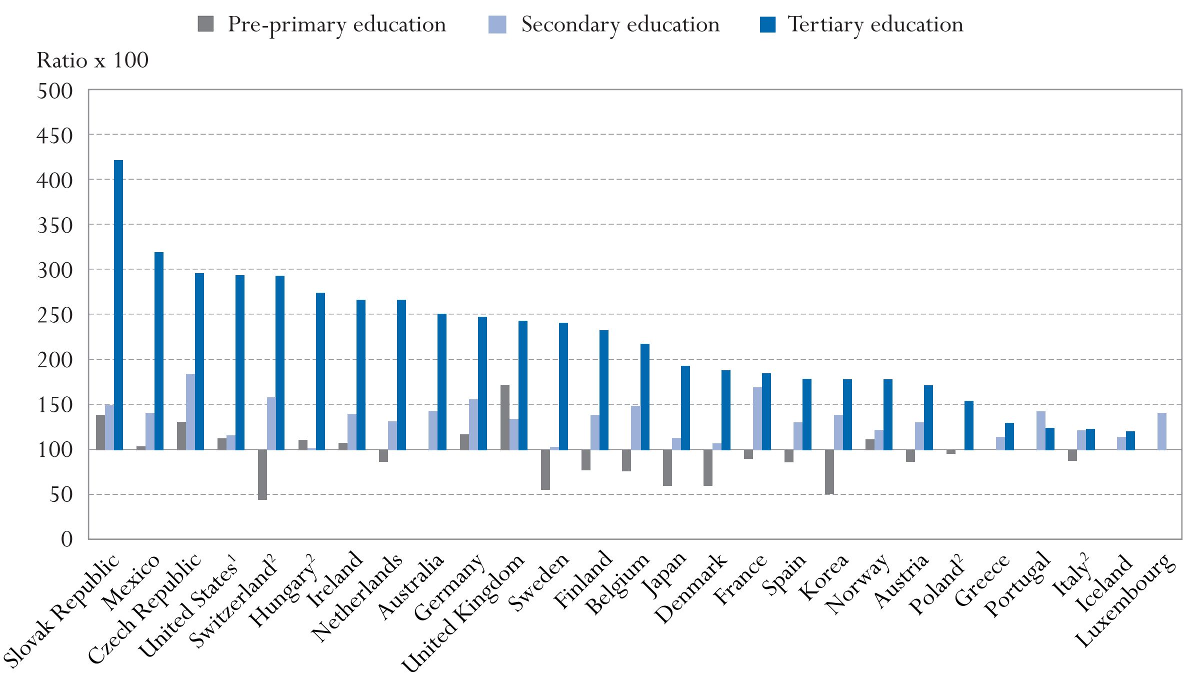
Expenditure on education per student exhibits a common pattern throughout OECD countries: in each OECD country, spending rises sharply from primary to tertiary education. This pattern can be understood by looking at the main determinants of expenditure, particularly the location and mode of educational provision. The vast majority of education still takes place in traditional school settings with (generally) similar organisation, curriculum, teaching style and management. These shared features are likely to lead to similar patterns of unit expenditure.

Expenditure on education per student consistently rises with the level of education.

Comparisons of the distribution of expenditure between levels of education indicate the relative emphasis placed on education at different levels in various OECD countries, as well as of the relative costs of providing education at those levels.

Chart B1.3. Expenditure on educational institutions per student at various levels of education relative to primary education (2001)

Primary education = 100



Note: A ratio of 300 for tertiary education means that expenditure on educational institutions per tertiary student is three times the expenditure on educational institutions per primary student.
A ratio of 50 for pre-primary education means that expenditure on educational institutions per pre-primary student is half the expenditure on educational institutions per primary student.
1. Public and independent private institutions only.
2. Public institutions only.
Countries are ranked in descending order of expenditure on educational institutions per student in tertiary education relative to primary education.
Source: OECD. Table B1.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Although expenditure on education per student rises with the level of education (from primary to tertiary) in almost all OECD countries, the relative sizes of the differentials vary markedly among countries (Chart B1.3). At the secondary level, expenditure on education per student is, on average, 1.3 times that at the primary level, although the difference ranges from 1 in Hungary and Sweden to 1.6 or more in the Czech Republic, France and Germany.

On average, OECD countries spend 2.2 times as much on education per student at the tertiary level as at the primary level.

Although OECD countries spend, on average, 2.2 times as much on education per student at the tertiary level as at the primary level, spending patterns vary widely among countries. For example, whereas Greece, Iceland, Italy and Portugal only spend between 1.2 and 1.3 times as much on a tertiary student as on a primary student, Mexico and the Slovak Republic spend 3.2 and 4.2 times as much (Chart B1.3).

Educational expenditure per student over the average duration of tertiary studies

Annual expenditure on education per student does not always reflect the full cost of tertiary studies.

Both the typical duration and the intensity of tertiary education vary among OECD countries. Therefore, the differences among countries in annual expenditure on educational services per student, as shown in Chart B1.2, do not necessarily reflect the variation in the total cost of educating the typical tertiary student.

Students can choose from a range of institutions and enrolment options.

Today, students can choose from a range of institutions and enrolment options to find the best fit for their degree objectives, abilities and personal interests. Many students enrol on a part-time basis while others work while studying, or attend more than one institution before graduating. These varying enrolment patterns can affect the interpretability of expenditure on education per student.

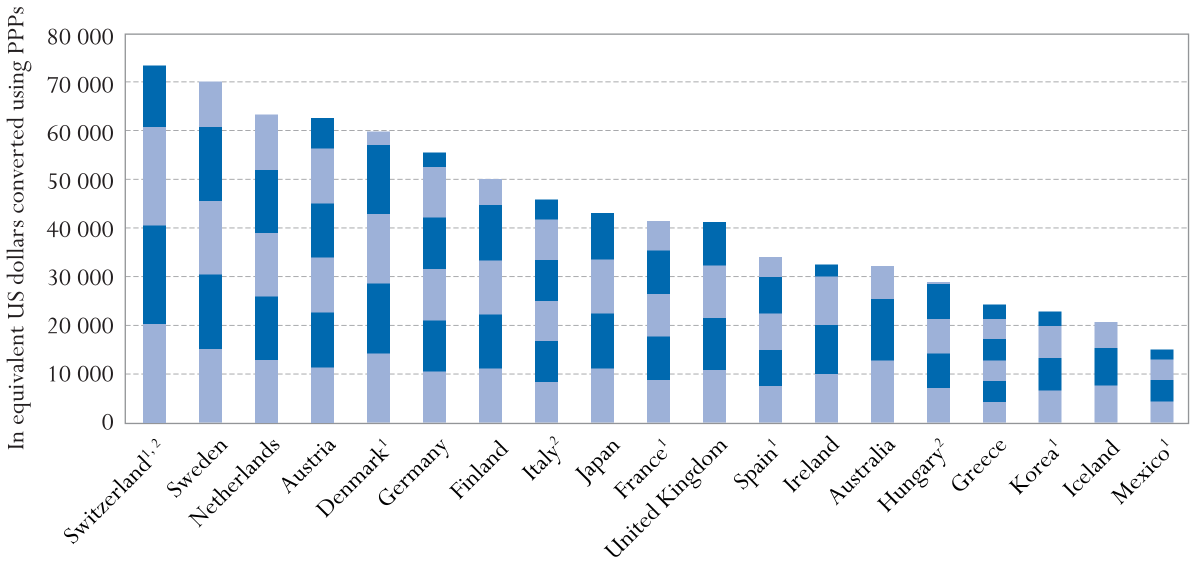
Low annual expenditure may translate into high overall costs of tertiary education if the duration of tertiary studies is long.

In particular, comparatively low annual expenditure on education per student can result in comparatively high overall costs of tertiary education if the typical duration of tertiary studies is long. Chart B1.4 shows the average expenditure that is incurred per student throughout the course of tertiary studies. The figures account for all students for whom expenditure is incurred, including those who do not finish their studies. Although the calculations are based on a number of simplified assumptions and therefore should be treated with some caution (see Annex 3 at *www.oecd.org/edu/eag2004*), some striking shifts in the rank order of OECD countries between the annual and aggregate expenditure can be noted.

For example, annual spending per tertiary student in Japan is about the same as in Austria (US$ 11 164 in Japan compared with US$ 11 274 in Austria) (Table B1.1). But because of differences in the tertiary degree structure (Indicator A2), the average duration of tertiary studies is a little bit less than two years longer in Austria than in Japan (5.5 years in Austria, compared with 3.8 years in Japan). As a consequence, the cumulative expenditure for each tertiary student is almost US$ 20 000 higher in Austria than in Japan (US$ 62 459 compared with US$ 42 970) (Chart B1.4 and Table B1.3).

Chart B1.4. Cumulative expenditure on educational institutions per student over the average duration of tertiary studies (2001)

Annual expenditure on educational institutions per student multiplied by average duration of studies, in equivalent US dollars converted using PPPs



Note: Each segment of the bar represents the annual expenditure on educational institutions per student. The number of segments represents the number of years a student remains on average in tertiary education.
1. The duration of tertiary studies is obtained from a special survey conducted in 1997 for the academic year 1995.
2. Public institutions only.
Countries are ranked in descending order of expenditure on educational institutions per student over the average duration of tertiary studies.
Source: OECD. Table B1.3. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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The total cost of tertiary-type A studies in Switzerland (US$ 118 953) is more than twice as high as in the other reporting countries, except Austria and Germany (Table B1.3). These differences must, of course, be interpreted in light of differences in national degree structures as well as possible differences among OECD countries in the academic level of the qualifications of students leaving university. While similar trends are observed in tertiary-type B studies, the total cost of these studies tends to be much lower than those of tertiary type-A programmes, largely because of their shorter duration.

Distribution of expenditure on educational institutions relative to number of students enrolled

On average 41% of all expenditure on educational institutions is allocated to secondary education while 39% of students are enrolled at this level of education…

The money invested in the education system of OECD countries can be compared according to the proportion of students enrolled at each level of education. A level of education that enrols a high proportion of students should receive a high level of investment in order to ensure favourable teaching conditions. Table B1.4 shows the relationship between the share of expenditure on educational institutions and the number of students enrolled, by level of education. On average among the 23 OECD countries for which data are available, 41% of all expenditure on educational institutions is allocated to secondary education while 39% of students are enrolled at this level of education. The difference between the two figures exceeds

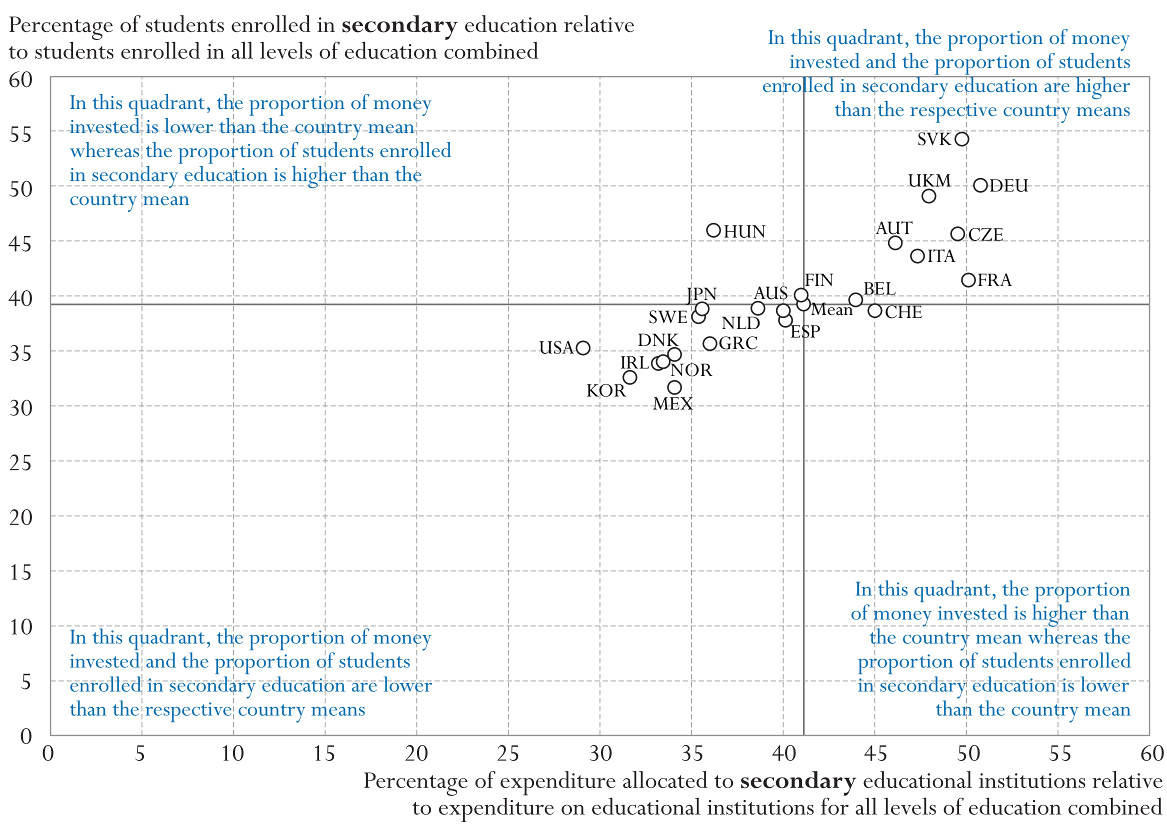
4% in Belgium, France, Hungary, the Slovak republic, Switzerland and the United States. Among countries whose investment in secondary education compared to all levels of education is higher than the OECD average, Austria, the Czech Republic, France, Germany, Italy, the Slovak Republic and the United Kingdom have more than 45% of students enrolled in secondary education. At the other end of the scale, in Denmark, Ireland, Korea, Mexico, Norway and the United States, both the proportion of money invested and the proportion of students enrolled in secondary education are equal to or below 35% (Table B1.4 and Chart B1.5a).

…whereas there are significant differences between the proportion of money invested and the proportion of students enrolled in primary or tertiary education.

Compared to secondary education, there are significant differences between the proportion of money invested and the proportion of students enrolled in primary and tertiary education. On average among the 24 OECD countries for which data are available, 26 and 24% of all expenditure on educational institutions are allocated to primary and respectively tertiary education, respectively, whereas 35% of students are enrolled in primary education and only 14% in tertiary education. The difference between the two proportions exceeds 12% in Australia, Ireland and Mexico in primary education and ranges in tertiary education from below 5% in France, Greece, Italy and Korea to more than 13%

Chart B1.5a. Expenditure allocated to secondary education and students enrolled at this level of education (2001)

In percentage of expenditure allocated and students enrolled for all levels of education combined



Note: On average, 41% of all expenditure on educational institutions is allocated to secondary education whereas 39% of students are enrolled at this level of education.
Please refer to the Reader's Guide for list of country codes and country names used in this chart.
Source: OECD. Table B1.4. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

in Ireland, the Netherlands, the Slovak republic, Sweden and the United States. In 10 out of 24 countries, the proportion of money invested and the proportion of students enrolled in tertiary education are lower than the OECD average, whereas in Finland, Greece, Ireland, Korea and the United States more than 29% of all education expenditure is invested in tertiary education (Table B1.4 and Chart B1.5b).

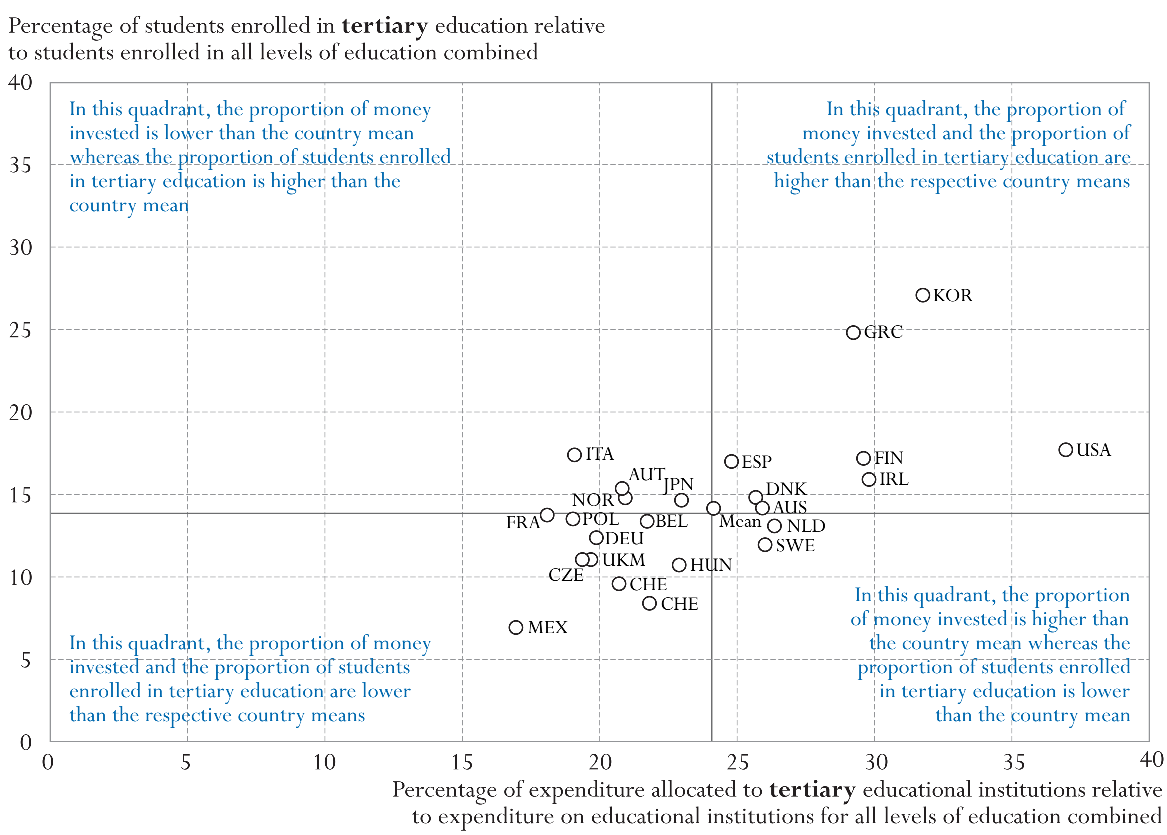
Educational expenditure per student in relation to GDP per capita

OECD countries spend an average of 20% of GDP per capita on each primary student, 26% per secondary student and 42% per tertiary student.

Expenditure on education per student relative to GDP per capita is a spending measure that takes OECD countries' relative wealth into account. Since education is universal at lower levels, spending on education per student relative to GDP per capita at the lower levels of education can be interpreted as the resources spent on young people relative to a country's ability to pay. At higher levels of education, this measure is affected by a combination of national income, spending and enrolment rates. At the tertiary level, for example, OECD countries can be relatively high on this measure if a relatively large proportion of their wealth is spent on educating a relatively small number of students. For the

Chart B1.5b. Expenditure allocated to tertiary education and students enrolled at this level of education (2001)

In percentage of expenditure allocated and students enrolled for all levels of education combined



Note: On average, 24% of all expenditure on educational institutions is allocated to tertiary education whereas 14% of students are enrolled at this level of education.
Please refer to the Reader's Guide for list of country codes and country names used in this chart.
Source: OECD. Table B1.4. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

OECD as a whole, expenditure on education per student averages 20% of GDP per capita at the primary level, 26% at the secondary level and 42% at the tertiary level (Table B1.2).

Beneath a certain level of GDP per capita, poorer OECD countries tend to spend less per student…

The relationship between GDP per capita and expenditure per student is complex. Chart B1.6a shows the co-existence of two different relationships between two distinct groups of countries (see ovals in Chart B1.6a). Countries with a GDP per capita equivalent to US$ 22 500 or less demonstrate a clear positive relationship between spending on education per student and GDP per capita. In this group, including the Czech Republic, Greece, Hungary, Korea, Mexico, Poland, Portugal, the Slovak Republic and Spain, poorer OECD countries tend to spend less per student than richer OECD countries.

…but the trend cannot be generalised.

On the other hand, there is a considerable variation in spending on education per student among OECD countries with a GDP per capita greater than US$ 22 500 (see ovals in Chart B1.6a). The higher GDP per capita, the greater the variation in expenditure devoted to students. Australia, France and the United Kingdom, for example, are countries with similar levels of GDP per capita which spend very different proportions of their GDP per capita on both the secondary and tertiary levels of education. Thus, the proportion of GDP per capita spent per secondary student in Australia and France (27 and 30% respectively) is above the OECD average while for the United Kingdom (at 22%) the proportion is below average. On the other hand, the United Kingdom spends 40% of GDP per capita per tertiary student, whereas Australia and France spent 48 and 33 % respectively, which are very different proportions (Table B1.2 and Chart B1.6b).

Countries with very different levels of GDP per capita can nevertheless show similar distributions of investment by level of education.

Expenditure on education per student relative to GDP per capita shows how spending on education in a country relates to the country's wealth as a whole. Countries with very different levels of GDP per capita can show similar distributions of investment by level of education. For example, Korea and Portugal – two countries with expenditure per student and GDP per capita below the OECD average – spend the same proportion of money per student per capita as Austria, France and Italy, and more than the United States, which has one of the highest GDP per capita. Similarly, Mexico and the Slovak Republic spend about 47% of GDP per capita on each tertiary-level student, which is approximately the same proportion as Australia, Denmark and the Netherlands (Chart B1.6b).

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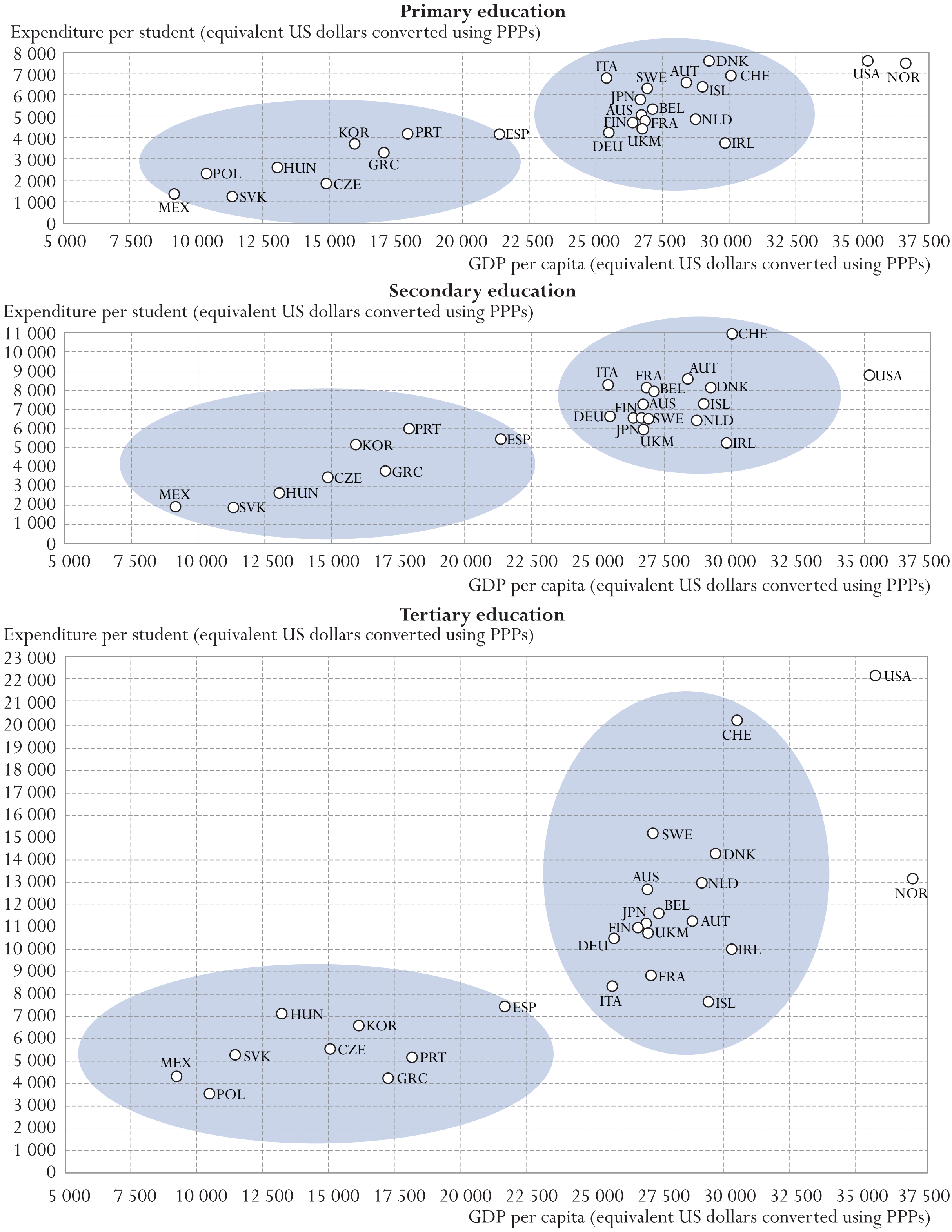
Chart B1.6a. Annual expenditure on educational institutions per student relative to GDP per capita (2001)

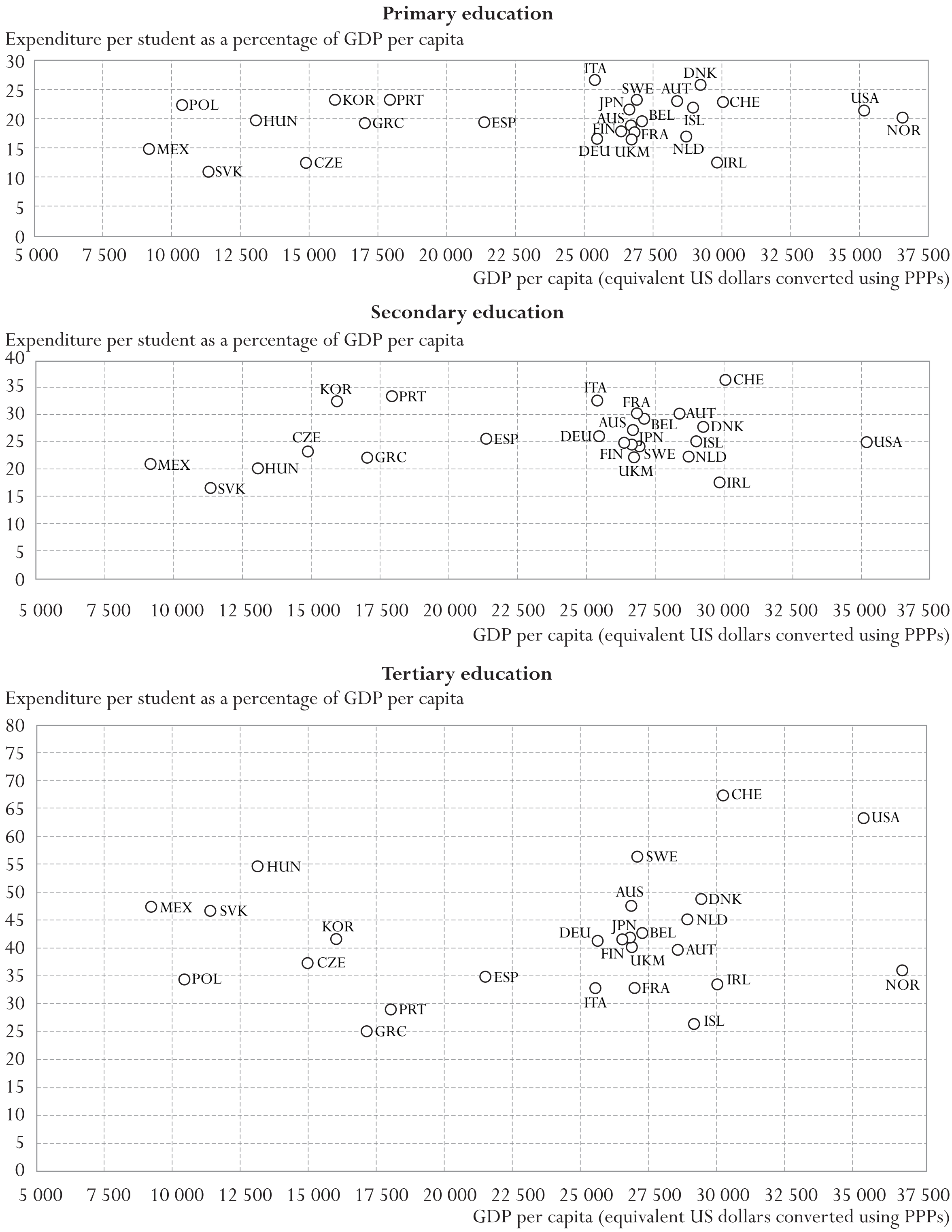
In equivalent US dollars converted using PPPs, by level of education



Note: Please refer to the Reader's Guide for list of country codes and country names used in this chart.
Source: OECD. Tables B1.1 and B1.2 and Annex 2. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Chart B1.6b. Annual expenditure on educational institutions per student as a percentage of GDP per capita relative to GDP per capita (2001)

By level of education



Note: Please refer to the Reader's Guide for list of country codes and country names used in this chart.
Source: OECD. Tables B1.1 and B1.2 and Annex 2. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Change in expenditure on education per student between 1995 and 2001

The number of young people in a population influences both the enrolment rate and the amount of resources and organisational effort which a country must invest in its education system. Thus, the size of the youth population in a given country shapes the potential demand for initial education and training. The higher the number of young people, the greater the potential demand for educational services. Table B1.5 and Chart B1.7 show in absolute terms and at 2001 constant prices the effects of changes in enrolment and in expenditure between 1995 and 2001 on spending on education per student.

Expenditure on education per primary, secondary and post-secondary non-tertiary student increased by 29% or more in Australia, Greece, Ireland, Poland, Portugal, Spain and Turkey.

Expenditure per primary, secondary and post-secondary non-tertiary student increased between 1995 and 2001 by 29% or more in Australia, Greece, Ireland, Poland, Portugal, Spain and Turkey. In eleven out of the 23 OECD countries for which data are available, changes exceed 20% between 1995 and 2001. The Czech Republic and Norway saw a decline in expenditure on education per primary, secondary and post-secondary non-tertiary student by 4 and 6% respectively. The measured decline in expenditure per student for Norway is due to a substantial change in the price deflator at the level of total GDP, caused primarily by an increase in oil prices (Chart B1.7).

At the primary and secondary levels, changes in enrolments were not the main factor driving expenditure…

Although institutional arrangements are often slow in adapting to changing demographic conditions, changes in enrolments do not seem to have been the main factor driving changes in expenditure per primary, secondary and post-secondary non-tertiary student. Japan, Poland, Portugal and Spain are exceptions to this pattern, where a drop of more than 10% in enrolments combined with a slight rise in expenditure on education for Japan and Spain, and a sharp spending increase for Poland and Portugal have led to a significant increase in spending on education per student. In contrast, in France, Greece, Ireland and Italy, an increase of 10 to 36% in education budgets, coupled with a slight decrease in enrolments, has emphasized the increase in spending per primary, secondary and post-secondary non-tertiary student (Table B1.5 and Chart B1.7).

Other exceptions are Norway, Sweden, Turkey, the United Kingdom and the United States, the five OECD countries with the highest increase in the aggregated number of primary, secondary and post-secondary non-tertiary students between 1995 and 2001. These countries present different patterns. In Sweden, Turkey, the United Kingdom and the United States, increases in expenditure outpaced rising enrolments, leading to an increase in expenditure per student. In contrast, in Norway, an increase in student numbers due partly to the expansion of primary education from six to seven years implemented in the school year 1997-98, has not been counterbalanced by a similar increase in educational spending. However, the change between 1995 and 2001 in the price deflator at the level of total GDP for Norway (caused primarily by an increase in oil prices) led to the decline in educational spending and also in expenditure per primary, secondary and post-secondary non-tertiary student (Table B1.5 and Chart B1.7).

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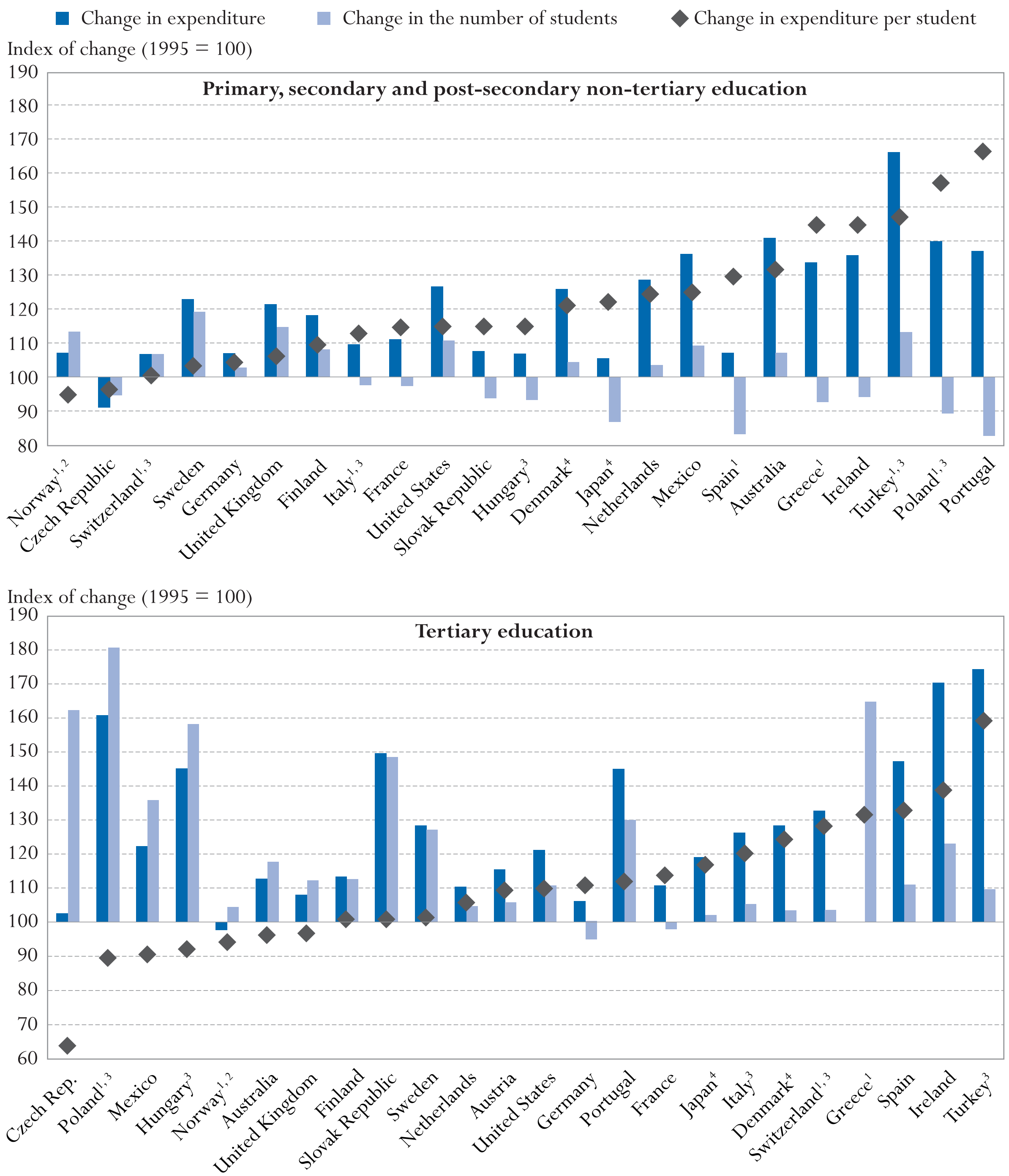
Chart B1.7. Change in expenditure on educational institutions per student relative to different factors, by level of education (1995, 2001)

Index of change between 1995 and 2001 (1995 = 100, 2001 constant prices)



1. Public expenditure only.
2. The decline in expenditure per student is due to a substantial change in the GDP deflator, caused primarily by an increase in oil prices.
3. Public institutions only.
4. Post-secondary non-tertiary included in both upper secondary and tertiary education.

Countries are ranked in ascending order of change in expenditure on educational institutions per student.

Source: OECD. Table B1.5. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

The pattern is different at the tertiary level of education. In seven out of 24 OECD countries for which data are available – Australia, the Czech Republic, Hungary, Mexico, Norway, Poland and the United Kingdom – expenditure on tertiary education per student declined between 1995 and 2001. In all of these countries except Norway (see previous paragraph), this was mainly the result of the rapid increase of more than 10% in the number of tertiary students during the same period (Chart B1.7). On the other hand, expenditure per tertiary student rose significantly in Greece, Ireland and Portugal despite a growth in enrolment of 65, 23 and 30%, respectively. France and Germany were the only OECD countries in which the number of tertiary students actually declined; in Germany, this decline occurred mainly in the earlier years of this period, and student numbers have lately begun to increase significantly (Table B1.5 and Chart B1.7).

…while at the tertiary level, spending on education has not always kept pace with the rapid expansion of enrolments.

Change in expenditure on education per student versus change in GDP per capita between 1995 and 2001

Does growing national income necessarily translate into higher spending on education per student? Table B1.6 shows, for each OECD country, the change in expenditure on education per student in relation to the change in GDP per capita between 1995 and 2001, at 2001 constant prices and 2001 purchasing power parities.

In general, change in expenditure on education per student is linked to change in GDP per capita. However, in seven out of 22 OECD countries for which data are available expenditure on educational institutions per tertiary student (expressed in US$) decreased between 1995 and 2001, while GDP per capita increased over the same period (Table B1.6). Expenditure per student increased in all other countries. In six of these – Denmark, Greece, Italy, Japan, Spain and Switzerland – expenditure on education per student increased at a greater rate than GDP per capita between 1995 and 2001. In all the other OECD countries, GDP per capita increased at a greater rate than expenditure per tertiary student (Table B1.6).

In seven out of 22 OECD countries expenditure on educational institutions per tertiary student expressed in US$ decreased, while GDP per capita increased, between 1995 and 2001.

Among countries with comparable levels of expenditure on education per tertiary student and GDP per capita in 2001, it is possible to note some differences in patterns of investment in education between 1995 and 2001. For example, for the year 2001 Australia, Japan and the United Kingdom have approximately the same GDP per capita and expenditure on education per tertiary student; in comparing statistics from 1995, it appears that Japan increased spending on education per tertiary student at a greater rate than the growth of GDP per capita. By contrast, GDP per capita also increased significantly in Australia and the United Kingdom between 1995 and 2001, whereas expenditure on education per tertiary student slightly decreased over the same period (Table B1.6).

Countries with comparable levels of expenditure and GDP per capita in 2001 display different patterns of investment in education between 1995 an 2001.

Definitions and methodologies

Expenditure on education per student at a particular level of education is calculated by dividing the total expenditure on educational institutions at that level by the corresponding full-time equivalent enrolment. Only those educational

Data refer to the financial year 2001 and are based on the UOE data collection on education statistics administered by the OECD in 2003 (for details see Annex 3).

institutions and programmes for which both enrolment and expenditure data are available are taken into account. Expenditure in national currency is converted into equivalent US dollars by dividing the national currency figure by the purchasing power parity (PPP) index. The PPP exchange rate gives the amount of a national currency that will buy the same basket of goods and services in a given OECD country as that bought by the US dollar in the United States. The PPP exchange rate is used because the market exchange rate is affected by many factors (interest rates, trade policies, expectations of economic growth, etc.) that have little to do with current relative domestic purchasing power in different OECD countries (Annex 2 gives further details).

Data for the financial year 1995 are based on a special survey carried out in 2001 and updated in 2003.

Tables B1.5 and B1.6 show expenditure on educational institutions per student in financial year 1995. The data on expenditure for 1995 were obtained by a special survey conducted in 2001 and updated in 2003. OECD countries were asked to collect the 1995 data according to the definitions and the coverage of the UOE 2003 data collection. All expenditure data, as well as the GDP for 1995, are adjusted to 2001 prices using the GDP price deflator.

Expenditure on education per student relative to GDP per capita is calculated by expressing expenditure on education per student in units of national currency as a percentage of GDP per capita, also in national currency. In cases where the educational expenditure data and the GDP data pertain to different reference periods, the expenditure data are adjusted to the same reference period as the GDP data, using inflation rates for the OECD country in question (see Annex 2).

Expected expenditure over the average duration of tertiary studies (Table B1.3) is calculated by multiplying current annual expenditure by the typical duration of tertiary studies. The methodology used for the estimation of the typical duration of tertiary studies is described in Annex 3 at *www.oecd.org/edu/eag2004*. For the estimation of the duration of tertiary education, data are based on a special survey carried out in OECD countries in 1997.

The ranking of OECD countries by annual expenditure on educational services per student is affected by differences in how countries define full-time, part-time and full-time equivalent enrolment. Some OECD countries count every participant at the tertiary level as a full-time student while others determine a student's intensity of participation by the credits which he or she obtains for successful completion of specific course units during a specified reference period. OECD countries that can accurately account for part-time enrolment will have higher expenditure per full-time equivalent student than OECD countries that cannot differentiate between different modes of student attendance.

Note that data appearing in earlier editions of this publication may not always be comparable to data shown in the 2004 edition due to changes in definitions and coverage that were made as a result of the OECD expenditure comparability study (see Annex 3 at *www.oecd.org/edu/eag2004* for details on changes).

Table B1.1. Annual expenditure on educational institutions per student (2001)

In equivalent US dollars converted using PPPs, by level of education, based on full-time equivalents

				Secondary education				Tertiary education (including R&D activities)				
		Pre-primary education (for children 3 years and older)	Primary education	Lower secondary education	Upper secondary education	All secondary education	Post-secondary non-tertiary education	All tertiary education	Tertiary-type B education	Tertiary-type A and advanced research programmes	All tertiary education excluding R&D activities	Primary to tertiary education
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD COUNTRIES	Australia	m	5 052	7 042	7 587	7 239	6 057	12 688	7 692	13 654	9 200	7 046
	Austria	5 713	6 571	8 316	8 852	8 562	8 240	11 274	9 884	11 382	7 388	8 462
	Belgium	4 062	5 321	x(5)	x(5)	7 912	x(5)	11 589	x(7)	x(7)	8 084	7 548
	Canada	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	2 449	1871	3 245	3 663	3 448	1 607	5 555	2 789	5 907	m	3 169
	Denmark	4 542	7572	7 653	8 531	8 113	x(4,7)	14 280	x(7)	x(7)	10 771	9 075
	Finland	3 640	4 708	7 496	5 938	6 537	x(5)	10 981	4 304	11 143	7 061	6 751
	France	4 323	4 777	7 491	8 884	8 107	6 529	8 837	9 378	8 689	6 965	7 124
	Germany	4 956	4 237	5 366	9 223	6 620	9 460	10 504	5 633	11 306	6 370	6 696
	Greece	x(2)	3 299	x(5)	x(5)	3768	1155	4 280	2 373	5 188	3 534	3 680
	Hungary[1]	2 882	2 592	2 325	2 981	2 633	4135	7 122	3 026	7 266	5 822	3 254
	Iceland	m	6 373	7 123	7 369	7 265	m	7 674	8 067	7 671	m	7 101
	Ireland	4 026	3 743	5 214	5 285	5 245	4783	10 003	x(7)	x(7)	8 086	5 294
	Italy[1]	5 972	6 783	8 558	8 051	8 258	m	8 347	13 456	8 270	5 064	7 839
	Japan	3 478	5 771	6 166	6 880	6 534	x(4,7)	11 164	8 823	11 493	m	7 018
	Korea	1 913	3 714	4 612	5 681	5 159	a	6 618	4 295	8 236	m	5 035
	Luxembourg	x(2)	7 873	x(5)	x(5)	11 091	x(5)	m	m	m	m	m
	Mexico	1 410	1 357	1 342	3 144	1 915	a	4 341	x(7)	x(7)	3538	1 793
	Netherlands	4 228	4 862	6 779	5 911	6 403	5506	12 974	7 380	13 044	8 075	6 733
	New Zealand	m	m	m	m	m	m	m	m	m	m	m
	Norway	8 246	7 404	8 365	9 840	9 040	x(5)	13 189	x(7)	x(7)	m	9 004
	Poland[1]	2 220	2 322	x(2)	2 592	m	2134	3 579	3 341	3 582	2 864	2 573
	Portugal	m	4 181	5 882	6 076	5 976	a	5 199	x(7)	x(7)	m	5 092
	Slovak Republic	1 740	1 252	1 483	2 452	1 874	x(4)	5 285	x(4)	5 285	4 788	2 031
	Spain	3 608	4 168	x(5)	x(5)	5 442	x(5)	7 455	7 280	7 483	5 951	5 385
	Sweden	3 504	6 295	6 285	6 628	6 482	3757	15 188	x(7)	x(7)	8 356	7 612
	Switzerland[1]	3 080	6 889	8 219	13 701	10 916	5910	20 230	6 785	21 815	m	8 795
	Turkey[1]	m	m	a	m	m	a	m	x(7)	x(7)	3 950	m
	United Kingdom	7 595	4 415	x(5)	x(5)	5 933	x(5)	10 753	x(7)	x(7)	8 101	5 972
	United States[2]	8 522	7 560	8 359	9 278	8 779	x(7)	22 234	x(7)	x(7)	20 098	10 871
	Country mean	***4 187***	***4 850***	***5 787***	***6 752***	***6 510***	***3705***	***10 052***	~	~	***7 203***	***6 190***
	OECD total	***4 490***	***4 819***	~	~	***6 688***	~	***12 319***	~	~	***10 724***	***6 821***
PARTNER COUNTRIES	Argentina	1 745	1 655	2 189	2 487	2 306	a	3 775	5 028	3 047	m	2 182
	Brazil[1, 3]	1 044	832	862	870	864	a	m	m	10306	m	m
	Chile[4]	1 766	2 110	2070	2 094	2 085	a	6 901	3 486	7 611	m	2 732
	India	57	405	390	1045	650	m	2 522	x(7)	x(7)	m	m
	Indonesia	73	108	279	396	322	a	1 414	x(7)	x(7)	m	m
	Israel	3 428	4 650	x(5)	x(5)	5 617	4 051	11 494	7 521	12 751	m	6 033
	Jamaica	248	646	904	954	922	1 773	8 028	2 957	16 324	m	m
	Jordan[1]	342	811	834	853	840	m	m	m	m	m	m
	Malaysia[1]	611	1 562	x(5)	x(5)	2 600	7 367	11303	10 996	11 402	m	2 679
	Paraguay	x(2)	802	x(5)	x(5)	1373	m	4 030	2 164	5 003	m	m
	Peru	359	431	528	547	534	m	4 230	m	m	m	m
	Philippines[1]	75	492	456	506	465	m	1 648	x(7)	x(7)	m	m
	Thailand	764	1 045	977	1 185	1 081	m	1 851	2 507	1 744	m	m
	Tunisia[1]	m	2473	x(2)	x(2)	x(2)	a	4 433	x(7)	x(7)	m	m
	Uruguay[1]	1 200	1 202	889	1 243	1 046	a	2 201	x(7)	x(7)	m	1 261
	Zimbabwe[4]	m	878	x(5)	x(5)	1368	a	m	m	m	m	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. Public institutions only.
2. Public and independent private institutions only.
3. Year of reference 2000.
4. Year of reference 2002.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table B1.2. Annual expenditure on educational institutions per student relative to GDP per capita (2001)

By level of education, based on full-time equivalents

		Pre-primary education (for children 3 years and older)	Primary education	Secondary education			Post-secondary non-tertiary education	Tertiary education (including R&D activities)			All tertiary education excluding R&D activities	Primary to tertiary education
				Lower secondary education	Upper secondary education	All secondary education		All tertiary education	Tertiary-type B education	Tertiary-type A and advanced research programmes		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD COUNTRIES	Australia	m	19	26	28	27	23	48	29	51	34	26
	Austria	20	23	29	31	30	29	40	x(7)	x(7)	26	30
	Belgium	15	20	x(5)	x(5)	29	x(5)	43	x(7)	x(7)	30	28
	Canada	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	16	13	22	25	23	11	37	19	40	m	21
	Denmark	16	26	26	29	28	x(4,7)	49	x(7)	x(7)	37	31
	Finland	14	18	28	23	25	x(5)	42	16	42	27	26
	France	16	18	28	33	30	24	33	35	32	26	27
	Germany	19	17	21	36	26	37	41	22	44	25	26
	Greece	x(2)	19	x(5)	x(5)	22	7	25	14	30	21	22
	Hungary[1]	22	20	18	23	20	32	55	23	56	45	25
	Iceland	m	22	25	25	25	m	26	28	26	m	25
	Ireland	13	13	17	18	18	16	34	x(7)	x(7)	27	18
	Italy[1]	24	27	34	32	33	m	33	53	33	m	31
	Japan	13	22	23	26	25	x(4,7)	42	33	43	m	26
	Korea	12	23	29	36	32	a	42	27	52	m	32
	Luxembourg	x(2)	16	x(5)	x(5)	23	x(5)	m	m	m	m	m
	Mexico	15	15	15	34	21	a	47	x(7)	x(7)	39	20
	Netherlands	15	17	24	21	22	19	45	26	45	28	23
	New Zealand	m	m	m	m	m	m	m	m	m	m	m
	Norway	23	20	23	27	25	x(5)	36	x(7)	x(7)	m	25
	Poland[1]	21	22	x(2)	25	m	21	35	32	35	28	25
	Portugal	m	23	33	34	33	a	29	x(7)	x(7)	m	28
	Slovak Republic	15	11	13	22	17	x(4)	47	x(4)	47	42	18
	Spain	17	20	x(5)	x(5)	25	x(5)	35	34	35	28	25
	Sweden	13	23	23	25	24	14	56	x(7)	x(7)	31	28
	Switzerland[1]	10	23	27	46	36	20	67	23	73	m	29
	Turkey[1]	m	m	a	m	m	a	m	x(7)	x(7)	65	m
	United Kingdom	28	17	x(5)	x(5)	22	x(5)	40	x(7)	x(7)	30	22
	United States[2]	24	21	24	26	25	x(7)	63	x(7)	x(7)	57	31
	Country mean	***17***	***20***	***23***	***28***	***26***	***16***	***42***	***28***	***43***	***34***	***26***
PARTNER COUNTRIES	Argentina	15	14	19	21	20	a	32	43	26	m	19
	Brazil[1,3]	16	13	13	14	14	a	m	m	161	m	m
	Chile[4]	18	22	21	22	22	a	71	36	79	m	28
	India	2	14	14	37	23	m	89	x(7)	x(7)	m	m
	Indonesia	3	4	10	14	11	a	49	x(7)	x(7)	m	m
	Israel	16	22	x(5)	x(5)	26	19	54	35	60	m	28
	Jamaica	7	17	24	26	25	48	217	80	442	m	m
	Jordan[1]	9	21	22	23	22	m	m	m	m	m	m
	Malaysia[1]	7	18	x(5)	x(5)	30	85	131	127	132	m	31
	Paraguay	m	15	x(5)	x(5)	26	m	77	41	96	m	m
	Peru	8	9	11	12	12	m	81	m	m	m	m
	Philippines	2	13	12	13	12	m	43	x(7)	x(7)	m	m
	Thailand	13	17	16	20	18	m	31	42	29	m	m
	Tunisia[1]	m	38	x(2)	x(2)	x(2)	a	68	93	x(7)	m	m
	Uruguay	14	14	11	15	12	a	26	x(7)	x(7)	m	15
	Zimbabwe[4]	m	20	x(5)	x(5)	31	a	m	m	m	m	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.

1. Public institutions only.
2. Public and independent private institutions only.
3. Year of reference 2000.
4. Year of reference 2002.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

Table B1.3. Cumulative expenditure on educational institutions per student over the average duration of tertiary studies (2001)

In equivalent US dollars converted using PPPs, by type of programme

	Method[1]	Average duration of tertiary studies (in years)[2]			Cumulative expenditure per student over the average duration of tertiary studies		
		All tertiary education	Tertiary-type B education	Tertiary-type A and advanced research programmes	All tertiary education	Tertiary-type B education	Tertiary-type A and advanced research programmes
		(1)	(2)	(3)	(4)	(5)	(6)
OECD COUNTRIES							
Australia	CM	2.5	1.6	2.6	32 101	12 076	34 954
Austria	AF	5.5	2.8	6.3	62 459	27 873	72 048
Canada	CM	m	m	m	m	m	m
Denmark	AF	4.2	2.1	4.4	59 834	x(4)	x(4)
Finland	CM	4.5	a	4.5	49 972	a	49 972
France	AF	4.7	2.8	5.3	41 372	25 957	46 103
Germany	CM	5.3	2.4	6.5	55 426	13 357	73 488
Greece	AF	5.7	3.5	8.1	24 255	8 270	42 007
Hungary[3]	CM	4.1	2.0	4.1	28 844	6 052	29 426
Iceland	CM	2.7	2.0	2.8	20 566	15 811	21 786
Ireland	CM	3.2	2.2	4.0	32 411	x(4)	x(4)
Italy[3]	CM	5.5	3.3	5.6	45 824	44 002	46 064
Japan	CM	3.8	2.1	4.6	42 970	18 148	52 555
Korea	CM	3.4	2.1	4.2	22 701	8 890	34 756
Mexico	AF	3.4	x(3)	3.4	14 858	x(4)	x(4)
Netherlands	CM	4.9	x(1)	x(1)	63 186	x(4)	x(4)
Norway	CM	m	m	m	m	m	m
Poland[3]	CM	m	m	3.7	m	m	13 184
Spain	AF	4.6	1.5	4.7	33 920	10 841	35 221
Sweden	CM	4.6	2.6	4.7	69 981	x(4)	x(4)
Switzerland[3]	CM	3.6	2.2	5.5	73 320	14 839	118 953
United Kingdom	CM	3.8	x(1)	x(1)	41 209	x(4)	x(4)
Country mean		***4.2***	***2.2***	***4.7***	***42 906***	~	~

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. Either the Chain Method (CM) or an Approximation Formula (AF) was used to estimate the duration of tertiary studies.
2. The duration of tertiary studies is obtained by a special survey conducted in 1997 for the academic year 1995. Data for Austria, Finland, Germany, Greece, Japan, the Netherlands and the United Kingdom have been updated and correspond to the academic year 2002.
3. Public institutions only.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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Table B1.4. Distribution of expenditure on educational institutions compared to number of students enrolled at each level of education (2001)

Percentage

The table shows the distribution of educational expenditure and of students across levels of education. The number of students is adjusted to the financial year.
Example: Reading the first and second columns: In the Czech Republic, 10 % of all expenditure on educational institutions is allocated to pre-primary education whereas 13 % of pupils/students are enrolled at this level of education.

		Pre-primary education (for children 3 years and older)		Primary education		Secondary education						Post-secondary non-tertiary education	
						Lower secondary		Upper secondary		All secondary			
		Proportion of expenditure on educational institutions	Proportion of students enrolled, based on FTEs	Proportion of expenditure on educational institutions	Proportion of students enrolled, based on FTEs	Proportion of expenditure on educational institutions	Proportion of students enrolled, based on FTEs	Proportion of expenditure on educational institutions	Proportion of students enrolled, based on FTEs	Proportion of expenditure on educational institutions	Proportion of students enrolled, based on FTEs	Proportion of expenditure on educational institutions	Proportion of students enrolled, based on FTEs
		(1)		(2)		(3)		(4)		(5)		(6)	
OECD COUNTRIES	Australia	m	m	32	45	25	25	15	14	40	39	2	2
	Austria	9	14	20	25	24	24	22	21	46	45	1	1
	Belgium	9	16	23	31	x(5)	x(5)	x(5)	x(5)	44	40	x(5)	x(5)
	Canada	4	m	x(5)	m	x(5)	m	x(5)	m	55	m	x(8)	m
	Czech Republic	10	13	17	28	24	24	26	22	50	46	1	1
	Denmark	11	21	27	29	15	17	19	18	34	35	x(4,7)	x(4,7)
	Finland	6	11	23	31	18	15	23	25	41	40	x(5)	x(5)
	France	11	17	19	27	26	23	24	18	50	42	n	n
	Germany	11	14	13	21	28	34	23	16	51	50	4	3
	Greece[1]	x(2)	7	27	30	x(5)	17	x(5)	19	36	36	1	2
	Hungary[1]	15	17	18	23	17	24	19	22	36	46	3	3
	Iceland	m	m	m	m	m	m	m	m	m	m	m	m
	Ireland	n	n	32	46	18	19	15	15	33	34	3	4
	Italy[1]	9	12	24	27	20	18	27	26	47	44	1	n
	Japan	4	8	27	34	16	19	19	20	36	39	x(4,7)	a
	Korea	2	5	24	36	14	16	18	17	32	33	a	a
	Luxembourg	m	m	m	m	m	m	m	m	m	m	m	m
	Mexico	9	12	38	50	16	22	18	10	34	32	a	a
	Netherlands	7	11	28	37	23	22	15	17	39	39	n	n
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m
	Norway	10	11	31	40	14	15	20	19	33	34	x(5)	1
	Poland[1]	8	9	50	55	x(2)	x(2)	22	22	m	m	1	1
	Portugal	6	m	30	m	21	m	21	m	42	m	a	a
	Slovak Republic	11	13	15	24	23	32	26	22	50	54	x(4)	x(4)
	Spain	10	14	25	31	x(5)	24	x(5)	14	40	38	x(5)	x(5)
	Sweden	7	15	31	34	15	16	21	22	35	38	n	1
	Switzerland[1]	4	11	29	40	17	20	28	19	45	39	1	1
	Turkey[1]	m	2	m	74	a	a	m	17	m	17	a	a
	United Kingdom	8	7	24	33	x(5)	17	x(5)	33	48	49	x(5)	x(5)
	United States	7	8	27	39	15	19	14	16	29	35	x(7)	a
	Country mean	***8***	***11***	***26***	***35***	***18***	***20***	***21***	***20***	***41***	***39***	***1***	***1***
PARTNER COUNTRIES	Argentina	7	9	31	44	20	22	15	14	35	35	a	a
	Brazil[1,2]	9	9	32	41	26	32	13	16	39	48	a	a
	Chile[3]	7	10	33	41	11	14	18	23	29	37	a	a
	India	1	9	39	53	14	20	26	14	40	34	a	a
	Indonesia	1	3	25	59	21	19	18	11	39	31	a	a
	Israel	10	17	30	39	x(5)	13	x(5)	17	27	30	n	1
	Jamaica	5	18	28	43	18	20	10	11	28	30	9	5
	Jordan[1]	n	n	51	52	34	34	15	14	49	48	n	n
	Malaysia[1]	1	5	30	52	x(5)	x(5)	x(5)	x(5)	36	37	1	n
	Paraguay	2	x(2)	46	67	x(5)	x(5)	x(5)	x(5)	32	27	m	m
	Peru	8	13	37	50	18	20	9	9	27	29	m	3
	Philippines[1]	n	1	61	69	17	21	4	5	21	25	m	m
	Thailand	11	m	34	m	9	m	11	m	20	m	m	m
	Tunisia[1]	m	m	78	49	x(2)	24	x(2)	16	x(2)	39	a	a
	Uruguay[1]	11	11	39	41	14	20	16	16	30	36	a	a
	Zimbabwe[3]	2	m	64	74	x(5)	13	x(5)	13	34	26	n	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. Public institutions only.
2. Year of reference 2000.
3. Year of reference 2002.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Table B1.4. *(continued)* **Distribution of expenditure on educational institutions compared to number of students enrolled at each level of education (2001)**

Percentage

	Tertiary education (including R&D activities)									
	All tertiary education		Tertiary-type B education		Tertiary-type A and advanced research programmes		Not allocated by level		All levels of education	
	Proportion of expenditure on educational institutions	Proportion of students enrolled, based on FTEs	Proportion of expenditure on educational institutions	Proportion of students enrolled, based on FTEs	Proportion of expenditure on educational institutions	Proportion of students enrolled, based on FTEs	Proportion of expenditure on educational institutions	Proportion of students enrolled, based on FTEs	Proportion of expenditure on educational institutions	Proportion of students enrolled, based on FTEs
	(7)		(8)		(9)		(10)		(11)	
OECD COUNTRIES										
Australia	26	15	3	2	24	12	n	n	100	100
Austria	21	15	1	1	19	14	3	n	100	100
Belgium	22	13	x(7)	x(7)	x(7)	x(7)	2	n	100	100
Canada	41	m	17	m	24	m	a	m	100	m
Czech Republic	19	11	1	1	18	10	3	a	100	100
Denmark	26	15	x(7)	x(7)	x(7)	x(7)	2	a	100	100
Finland	30	17	n	n	29	17	n	n	100	100
France	18	14	4	3	14	11	1	a	100	100
Germany	20	12	2	2	18	11	1	n	100	100
Greece[1]	29	25	5	8	24	17	7	a	100	100
Hungary[1]	23	11	n	n	23	10	5	a	100	100
Iceland	m	m	m	m	m	m	m	m	m	m
Ireland	30	16	x(7)	x(7)	x(7)	x(7)	1	n	100	100
Italy[1]	19	17	n	n	19	17	n	a	100	100
Japan	23	15	2	2	21	13	10	4	100	100
Korea	32	27	9	11	23	16	11	a	100	100
Luxembourg	m	m	m	m	m	m	m	m	m	m
Mexico	17	7	x(7)	n	x(7)	7	2	a	100	100
Netherlands	26	13	n	n	26	13	a	m	100	100
New Zealand	m	m	m	m	m	m	m	m	m	m
Norway	21	15	x(7)	1	x(7)	14	5	a	100	100
Poland[1]	19	14	n	n	19	13	1	a	100	100
Portugal	19	m	x(7)	m	x(7)	m	3	m	100	m
Slovak Republic	22	8	x(4)	x(4)	22	8	3	a	100	100
Spain	25	17	3	2	21	15	a	a	100	100
Sweden	26	12	x(7)	n	x(7)	12	a	a	100	100
Switzerland[1]	21	10	1	1	20	9	1	n	100	100
Turkey[1]	m	8	x(7)	2	x(7)	6	a	a	m	100
United Kingdom	20	11	x(7)	3	x(7)	9	a	a	100	100
United States	37	18	x(7)	x(7)	x(7)	x(7)	a	a	100	100
Country mean	***24***	***14***	***3***	***2***	***21***	***12***	***2***	***n***	***100***	***100***
PARTNER COUNTRIES										
Argentina	19	12	9	4	10	7	9	a	100	100
Brazil[1,2]	20	2	x(7)	x(7)	x(7)	x(7)	a	a	100	100
Chile[3]	31	12	3	2	28	10	a	a	100	100
India	19	4	x(7)	x(7)	x(7)	x(7)	a	a	100	100
Indonesia	35	6	x(7)	x(7)	x(7)	x(7)	a	a	100	100
Israel	23	13	4	3	20	10	10	a	100	100
Jamaica	30	4	7	2	23	1	a	a	100	100
Jordan[1]	m	m	m	m	a	m	a	a	100	100
Malaysia[1]	29	7	5	1	23	5	3	n	100	100
Paraguay	20	6	4	2	16	4	a	a	100	100
Peru	28	4	6	4	22	5	a	a	100	100
Philippines[1]	14	5	a	a	14	4	2	a	100	100
Thailand	19	m	4	m	16	m	16	m	100	m
Tunisia[1]	22	8	x(7)	6	x(7)	n	a	4	100	100
Uruguay[1]	20	11	x(7)	3	x(7)	9	a	a	100	100
Zimbabwe[3]	m	m	m	m	m	m	a	a	100	100

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.

1. Public institutions only.
2. Year of reference 2000.
3. Year of reference 2002.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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Table B1.5. Change in expenditure on educational institutions per student relative to different factors, by level of education (1995, 2001)

Index of change between 1995 and 2001 (1995 = 100, 2001 constant prices)

OECD COUNTRIES	Primary, secondary and post-secondary non-tertiary education: Change in expenditure	Change in the number of students	Change in expenditure per student		Tertiary education: Change in expenditure	Change in the number of students	Change in expenditure per student
Australia	141	107	131	Australia	113	118	96
Austria	103	m	m	Austria	115	106	109
Belgium	m	m	m	Belgium	m	m	m
Canada	101	m	m	Canada[6]	122	m	m
Czech Republic	91	95	96	Czech Republic	103	162	63
Denmark[1]	126	104	121	Denmark[1]	128	103	124
Finland	118	108	109	Finland	113	113	101
France	111	97	114	France	111	98	113
Germany	107	104	103	Germany	106	95	111
Greece[2,4]	134	93	144	Greece[2]	216	165	131
Hungary[3]	107	93	115	Hungary[3]	145	158	92
Iceland	m	m	m	Iceland	m	m	m
Ireland	136	94	145	Ireland	170	123	139
Italy[2,3]	110	98	112	Italy[3]	126	105	120
Japan[1]	105	87	122	Japan[1]	119	102	117
Korea	m	92	m	Korea	m	m	m
Luxembourg	m	m	m	Luxembourg	m	m	m
Mexico	136	109	125	Mexico	122	136	90
Netherlands	129	103	124	Netherlands	110	105	105
New Zealand[2]	141	m	m	New Zealand[2]	101	m	m
Norway[2,4,5]	107	113	94	Norway[2]	98	104	94
Poland[2,3]	140	89	157	Poland[2,3]	161	181	89
Portugal	137	83	166	Portugal	145	130	111
Slovak Republic	108	94	115	Slovak Republic	149	148	101
Spain[2]	107	83	129	Spain	147	111	133
Sweden	123	119	103	Sweden	128	127	101
Switzerland[2,3]	107	107	100	Switzerland[2,3]	133	104	128
Turkey[2,3]	166	113	147	Turkey[3]	174	110	159
United Kingdom	121	115	106	United Kingdom	108	112	96
United States	127	111	114	United States	121	111	109

1. Post-secondary non-tertiary included in both upper secondary and tertiary education.
2. Public expenditure only.
3. Public institutions only.
4. Pre-primary included in primary, secondary and post-secondary non-tertiary education.
5. The decline in expenditure per student is due to a substantial change in the GDP deflator caused primarily by an increase in oil prices.
6. Tertiary education includes only tertiary-type A and advanced research programmes.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

Table B1.6. Change in expenditure on educational institutions per student and national income, by level of education (1995, 2001)

In equivalent US dollars converted using PPPs (2001 constant prices and 2001 constant PPPs)

	1995			2001		
	Expenditure per student			Expenditure per student		
OECD COUNTRIES	Primary, secondary and post-secondary non-tertiary education	Tertiary education	GDP per capita	Primary, secondary and post-secondary non-tertiary education	Tertiary education	GDP per capita
Australia	4 846	13 897	23 135	6 063	12 688	26 685
Austria	m	10 341	24 889	7 852	11 274	28 372
Belgium	m	m	23 868	6 781	11 589	27 096
Canada	m	m	24 826	m	m	29 290
Czech Republic	2 927	8 785	13 426	2 819	5 555	14 861
Denmark	6 515	11 499	25 830	7 865	14 280	29 223
Finland	5 238	10 900	20 992	5 733	10 981	26 344
France	5 938	7 801	23 580	6 783	8 837	26 818
Germany	5 820	9 698	23 279	6 055	10 504	25 456
Greece	2 409	3 264	14 199	3 475	4 280	17 020
Hungary[1]	2 335	7 767	10 171	2 677	7 122	13 043
Iceland	m	m	23 564	7 010	7 674	29 036
Ireland	3 042	7 223	18 802	4 397	10 003	29 821
Italy[1]	6 577	5 621	22 889	7 714	8 347	25 377
Japan	5 134	9 691	25 092	6 179	11 164	26 636
Korea	m	m	12 780	4 406	6 618	15 916
Luxembourg	m	m	37 220	11 091	m	49 229
Mexico	1 263	4 821	7 737	1 575	4 341	9 148
Netherlands	4 548	12 311	24 503	5 654	12 974	28 711
New Zealand	m	m	19 053	m	m	21 230
Norway[2]	8 425	14 087	31 146	8 109	13 189	36 587
Poland[1]	1 528	4 023	7 682	2 396	3 579	10 360
Portugal	3 052	4 664	14 939	5 065	5 199	17 912
Slovak Republic	1 467	5 250	8 987	1 681	5 285	11 323
Spain	3 775	5 624	17 637	4 870	7 455	21 347
Sweden	6 180	m	22 846	6 372	15 188	26 902
Switzerland[1]	8 844	15 802	27 537	8 844	20 230	30 036
Turkey[1]	m	m	5 994	m	m	6 046
United Kingdom	4 941	10 981	23 006	5 324	10 753	26 715
United States	7 034	20 207	30 753	8 144	22 234	35 179

1. Public institutions only.
2. The decline in expenditure per student between 1995 and 2001 is due to a substantial change in the GDP deflator caused primarily by an increase in oil prices.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

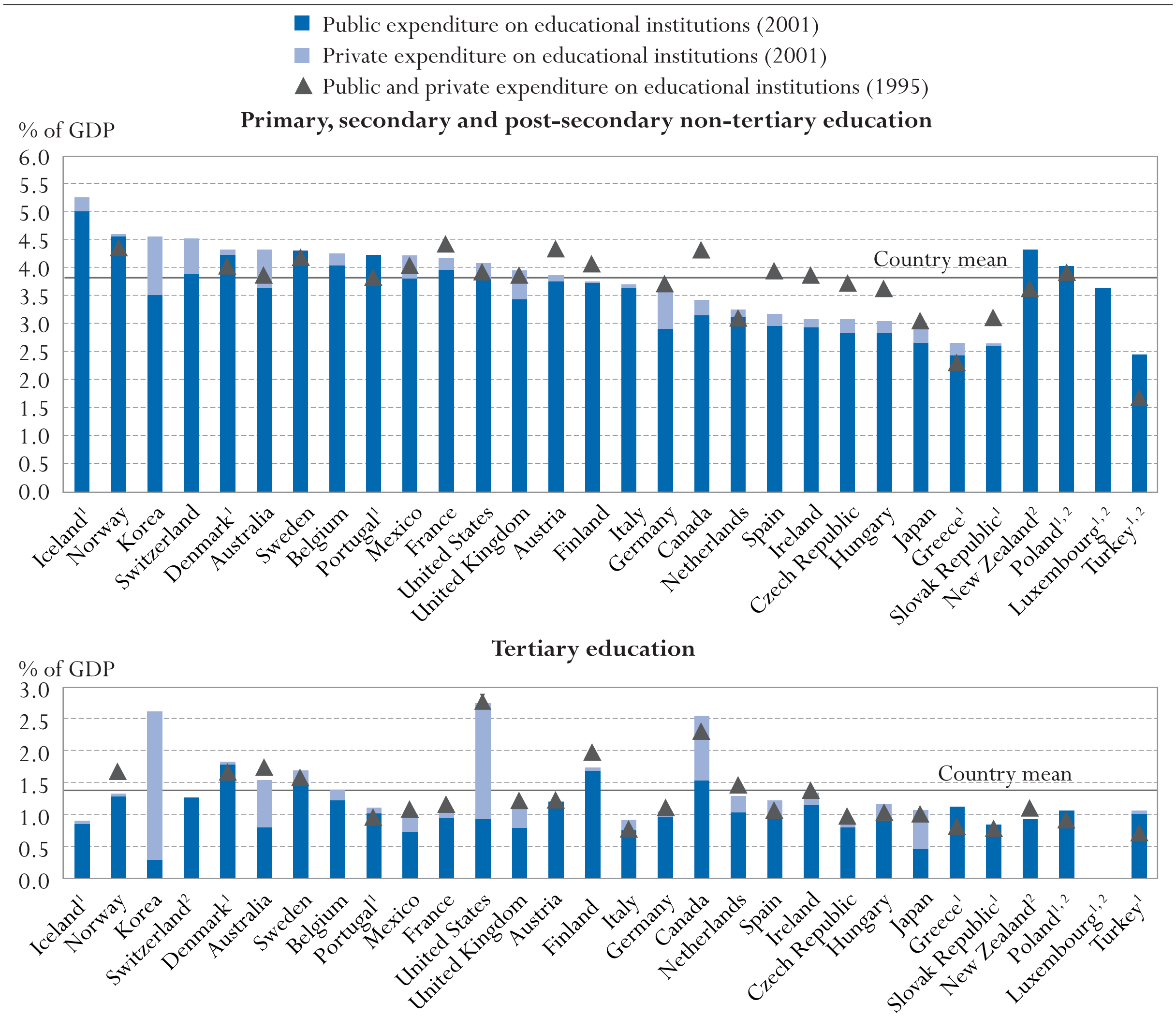
B1

INDICATOR B2: EXPENDITURE ON EDUCATIONAL INSTITUTIONS RELATIVE TO GROSS DOMESTIC PRODUCT

- OECD countries spend 6.2% of their collective GDP on their educational institutions.
- In 17 out of 18 OECD countries for which data are available, public and private spending on educational institutions increased by more than 5% between 1995 and 2001; in contrast to trends in the early 1990s, increases in spending on educational institutions tended to fall behind the growth in national income.
- Two-thirds of expenditure on educational institutions, or 3.8% of combined OECD GDP, are devoted to primary, secondary and post-secondary non-tertiary education. Canada, Korea and the United States spend more than 2% of their GDP on tertiary education.

Chart B2.1. Expenditure on educational institutions as a percentage of GDP (1995, 2001)

From public and private sources, by level of education, source of funds and year



1. Public subsidies included in private expenditure.
2. Private expenditure on educational institutions is missing.

Countries are ranked in descending order of expenditure from both public and private sources on educational institutions in 2001 in primary, secondary and post-secondary non-tertiary education. Countries presenting public expenditure only are ranked separately.

Source: OECD. Table B2.1b. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Policy context

This indicator provides a measure of the relative proportion of a nation's wealth that is invested in educational institutions.

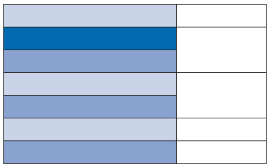
Expenditure on education is an investment that can help to foster economic growth, enhance productivity, contribute to personal and social development, and reduce social inequality. Relative to gross domestic product, expenditure on education shows the priority given to education in a country in terms of allocating its overall resources. The proportion of total financial resources devoted to education is one of the key choices made in each OECD country; this is an aggregate choice made by government, enterprise and individual students and their families. If the social and private returns on the investment in education are sufficiently large, there is an incentive for enrolment to expand and total investment to increase.

It also includes a comparative review of changes in educational investment over time.

In appraising how much is spent on education, governments must assess demands for increased spending in areas such as teachers' salaries and educational facilities. This indicator can provide a point of reference as it shows how the volume of educational spending, relative to the size of national wealth and in absolute terms, has evolved over time in various OECD countries.

Evidence and explanations

What this indicator covers and what it does not cover



Coverage diagram (see page 197 for explanations)

This indicator covers expenditure on schools, universities and other public and private institutions involved in delivering or supporting educational services. Expenditure on institutions is not limited to expenditure on instructional services but also includes public and private expenditure on ancillary services for students and families, where these services are provided through educational institutions. At the tertiary level, spending on research and development can also be significant and is included in this indicator, to the extent that the research is performed by educational institutions.

Not all spending on educational goods and services occurs within educational institutions. For example, families may purchase textbooks and materials commercially or seek private tutoring for their children outside educational institutions. At the tertiary level, student living costs and forgone earnings can also account for a significant proportion of the costs of education. All such expenditure outside educational institutions is excluded from this indicator, even if it is publicly subsidised. Public subsidies for educational expenditure outside institutions are discussed in Indicators B4 and B5.

Overall investment relative to GDP

As a whole, OECD countries spend 6.2% of their combined GDP on their educational institutions.

All OECD countries invest a substantial proportion of national resources in education. Taking into account both public and private sources of funds, OECD countries as a whole spend 6.2% of their collective GDP on their educational institutions at the pre-primary, primary, secondary and tertiary levels. Under current conditions of tight constraints on public budgets, such a large spending item is subject to close scrutiny by governments looking for ways to reduce or limit the growth of expenditure.

The highest spending on educational institutions can be observed in Denmark, Korea and the United States, with more than 7% of GDP accounted for by public and private spending on educational institutions, followed by Belgium, Canada, Iceland, Norway and Sweden with more than 6%. Nine out of 28 OECD countries for which data are available, however, spend less than 5% of GDP on educational institutions, and in Greece, Luxembourg, the Slovak Republic and Turkey this figure is only between 3.5 and 4.1% (Table B2.1a).

The national resources devoted to education depend on a number of inter-related factors of supply and demand.

Many factors influence the relative position of OECD countries on this indicator. For example, OECD countries with high spending levels may be enrolling larger numbers of students, while countries with low spending levels may either be limiting access to higher levels of education or delivering educational services in a particularly efficient manner. The distribution of enrolments among sectors and fields of study may also differ, as may the duration of studies and the scale and organisation of related educational research. Finally, large differences in GDP among OECD countries imply that similar percentages of GDP spent on education can translate into very different absolute amounts per student (see Indicator B1).

Changes in overall educational spending between 1995 and 2001

In 17 out of 18 OECD countries, public and private spending on educational institutions increased by more than 5% between 1995 and 2001…

In 17 out of the 18 OECD countries for which comparable trend data are available, public and private investment in education increased by 5% or more between 1995 and 2001 in real terms. Australia, Denmark, Mexico, the Netherlands, Portugal, Sweden and the United States increased expenditure on education by between 20 and 40%, and Ireland increased spending by more than 40%. The trend is similar when public investment is considered separately: direct public expenditure on institutions and public subsidies to households designated for educational institutions rose by 5% or more in 24 out of 26 OECD countries for which data are available between 1995 and 2001. Greece, New Zealand, Poland and Turkey, for which no data on private spending are available, showed considerable growth in public spending on educational institutions (Table B2.2).

…but increases in spending on education tended to fall behind the growth in national income over the same period.

In 6 out of the 9 OECD countries that provide 1990, 1995 and 2001 data, spending on educational institutions grew faster than GDP during the first half of the 1990s, leading to an increase in average spending on educational institutions from 5.5% in 1990 to 5.6% of GDP in 1995 (Table B2.1a). The trend began to reverse in the second half of the 1990s. Spending on educational institutions increased between 1995 and 2001 in real terms but tended to lag behind growth in GDP between 1995 and 2001. Thirteen OECD countries out of 22 for which data are available showed a decrease in the proportion of GDP devoted to educational institutions over this period. Most notable are Canada, the Czech Republic, Ireland and Norway where the proportion of GDP spent on education decreased by more than 0.7 percentage points (Table B2.1a).

While the strong growth of GDP in Ireland hides significant increases in spending on educational institutions when spending on education is considered as a proportion of GDP, education in the Czech Republic did not benefit significantly from growth in GDP. Both countries were already among the OECD countries spending a lower proportion of GDP on education in 1995 and have now fallen further behind (Table B2.1a).

Expenditure on educational institutions by level of education

Countries differ markedly in their investment in pre-primary educational institutions.

High overall spending on education does not necessarily translate into a high level of spending at all levels of education. Differences in spending on educational institutions are most striking at the pre-primary level of education. Here, spending ranges from less than 0.2% of GDP in Australia, Ireland and Korea, to 0.7% or more in Denmark, France and Hungary (Table B2.1c). Differences at the pre-primary level can be explained mainly by participation rates among younger children (see Indicator C1).

Investing in early childhood education is of key importance in order to build a strong foundation for lifelong learning and to ensure equitable access to learning opportunities later in school. However, high-quality early childhood education and care are not only provided by the educational institutions covered by this indicator. Inferences on access to and quality of early childhood education and care should therefore be made with caution.

Two-thirds of expenditure on educational institutions are devoted to primary, secondary and post-secondary non-tertiary education.

Because of the largely universal enrolment at the primary and lower secondary levels of education in OECD countries, and the high participation rates in upper secondary education (see Indicators C1 and C2), these levels account for the bulk of expenditure on educational institutions, 3.8% of the combined OECD GDP (Chart B2.1). At the same time, significantly higher spending on education per student at the upper secondary and tertiary levels of education causes the overall investment in these levels to be higher than enrolment numbers alone would suggest. One-quarter of combined OECD expenditure on educational institutions is accounted for by tertiary education.

Canada, Korea and the United States spend more than 2% of their GDP on tertiary education.

Canada, Korea and the United States spend 2.5, 2.7 and 2.7%, respectively, of their GDP on tertiary institutions (Chart B2.1). This accounts for more than one-third of all of their expenditure on educational institutions. Australia, Denmark, Finland and Sweden also show high spending levels, with 1.5% or more of GDP devoted to tertiary institutions. On the other hand, France, Iceland, Mexico, Portugal and Switzerland spend slightly below the average proportion of GDP on tertiary institutions but are among the OECD countries with the highest proportion of GDP spent on primary, secondary and post-secondary non-tertiary education. In Switzerland, a moderate proportion of GDP spent on tertiary institutions translates into one of the highest levels of spending per tertiary student, because of a comparatively low tertiary enrolment rate and a high level of GDP (Tables B2.1b and B1.3).

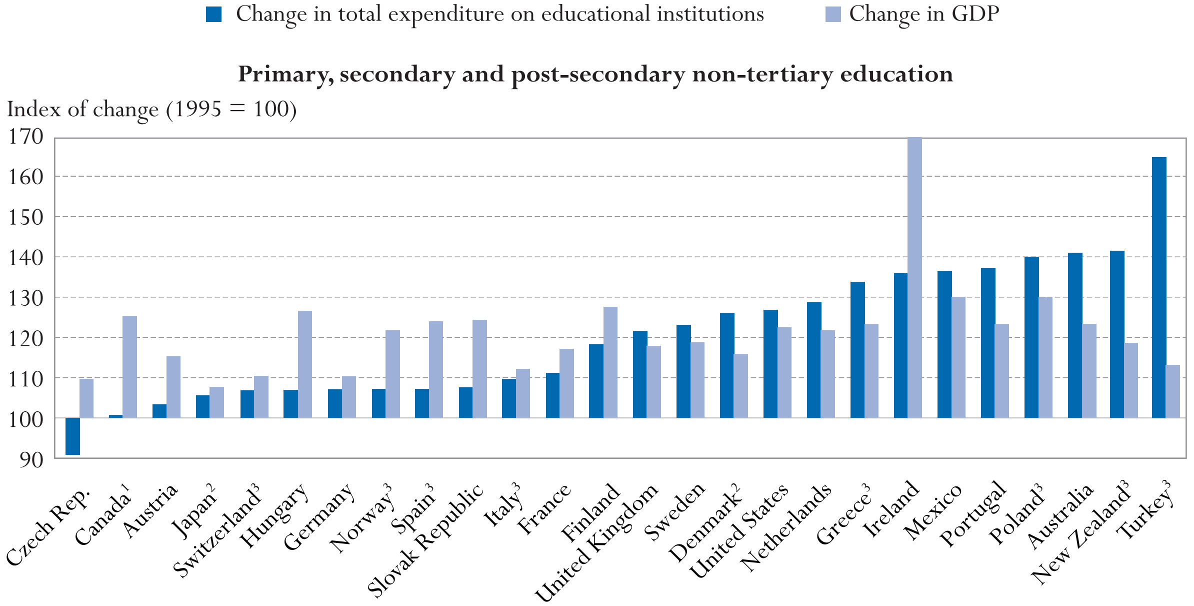
While some OECD countries have increased spending at all levels of education, others have focused spending increases on specific levels.

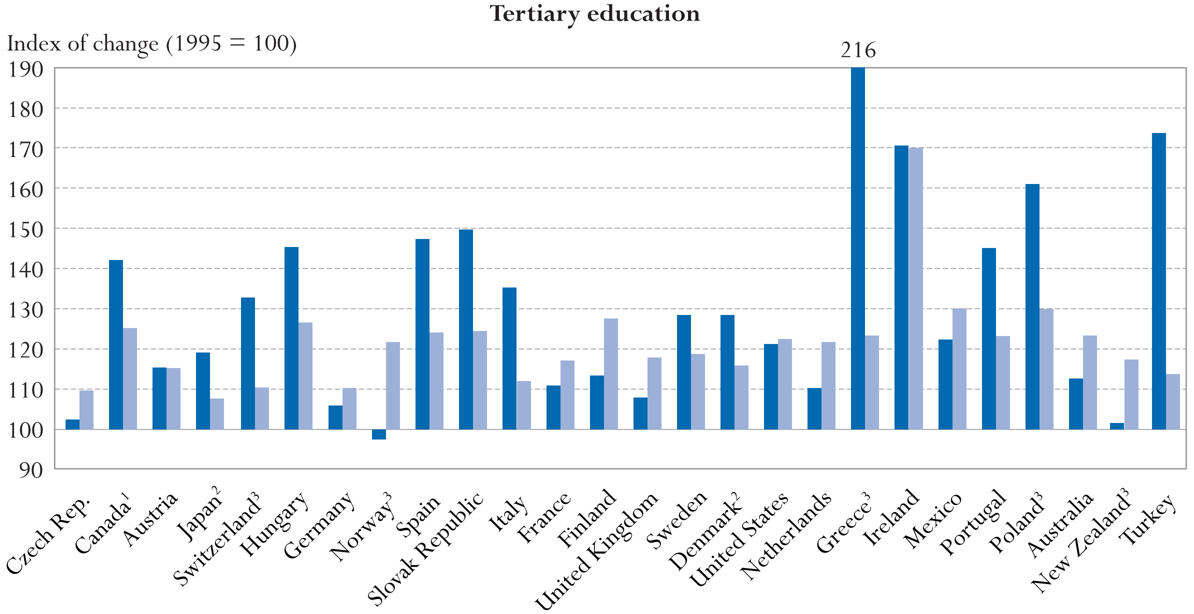
Countries vary in the levels of education at which spending has increased. Denmark, Finland, France, Germany, Portugal, Sweden, Turkey and the United States – OECD countries with a comparably high increase in absolute spending on educational institutions between 1995 and 2001 – invested additional resources in similar proportions in primary, secondary and post-secondary

B2

Chart B2.2. Change in expenditure on educational institutions from public and private sources and in GDP (1995, 2001)

Index of change between 1995 and 2001 (1995 = 100, 2001 constant prices)





1. Tertiary education includes only tertiary-type A and advanced research programmes.
2. Post-secondary non-tertiary included in both upper secondary and tertiary education.
3. Public expenditure only.

Countries are ranked in ascending order of change in total expenditure on educational institutions in primary, secondary and post-secondary non-tertiary education between 1995 and 2001.

Source: OECD. Table B2.2 and Annex 2. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

non-tertiary and tertiary education combined (Chart B2.2 and Table B2.2). Australia, Mexico, the Netherlands, New Zealand and the United Kingdom invested most of the increases between 1995 and 2001 into primary, secondary and post-secondary non-tertiary education. Conversely, in Canada, Greece, Hungary, Ireland, Poland, the Slovak Republic, Spain and Switzerland, spending on tertiary education increased by more than 20% between 1995 and 2001, while spending on lower levels increased much more slowly (Chart B2.2).

Important factors influencing national expenditure on education

The national resources devoted to education depend on a number of inter-related factors of supply and demand, such as the demographic structure of the population, enrolment rates, income per capita, national levels of teachers' salaries and the organisation and delivery of instruction.

The larger the number of young people, the greater the potential demand for educational services.

The size of the school-age population in a particular country (see Indicator A1 in the 2001 edition of *Education at a Glance*) shapes the potential demand for initial education and training. The larger the number of young people, the greater the potential demand for educational services. Among OECD countries of comparable national income, a country with a relatively large youth population will have to spend a higher percentage of its GDP on education so that each young person in that country has the opportunity to receive the same quantity of education as young people in other OECD countries. Conversely, if the youth population is relatively small, the same country will be required to spend less of its wealth on education in order to achieve similar results.

The higher the enrolment rate, the more financial resources will be required.

Although OECD countries generally have little control over the size of their youth populations, the proportion of students participating at various levels of education is indeed a central policy issue. Variations in enrolment rates among OECD countries reflect differences in the demand for education, from pre-primary to tertiary education, as well as the supply of programmes at all levels. Indicator C1 shows that the number of years that a 5-year-old child can expect to spend in education ranges from 13 to 21 among OECD countries. The variation in expected years in tertiary education is even wider, from one year in Mexico to more than four years in Finland (Indicator C2).

Definitions and methodologies

Data refer to the financial year 2001 and are based on the UOE data collection on education statistics administered by the OECD in 2003 (for details see Annex 3).

Expenditure on educational institutions, as covered by this indicator, includes expenditure on instructional educational institutions as well as expenditure on non-instructional educational institutions. *Instructional educational institutions* are educational institutions which directly provide instructional programmes (*i.e.,* teaching) to individuals in an organised group setting or through distance education. Business enterprises or other institutions providing short-term courses of training or instruction to individuals on a "one-to-one" basis are not included. *Non-instructional educational institutions* provide administrative, advisory or professional services to other educational institutions, although they do not enrol students themselves. Examples include national, state, and provincial ministries or departments of education; other bodies that administer education at various levels of government or analogous bodies in the private sector; and organisations that provide such education-related services as vocational or psychological counselling, placement, testing, financial aid to students, curriculum development, educational research, building operations and maintenance services, transportation of students, and student meals and housing.

This broad definition of institutions ensures that expenditure on services, which are provided in some OECD countries by schools and universities and in others by agencies other than schools, is covered on a comparable basis.

The distinction by source of funds is based on the initial source of funds and does not reflect subsequent public-to-private or private-to-public transfers. For this reason, subsidies to households and other entities, such as subsidies for tuition fees and other payments to educational institutions, are included in public expenditure in this indicator. Payments from households and other private entities to educational institutions include tuition and other fees, net of offsetting public subsidies. A detailed discussion of public subsidies can be found in Indicator B5.

Data for the financial year 1995 are based on a special survey carried out in 2001 and updated in 2003.

Tables B2.1a, B2.1b and B2.2 show expenditure on educational institutions for the financial year 1995. The data on expenditure for 1995 were obtained by a special survey in 2001 and updated in 2003; expenditure for 1995 was adjusted to methods and definitions used in the 2003 UOE data collection.

Data for 1995 are expressed in 2001 price levels.

Chart B2.2 and Table B2.2 present an index of change in expenditure on institutions and GDP between 1995 and 2001. All expenditure, as well as 1995 GDP, is adjusted to 2001 prices using the GDP deflator.

For comparisons over time, the country mean accounts only for those OECD countries for which data are available for all reported reference years.

Note that data appearing in earlier editions of this publication may not always be comparable to data shown in the 2004 edition due to changes in definitions and coverage that were made as a result of the OECD expenditure comparability study (see Annex 3 at *www.oecd.org/edu/eag2004* for details on changes).

Table B2.1a. Expenditure on educational institutions as a percentage of GDP for all levels of education (1990, 1995, 2001)

From public and private sources, by source of funds and year

		2001			1995			1990		
		Public[1]	Private[2]	Total	Public[1]	Private[2]	Total	Public[1]	Private[2]	Total
OECD COUNTRIES	Australia	4.5	1.4	6.0	4.5	1.2	5.7	4.2	0.8	5.0
	Austria	5.6	0.2	5.8	5.9	0.3	6.2	m	m	m
	Belgium	6.0	0.4	6.4	m	m	m	m	m	m
	Canada	4.9	1.3	6.1	6.2	0.8	7.0	m	m	m
	Czech Republic	4.2	0.4	4.6	4.7	0.7	5.4	m	m	m
	Denmark[3]	6.8	0.3	7.1	6.1	0.2	6.3	m	m	m
	Finland	5.7	0.1	5.8	6.2	x	6.3	m	m	m
	France	5.6	0.4	6.0	5.9	0.4	6.3	5.1	0.5	5.7
	Germany	4.3	1.0	5.3	4.5	1.0	5.5	m	m	m
	Greece[3]	3.8	0.2	4.1	3.1	n	3.2	m	m	m
	Hungary	4.6	0.6	5.2	4.9	0.6	5.5	m	m	m
	Iceland[3]	6.1	0.6	6.7	m	m	m	m	m	m
	Ireland	4.1	0.3	4.5	4.7	0.5	5.3	m	m	m
	Italy	4.9	0.4	5.3	4.7	m	m	m	m	m
	Japan	3.5	1.2	4.6	3.5	1.1	4.6	m	m	m
	Korea	4.8	3.4	8.2	m	m	m	m	m	m
	Luxembourg[3]	3.6	n	3.6	m	m	m	m	m	m
	Mexico	5.1	0.8	5.9	4.6	1.0	5.6	m	m	m
	Netherlands	4.5	0.4	4.9	4.5	0.4	4.9	m	m	m
	New Zealand	5.5	m	m	4.8	m	m	m	m	m
	Norway	6.1	0.2	6.4	6.8	0.4	7.1	8.1	m	m
	Poland[3]	5.6	m	m	5.7	m	m	m	m	m
	Portugal[3]	5.8	0.1	5.9	5.3	n	5.3	m	m	m
	Slovak Republic[3,4]	4.0	0.1	4.1	4.6	0.1	4.7	4.8	0.3	5.1
	Spain	4.3	0.6	4.9	4.5	0.9	5.4	4.4	0.7	5.1
	Sweden	6.3	0.2	6.5	6.1	0.1	6.2	5.1	n	5.1
	Switzerland	5.4	m	m	5.4	m	m	m	m	m
	Turkey[3]	3.5	n	3.5	2.3	n	2.3	2.8	m	2.8
	United Kingdom	4.7	0.8	5.5	4.8	0.7	5.5	4.2	0.1	4.3
	United States	5.1	2.3	7.3	5.0	2.2	7.2	4.9	2.2	7.1
	Country mean	***5.0***	***0.7***	***5.6***	~	~	~	~	~	~
	OECD total	***4.8***	***1.4***	***6.2***	~	~	~	~	~	~
	Country mean for countries with 1990, 1995 and 2001 data (9 countries)	***4.9***	***0.7***	***5.6***	***4.9***	***0.7***	***5.6***	***4.9***	***0.7***	***5.5***
PARTNER COUNTRIES	Argentina[3]	4.8	1.4	6.2	m	m	m	m	m	m
	Brazil[3,5]	4.1	m	m	m	m	m	m	m	m
	Chile[6]	4.3	3.2	7.5	m	m	m	m	m	m
	India[5]	4.0	0.2	4.2	m	m	m	m	m	m
	Indonesia[3,4]	1.3	0.7	2.0	m	m	m	m	m	m
	Israel	7.1	1.5	8.6	8.5	1.9	10.3	m	m	m
	Jamaica	6.2	5.1	11.3	m	m	m	m	m	m
	Jordan	4.3	m	m	m	m	m	m	m	m
	Malaysia[3]	7.2	m	m	m	m	m	m	m	m
	Paraguay	4.5	2.1	6.6	m	m	m	m	m	m
	Peru[3]	2.9	1.3	4.2	m	m	m	m	m	m
	Philippines	3.2	2.2	5.4	m	m	m	m	m	m
	Russian Federation	3.0	m	m	m	m	m	m	m	m
	Thailand[3]	4.5	0.2	4.8	m	m	m	m	m	m
	Tunisia[3]	6.8	m	m	m	m	m	m	m	m
	Uruguay[3,4]	3.2	0.2	3.4	m	m	m	m	m	m
	Zimbabwe[3,6]	5.6	m	m	m	m	m	m	m	m

1. Including public subsidies to households attributable for educational institutions. Including direct expenditure on educational institutions from international sources.
2. Net of public subsidies attributable for educational institutions.
3. Public subsidies to households not included in public expenditure, but in private expenditure.
4. Direct expenditure on educational institutions from international sources exceeds 1.5% of all public expenditure.
5. Year of reference 2000.
6. Year of reference 2002.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table B2.1b. Expenditure on educational institutions as a percentage of GDP, by level of education (1995, 2001)

From public and private sources, by source of funds and year

		Primary, secondary and post-secondary non-tertiary education				Tertiary education			
		2001			1995	2001			1995
		Public[1]	Private[2]	Total	Total	Public[1]	Private[2]	Total	Total
OECD COUNTRIES	Australia	3.6	0.7	4.3	3.9	0.8	0.7	1.5	1.7
	Austria	3.8	0.1	3.9	4.3	1.2	n	1.2	1.2
	Belgium[3]	4.0	0.2	4.2	m	1.2	0.2	1.4	m
	Canada[4]	3.1	0.3	3.4	4.3	1.5	1.0	2.5	2.3
	Czech Republic[3]	2.8	0.2	3.1	3.7	0.8	0.1	0.9	1.0
	Denmark[5, 6]	4.2	0.1	4.3	4.0	1.8	n	1.8	1.6
	Finland	3.7	n	3.7	4.0	1.7	n	1.7	1.9
	France	4.0	0.2	4.2	4.4	1.0	0.1	1.1	1.1
	Germany	2.9	0.7	3.6	3.7	1.0	0.1	1.0	1.1
	Greece[5]	2.4	0.2	2.7	2.3	1.1	n	1.1	0.8
	Hungary	2.8	0.2	3.1	3.6	0.9	0.3	1.2	1.0
	Iceland[5]	5.0	0.2	5.2	m	0.9	n	0.9	m
	Ireland[3]	2.9	0.1	3.1	3.9	1.1	0.2	1.3	1.3
	Italy	3.6	0.1	3.7	m	0.8	0.2	0.9	0.8
	Japan[6]	2.7	0.2	2.9	3.0	0.5	0.6	1.1	1.0
	Korea	3.5	1.0	4.6	m	0.4	2.3	2.7	m
	Luxembourg[5]	3.6	n	3.6	m	m	a	m	m
	Mexico	3.8	0.4	4.2	4.0	0.7	0.3	1.0	1.1
	Netherlands	3.1	0.1	3.3	3.1	1.0	0.3	1.3	1.4
	New Zealand	4.3	m	m	3.6	0.9	m	m	1.1
	Norway	4.6	n	4.6	4.3	1.3	n	1.3	1.7
	Poland[5]	4.0	m	m	3.9	1.1	m	m	0.9
	Portugal[5]	4.2	n	4.2	3.8	1.0	0.1	1.1	0.9
	Slovak Republic[3, 5]	2.6	n	2.7	3.1	0.8	0.1	0.9	0.8
	Spain	3.0	0.2	3.2	3.9	1.0	0.3	1.2	1.0
	Sweden[3]	4.3	n	4.3	4.2	1.5	0.2	1.7	1.6
	Switzerland	3.9	0.6	4.5	m	1.3	m	m	m
	Turkey[5]	2.5	m	m	1.7	1.0	n	1.1	0.7
	United Kingdom	3.4	0.5	3.9	3.9	0.8	0.3	1.1	1.2
	United States[4]	3.8	0.3	4.1	3.9	0.9	1.8	2.7	2.7
	Country mean	***3.5***	***0.3***	***3.8***	***~***	***1.0***	***0.3***	***1.4***	***~***
	OECD total	***3.5***	***0.3***	***3.8***	***~***	***0.9***	***0.9***	***1.8***	***~***
	Country mean for countries with 1995 and 2001 data	***~***	***~***	***3.6***	***3.7***	***~***	***~***	***1.3***	***1.3***
PARTNER COUNTRIES	Argentina[5]	3.6	0.5	4.0	m	0.8	0.4	1.2	m
	Brazil[5, 7]	2.9	m	m	m	0.8	m	m	m
	Chile[8]	3.4	1.4	4.8	m	0.5	1.7	2.2	m
	India[6]	3.2	0.2	3.4	m	0.8	n	0.8	m
	Indonesia[3, 5]	1.0	0.3	1.3	m	0.3	0.4	0.7	m
	Israel	4.7	0.2	4.9	5.0	1.2	0.7	2.0	2.3
	Jamaica	4.8	3.3	8.1	m	1.1	1.3	2.4	m
	Jordan[3]	4.3	m	m	m	n	m	m	m
	Malaysia[5]	4.9	m	m	m	2.1	m	m	m
	Paraguay	3.7	1.5	5.2	m	0.8	0.5	1.3	m
	Philippines	2.7	1.3	4.0	m	0.4	0.9	1.3	m
	Russian Federation	1.7	m	m	m	0.5	m	m	m
	Thailand[5]	2.5	m	m	m	0.8	0.2	0.9	m
	Tunisia[5]	5.3	a	5.3	m	1.5	a	1.5	m
	Uruguay[3, 5]	2.2	0.2	2.4	m	0.7	n	0.7	m
	Zimbabwe[6, 8]	5.6	m	m	m	m	m	m	m

1. Including public subsidies to households attributable for educational institutions. Including direct expenditure on educational institutions from international sources.
2. Net of public subsidies attributable for educational institutions.
3. Direct expenditure on tertiary-level educational institutions from international sources exceeds 1.5% of all public expenditure. International sources at primary and secondary levels exceed 1.5% in Uruguay.
4. Post-secondary non-tertiary included in tertiary education.
5. Public subsidies to households not included in public expenditure, but in private expenditure.
6. Post-secondary non-tertiary included in both upper secondary and tertiary education.
7. Year of reference 2000.
8. Year of reference 2002.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

Table B2.1c. Expenditure on educational institutions as a percentage of GDP, by level of education (2001)

From public and private sources[1]

		Pre-primary education (for children 3 years and older)	Primary, secondary and post-secondary non-tertiary education: All primary, secondary and post-secondary non-tertiary education	Primary, secondary and post-secondary non-tertiary education: Primary and lower secondary education	Primary, secondary and post-secondary non-tertiary education: Upper secondary education	Primary, secondary and post-secondary non-tertiary education: Post-secondary non-tertiary education	Tertiary education: All tertiary education	Tertiary education: Tertiary-type B education	Tertiary education: Tertiary-type A education	All levels of education combined (including undistributed and advanced research programmes)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD COUNTRIES	Australia	0.1	4.3	3.3	0.9	0.1	1.5	0.2	1.4	6.0
	Austria	0.5	3.9	2.6	1.3	0.1	1.2	0.1	1.1	5.8
	Belgium[2]	0.6	4.2	1.5	2.8	x(4)	1.4	x(6)	x(6)	6.4
	Canada	0.2	3.4	x(2)	x(2)	x(7)	2.5	1.1	1.5	6.1
	Czech Republic	0.5	3.1	1.9	1.2	n	0.9	0.1	0.8	4.6
	Denmark	0.8	4.3	3.0	1.3	x(4,6)	1.8	x(6)	x(6)	7.1
	Finland	0.4	3.7	2.4	1.3	x(4)	1.7	n	1.7	5.8
	France	0.7	4.2	2.7	1.5	n	1.1	0.2	0.8	6.0
	Germany	0.6	3.6	2.2	1.2	0.2	1.0	0.1	1.0	5.3
	Greece[2]	x(2)	2.7	1.1	1.5	n	1.1	0.2	0.9	4.1
	Hungary	0.7	3.1	1.8	1.0	0.2	1.2	n	1.1	5.2
	Iceland[2]	m	5.2	3.5	1.5	m	0.9	n	0.9	6.7
	Ireland	n	3.1	2.3	0.7	0.1	1.3	x(6)	x(6)	4.5
	Italy	0.5	3.7	2.2	1.4	n	0.9	n	0.9	5.3
	Japan	0.2	2.9	2.0	0.9	x(4,6)	1.1	0.1	1.0	4.6
	Korea	0.1	4.6	3.1	1.4	a	2.7	0.7	2.0	8.2
	Luxembourg	x(2)	3.6	3.6	x(2)	x(2)	m	m	m	3.6
	Mexico	0.5	4.2	3.2	1.0	a	1.0	x(6)	x(6)	5.9
	Netherlands	0.4	3.3	2.5	0.8	n	1.3	n	1.3	4.9
	New Zealand[3]	0.2	4.3	3.0	1.2	0.1	0.9	0.2	0.7	5.5
	Norway	x(2)	4.6	3.4	1.2	x(4)	1.3	x(6)	x(6)	6.4
	Poland[3]	0.4	4.0	2.8	1.2	n	1.1	n	1.0	5.6
	Portugal	0.3	4.2	3.0	1.2	n	1.1	m	m	5.9
	Slovak Republic	0.5	2.7	1.6	1.1	x(4)	0.9	x(4)	0.9	4.1
	Spain[2]	0.5	3.2	3.2	x(3)	x(3)	1.2	0.2	1.1	4.9
	Sweden	0.5	4.3	2.9	1.3	n	1.7	x(6)	x(6)	6.5
	Switzerland	0.2	4.5	2.7	1.8	n	1.2	n	1.2	5.3
	Turkey	m	2.5	1.8	0.7	a	1.1	x(6)	x(6)	3.5
	United Kingdom[2]	0.5	3.9	1.3	2.6	x(4)	1.1	x(6)	x(6)	5.5
	United States	0.5	4.1	3.1	1.0	x(6)	2.7	x(6)	x(6)	7.3
	Country mean	***0.4***	***3.8***	***2.5***	***1.3***	***0.1***	***1.3***	***0.2***	***1.1***	***5.5***
	OECD total	***0.5***	***3.8***	***2.6***	***1.2***	***0.1***	***1.8***	***x(6)***	***x(6)***	***6.1***
PARTNER COUNTRIES	Argentina	0.4	4.0	3.1	0.9	a	1.2	0.6	0.6	6.2
	Brazil[3,4]	0.4	2.9	2.4	m	a	m	m	m	m
	Chile[5]	0.5	4.8	3.4	1.4	a	2.2	0.2	2.0	7.5
	India	n	3.4	2.3	1.1	n	0.8	x(6)	x(6)	4.2
	Indonesia	n	1.3	0.9	0.4	a	0.7	x(6)	x(6)	2.0
	Israel	0.8	4.9	2.6	2.3	n	2.0	x(6)	x(6)	8.6
	Jamaica	0.7	8.1	6.0	1.3	0.8	2.4	0.6	1.8	11.3
	Jordan[3]	n	4.3	3.7	0.6	m	m	m	m	m
	Malaysia[2]	0.1	4.9	2.2	2.6	0.1	2.1	0.4	1.7	7.2
	Paraguay[2]	0.1	5.2	3.1	2.1	m	1.3	0.2	1.1	m
	Peru	0.4	2.7	2.3	0.4	m	1.1	0.2	0.9	4.2
	Philippines	n	4.0	3.8	0.1	0.1	1.3	x(6)	x(6)	5.4
	Russian Federation	0.5	1.7	m	m	0.2	0.5	0.1	0.4	3.0
	Thailand	0.5	2.6	2.0	0.5	m	0.9	0.2	0.8	m
	Tunisia[3]	m	5.3	x(2)	x(2)	a	m	1.5	m	m
	Uruguay	0.4	2.4	1.8	0.5	a	0.7	x(6)	x(6)	3.4
	Zimbabwe[5]	n	5.6	x(2)	x(2)	a	m	m	m	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.

1. Including international sources.
2. Column 3 only refers to primary education and column 4 refers to all secondary education.
3. Including only direct public expenditure on educational institutions.
4. Year of reference 2000.
5. Year of reference 2002.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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Table B2.2. Change in expenditure on educational institutions (1995, 2001)

Index of change between 1995 and 2001 in expenditure on educational institutions from public and private sources, by level of education (1995 = 100, 2001 constant prices)

	All levels of education			Primary, secondary and post-secondary non-tertiary education			Tertiary education		
	Public expenditure on educational institutions	Private expenditure on educational institutions	Total expenditure on educational institutions from both public and private sources	Public expenditure on educational institutions	Private expenditure on educational institutions	Total expenditure on educational institutions from both public and private sources	Public expenditure on educational institutions	Private expenditure on educational institutions	Total expenditure on educational institutions from both public and private sources
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD COUNTRIES									
Australia	127	153	132	139	152	141	89	156	113
Austria	108	90	107	103	99	103	114	160	115
Belgium	m	m	m	m	m	m	m	m	m
Canada[1]	107	129	111	99	128	101	107	151	122
Czech Republic	97	62	93	92	79	91	127	m	103
Denmark[2]	130	147	131	126	114	126	126	468	128
Finland	117	m	118	118	m	118	112	m	113
France	112	103	111	112	104	111	112	102	111
Germany	106	106	106	108	104	107	104	129	106
Greece[3]	154	m	m	134	m	m	216	m	m
Hungary	119	119	119	109	88	107	140	165	145
Ireland	148	111	145	134	180	136	208	86	170
Italy	113	m	m	110	m	m	126	175	135
Japan[2]	109	111	109	105	107	105	122	117	119
Mexico	140	121	137	142	107	136	111	160	122
Netherlands	123	114	122	130	102	129	107	124	110
New Zealand	135	m	m	141	m	m	101	m	m
Norway[3, 4]	105	m	m	107	m	m	98	m	m
Poland	132	m	m	140	m	m	161	m	m
Portugal	135	314	136	137	178	137	139	320	145
Slovak Republic	107	112	109	107	187	108	131	167	149
Spain	117	m	m	107	m	m	149	141	147
Sweden	121	230	124	124	89	123	x(9)	x(9)	128
Switzerland	112	m	m	107	m	m	133	m	m
Turkey	167	m	m	166	m	m	170	237	174
United Kingdom	115	143	119	120	136	121	96	156	108
United States	125	125	125	126	134	127	121	121	121

1. Tertiary education includes only tertiary-type A and advanced research programmes.
2. Post-secondary non-tertiary included in both upper secondary and tertiary education.
3. Pre-primary included in primary, secondary and post-secondary non-tertiary education.
4. The decline in expenditure is due to a substantial change in the GDP deflator caused primarily by an increase in oil prices.

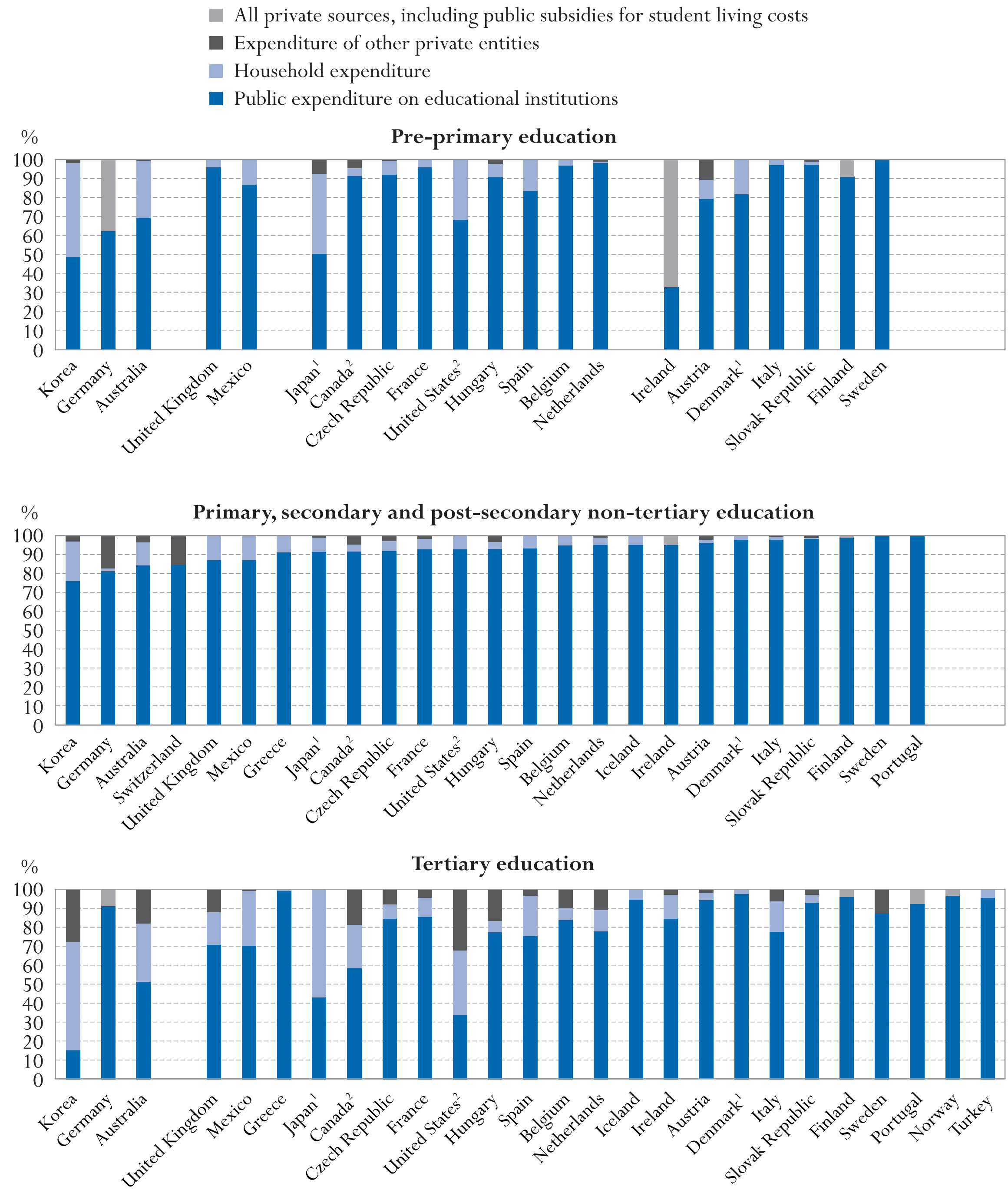
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

INDICATOR B3: RELATIVE PROPORTIONS OF PUBLIC AND PRIVATE INVESTMENT IN EDUCATIONAL INSTITUTIONS

- Education institutions are still mainly funded from public sources: 88% of all funds for educational institutions come directly from public sources. Private funding is, however, significant in Korea (where it represents 43% of total spending), the United States (approaching one-third of total spending), Australia and Japan (almost one-quarter of total spending).
- In a number of OECD countries, governments pay most of the costs of primary, secondary and post-secondary non-tertiary education but leave the management of educational institutions to the private sector, to provide a wider range of learning opportunities without creating barriers to the participation of students from low-income families.
- Tertiary institutions tend to obtain a much higher proportion of their funds from private sources than primary, secondary and post-secondary non-tertiary institutions. The private share ranges from less than 4% in Denmark, Finland, Greece and Norway, to over three-quarters in Korea but includes private payments that are subsidised from public sources.
- In one-third of the countries – Australia, Belgium, Canada, Hungary, Korea, the Netherlands, Sweden, the United Kingdom and the United States – the proportion of expenditure on tertiary institutions covered by private entities other than households represents 10% or more.
- Across all levels of education, the trend in the public/private share of education expenditure is mixed, with some countries shifting towards public spending while others move towards private expenditure. In most cases, shifts towards private expenditure did not lead to a decrease in the real level of public sector spending.

Chart B3.1. Distribution of public and private expenditure on educational institutions (2001)

By level of education



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

Countries are ranked in ascending order of the proportion of direct public expenditure on educational institutions in primary, secondary and post-secondary non-tertiary education.

Source: OECD. Tables B3.2a and B3.2b. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

B3

Policy context

This indicator shows the relative proportions of public and private spending on educational institutions…

Cost-sharing between participants in the education system and society as a whole is an issue that is under discussion in many OECD countries. This question is especially relevant at the beginning and ending stages of initial education, pre-primary and tertiary education, where full or nearly full public funding is less common. As well as illustrating the policy for cost-sharing in each country, the indicator can shed light on the influence that public funding, as a policy lever, can and does have on the output of the education system as a whole.

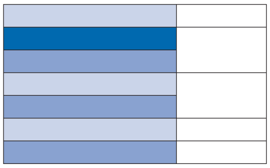
…and how these proportions have changed since 1995.

As new client groups participate increasingly in a wider range of educational programmes and choose from more opportunities from increasing numbers of providers, governments are forging new partnerships to mobilise the necessary resources to pay for education. New policies are designed to allow different actors and stakeholders to participate more fully and to share costs and benefits more equitably.

As a result, public funding is now seen increasingly as providing only a part (although a very important part) of investment in education. The role of private sources has become more important in the funding of education. Some stakeholders are concerned that this balance should not become so tilted as to lead potential learners away from learning, instead of towards it. Thus, changes in a country's public/private funding share can provide important context for changing patterns and levels of participation within its educational system.

Evidence and explanations

What this indicator covers and what it does not cover



Coverage diagram (see page 197 for explanations)

Governments can spend public funds directly on educational institutions or use them to provide subsidies to private entities for the purpose of education. When reporting on the public and private proportions of educational expenditure, it is therefore important to distinguish between the initial sources of funds and the final direct purchasers of educational goods and services.

Initial public spending includes both direct public expenditure on educational institutions and transfers to the private sector. To gauge the level of public expenditure, it is necessary to add together the components showing direct public expenditure on educational institutions and public subsidies for education. Initial private spending includes tuition fees and other student or household payments to educational institutions, less the portion of such payments offset by public subsidies.

The final public and private proportions are the percentages of educational funds spent directly by public and private purchasers of educational services. Final public spending includes direct public purchases of educational resources and payments to educational institutions and other private entities. Final private spending includes tuition fees and other private payments to educational institutions (whether offset or not by public subsidies).

Not all spending on instructional goods and services occurs within educational institutions. For example, families may purchase textbooks and materials commercially or seek private tutoring for their children outside educational institutions. At the tertiary level, student living costs and forgone earnings can also account for a significant proportion of the costs of education. All such expenditure outside educational institutions, even if it is publicly subsidised, is excluded from this indicator. Public subsidies for educational expenditure outside institutions are discussed in Indicators B4 and B5.

Public and private proportions of expenditure on educational institutions

Educational institutions are still mainly funded by public sources…

Schools, universities and other educational institutions are still mainly publicly funded, although there is a substantial and growing degree of private funding. On average across OECD countries, 88% of all funds for educational institutions come directly from public sources. In addition, 0.7% is channelled to institutions via public subsidies to households (Table B3.1).

…but OECD countries vary significantly in the extent to which they draw on private funds for education.

Among the OECD countries reporting data, the proportion of private payments to educational institutions (including private payments that are subsidies) varies widely. In Denmark, Finland, Norway, Portugal, the Slovak Republic and Sweden, it is 5% or less, compared with almost one-quarter in Australia and Japan, approaching one third in the United States and just more than 40% in Korea (Table B3.1).

In most OECD countries, private expenditure is comprised mainly of household expenditure on tuition and other fees at tertiary institutions, while in Germany and Switzerland nearly all private expenditure is accounted for by contributions from the business sector to the dual system of apprenticeship at the upper secondary and post-secondary non-tertiary levels. In general the reporting of private expenditure on education is problematic and it is likely that some of the reported data are incomplete.

In pre-primary education, the private share of total payments to educational institutions represents on average 19%; it is around 50% in Japan and Korea and 67% in Ireland.

Investment in early childhood education is of key importance in order to build a strong foundation for lifelong learning and to ensure equitable access to learning opportunities later in school. In pre-primary education, the private share of total payments to educational institutions is very uneven. It ranges from 5% or less in Belgium, France, Italy, the Netherlands, the Slovak Republic and the United Kingdom, to well over 30% in Australia and Germany, to around 50% in Japan and Korea and to 67% in Ireland (Table B3.2a).

Public funding dominates at the primary, secondary and post-secondary non-tertiary levels.

Public funding very much dominates the primary, secondary and post-secondary non-tertiary levels of education in OECD countries: on average the rate of public funding among OECD countries is 92%. There are, nevertheless, levels of private funding which exceed 15% in Australia, Germany, Korea and Switzerland (Table B3.2a and Chart B3.1).

In some OECD countries, significant public funds are given to institutions in the private sector…

Although the vast majority of public funds are directed at public institutions, in a number of OECD countries significant public funds are transferred to private institutions or given directly to households to spend in the institution of their choice. In the former case, the final spending and delivery of education can be regarded as subcontracted by governments to non-governmental institutions, whereas in the latter instance, students and their families are left to decide which type of institution best meets their requirements.

On average across OECD countries at the primary, secondary and post-secondary non-tertiary levels, 10% of public funding designated for educational institutions is spent in institutions that are privately managed (Table B3.3). In the Netherlands, where the central government is the major final source of funds, 70% of public money for primary, secondary and post-secondary non-tertiary educational institutions is transferred from the government to private institutions, and in Belgium it is over 50%.

...providing a wider range of learning opportunities without creating barriers to the participation of students from low-income families.

In Australia, France, Spain and the United Kingdom, the share of public funds transferred to private institutions at the primary, secondary and post-secondary non-tertiary levels of education ranges from 13 to 20%.

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Public funding transfers to private households (and other private entities) are generally not a significant feature at the primary, secondary and post-secondary non-tertiary levels. On average across OECD countries, the proportion of public funds transferred is some 4%; it exceeds 10% in only Denmark, Hungary and Sweden (Table B3.3).

Nevertheless, such funding strategies not only generate required resources from a wider range of public and private sources, but also provide a plethora of learning opportunities that can improve the efficiency of schooling.

Other than in Denmark, Germany, Greece and Iceland, the private proportion of educational expenditure is far higher at the tertiary level than at the primary, secondary and post-secondary non-tertiary levels. Primary, secondary and post-secondary non-tertiary education are usually perceived as a public good with mainly public returns; at the tertiary level the high private returns in the form of better employment and income opportunities (see Indicator A11) suggest that a greater contribution by individuals to the costs of tertiary education may be justified, provided, of course, that governments can ensure that funding is accessible to students irrespective of their economic background (see also Indicator B5).

Tertiary institutions tend to acquire a much higher proportion of their funds from private sources...

The proportion of expenditure on tertiary institutions covered by individuals, businesses and other private sources, including private payments that are subsidies, ranges from less than 4% in Denmark, Finland, Greece and Norway, to around one-half in Australia and Japan, two-thirds in the United States and over three-quarters in Korea (Chart B3.1 and Table B3.2b). In Korea, more than 80% of students are enrolled in private universities, where more than 95% of budgets are derived from tuition fees.

...but the private share, including private payments that are subsidies, ranges widely from less than 4% in Denmark, Finland, Greece and Norway to 84% in Korea.

The contribution of private entities other than households to the financing of educational institutions is higher for tertiary education than for other levels of education. In one-third of the countries – Australia, Belgium, Canada, Hungary, Korea, the Netherlands, Sweden, the United Kingdom and the United States – the proportion of expenditure on tertiary institutions covered by private entities other than households represents around 10% or more. In Germany and Switzerland, a significant proportion of expenditure for primary, secondary and post-secondary non-tertiary education is covered by private entities other than

Contribution of private entities other than households to tertiary education institutions represents 10% or more in one-third of OECD countries.

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households; in Austria and Japan, such bodies are responsible principally for pre-primary education (Chart B3.1).

Public funding transfers to households/students are more prevalent at the tertiary level than at other levels.

It is more typical for households/students to receive some transfers of public funding at the tertiary level than at other levels. On average, some 18% of public funds at the tertiary level are transferred to households/students. This proportion is highest in New Zealand (48%), the United States (37%), Denmark (35%), Australia (33%), Norway (31%) and Sweden (30%) (Table B3.3).

The amounts paid by students and their families to cover tuition fees and other education-related expenditure differ among OECD countries according to taxation and spending policies, and the willingness of governments to support students. This willingness is influenced by students' enrolment status (full-time or part-time), age and residency (whether they are living at home). To some extent, however, the guidelines used in establishing eligibility for these subsidies are breaking down. Mature students, whose numbers are increasing, are more likely to have established their own households and to prefer part-time or distance learning to full-time, on-campus study.

Change in public and private investment in education

Between 1995 and 2001, some countries saw an increase in the proportion of private funding of education, while others saw a decrease.

A comparison between 1995 and 2001 proportions of educational expenditure by private sources shows that as many countries recorded increases as recorded decreases in the private funding share (Chart B3.2 and Table B3.1). In Australia, Canada and the United Kingdom, the private funding share increased from 21.1, 18.8 and 12.7% in 1995 to respectively 24.4, 21.8 and 15.3% in 2001, respectively. On the other hand, the Czech Republic, Ireland, Mexico and Spain recorded a decrease of between 2 and 4 percentage points in the private share of funding.

Eight countries recorded slight shifts from public to private funding…

Eight countries for whom comparable data are available recorded shifts from public to private funding of primary, secondary and post-secondary non-tertiary education. In half of these countries – Australia, Canada, Ireland and the United Kingdom – the increase in the private share was more than 1 percentage point.

…while shifts in the other direction were most evident in the Czech Republic, Hungary, Mexico, the Netherlands and Spain.

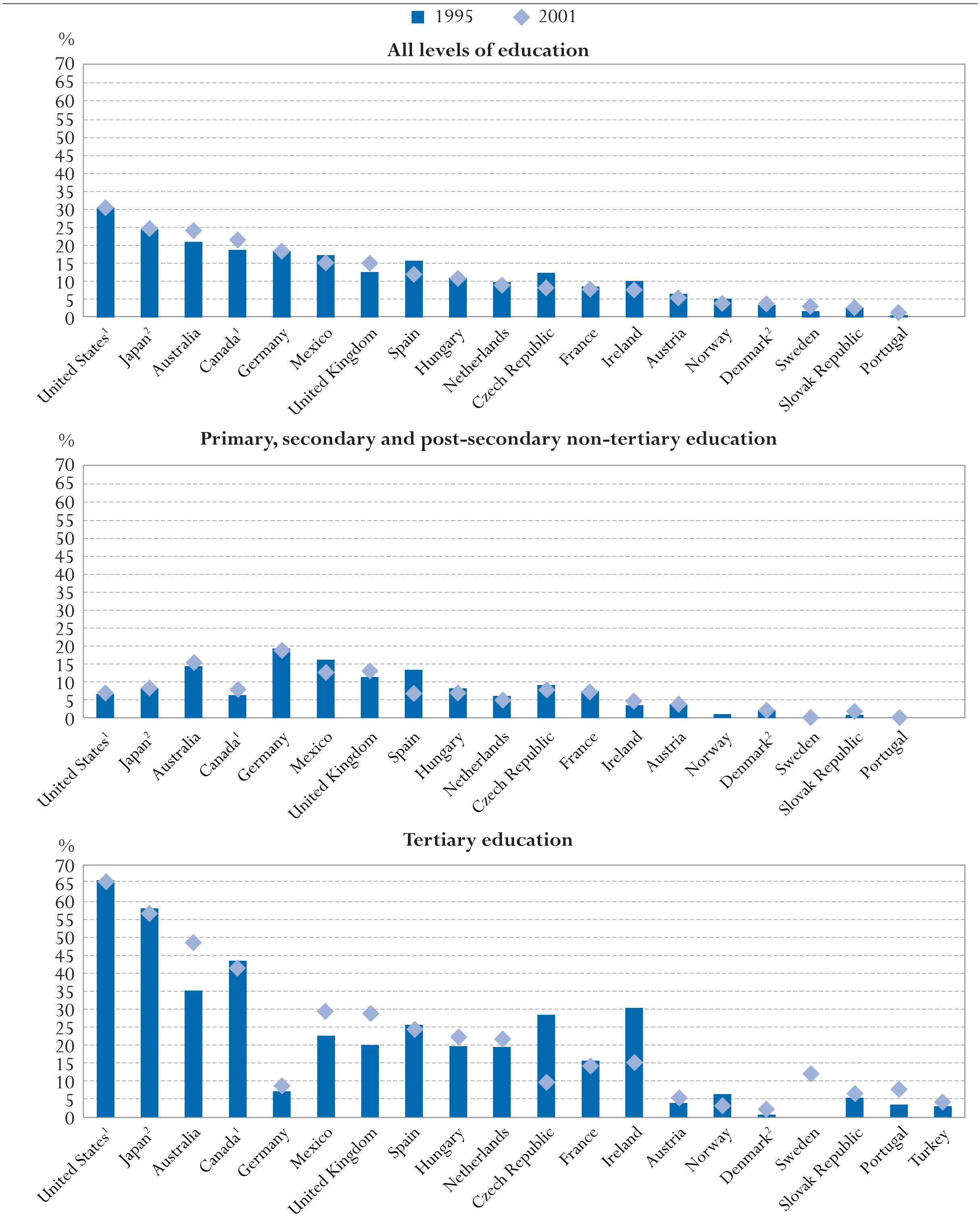
Funding shifts in the opposite direction, towards public funding, were equally evident. This was most notable in the Czech Republic, Hungary, Mexico, the Netherlands and Spain where the public funding share of expenditure increased by between 1 and 7 percentage points (Chart B3.2 and Table B3.2a).

The tertiary level experienced striking changes, which are at least partially in response to dramatic growth in participation.

In many OECD countries, the growth in tertiary participation (Indicator C2) represents a response to heavy demand, both individual and social. But, just as many tertiary structures and programmes were designed for a different era, so too were its funding mechanisms. As demand for tertiary education has increased in many OECD countries, so has the share of the financial burden borne by private entities in countries such as Australia, Austria, Hungary, Mexico, Portugal and the United Kingdom (Chart B3.2).

Chart B3.2. Share of private expenditure on educational institutions (1995, 2001)

Percentage



1. Post-secondary non-tertiary included in tertiary education.
2. 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 in 2001 for all levels of education.

Source: OECD. Tables B3.1, B3.2a and B3.2b. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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In most OECD countries, shifts towards private expenditure have not led to decreases in the real level of public-sector spending on tertiary education.

It is important to note that rises in private educational expenditure have not generally been accompanied by cuts (in real terms) in public expenditure on education at the tertiary level or at the primary, secondary and post-secondary non-tertiary levels. On the contrary, public investment in education has increased in most of the OECD countries for which 1995 to 2001 data are available, regardless of changes in private spending (Table B2.2). In fact, many OECD countries with the highest growth in private spending have also shown the highest increase in public funding of education. This indicates that increasing private spending on tertiary education tends to complement, rather than replace, public investment. The main exception to this is Australia, where the shift towards private expenditure at tertiary level has been accompanied by a fall in the level of public expenditure in real terms.

Definitions and methodologies

Data refer to the financial year 2001 and are based on the UOE data collection on education statistics administered by the OECD in 2003 (for details see Annex 3).

The public and private proportions of expenditure on educational institutions are the percentages of total spending originating in, or generated by, the public and private sectors. Private spending includes all direct expenditure on educational institutions, whether partially covered by public subsidies or not. Public subsidies attributable to households, included in private spending, are shown separately.

Parts of the budgets of educational institutions are related to ancillary services offered to students, including student welfare services, such as student meals, housing and transportation. Some of the costs for these services are covered by fees collected from students, which are included.

Other private entities include private businesses and non-profit organisations, including religious organisations, charitable organisations, and business and labour associations. It also includes expenditure by private companies on the work-based element of school and work-based training of apprentices and students.

Data for the financial year 1995 are based on a special survey carried out in 2001 and updated in 2003.

The change in private and public spending on educational institutions is shown as an index and compares the proportion of private spending in 1995 with that in 2001. The data on expenditure for 1995 were obtained by a special survey in 2001 in which expenditure for 1995 was adjusted to methods and definitions used in the current UOE data collection.

The glossary at *www.oecd.org/edu/eag2004* gives a definition of public, government-dependent private and independent private institutions.

Note that data appearing in earlier editions of this publication may not always be comparable to data shown in the 2004 edition due to changes in definitions and coverage that were made as a result of the OECD expenditure comparability study (see Annex 3 at *www.oecd.org/edu/eag2004* for details on changes).

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Table B3.1. Relative proportions of public and private expenditure on educational institutions for all levels of education (1995, 2001)

Distribution of public and private sources of funds for educational institutions after transfers from public sources, by year

	2001					1995				
		Private sources					Private sources			
	Public sources	Household expenditure	Expenditure of other private entities	All private sources[1]	Private, of which subsidised	Public sources	Household expenditure	Expenditure of other private entities	All private sources[1]	Private, of which subsidised
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD COUNTRIES										
Australia	**75.6**	17.3	7.1	**24.4**	0.2	**78.9**	13.7	7.4	**21.1**	0.5
Austria	**94.4**	2.9	2.6	**5.6**	1.7	**93.4**	3.4	3.2	**6.6**	1.5
Belgium	**93.0**	4.9	2.1	**7.0**	0.9	**m**	m	m	**m**	m
Canada[2]	**78.2**	11.6	10.2	**21.8**	m	**81.2**	7.7	11.1	**18.8**	m
Czech Republic	**90.6**	6.1	3.4	**9.4**	m	**87.5**	x(9)	x(9)	**12.5**	6.2
Denmark[3]	**96.1**	3.9	n	**3.9**	m	**96.5**	3.5	n	**3.5**	n
Finland	**97.8**	x(4)	x(4)	**2.2**	n	**m**	m	m	**m**	m
France	**92.0**	6.2	1.8	**8.0**	1.7	**91.4**	6.9	1.6	**8.6**	1.9
Germany	**81.4**	x(4)	11.8	**18.6**	n	**81.4**	x(9)	11.8	**18.6**	n
Greece	**94.2**	5.8	m	**5.8**	m	**m**	m	m	**m**	m
Hungary	**89.0**	4.7	6.3	**11.0**	n	**89.0**	5.0	6.0	**11.0**	n
Iceland	**91.7**	8.3	m	**8.3**	n	**m**	x(9)	x(9)	**m**	m
Ireland	**92.2**	7.1	0.7	**7.8**	n	**89.8**	9.7	0.5	**10.2**	m
Italy	**90.7**	8.0	1.3	**9.3**	1.0	**m**	m	m	**m**	m
Japan[3]	**75.0**	22.5	2.5	**25.0**	m	**75.4**	22.7	2.0	**24.6**	m
Korea	**57.1**	32.1	10.9	**42.9**	1.4	**m**	m	m	**m**	m
Luxembourg	**m**	m	m	**m**	m	**m**	m	m	**m**	m
Mexico	**84.6**	15.2	0.2	**15.4**	2.6	**82.6**	17.4	n	**17.4**	m
Netherlands	**90.9**	5.7	3.4	**9.1**	1.2	**90.2**	6.4	3.4	**9.8**	1.8
New Zealand	**m**	m	m	**m**	m	**m**	m	m	**m**	m
Norway	**95.9**	4.1	m	**4.1**	n	**94.8**	x(9)	x(9)	**5.2**	n
Poland	**m**	m	m	**m**	a	**m**	m	m	**m**	a
Portugal	**98.5**	1.5	m	**1.5**	m	**99.4**	0.6	m	**0.6**	m
Slovak Republic	**97.1**	1.4	1.4	**2.9**	m	**97.2**	x(9)	x(9)	**2.8**	m
Spain	**87.8**	11.4	0.8	**12.2**	0.7	**84.2**	x(9)	x(9)	**15.8**	0.4
Sweden	**96.8**	0.1	3.1	**3.2**	m	**98.3**	0.1	1.6	**1.7**	m
Switzerland	**m**	m	m	**m**	m	**m**	m	m	**m**	m
Turkey	**m**	m	m	**m**	m	**m**	m	m	**m**	m
United Kingdom	**84.7**	13.0	2.3	**15.3**	0.4	**87.3**	x(9)	x(9)	**12.7**	3.5
United States[2]	**69.2**	18.8	11.9	**30.8**	m	**69.3**	x(9)	x(9)	**30.7**	m
Country mean	*87.8*	*9.2*	*4.2*	*12.2*	*0.7*	~	~	~	~	~
PARTNER COUNTRIES										
Argentina	**77.3**	22.0	0.7	**22.7**	m	**m**	m	m	**m**	m
Chile[4]	**56.3**	42.6	1.1	**43.7**	0.8	**m**	m	m	**m**	m
India[2]	**94.9**	3.1	2.0	**5.1**	m	**m**	m	m	**m**	m
Indonesia	**64.2**	32.6	3.3	**35.8**	m	**m**	m	m	**m**	m
Israel	**80.0**	14.9	5.1	**20.0**	2.5	**80.5**	13.0	6.4	**19.5**	1.3
Jamaica	**53.9**	43.9	2.1	**46.1**	1.3	**m**	m	m	**m**	m
Malaysia	**99.9**	0.1	n	**0.1**	n	**m**	m	m	**m**	m
Paraguay	**68.1**	31.9	n	**31.9**	m	**m**	m	m	**m**	m
Peru	**69.0**	31.0	n	**31.0**	m	**m**	m	m	**m**	m
Philippines	**59.1**	40.9	n	**40.9**	a	**m**	m	m	**m**	m
Thailand	**95.6**	4.4	n	**4.4**	m	**m**	m	m	**m**	m
Tunisia	**100.0**	n	n	**n**	m	**m**	m	m	**m**	m
Uruguay	**93.4**	6.5	0.1	**6.6**	m	**m**	m	m	**m**	m
Zimbabwe[4]	**100.0**	n	n	**n**	n	**m**	m	m	**m**	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. Including subsidies attributable to payments to educational institutions received from public sources.
2. Post-secondary non-tertiary included in tertiary education.
3. Post-secondary non-tertiary included in both upper secondary and tertiary education.
4. Year of reference 2002.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table B3.2a. Relative proportions of public and private expenditure on educational institutions, by level of education (1995, 2001)

Distribution of public and private sources of funds for educational institutions after transfers from public sources, by year

	Pre-primary education (for children 3 years and older)					Primary, secondary and post-secondary non-tertiary education									
	2001					2001					1995				
		Private sources					Private sources					Private sources			
	Public sources	Household expenditure	Expenditure of other private entities	All private sources[1]	Private, of which subsidised	Public sources	Household expenditure	Expenditure of other private entities	All private sources[1]	Private, of which subsidised	Public sources	Household expenditure	Expenditure of other private entities	All private sources[1]	Private, of which subsidised
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD COUNTRIES															
Australia	**68.9**	30.3	0.7	**31.1**	n	**84.4**	12.1	3.5	**15.6**	n	**85.5**	10.5	4.0	**14.5**	0.7
Austria	**79.3**	9.8	10.9	**20.7**	0.5	**96.3**	1.7	2.0	**3.7**	1.1	**96.2**	1.9	1.9	**3.8**	0.6
Belgium	**96.6**	3.4	m	**m**	a	**95.0**	5.0	m	**m**	0.1	**m**	m	m	**m**	m
Canada[2]	**91.4**	4.1	4.6	**8.6**	m	**91.9**	3.6	4.4	**8.1**	m	**93.7**	3.0	3.4	**6.3**	m
Czech Republic	**91.8**	7.6	0.6	**8.2**	m	**92.1**	5.4	2.5	**7.9**	m	**90.9**	x(14)	x(14)	**9.1**	6.8
Denmark[3]	**81.7**	18.3	n	**18.3**	m	**98.0**	2.0	m	**2.0**	m	**97.8**	2.2	m	**2.2**	n
Finland	**91.0**	x(4)	x(4)	**9.0**	n	**99.1**	x(9)	x(9)	**0.9**	n	**m**	m	m	**m**	m
France	**95.9**	4.1	n	**4.1**	n	**93.0**	5.5	1.5	**7.0**	1.8	**92.5**	6.2	1.3	**7.5**	2.1
Germany	**62.3**	x(4)	x(4)	**37.7**	n	**81.1**	x(9)	17.2	**18.9**	n	**80.6**	x(14)	x(14)	**19.4**	n
Greece	**x(6)**	x(7)	x(8)	**x(9)**	m	**91.4**	8.6	m	**8.6**	m	**m**	m	m	**m**	m
Hungary	**90.6**	7.0	2.4	**9.4**	n	**93.1**	3.8	3.1	**6.9**	n	**91.7**	4.4	3.9	**8.3**	n
Iceland	**m**	m	m	**m**	n	**95.3**	4.7	m	**4.7**	m	**m**	m	m	**m**	m
Ireland	**33.2**	x(4)	x(4)	**66.8**	m	**95.3**	x(9)	x(9)	**4.7**	m	**96.5**	x(14)	x(14)	**3.5**	m
Italy	**97.0**	3.0	n	**3.0**	n	**98.0**	1.7	0.3	**2.0**	0.3	**m**	m	m	**m**	m
Japan[3]	**50.4**	42.1	7.6	**49.6**	m	**91.5**	7.6	0.9	**8.5**	m	**91.7**	7.7	0.5	**8.3**	m
Korea	**48.7**	49.4	1.9	**51.3**	0.4	**76.2**	20.9	3.0	**23.8**	1.0	**m**	m	m	**m**	m
Luxembourg	**m**	m	m	**m**	m	**m**	m	m	**m**	m	**m**	m	m	**m**	m
Mexico	**86.7**	13.1	0.1	**13.3**	0.8	**87.2**	12.6	0.2	**12.8**	3.0	**83.8**	16.2	a	**16.2**	m
Netherlands	**98.2**	0.7	1.1	**1.8**	a	**95.1**	4.1	0.8	**4.9**	0.9	**93.9**	5.1	1.0	**6.1**	1.4
New Zealand	**m**	m	m	**m**	m	**m**	m	m	**m**	m	**m**	m	m	**m**	m
Norway	**m**	m	m	**m**	m	**m**	m	m	**m**	m	**99.0**	x(14)	x(14)	**1.0**	m
Poland[4]	**m**	m	m	**m**	m	**m**	m	m	**m**	m	**m**	m	m	**m**	m
Portugal	**m**	m	m	**m**	m	**99.9**	0.1	a	**0.1**	m	**100.0**	n	a	**n**	m
Slovak Republic	**97.4**	1.4	1.2	**2.6**	a	**98.5**	0.3	1.2	**1.5**	m	**99.1**	x(14)	x(14)	**0.9**	m
Spain	**83.4**	16.6	m	**16.6**	n	**93.3**	6.7	m	**6.7**	m	**86.6**	12.5	0.9	**13.4**	m
Sweden	**100.0**	a	a	**a**	m	**99.9**	0.1	a	**0.1**	m	**99.9**	0.2	a	**0.2**	m
Switzerland	**m**	m	m	**m**	m	**84.8**	n	15.2	**15.2**	1.2	**89.1**	n	10.9	**10.9**	1.1
Turkey	**m**	m	m	**m**	m	**m**	m	m	**m**	m	**m**	m	m	**m**	m
United Kingdom	**95.7**	4.3	n	**4.3**	a	**87.2**	12.8	n	**12.8**	n	**88.5**	11.5	n	**11.5**	n
United States[2]	**68.1**	31.9	n	**31.9**	m	**93.0**	7.0	n	**7.0**	m	**93.4**	x(14)	x(14)	**6.6**	m
Country mean	*81.3*	*13.7*	*1.9*	*18.7*	*0.1*	*92.4*	*5.7*	*2.3*	*7.6*	*0.7*	~	~	~	~	~
PARTNER COUNTRIES															
Argentina	**100.0**	n	n	**n**	n	**88.6**	11.4	a	**11.4**	m	**m**	m	m	**m**	m
Chile[5]	**73.1**	26.9	0.1	**26.9**	n	**71.6**	27.8	0.5	**28.4**	a	**m**	m	m	**m**	m
India[2]	**92.1**	4.7	3.2	**7.9**	m	**93.7**	3.8	2.5	**6.3**	m	**m**	m	m	**m**	m
Indonesia	**5.3**	94.7	n	**94.7**	m	**76.3**	22.3	1.4	**23.7**	m	**m**	m	m	**m**	m
Israel	**75.1**	24.1	0.8	**24.9**	n	**94.1**	4.4	1.4	**5.9**	1.4	**93.1**	3.5	3.4	**6.9**	0.8
Jamaica	**46.9**	53.1	n	**53.1**	n	**57.7**	41.3	1.0	**42.3**	1.2	**m**	m	m	**m**	m
Malaysia	**90.2**	9.8	n	**9.8**	m	**m**	m	m	**m**	m	**m**	m	m	**m**	m
Paraguay	**n**	100.0	n	**100.0**	n	**71.7**	m	m	**m**	m	**m**	m	m	**m**	m
Peru	**70.6**	29.4	n	**29.4**	m	**73.4**	26.6	n	**26.6**	m	**m**	m	m	**m**	m
Philippines	**m**	m	m	**m**	m	**66.8**	33.2	n	**33.2**	a	**m**	m	m	**m**	m
Thailand	**97.8**	2.2	n	**2.2**	m	**m**	1.4	a	**1.4**	m	**m**	m	m	**m**	m
Tunisia	**m**	m	m	**m**	m	**100.0**	a	a	**a**	a	**m**	m	m	**m**	m
Uruguay	**81.3**	18.7	n	**18.7**	a	**93.5**	6.5	a	**6.5**	a	**m**	m	m	**m**	m
Zimbabwe[5]	**m**	m	m	**m**	m	**100.0**	n	n	**n**	n	**m**	m	m	**m**	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
To calculate private funds net of subsidies, subtract public subsidies (columns 5,10,15) from private funds (columns 4,9,14).
To calculate total public funds, including public subsidies, add public subsidies (columns 5,10,15) to direct public funds (columns 1,6,11).
1. Including subsidies attributable to payments to educational institutions received from public sources.
2. Post-secondary non-tertiary included in tertiary education.
3. Post-secondary non-tertiary included in both upper secondary and tertiary education.
4. Public institutions only.
5. Year of reference 2002.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table B3.2b. Relative proportions of public and private expenditure on educational institutions, for tertiary education (1995, 2001)

Distribution of public and private sources of funds for educational institutions after transfers from public sources, by year

		2001					1995				
			Private sources					Private sources			
		Public sources	Household expenditure	Expenditure of other private entities	All private sources[1]	Private, of which subsidised	Public sources	Household expenditure	Expenditure of other private entities	All private sources[1]	Private, of which subsidised
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD COUNTRIES	Australia	**51.3**	31.0	17.7	**48.7**	0.9	**64.8**	20.0	15.2	**35.2**	n
	Austria	**94.6**	4.1	1.3	**5.4**	4.6	**96.1**	1.9	2.0	**3.9**	4.6
	Belgium	**84.1**	6.0	9.9	**15.9**	4.1	**m**	m	m	**m**	m
	Canada[2]	**58.6**	22.9	18.5	**41.4**	m	**56.6**	16.7	26.7	**43.4**	m
	Czech Republic	**85.3**	7.7	7.0	**14.7**	m	**71.5**	3.3	25.2	**28.5**	8.7
	Denmark[3]	**97.8**	2.2	n	**2.2**	m	**99.4**	0.6	n	**0.6**	n
	Finland	**96.5**	x(4)	x(4)	**3.5**	n	**m**	m	m	**m**	m
	France	**85.6**	10.3	4.1	**14.4**	2.3	**84.3**	11.8	3.9	**15.7**	2.6
	Germany	**91.3**	x(4)	x(4)	**8.7**	n	**92.8**	x(9)	x(9)	**7.2**	n
	Greece	**99.6**	0.4	m	**0.4**	m	**m**	m	m	**m**	m
	Hungary	**77.6**	6.1	16.3	**22.4**	n	**80.3**	4.8	14.9	**19.7**	n
	Iceland	**95.0**	5.0	m	**5.0**	n	**m**	m	m	**m**	m
	Ireland	**84.7**	12.8	2.4	**15.3**	m	**69.7**	28.3	2.0	**30.3**	m
	Italy	**77.8**	16.0	6.3	**22.2**	3.9	**82.9**	12.7	4.4	**17.1**	0.1
	Japan[3]	**43.1**	56.9	n	**56.9**	m	**42.0**	58.0	n	**58.0**	m
	Korea	**15.9**	58.1	26.0	**84.1**	n	**m**	m	m	**m**	m
	Luxembourg	**m**	m	m	**m**	m	**m**	m	m	**m**	m
	Mexico	**70.4**	28.9	0.7	**29.6**	2.1	**77.4**	22.6	m	**22.6**	m
	Netherlands	**78.2**	11.1	10.7	**21.8**	2.0	**80.6**	10.1	9.3	**19.4**	2.5
	New Zealand	**m**	m	m	**m**	m	**m**	m	m	**m**	m
	Norway	**96.9**	x(4)	x(4)	**3.1**	a	**93.7**	x(9)	x(9)	**6.3**	n
	Poland[4]	**m**	m	m	**m**	m	**m**	m	m	**m**	m
	Portugal	**92.3**	x(4)	x(4)	**7.7**	m	**96.5**	3.5	m	**3.5**	m
	Slovak Republic	**93.3**	4.3	2.5	**6.7**	m	**94.6**	x(9)	x(9)	**5.4**	m
	Spain	**75.5**	21.5	3.0	**24.5**	3.0	**74.4**	19.4	6.2	**25.6**	2.0
	Sweden	**87.7**	m	12.3	**12.3**	a	**m**	m	m	**m**	a
	Switzerland	**m**	m	m	**m**	m	**m**	m	m	**m**	m
	Turkey	**95.8**	4.2	m	**4.2**	n	**97.0**	3.0	m	**3.0**	0.7
	United Kingdom	**71.0**	17.3	11.7	**29.0**	1.8	**80.0**	x(9)	x(9)	**20.0**	n
	United States[2]	**34.0**	33.9	32.1	**66.0**	m	**34.0**	x(9)	x(9)	**66.0**	m
	Country mean	***78.2***	***17.1***	***9.7***	***21.8***	***1.4***	~	~	~	~	~
PARTNER COUNTRIES	Argentina	**68.5**	27.7	3.8	**31.5**	m	**m**	m	m	**m**	m
	Chile[5]	**19.6**	77.8	2.6	**80.4**	2.6	**m**	m	m	**m**	m
	India[2]	**99.8**	0.2	n	**0.2**	m	**m**	m	m	**m**	m
	Indonesia	**43.8**	49.4	6.8	**56.2**	m	**m**	m	m	**m**	m
	Israel	**56.8**	28.0	15.2	**43.2**	5.9	**59.2**	24.3	16.5	**40.8**	3.0
	Jamaica	**43.5**	50.0	6.4	**56.5**	2.1	**m**	m	m	**m**	m
	Paraguay	**59.1**	40.9	n	**40.9**	m	**m**	m	m	**m**	m
	Peru	**58.0**	42.0	n	**42.0**	m	**m**	m	m	**m**	m
	Philippines	**33.1**	66.9	n	**66.9**	a	**m**	m	m	**m**	m
	Thailand	**82.5**	17.5	n	**17.5**	m	**m**	m	m	**m**	m
	Tunisia	**100.0**	a	a	**a**	m	**a**	m	m	**m**	m
	Uruguay	**99.5**	n	0.5	**0.5**	m	**m**	m	m	**m**	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
To calculate private funds net of subsidies, subtract public subsidies (columns 5,10) from private funds (columns 4, 9).
To calculate total public funds, including public subsidies, add public subsidies (columns 5,10) to direct public funds (columns 1, 6).
1. Including subsidies attributable to payments to educational institutions received from public sources.
2. Post-secondary non-tertiary included in tertiary education.
3. Post-secondary non-tertiary included in both upper secondary and tertiary education.
4. Public institutions only.
5. Year of reference 2002.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table B3.3. Distribution of total public expenditure on education (2001)

Public expenditure on education transferred to educational institutions and public transfers to the private sector, as a percentage of total public expenditure on education, by level of education

		Primary, secondary and post-secondary non-tertiary education			Tertiary education			All levels of education combined		
		Direct public expenditure on public institutions	Direct public expenditure on private institutions	Indirect public transfers and payments to the private sector	Direct public expenditure on public institutions	Direct public expenditure on private institutions	Indirect public transfers and payments to the private sector	Direct public expenditure on public institutions	Direct public expenditure on private institutions	Indirect public transfers and payments to the private sector
OECD COUNTRIES	Australia	77.7	18.5	3.8	67.1	n	32.9	m	m	m
	Austria	97.7	0.4	2.0	82.8	0.3	16.9	93.6	0.8	5.7
	Belgium	44.8	54.9	0.3	35.6	47.1	17.3	44.6	51.4	4.0
	Canada[1]	98.2	1.8	x	77.8	0.4	21.8	90.9	1.3	7.9
	Czech Republic	90.7	3.5	5.9	91.0	1.1	7.9	91.7	2.7	5.6
	Denmark[2]	81.2	7.2	11.6	65.3	n	34.7	75.9	4.3	19.8
	Finland	90.9	5.5	3.6	73.6	7.4	19.0	85.3	6.2	8.5
	France	83.1	13.5	3.4	88.3	3.3	8.4	85.1	11.0	3.9
	Germany	85.9	10.0	4.2	82.2	2.3	15.5	82.2	11.2	6.6
	Greece	99.7	a	0.3	93.6	a	6.4	97.9	a	2.1
	Hungary	82.4	7.5	10.1	77.0	3.5	19.5	83.6	5.8	10.5
	Iceland	97.3	1.5	1.2	67.9	8.4	23.7	92.4	2.6	5.0
	Ireland	96.7	n	3.3	88.1	n	11.9	94.2	n	5.8
	Italy	96.5	2.2	1.3	85.9	1.7	12.4	94.4	2.3	3.3
	Japan[2]	96.3	3.5	0.2	72.2	13.4	14.5	91.4	6.1	2.4
	Korea	m	m	m	70.2	23.1	6.7	m	m	m
	Luxembourg	91.3	3.3	5.3	m	m	m	91.3	3.3	5.3
	Mexico	96.6	n	3.4	94.1	n	5.9	96.5	n	3.5
	Netherlands	23.4	69.7	6.9	n	76.4	23.6	18.0	71.2	10.8
	New Zealand	88.4	4.0	7.6	50.3	2.1	47.7	77.5	4.5	18.0
	Norway	88.2	7.2	4.6	66.2	3.0	30.8	81.7	5.7	12.6
	Poland	m	m	m	m	m	m	m	m	m
	Portugal	92.1	6.6	1.3	93.8	n	6.2	91.8	6.1	2.1
	Slovak Republic	94.4	3.5	2.0	m	a	m	m	m	m
	Spain	84.8	14.2	1.0	89.2	2.5	8.3	86.2	11.1	2.7
	Sweden	86.0	3.9	10.1	65.2	4.6	30.1	80.4	4.5	15.1
	Switzerland	89.9	7.4	2.7	91.9	5.6	2.5	90.1	6.8	3.1
	Turkey	99.1	m	0.9	85.6	0.3	14.0	94.8	0.1	5.1
	United Kingdom	79.8	20.0	0.2	a	94.7	5.3	68.0	31.0	1.0
	United States[1]	99.8	0.2	m	61.3	1.3	37.4	89.2	1.0	9.8
	Country mean	***86.5***	***10.4***	***3.8***	***69.8***	***11.6***	***18.2***	***83.0***	***10.0***	***7.1***
PARTNER COUNTRIES	Argentina	86.3	13.0	0.7	97.1	2.5	0.3	88.2	11.2	0.6
	Brazil[3]	97.2	a	2.8	83.4	a	16.6	94.2	a	5.8
	Chile[4]	63.6	36.0	0.4	37.2	33.3	29.5	60.1	35.5	4.5
	India[1]	72.5	27.4	0.1	76.8	22.9	0.2	73.5	26.4	0.1
	Indonesia	90.0	6.6	3.4	100.0	n	m	92.4	5.0	2.6
	Israel	74.1	24.3	1.5	7.6	81.4	10.9	63.9	32.8	3.3
	Jamaica	97.7	0.2	2.1	87.6	n	12.4	92.3	3.7	4.0
	Jordan	100.0	a	a	m	m	m	m	m	m
	Malaysia	99.5	a	0.5	76.6	a	23.4	91.7	a	8.3
	Paraguay	m	6.3	0.3	98.7	a	1.3	94.3	5.2	0.5
	Philippines	99.2	a	0.8	97.4	a	2.6	99.0	a	1.0
	Thailand	91.0	4.2	4.9	69.8	m	30.2	87.8	2.2	10.0
	Tunisia	100.0	a	m	100.0	a	m	100.0	a	m
	Uruguay	99.9	a	0.1	100.0	a	n	100.0	a	n

1. Post-secondary non-tertiary included in tertiary education.
2. Post-secondary non-tertiary included in both upper secondary and tertiary education.
3. Year of reference 2000.
4. Year of reference 2002.

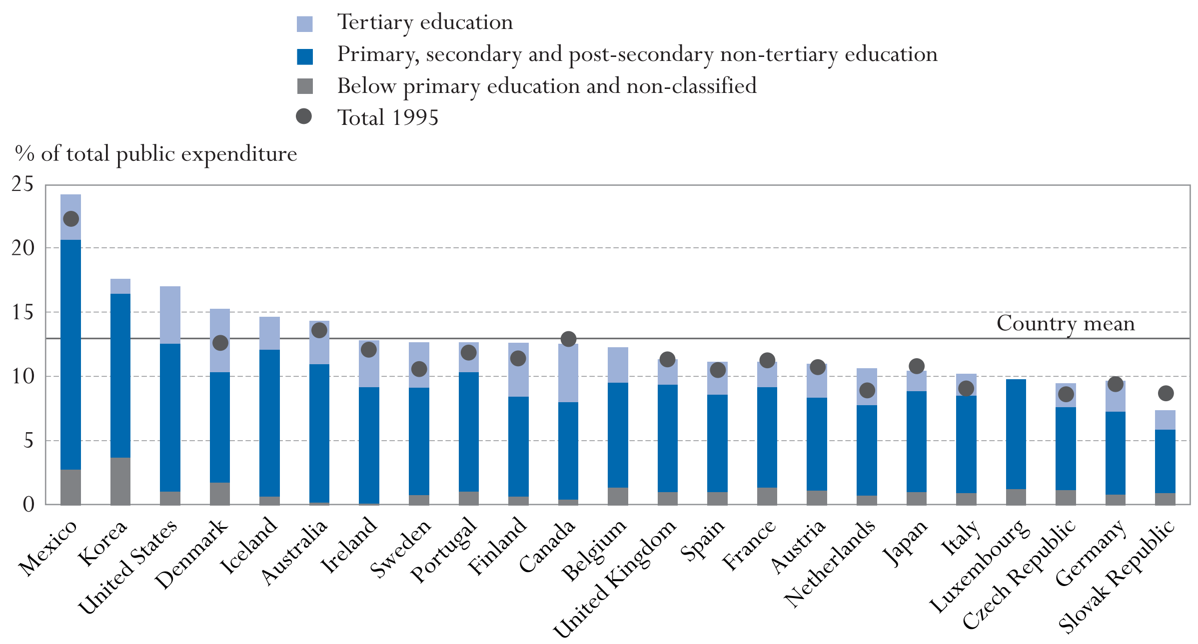
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

INDICATOR B4: TOTAL PUBLIC EXPENDITURE ON EDUCATION

- On average, OECD countries devote 12.7% of total public expenditure to educational institutions. However, the values for individual countries range from below 10% in the Czech Republic, Germany, Luxembourg and the Slovak Republic, to 24% in Mexico.
- Public funding of education is a social priority, even in OECD countries with little public involvement in other areas.
- Public expenditure on education tended to grow faster than total public spending, but not as fast as GDP. Public expenditure on education as a percentage of total public expenditure grew fastest between 1995 and 2001 in Denmark, Mexico and Sweden.

Chart B4.1. Total public expenditure on education as a percentage of total public expenditure (1995, 2001)

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



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 2001.
Source: OECD. Table B4.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Policy context

This indicator focuses on public expenditure on education.

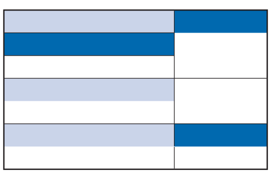
Governments become involved in providing services to the population for different reasons. If the public benefit from a particular service is greater than the private benefit, then markets alone may fail to provide these services adequately. Education is one area where all governments intervene to fund or direct the provision of services. As there is no guarantee that markets will provide equal access to educational opportunities, government funding of educational services ensures that education is not beyond the reach of some members of society. 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 thus provides context for the other indicators on expenditure (particularly Indicator B3 on the public/private shares of expenditure on education) as well as quantification of an important policy lever in its own right.

It also evaluates how public expenditure has changed over time in absolute terms and relative to total governmental spending.

Since the second half of the 1990s, most OECD countries made serious efforts to consolidate public budgets. Education had to compete with a wide range of other areas covered in government budgets for public financial support. To address this situation, this indicator evaluates the change in educational expenditure in absolute terms, and relative to changes in the size of public budgets.

Evidence and explanations

What this indicator covers and what it does not cover



Coverage diagram (see page 197 for explanations)

This indicator shows total public expenditure on education. This expenditure includes direct public expenditure on educational institutions as well as public subsidies to households (*e.g.*, scholarships and loans to students for tuition fees and student living costs) and to other private entities for education (*e.g.*, subsidies to companies or labour organisations that operate apprenticeship programmes). Unlike the preceding indicators, this indicator also includes public subsidies that are not attributable to household payments for educational institutions, such as subsidies for student living costs.

OECD countries differ in the ways in which they use public money for education. Public funds may flow directly to schools or be channelled to institutions via government programmes or via households; they may also be restricted to the purchase of educational services or be used to support student living costs.

Total public expenditure on all services, excluding education, includes expenditure on debt servicing (*e.g.* interest payments) that are not included in public expenditure on education. The reason for this exclusion is that some countries cannot separate interest payment outlays for education from those for other services. This means that public expenditure on education as a percentage of total public expenditure can be underestimated in countries where interest payments represent a high proportion of total public expenditure on all services.

It is important to examine public investment in education in conjunction with private investment, as shown in Indicator B3.

Overall level of public resources invested in education

On average, in 2001 OECD countries devoted 12.7% of total public expenditure to education.

On average, in 2001 OECD countries devoted 12.7% of total public expenditure to education. However, the values for individual countries range from below 10% in the Czech Republic, Germany, Luxembourg and the Slovak Republic, to 24% in Mexico (Chart B4.1). As in the case of spending on education in relation to GDP per capita, these values must be interpreted in the context of student demography and enrolment rates.

On average OECD countries spend three times as much on primary, secondary and post-secondary non-tertiary education as they do on tertiary education.

The public-sector proportion of funding of the different levels of education varies widely among OECD countries. In 2001, OECD countries spent between 6.4 (Germany) and 18% (Mexico) of total public expenditure on primary, secondary and post-secondary non-tertiary education, and between 1.2 (Korea) and 4.9% (Denmark) on tertiary education. On average in OECD countries, public funding of primary, secondary and post-secondary non-tertiary education is three times that of tertiary education, mainly due to enrolment rates. This ratio varies by country from less than double in Canada, Denmark and Finland to as high as nearly 11 times in Korea. The latter figure is indicative of the relatively high proportion of private funds that go into tertiary education in Korea (Table B4.1).

Public funding of education is a social priority, even in OECD countries with little public involvement in other areas.

When public expenditure on education is examined as a proportion of total public spending, the relative sizes of public budgets (as measured by public spending in relation to GDP) must be taken into account.

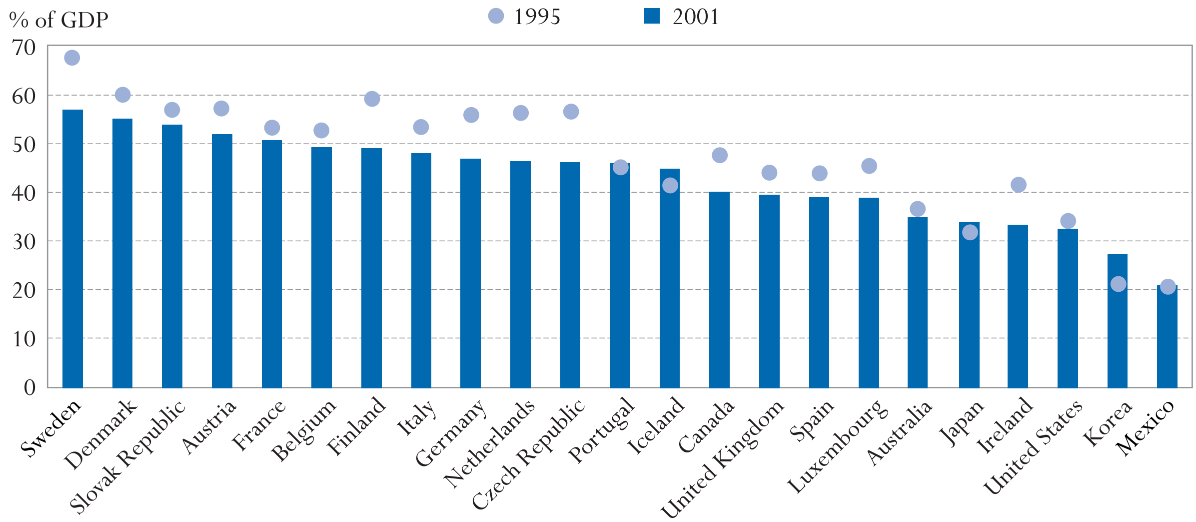
Across OECD countries, when the size of public budgets relative to GDP is compared with the proportion of public spending committed to education, it is evident that even in countries with relatively low rates of public spending, education is awarded a very high level of priority. For instance, the share of public spending that goes to education in Korea, Mexico and the United States is among the highest of OECD countries (Chart B4.1); yet total public spending accounts for a relatively low proportion of GDP in these countries (Chart B4.2).

Although the overall pattern is not clear, there is some evidence to suggest that countries with high rates of public spending spend proportionately less on education; only four of the top ten countries for public spending on public services overall – Denmark, Finland, Portugal and Sweden – are in the top 10 public spenders on education (Charts B4.1 and B4.2).

Typically, public expenditure on education grew faster than total public spending, but not as fast as national income from 1995 to 2001.

The process of budget consolidation puts pressure on education along with every other service. Nevertheless, with the exception of Canada, Japan and the Slovak Republic, spending on education grew at least as fast as spending in other public areas between 1995 and 2001; the proportion of public budgets spent on education grew, on average, from 11.8% in 1995 to 12.7% in 2001. The figures suggest that the greatest increase in the share of public expenditure on education between 1995 and 2001 took place in Denmark (increasing from 12.7% to 15.4%), Mexico (22.4% to 24.3%) and Sweden (10.6% to 12.8%).

Chart B4.2. Total public expenditure as a percentage of GDP (1995, 2001)



Note: This chart represents public expenditure on all services and not simply public expenditure on education.
Countries are ranked in descending order of total public expenditure as a percentage of GDP in 2001.
Source: OECD. Annex 2. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Definitions and methodologies

Data refer to the financial year 2001 and are based on the UOE data collection on education statistics administered by the OECD in 2003 (for details see Annex 3).

Educational expenditure is expressed as a percentage of a country's total public sector expenditure and as a percentage of GDP. Public educational expenditure includes expenditure on educational institutions and subsidies for students' living costs and for other private expenditure outside institutions. Public expenditure on education includes expenditure by all public entities, including ministries other than the ministry of education, local and regional governments and other public agencies.

Total public expenditure, also referred to as total public spending, corresponds to the non-repayable current and capital expenditure of all levels of government: central, regional and local. Current expenditure includes final consumption expenditure, property income paid, subsidies and other current transfers (*e.g.*, social security, social assistance, pensions and other welfare benefits). Figures for total public expenditure have been taken from the OECD National Accounts Database (see Annex 2) and use the System of National Accounts 1993. In previous editions of *Education at a Glance*, total public expenditure was based on the System of National Accounts 1968. The change in the system of national accounts may explain differences in this indicator in comparison with previous editions of this publication.

Note that data appearing in earlier editions of this publication may not always be comparable to data shown in the 2004 edition due to changes in definitions and coverage that were made as a result of the OECD expenditure comparability study (see Annex 3 at *www.oecd.org/edu/eag2004* for details on changes).

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Table B4.1. Total public expenditure on education (1995, 2001)

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 GDP and as a percentage of total public expenditure, by level of education and year

		Public expenditure[1] on education as a percentage of total public expenditure				Public expenditure[1] on education as a percentage of GDP			
		2001			1995	2001			1995
		Primary, secondary and post-secondary non-tertiary education	Tertiary education	All levels of education combined	All levels of education combined	Primary, secondary and post-secondary non-tertiary education	Tertiary education	All levels of education combined	All levels of education combined
OECD COUNTRIES	Australia	10.8	3.4	14.4	13.6	3.8	1.2	5.0	5.2
	Austria	7.3	2.6	11.1	10.7	3.8	1.4	5.8	6.2
	Belgium	8.2	2.8	12.4	m	4.0	1.4	6.1	m
	Canada[2]	7.6	4.6	12.7	13.1	3.1	1.9	5.2	6.5
	Czech Republic	6.5	1.8	9.6	8.7	3.0	0.9	4.4	4.9
	Denmark[3]	8.7	4.9	15.4	12.7	4.8	2.7	8.5	7.7
	Finland	7.8	4.2	12.7	11.5	3.9	2.1	6.2	6.8
	France	7.9	2.0	11.2	11.3	4.0	1.0	5.7	6.0
	Germany	6.4	2.4	9.7	9.7	3.0	1.1	4.6	4.6
	Greece	m	m	m	6.6	2.4	1.2	3.9	3.1
	Hungary	m	m	m	12.9	3.2	1.1	5.1	5.4
	Iceland	11.5	2.5	14.7	m	5.1	1.1	6.5	m
	Ireland	9.1	3.7	13.0	12.2	3.0	1.2	4.3	5.1
	Italy	7.6	1.7	10.3	9.1	3.7	0.8	5.0	4.9
	Japan[3]	7.9	1.6	10.5	11.0	2.7	0.5	3.6	3.5
	Korea	12.8	1.7	17.7	m	3.5	0.5	4.9	m
	Luxembourg	8.5	m	9.8	m	3.3	m	3.8	m
	Mexico	18.0	3.5	24.3	22.4	3.8	0.7	5.1	4.6
	Netherlands	7.1	2.8	10.7	9.0	3.3	1.3	5.0	5.1
	New Zealand	m	m	m	14.4	4.7	1.8	6.7	5.7
	Norway	m	m	m	15.3	4.8	1.8	7.0	7.4
	Poland	m	m	m	11.9	4.1	1.1	5.6	5.7
	Portugal	9.3	2.3	12.7	11.9	4.3	1.1	5.9	5.4
	Slovak Republic	4.9	1.5	7.5	8.8	2.7	0.8	4.0	5.0
	Spain	7.6	2.6	11.3	10.6	3.0	1.0	4.4	4.7
	Sweden	8.4	3.6	12.8	10.6	4.8	2.0	7.3	7.2
	Switzerland	m	m	m	14.2	3.9	1.3	5.5	5.5
	Turkey	m	m	m	m	2.5	1.2	3.7	2.4
	United Kingdom	8.4	2.0	11.4	11.4	3.4	0.8	4.7	5.2
	United States[2]	11.5	4.5	17.1	m	3.8	1.5	5.6	m
	Country mean	***8.9***	***2.8***	***12.7***	***11.8***	***3.6***	***1.3***	***5.3***	***5.3***
PARTNER COUNTRIES	Argentina	10.1	2.3	13.5	m	3.6	0.8	4.8	m
	Brazil[4]	8.3	2.7	12.0	m	3.0	1.0	4.4	m
	Chile[5]	14.5	2.6	18.7	m	3.4	0.6	4.4	m
	India[2]	9.9	2.6	12.7	m	3.1	0.8	4.0	m
	Indonesia	7.5	2.3	9.8	m	1.0	0.3	1.3	m
	Israel	9.1	2.4	13.7	13.3	4.7	1.3	7.1	8.5
	Jamaica	9.2	2.3	12.3	m	4.8	1.2	6.3	m
	Jordan	m	m	m	m	4.3	m	m	m
	Malaysia	12.4	6.8	20.0	m	4.9	2.7	7.9	m
	Paraguay	8.0	1.7	9.7	m	3.7	0.8	4.5	m
	Peru	16.1	5.3	23.5	m	2.0	0.7	2.9	m
	Philippines	11.8	1.8	14.0	m	2.7	0.4	3.2	m
	Russian Federation	6.7	2.0	11.5	m	1.8	0.5	3.0	m
	Thailand	14.9	6.1	28.3	m	2.7	1.1	5.0	m
	Tunisia	14.2	4.0	18.2	m	5.3	1.5	6.8	m
	Uruguay	8.9	2.7	12.8	m	2.2	0.7	3.1	m
	Zimbabwe[2, 5]	m	m	m	m	5.6	a	5.6	m

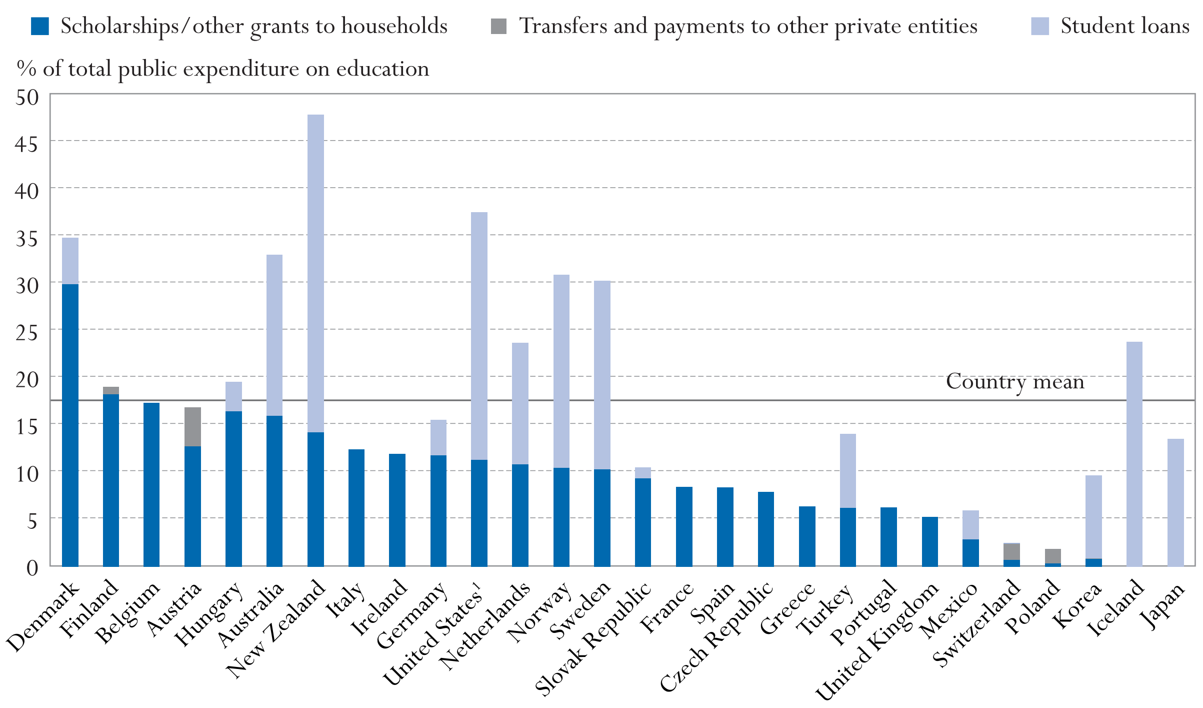
1. Public expenditure presented in this table includes public subsidies to households for living costs, which are not spent on educational institutions. Thus the figures presented here exceed those on public spending on institutions found in Table B2.1b.
2. Post-secondary non-tertiary included in tertiary education and excluded from primary, secondary and post-secondary non-tertiary education.
3. Post-secondary non-tertiary included in both upper secondary and tertiary education.
4. Year of reference 2000.
5. Year of reference 2002.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

INDICATOR B5: SUPPORT FOR STUDENTS AND HOUSEHOLDS THROUGH PUBLIC SUBSIDIES

- Public subsidies for students and households are evident mainly at the tertiary level.
- An average of 17% of public spending on tertiary education is devoted to supporting students, households and other private entities. In Australia, Denmark, New Zealand, Norway, Sweden and the United States, public subsidies account for about 30% or more of public tertiary education budgets.
- Subsidies are generally more evident in systems where students are expected to pay for at least part of the cost of their education.
- Subsidised student loan systems tend to operate in countries with high levels of participation at the tertiary level.
- In most OECD countries, the beneficiaries of public subsidies have considerable discretion regarding the spending of subsidies. In all reporting OECD countries, subsidies are spent mainly outside educational institutions, and in one out of three of these countries, exclusively outside.

Chart B5.1. Public subsidies for education in tertiary education (2001)

Public subsidies for education to households and other private entities as a percentage of total public expenditure on education, by type of subsidy



1. Including post-secondary non-tertiary education.

Countries are ranked in descending order of scholarships/other grants to households and transfers and payments to other private entities in tertiary education.

Source: OECD. Table B5.2. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Policy context

This indicator examines direct and indirect public spending on educational institutions as well as public subsidies to households for student living costs.

Subsidies to students and their families are policy levers through which governments can encourage participation in education, particularly among students from low-income families, by covering part of the cost of education and related expenses. They can thereby seek to address issues of access and equality of opportunity. Their success must therefore be judged, at least in part, through examination of indicators of participation, retention and completion. Furthermore, public subsidies play an important role in indirectly financing educational institutions.

Channelling funding for institutions through students may also help to increase competition between institutions and result in greater efficiency in the financing of education. Since aid for student living costs can serve as a substitute for work as a financial resource, public subsidies may enhance educational attainment by enabling students to study full-time and to work fewer hours or not at all.

Public subsidies come in many forms: as means-based subsidies, as family allowances for all students, as tax allowances for students or their parents, or as other household transfers. Unconditional subsidies (such as tax reductions or family allowances) may provide less of an incentive for low-income students to participate in education than means-tested subsidies. However, they may still help reduce disparities between households with and without children in education.

A key question is whether financial subsidies for households should be 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 this question but presents the policies for subsidies in different OECD countries.

Evidence and explanations

What this indicator covers and what it does not cover

Coverage diagram (see page 197 for explanations)

This indicator shows the proportion of public spending on education transferred to students, families and other private entities. Some of these funds are spent indirectly on educational institutions, for example, when subsidies are used to cover tuition fees. Other subsidies for education do not relate to educational institutions, such as subsidies for student living costs.

The indicator distinguishes between scholarships and grants, which are non-repayable subsidies, and loans, which must be repaid. The indicator does not, however, distinguish among different types of grants or loans, such as scholarships, family allowances and subsidies in kind.

Governments can also support students and their families by providing tax reductions and tax credits. These subsidies are not covered by this indicator.

The indicator reports the full volume of student loans in order to provide information on the level of support which current students receive. The indicator does not take repayments into account, even though these can reduce the real costs of loans substantially. The reason is that the gross amount of loans, including scholarships and grants, is the relevant variable for the measuring of financial aid to current participants in education. Although interest payments and repayments of the principal by borrowers would be taken into account in order to assess the net cost of student loans to public and private lenders, such payments are not usually made by current students but rather by former students. In most countries, moreover, loan repayments do not flow to the education authorities, and thus the money is not available to them to cover other educational expenditure.

Given that no internationally comparable method is currently available to calculate the net costs of student loan programmes, loans must be treated according to the likely use of the data. The OECD indicators therefore take the full amount of scholarships and loans (gross) into account when discussing financial aid to current students.

It is also common for governments to guarantee the repayment of loans to students made by private lenders. In some OECD countries, this indirect form of subsidy is as significant as, or more significant than, direct financial aid to students. However, for reasons of comparability, the indicator only takes into account the amounts relating to public transfers for private loans that are made to private entities (not the total value of loans generated).

Some OECD countries also have difficulties quantifying the amount of loans attributable to students. Therefore, data on student loans should be treated with some caution.

Public subsidies to households and other private entities

OECD countries spend an average of around 0.4% of their GDP on public subsidies to households and other private entities for education.

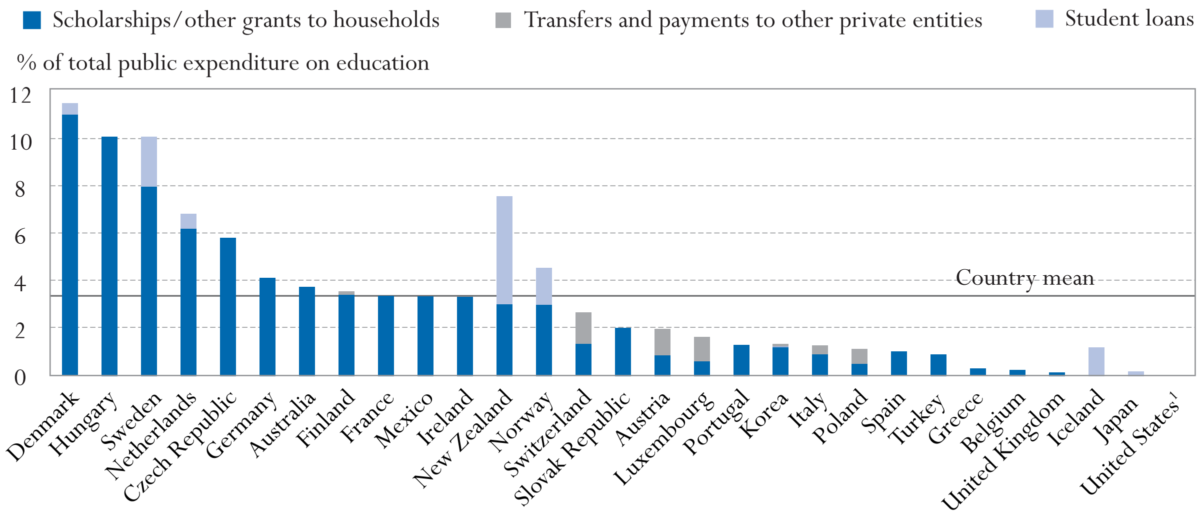
OECD countries spend an average of 0.4% of their GDP on public subsidies to households and other private entities for all levels of education combined. The subsidies are largest in relation to GDP in Denmark (1.50% of GDP), followed by New Zealand (1.20%) and Sweden (1.10%). Furthermore, on average across OECD countries, 7.1% of public budgets for education are spent on transfers to the private sector (Tables B4.1, B5.1 and B5.2). Most of these amounts are devoted to the tertiary level of education, except in the Czech Republic, France, Hungary, Korea, Mexico, Poland and Switzerland, where more than 50% of transfers to the private sector are devoted to primary, secondary and post-secondary non-tertiary education (Tables B5.1 and B5.2).

At the primary, secondary and post-secondary non-tertiary levels, public subsidies account for a comparatively small proportion of public spending on education.

Most OECD countries offer public subsidies to households from upper secondary education onwards. There are usually few subsidies available before the upper secondary level, since in most OECD countries education up to that level is compulsory, free of charge, predominantly provided by the public sector and largely provided at the point of residence of students and their families. In seven out of 29 OECD countries for which data are available, subsidies to households and private entities therefore account for 1% or less of total public spending on primary, secondary and post-secondary non-tertiary education. However,

Chart B5.2. Public subsidies for education in primary, secondary and post-secondary non-tertiary education (2001)

Public subsidies for education to households and other private entities as a percentage of total public expenditure on education, by type of subsidy



1. Excluding post-secondary non-tertiary education.
Countries are ranked in descending order of scholarships/other grants to households and transfers and payments to other private entities for primary, secondary and post-secondary non-tertiary education.
Source: OECD. Table B5.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

in Hungary, New Zealand and Sweden, public subsidies account for between 7 and 11% of public expenditure on primary, secondary and post-secondary non-tertiary education; they reach 11.6% in Denmark (Chart B5.2). In most of the OECD countries with high proportions of subsidies at the primary, secondary and post-secondary non-tertiary levels of education, these subsidies are directed at adults re-entering secondary education.

Australia, Denmark, New Zealand, Norway, Sweden and the United States spend 30% or more of their public education budget at the tertiary level on subsidies to the private sector.

The proportion of educational budgets spent on subsidies to households and private entities is much higher at the tertiary level. OECD countries spend, on average, 17% of their public budgets for tertiary education on subsidies to households and other private entities (Chart B5.1). In Australia, Denmark, New Zealand, Norway, Sweden and the United States, public subsidies account for 30% or more of public spending on tertiary education. Only Poland and Switzerland spend less than 5% of their total public spending on tertiary education on subsidies (Table B5.2).

OECD countries use different mixtures of grants and loans to subsidise students' educational costs.

A key question in many OECD countries is whether financial subsidies for households should primarily be provided in the form of grants or loans. Governments choose to subsidise students' living costs or educational costs through different mixtures of grants and loans. Advocates of student loans argue that money spent on loans goes further: if the amount spent on grants were used to guarantee or subsidise loans instead, more aid would be available to students in total, and overall access would be increased. Loans also shift some of the cost of education to those who benefit most from educational investment. Opponents of loans argue that student loans are less effective than grants in encouraging low-income students to pursue their education. They also argue that loans may be less efficient than anticipated because of the various subsidies provided to borrowers or lenders, and due to costs of administration and servicing. Cultural differences among and within countries may also affect students' willingness to take out a student loan.

Chart B5.1 presents the proportion of public educational expenditure spent on loans, grants and scholarships and other subsidies to households at the tertiary level. Grants and scholarships include family allowances and other specific subsidies, but exclude tax reductions. Thirteen out of 29 reporting OECD countries rely exclusively on grants or scholarships and transfers and payments to other private entities. The remaining OECD countries provide both grants or scholarships and loans to students. In general, the highest subsidies to students are provided by those OECD countries offering student loans; in most cases these countries spend an above-average proportion of their budgets on grants and scholarships alone (Chart B5.1 and Table B5.2).

The largest subsidies in the form of student loans tend to be in countries with the highest participation rates in tertiary education.

The motivation for governments to introduce a student loan system can often be to better manage the cost of an expanding tertiary sector. It is notable, for instance, that the four countries reporting the largest subsidies in the form of student loans – Iceland, New Zealand, Norway and Sweden – also have some of the highest rates of entry into tertiary education of OECD countries (see Indicator C2). There are exceptions. Finland has the fourth highest tertiary (Type A) entry rates but does not operate a publicly-funded student loan system.

Repayments of loans reduce the real cost of loan programmes to the public budget; at the same time, they increase the burden on households for education.

Repayments of public loans can be a substantial source of income for governments and can decrease the costs of loan programmes significantly. The current reporting of household expenditure on education as part of private expenditure (Indicator B4) does not take into account the repayment by previous recipients of public loans. These repayments can be a substantial burden to individuals and have an impact on the decision to participate in tertiary education. However, many OECD countries make the repayment of loans dependent on graduates' later level of income.

Given that repayments to loan programmes are made by former students who took out loans several years earlier, it is difficult to estimate the real costs of loan programmes. Loans are therefore reported on a gross basis only. International comparisons of total repayments in the same reference period cannot be made, since they are heavily influenced by changes in schemes for the distribution of loans and by changes in the numbers of students receiving loans.

How subsidies are used: student living costs and tuition fees

In most OECD countries, the beneficiaries of public subsidies have considerable discretion about how they spend them.

In most OECD countries, the bulk of public payments to households for education are not earmarked; that is, their use is determined by the beneficiaries, namely students and their families. In a few OECD countries, however, public subsidies are earmarked for payments to educational institutions. Australia, New Zealand and the United Kingdom, for example, earmark public subsidies for tuition fees. In Australia, loans and tuition fees are closely regulated through the Higher Education Contribution Scheme (HECS). Under HECS, students can elect to pay their contributions for their university education in advance, semester by semester, and receive a 25% discount, or, they can repay their accumulated contribution through the tax system when their annual income exceeds a minimum threshold. For the purpose of the OECD education indicators, HECS is counted as a loan scheme, although students may not see the delayed payments as a loan. In OECD countries where tuition fees are substantial, a proportion of the public subsidy to households is effectively earmarked for payments to educational institutions, even without an official policy.

In all reporting OECD countries subsidies are spent mainly outside educational institutions, and in one out of three OECD countries exclusively outside.

Scholarships and other grants attributable to students are largely spent outside educational institutions. They support educational expenses other than tuition fees. In Denmark, Finland and Hungary, scholarships and other grants not attributable for tuition fees to educational institutions account for more than 15% of the total public spending on tertiary education. Korea, Poland and Switzerland are the only OECD countries where scholarships and other grants attributable for expenditure outside institutions amount to less than 1% of total public spending on education (Table B5.2).

Subsidies are particularly important in systems where students are expected to pay at least part of the cost of their education.

In OECD countries where students are required to pay tuition fees, public subsidies are of particular importance in order to provide students with access to educational opportunities, regardless of their financial situation. Indicator B3 shows what proportion of funding of educational institutions originates from private sources.

In OECD countries with low levels of private involvement in the funding of educational institutions, the level of public subsidies tends to be lower (Tables B5.2 and B3.2a and b). An exception is Korea, where despite the fact that around 90% of all expenditure on tertiary institutions originates from private sources, the level of subsidies to support tuition payments to institutions is, at 1%, comparatively low (Tables B5.2 and B3.2a and b).

Definitions and methodologies

Data refer to the financial year 2001 and are based on the UOE data collection on education statistics administered by the OECD in 2003 (for details see Annex 3).

Public subsidies to households include the following categories: *i)* grants/scholarships; *ii)* public student loans; *iii)* family or child allowances contingent on student status; *iv)* public subsidies in cash or kind specifically for housing, transportation, medical expenses, books and supplies, social, recreational and other purposes; and *v)* interest-related subsidies for private loans.

Expenditure on student loans is reported on a gross basis, that is, without subtracting or netting out repayments or interest payments from the borrowers (students or households). This is because the gross amount of loans including scholarships and grants is the relevant variable for measuring financial aid to current participants in education.

Public costs related to private loans guaranteed by governments are included as subsidies to other private entities. Unlike public loans, only the net cost of these loans is included.

The value of tax reductions or credits to households and students is not included.

Note that data appearing in earlier editions of this publication may not always be comparable to data shown in the 2004 edition due to changes in definitions and coverage that were made as a result of the OECD expenditure comparability study (see Annex 3 at *www.oecd.org/edu/eag2004* for details on changes).

B5

Table B5.1. Public subsidies for households and other private entities as a percentage of total public expenditure on education and GDP for primary, secondary and post-secondary non-tertiary education (2001)

Direct public expenditure on educational institutions and subsidies for households and other private entities

		Direct expenditure for institutions	Subsidies for education to private entities					Subsidies for education to private entities as a percentage of GDP
			Financial aid to students			Transfers and payments to other private entities	Total	
			Scholarships/ other grants to households	Student loans	Total			
OECD COUNTRIES	Australia	**96.2**	3.8	n	3.8	n	**3.8**	0.14
	Austria	**98.0**	0.9	a	0.9	1.1	**2.0**	0.08
	Belgium	**99.7**	0.3	n	0.3	n	**0.3**	0.01
	Canada[1]	**m**	m	m	m	m	**m**	m
	Czech Republic	**94.1**	5.9	a	5.9	n	**5.9**	0.18
	Denmark	**88.4**	11.1	0.5	11.6	n	**11.6**	0.55
	Finland	**96.4**	3.4	n	3.4	0.2	**3.6**	0.14
	France	**96.6**	3.4	a	3.4	a	**3.4**	0.14
	Germany	**95.8**	4.2	n	4.2	n	**4.2**	0.13
	Greece	**99.7**	0.3	m	0.3	a	**0.3**	0.01
	Hungary	**89.9**	10.1	a	10.1	n	**10.1**	0.32
	Iceland	**98.8**	m	1.2	1.2	m	**1.2**	0.06
	Ireland	**96.7**	3.3	n	3.3	n	**3.3**	0.10
	Italy	**98.7**	0.9	a	0.9	0.3	**1.3**	0.05
	Japan	**99.8**	m	0.2	0.2	n	**0.2**	0.01
	Korea	**98.7**	1.2	0.1	1.3	0.1	**1.3**	0.05
	Luxembourg	**98.3**	0.6	a	0.6	1.0	**1.7**	0.06
	Mexico	**96.6**	3.4	a	3.4	a	**3.4**	0.13
	Netherlands	**93.1**	6.2	0.6	6.9	n	**6.9**	0.23
	New Zealand	**92.4**	3.0	4.6	7.6	n	**7.6**	0.36
	Norway	**95.4**	3.0	1.6	4.6	n	**4.6**	0.22
	Poland	**98.9**	0.5	a	0.5	0.6	**1.1**	0.05
	Portugal	**98.7**	1.3	m	1.3	m	**1.3**	0.06
	Slovak Republic	**98.0**	2.0	a	2.0	m	**2.0**	0.06
	Spain	**99.0**	1.0	n	1.0	n	**1.0**	0.03
	Sweden	**89.9**	8.0	2.1	10.1	m	**10.1**	0.48
	Switzerland	**97.3**	1.4	n	1.4	1.3	**2.7**	0.11
	Turkey	**99.1**	0.9	a	0.9	m	**0.9**	0.02
	United Kingdom	**99.8**	0.2	a	0.2	n	**0.2**	0.01
	United States[1]	**100.0**	n	n	n	n	**n**	n
	Country mean	***96.7***	***3.0***	***0.4***	***3.1***	***0.2***	***3.3***	***0.13***
PARTNER COUNTRIES	Argentina	**99.3**	0.4	a	0.4	0.3	**0.7**	n
	Brazil[2]	**97.2**	0.4	m	0.4	2.4	**2.8**	0.1
	Chile[3]	**99.6**	0.4	a	0.4	a	**0.4**	n
	India[1]	**99.9**	0.1	a	0.1	a	**0.1**	n
	Indonesia	**96.6**	3.4	m	3.4	m	**3.4**	n
	Israel	**98.5**	1.5	n	1.5	n	**1.5**	0.1
	Jamaica	**97.9**	2.1	a	2.1	a	**2.1**	0.1
	Jordan	**100.0**	a	a	a	a	**a**	a
	Malaysia	**99.5**	0.5	a	0.5	a	**0.5**	n
	Paraguay	**99.7**	0.2	a	0.2	0.1	**0.3**	n
	Peru[1]	**100.0**	a	n	a	n	**a**	m
	Philippines	**99.2**	a	a	a	0.8	**0.8**	n
	Thailand	**95.1**	0.7	4.2	4.9	m	**4.9**	n
	Uruguay	**99.9**	0.1	a	0.1	a	**0.1**	n
	Zimbabwe[3]	**99.9**	0.1	a	0.1	a	**0.1**	n

1. Excluding post-secondary non-tertiary education.
2. Year of reference 2000.
3. Year of reference 2002.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

Table B5.2. Public subsidies for households and other private entities as a percentage of total public expenditure on education and GDP for tertiary education (2001)

Direct public expenditure on educational institutions and subsidies for households and other private entities

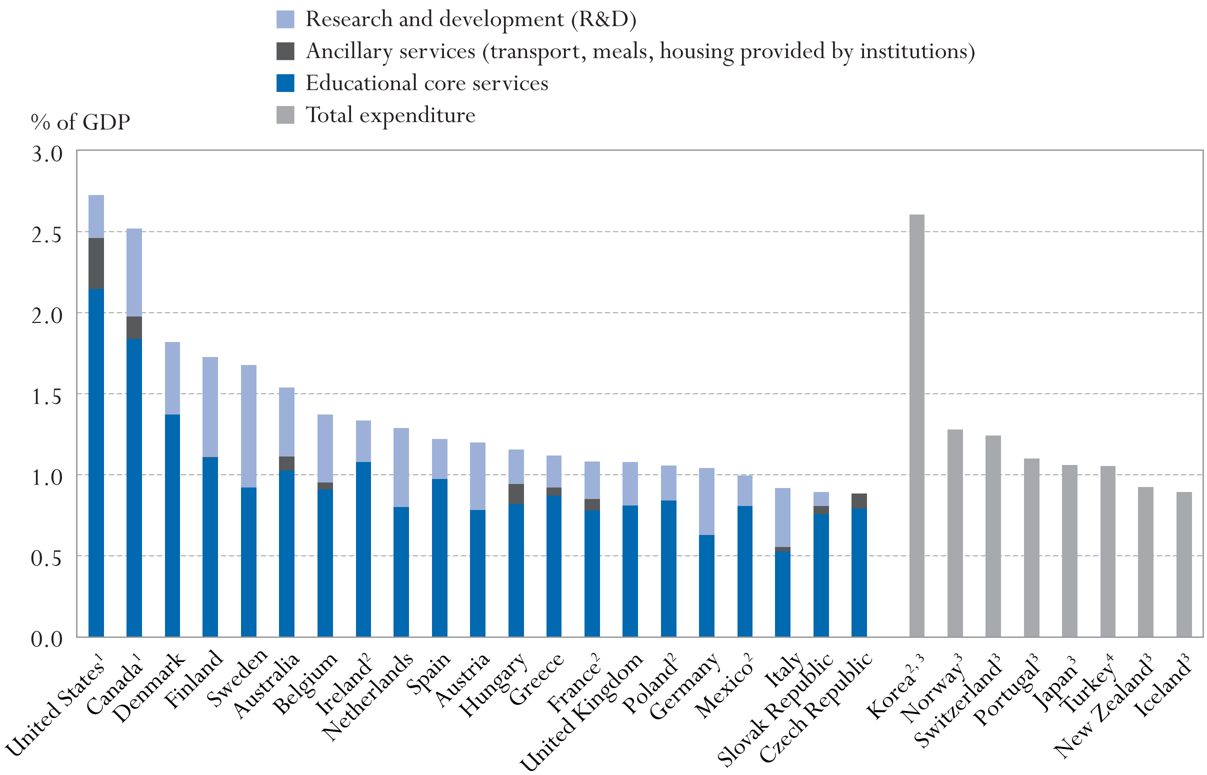
			Subsidies for education to private entities					
			Financial aid to students					
		Direct expenditure for institutions	Scholarships/ other grants to households	Student loans	Total	Scholarships/ other grants to households attributable for educational institutions	Transfers and payments to other private entities	Total	Subsidies for education to private entities as a percentage of GDP
OECD COUNTRIES	Australia	**67.1**	15.9	17.0	32.9	1.2	n	**32.9**	0.39
	Austria	**83.1**	12.7	a	12.7	m	4.2	**16.9**	0.23
	Belgium	**82.7**	17.3	n	17.3	4.0	n	**17.3**	0.24
	Canada[1]	**m**	m	m	m	m	m	**m**	m
	Czech Republic	**92.1**	7.9	a	7.9	m	n	**7.9**	0.07
	Denmark	**65.3**	29.8	4.8	34.7	m	n	**34.7**	0.95
	Finland	**81.0**	18.2	n	18.2	n	0.8	**19.0**	0.39
	France	**91.6**	8.4	a	8.4	2.5	a	**8.4**	0.09
	Germany	**84.5**	11.7	3.8	15.5	a	n	**15.5**	0.17
	Greece	**93.6**	6.4	m	6.4	m	a	**6.4**	0.08
	Hungary	**80.5**	16.4	3.1	19.5	n	n	**19.5**	0.22
	Iceland	**76.3**	n	23.7	23.7	n	n	**23.7**	0.26
	Ireland	**88.1**	11.9	n	11.9	m	n	**11.9**	0.15
	Italy	**87.6**	12.4	n	12.4	4.4	n	**12.4**	0.10
	Japan	**85.5**	1.0	13.5	14.5	m	n	**14.5**	0.08
	Korea	**90.4**	0.8	8.7	9.5	0.8	0.1	**9.6**	0.03
	Luxembourg	**m**	m	m	m	m	m	**m**	m
	Mexico	**94.1**	2.9	3.0	5.9	2.8	n	**5.9**	0.04
	Netherlands	**76.4**	10.8	12.8	23.6	2.0	n	**23.6**	0.31
	New Zealand	**52.3**	14.2	33.5	47.7	n	n	**47.7**	0.84
	Norway	**69.2**	10.4	20.4	30.8	a	n	**30.8**	0.57
	Poland	**98.2**	0.4	a	0.4	a	1.5	**1.8**	0.02
	Portugal	**93.8**	6.2	m	6.2	m	m	**6.2**	0.07
	Slovak Republic	**89.5**	9.3	1.1	10.5	m	m	**10.5**	0.09
	Spain	**91.7**	8.3	n	8.3	3.6	n	**8.3**	0.08
	Sweden	**69.9**	10.3	19.9	30.1	a	a	**30.1**	0.62
	Switzerland	**97.5**	0.7	n	0.8	m	1.7	**2.5**	0.03
	Turkey	**86.0**	6.2	7.8	14.0	n	m	**14.0**	0.16
	United Kingdom	**94.7**	5.3	m	5.3	2.4	n	**5.3**	0.04
	United States[1]	**62.6**	11.3	26.1	37.4	m	a	**37.4**	0.55
	Country mean	*82.9*	*9.7*	*7.8*	*16.8*	*1.3*	*0.4*	*17.1*	*0.25*
PARTNER COUNTRIES	Argentina	**99.7**	0.3	n	0.3	m	n	**0.3**	n
	Brazil[2]	**83.4**	6.6	9.3	15.8	m	0.7	**16.6**	0.16
	Chile[3]	**70.5**	12.7	16.7	29.5	9.5	a	**29.5**	0.18
	India	**99.8**	0.2	n	0.2	n	n	**0.2**	n
	Israel	**89.1**	9.2	1.7	10.9	9.2	n	**10.9**	0.14
	Jamaica	**87.6**	4.7	7.7	12.4	4.2	a	**12.4**	0.15
	Malaysia	**76.6**	2.4	20.9	23.4	m	a	**23.4**	0.63
	Paraguay	**98.7**	1.3	a	1.3	a	a	**1.3**	0.01
	Peru	**100.0**	a	n	n	n	n	**n**	n
	Philippines	**97.4**	2.5	0.1	2.6	a	a	**2.6**	0.01
	Sri Lanka	**94.1**	x	x	5.9	m	m	**5.9**	0.02
	Thailand	**69.8**	x	x	30.2	m	m	**30.2**	0.33
	Uruguay	**100.0**	n	a	n	n	a	**n**	n

1. Including post-secondary non-tertiary education.
2. Year of reference 2000.
3. Year of reference 2002.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

INDICATOR B6: EXPENDITURE ON INSTITUTIONS BY SERVICE CATEGORY AND BY RESOURCE CATEGORY

- On average, one-quarter of expenditure on tertiary education is attributable to R&D at tertiary educational institutions. 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.
- In primary, secondary and post-secondary non-tertiary education combined, current expenditure accounts for an average of 92% of total spending across OECD countries. In all but four OECD countries, 70% or more of primary, secondary and post-secondary non-tertiary current expenditure is spent on staff salaries.

Chart B6.1. Expenditure on instruction, R&D and ancillary services in tertiary educational institutions as a percentage of GDP (2001)



1. Including post-secondary non-tertiary education.
2. Research and development (R&D) expenditure at tertiary level and thus total expenditure is underestimated.
3. The bar represents total expenditure at tertiary level and includes research and development (R&D) expenditure.
4. The bar represents total expenditure at tertiary level. Data on research and development (R&D) expenditure are missing.

Countries are ranked in descending order of expenditure on instruction, research and development (R&D) and ancillary services in tertiary institutions.

Source: OECD. Table B6.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Policy context

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.

How spending is apportioned between different categories of expenditure can affect the quality of services (*e.g.* teachers' salaries), the condition of educational facilities (*e.g.* school maintenance) and the ability of the education system to adjust to changing demographic and enrolment trends (*e.g.* the construction of new schools).

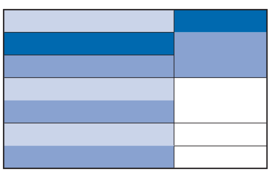
Comparisons of how different OECD countries apportion educational expenditure among the various resource categories can provide some insight into variation in the organisation and operation of educational institutions. Decisions on the allocation of resources made at the system level, both budgetary and structural, eventually feed through to the classroom and affect the nature of instruction and the conditions under which it is provided.

It also compares how OECD countries' spending is distributed by different functions of educational institutions.

Educational institutions offer a range of educational services in addition to instruction. At the primary, secondary and post-secondary non-tertiary levels of education, institutions may offer meals, free transport to and from school or boarding facilities. At the tertiary level, institutions may offer housing and often perform a wide range of research activities as an integral part of tertiary education.

Evidence and explanations

What this indicator covers and what it does not cover



Coverage diagram (see page 197 for explanations)

This indicator breaks down educational expenditure by current and capital expenditure and the three main functions typically fulfilled by educational institutions. This includes costs directly attributable to instruction, such as teachers' salaries or school materials, and costs indirectly related to the provision of instruction, such as expenditure on administration, instructional support services, development of teachers, student counselling, or the construction and/or provision of school facilities. It also includes spending on ancillary services, such as student welfare services provided by educational institutions. Finally, it includes spending attributable to research and development (R&D) performed at tertiary educational institutions, either in the form of separately funded R&D activities or in the form of those proportions of salaries and current expenditure in general education budgets that are attributable to the research activities of staff.

The indicator does not include public and private R&D spending outside educational institutions, such as R&D spending in industry. A comparative review of R&D spending in sectors other than education is provided in the OECD Science and Technology Indicators. Expenditure on student welfare services at educational institutions only includes public subsidies for those services. Expenditure by students and their families on services that are provided by institutions on a self-funding basis is not included.

Expenditure on instruction, R&D and ancillary services

Significant differences among OECD countries in the emphasis on R&D in tertiary institutions explain part of the variation in expenditure per tertiary student.

Below the tertiary level educational expenditure is dominated by spending on educational core services. At the tertiary level other services, particularly those related to R&D activities, can account for a significant proportion of educational spending. Differences among OECD countries in expenditure on R&D activities can therefore explain a significant part of the differences among OECD countries in overall educational expenditure per tertiary student (Chart B6.1). High levels of R&D spending in tertiary educational institutions in Australia, Austria, Belgium, Canada, Denmark, Finland, Germany, the Netherlands and Sweden (between 0.4 and 0.8% of GDP), for example, imply that spending on education per student in these OECD countries would be considerably lower if the R&D component were excluded (Table B6.1).

Student welfare services are integral functions of schools and universities.

Student welfare services and, sometimes, services for the general public are integral functions of schools and universities in many OECD countries. Countries finance these ancillary services with different combinations of public expenditure, public subsidies and fees paid by students and their families.

Expenditure on ancillary services at primary, secondary, and post-secondary non-tertiary levels represents 5% of total spending on educational institutions.

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 on educational institutions on ancillary services. In real terms, this expenditure represents more than US$ 250 (PPP) per student in the Czech Republic, Hungary, Italy and the United Kingdom, and even more than US$ 500 (PPP) per student in Finland, France and Sweden (Tables B6.1 and B6.2).

In more than two-thirds of OECD countries, the amount spent on ancillary services is higher than the amount spent on subsidies to households at the primary, secondary and post-secondary non-tertiary levels. Exceptions to this pattern are Germany, Ireland, the Netherlands and Sweden, where expenditure on subsidies to households is higher (Tables B5.1 and B6.1).

On average, expenditure on subsidies for ancillary services at the tertiary level amounts to just 0.1% of GDP. Nevertheless, on a per-student basis this can translate into significant amounts, as in Australia, the Czech Republic, France, Hungary and the United States, where subsidies for ancillary services amount to more than US$ 500 (PPP). At the tertiary level, ancillary services are more often provided on a self-financed basis (Tables B6.1 and B6.2).

Current and capital expenditure, and the distribution of current expenditure by resource category

Educational expenditure can first be divided into current and capital expenditure. Capital expenditure comprises spending on assets that last longer than one year and includes spending on the construction, renovation and major repair of buildings. Current expenditure comprises spending on school resources used each year for the operation of schools.

Current expenditure can be further sub-divided into three broad functional categories: compensation of teachers, compensation of other staff, and other current expenditure (on, for example, teaching materials and supplies, maintenance of school buildings, preparation of student meals and renting of school facilities). The amount allocated to each of these functional categories will depend in part on current and projected changes in enrolment, on the salaries of educational personnel and on costs of maintenance and construction of educational facilities.

Education takes place mostly in school and university settings. The labour-intensive technology of education explains the large proportion of current spending within total educational expenditure. In primary, secondary, and post-secondary non-tertiary education combined, current expenditure accounts for nearly 92% of total spending on average across all OECD countries.

There is some noticeable variation among OECD countries with respect to the relative proportions of current and capital expenditure: at the primary, secondary and post-secondary non-tertiary levels combined, the proportion of current expenditure ranges from less than 87% in Iceland, Korea and Luxembourg to 96% or more in Austria, Belgium, Canada, Mexico and Portugal (Chart B6.2).

In all except four OECD countries, 70% or more of current expenditure at the primary, secondary and post-secondary non-tertiary levels is spent on staff salaries.

The salaries of teachers and other staff employed in education account for the largest proportion of current expenditure in OECD countries. On average across OECD countries, expenditure on the compensation of educational personnel accounts for 81% of current expenditure at the primary, secondary and post-secondary non-tertiary levels of education combined. Although 70% or less of expenditure in the Czech Republic, Finland, Korea and Sweden is devoted to the compensation of educational personnel, the proportion is 90% or more in Greece, Luxembourg, Mexico, Portugal and Turkey (Chart B6.2).

OECD countries with smaller education budgets invest relatively more in personnel and less in other services.

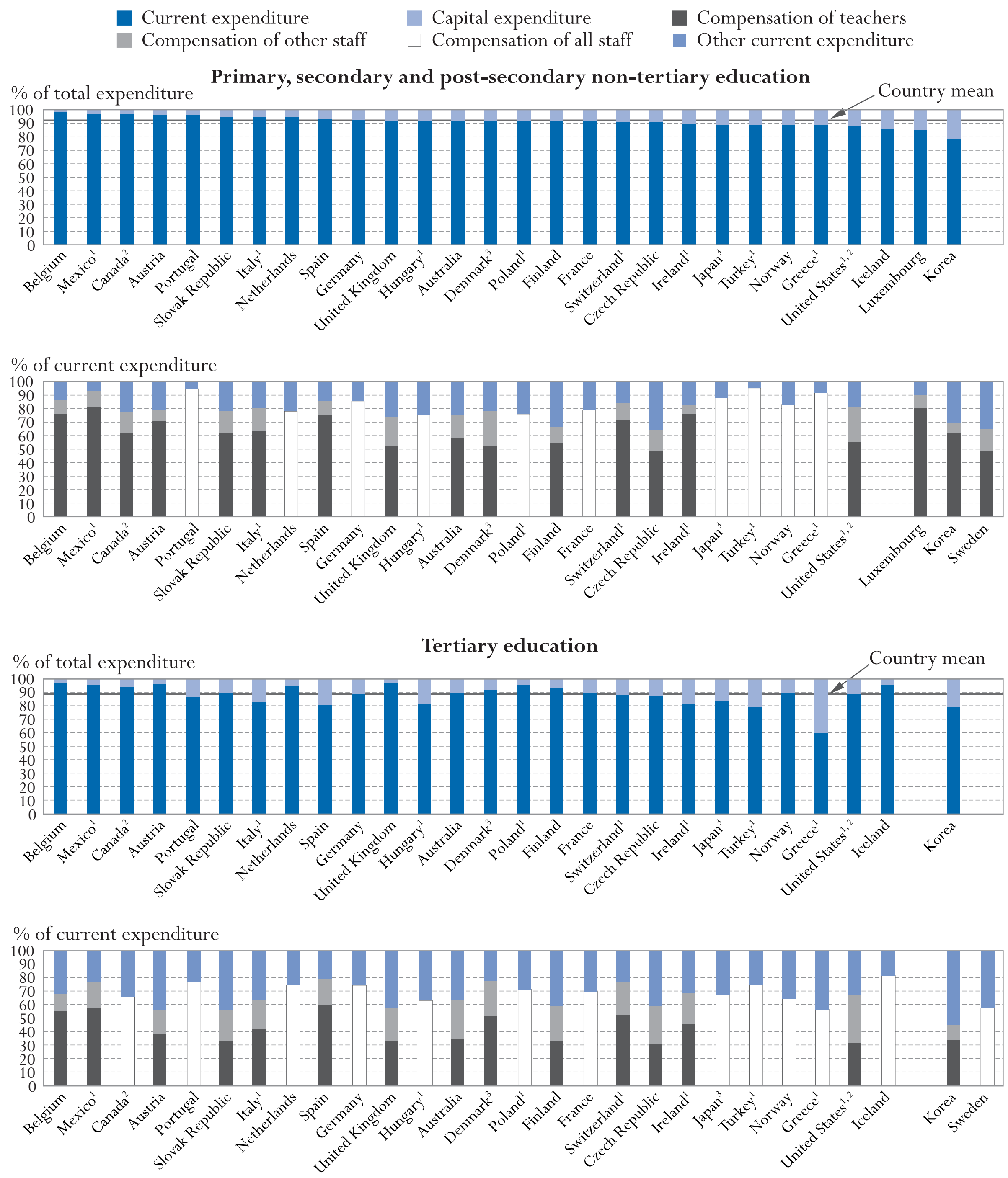
OECD countries with relatively small education budgets (Mexico, Portugal and Turkey, for example) tend to devote a larger proportion of current educational expenditure to the compensation of personnel and a smaller proportion to services that are sub-contracted or bought in, such as support services (*e.g.*, maintenance of school buildings), ancillary services (*e.g.*, preparation of meals for students) and renting of school buildings and other facilities.

OECD countries vary in the proportions of current expenditure that they allocate to the compensation of teachers and other staff.

In Denmark and the United States, around one quarter of current expenditure in primary, secondary and post-secondary non-tertiary education combined goes towards compensation of non-teaching staff, while in Austria, Ireland, Korea, Luxembourg and Spain this figure is 10% or less. These differences are likely to reflect the degree to which educational personnel specialise in non-teaching activities in a particular country (for example, principals who do not teach, guidance counsellors, bus drivers, school nurses, janitors and maintenance workers) (Table B6.3).

Chart B6.2. Distribution of total and current expenditure on educational institutions (2001)

By resource category and level of education



1. Public institutions only.
2. Post-secondary non-tertiary included in tertiary education.
3. Post-secondary non-tertiary included in both upper secondary and tertiary education.

Countries are ranked in descending order of current expenditure on primary, secondary and post-secondary non-tertiary education.

Source: OECD. Table B6.3. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

At the tertiary level, the proportion of capital expenditure is generally larger because of differentiated and advanced teaching facilities.

At the tertiary level, the proportion of total expenditure spent on capital outlays is larger than at the primary, secondary and post-secondary non-tertiary levels, generally because of more differentiated and advanced teaching facilities. In 14 out of 27 OECD countries for which data are available, the proportion spent on capital expenditure at the tertiary level is 10% or more, and in Greece, Korea and Turkey it is above 20% (Chart B6.2).

Differences are likely to reflect how tertiary education is organised in each OECD country, as well as the degree to which expansion in enrolments requires the construction of new buildings.

OECD countries, on average, spend 33% of current expenditure at the tertiary level on purposes other than the compensation of educational personnel. This is explained by the higher cost of facilities and equipment in higher education (Chart B6.2).

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Definitions and methodologies

Data refer to the financial year 2001 and are based on the UOE data collection on education statistics administered by the OECD in 2003 (for details see Annex 3).

The distinction between current and capital expenditure is the standard definition used in national income accounting. Current expenditure refers to goods and services consumed within the current year, and requiring recurrent production in order to sustain the provision of educational services. Capital expenditure refers to assets which last longer than one year, including spending on construction, renovation or major repair of buildings and new or replacement equipment. The capital expenditure reported here represents the value of educational capital acquired or created during the year in question – that is, the amount of capital formation – regardless of whether the capital expenditure was financed from current revenue or by borrowing. Neither current nor capital expenditure includes debt servicing.

Calculations cover expenditure by public institutions or, where available, that of public and private institutions combined.

Current expenditure other than on the compensation of personnel includes expenditure on services which are sub-contracted or bought in, such as support services (*e.g.*, maintenance of school buildings), ancillary services (*e.g.*, preparation of meals for students) and renting of school buildings and other facilities. These services are obtained from outside providers (unlike the services provided by the education authorities or educational institutions themselves using their own personnel).

Expenditure on R&D includes all expenditure on research performed at universities and other tertiary education institutions, regardless of whether the research is financed from general institutional funds or through separate grants or contracts from public or private sponsors. The classification of expenditure is based on data collected from the institutions carrying out R&D rather than on the sources of funds.

"Ancillary services" are services provided by educational institutions that are peripheral to the main educational mission. The two main components of ancillary services are student welfare services and services for the general public.

At primary, secondary, and post-secondary non-tertiary levels, student welfare services include meals, school health services, and transportation to and from school. At the tertiary level, it includes halls of residence (dormitories), dining halls, and health care. Services for the general public include museums, radio and television broadcasting, sports and recreational and cultural programmes. Expenditure on ancillary services, including fees from students or households, is excluded.

Educational core services are estimated as the residual of all expenditure, *i.e.,* total expenditure on educational institutions net of expenditure on R&D and ancillary services.

Note that data appearing in earlier editions of this publication may not always be comparable to data shown in the 2004 edition due to changes in definitions and coverage that were made as a result of the OECD expenditure comparability study (see Annex 3 at *www.oecd.org/edu/eag2004* for details on changes).

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Table B6.1. Expenditure on institutions by service category as a percentage of GDP (2001)

Expenditure on instruction, R&D and ancillary services in educational institutions and private expenditure on educational goods purchased outside educational institutions

OECD COUNTRIES	Primary, secondary and post-secondary non-tertiary education				Tertiary education				
	Expenditure on educational institutions				Expenditure on educational institutions				
	Educational core services	Ancillary services (transport, meals, housing provided by institutions)	Total	Private payments on instructional services/ goods outside educational institutions	Educational core services	Ancillary services (transport, meals, housing provided by institutions)	Research and development at tertiary institutions	Total	Private payments on instructional services/ goods outside educational institutions
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Australia	4.15	0.17	4.32	0.14	1.03	0.09	0.42	1.54	0.17
Austria	x(3)	x(3)	3.86	m	0.79	x(5)	0.41	1.20	m
Belgium	4.10	0.15	4.25	0.13	0.92	0.04	0.42	1.38	0.10
Canada[1]	3.21	0.18	3.40	m	1.84	0.14	0.54	2.52	0.41
Czech Republic	2.71	0.36	3.07	m	0.80	0.09	x(6)	0.89	m
Denmark[2]	x(3)	x(3)	4.32	0.55	1.37	x(5)	0.45	1.82	0.95
Finland	3.35	0.40	3.75	m	1.11	n	0.62	1.73	m
France[3]	3.61	0.56	4.17	0.14	0.78	0.07	0.23	1.08	0.08
Germany	3.50	0.08	3.58	0.18	0.63	n	0.41	1.04	0.08
Greece[4]	2.62	0.05	2.67	n	0.87	0.05	0.20	1.12	m
Hungary[4]	2.71	0.34	3.05	m	0.82	0.12	0.21	1.16	m
Iceland	x(3)	x(3)	5.23	m	x(8)	x(8)	x(8)	0.90	m
Ireland[3]	3.02	0.07	3.09	m	1.08	x(5)	0.26	1.34	m
Italy	3.56	0.15	3.71	0.07	0.53	0.03	0.36	0.92	0.21
Japan[2]	x(3)	x(3)	2.91	0.76	x(8)	x(8)	x(8)	1.06	m
Korea	x(3)	x(3)	4.55	m	x(8)	x(8)	x(8)	2.75	m
Luxembourg	x(3)	x(3)	3.64	0.01	m	m	m	m	m
Mexico[3]	x(3)	x(3)	4.22	0.23	0.81	x(5)	0.18	1.00	0.09
Netherlands	3.22	0.04	3.25	0.16	0.80	n	0.49	1.29	0.06
New Zealand	x(3)	x(3)	4.32	m	x(8)	x(8)	x(8)	0.93	m
Norway	x(3)	x(3)	4.58	m	x(8)	x(8)	x(8)	1.28	m
Poland[3,4]	3.78	0.25	4.03	m	0.85	n	0.21	1.06	m
Portugal	x(3)	x(3)	4.23	0.06	x(8)	x(8)	x(8)	1.10	0.07
Slovak Republic	2.41	0.25	2.66	0.21	0.76	0.05	0.08	0.90	0.10
Spain	3.14	0.04	3.18	m	0.97	x(5)	0.25	1.22	m
Sweden	3.88	0.43	4.31	0.49	0.92	a	0.75	1.68	0.62
Switzerland	x(3)	x(3)	4.52	m	x(8)	x(8)	x(8)	1.24	m
Turkey[3,4]	2.35	0.10	2.45	m	1.05	m	m	1.05	m
United Kingdom	3.68	0.26	3.94	m	0.81	m	0.27	1.08	0.24
United States[1]	4.07	n	4.07	a	2.15	0.32	0.26	2.73	a
Country mean	***3.32***	***0.20***	***3.78***	***0.22***	***0.99***	***0.07***	***0.35***	***1.34***	***0.23***

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. Post-secondary non-tertiary included in tertiary education and excluded from primary, secondary and post-secondary non-tertiary education.
2. Post-secondary non-tertiary included in both upper secondary and tertiary education.
3. Research and development expenditure and thus total expenditure is underestimated.
4. Ancillary services in public institutions only. Other ancillary services included in instructional services.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

Table B6.2. Annual expenditure per student on instruction, ancillary services and R&D (2001)

Expenditure on educational institutions in US dollars converted using PPPs from public and private sources, by type of service and level of education

	Primary, secondary and post-secondary non-tertiary education			Tertiary education			
	Direct expenditure on educational institutions			Direct expenditure on educational institutions			
	Educational core services	Ancillary services (transport, meals, housing provided by institutions)	Total	Educational core services	Ancillary services (transport, meals, housing provided by institutions)	Research and development	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
OECD COUNTRIES							
Australia	5 826	237	6 063	8 491	709	3 488	12 688
Austria	x(3)	x(3)	7 852	7 388	x(4)	3 886	11 274
Belgium	6 536	244	6 781	7 713	371	3 505	11 589
Canada[1]	m	m	m	m	m	m	m
Czech Republic	2 486	333	2 819	4 978	576	x(5)	5 555
Denmark[2]	x(3)	x(3)	7 865	10 771	x(4)	3 510	14 280
Finland	5 118	615	5 733	7 051	10	3 921	10 981
France	5 870	913	6 783	6 405	560	1 872	8 837
Germany	5 918	137	6 055	6 342	28	4 134	10 504
Greece	3 411	65	3 475	3 330	204	747	4 280
Hungary[3]	2 381	297	2 677	5 077	745	1 300	7 122
Iceland	x(3)	x(3)	7 010	x(7)	x(7)	x(7)	7 674
Ireland	4 302	95	4 397	8 086	x(4)	1 918	10 003
Italy[3]	7 402	312	7 714	4 792	272	3 283	8 347
Japan[2]	x(3)	x(3)	6 179	x(7)	x(7)	x(7)	11 164
Korea	x(3)	x(3)	4 406	x(7)	x(7)	x(7)	6 618
Luxembourg	x(3)	x(3)	11 091	m	m	m	m
Mexico	x(3)	x(3)	1 575	3 538	x(4)	803	4 341
Netherlands	5 588	66	5 654	8 075	n	4 900	12 974
New Zealand	x(3)	x(3)	m	x(7)	x(7)	x(7)	m
Norway[3]	x(3)	x(3)	8 109	x(7)	x(7)	x(7)	13 189
Poland[3]	2 247	148	2 396	2 864	n	715	3 579
Portugal	x(3)	x(3)	5 065	x(7)	x(7)	x(7)	5 199
Slovak Republic	1 526	158	1 681	4 493	295	497	5 285
Spain	4 809	61	4 870	5 951	x(4)	1 504	7 455
Sweden	5 736	636	6 372	8 356	a	6 833	15 188
Switzerland[3]	x(3)	x(3)	8 844	x(7)	x(7)	x(7)	20 230
Turkey[3]	m	m	m	3 950	m	m	m
United Kingdom	4 977	347	5 324	8 101	m	2 652	10 753
United States[1,4]	8 144	n	8 144	17 515	2 583	2 136	22 234
Country mean	***4 840***	***274***	***5 738***	***6 822***	***454***	***2 716***	**10 052**

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. Post-secondary non-tertiary included in tertiary education.
2. Post-secondary non-tertiary included in both upper secondary and tertiary education.
3. Public institutions only.
4. Public and independent private institutions only.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

B6

Table B6.3. Expenditure on educational institutions by resource category and level of education (2001)

Distribution of total and current expenditure on educational institutions from public and private sources

		Primary, secondary and post-secondary non-tertiary education						Tertiary education					
		Percentage of total expenditure		Percentage of current expenditure				Percentage of total expenditure		Percentage of current expenditure			
		Current	Capital	Compensation of teachers	Compensation of other staff	Compensation of all staff	Other current	Current	Capital	Compensation of teachers	Compensation of other staff	Compensation of all staff	Other current
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD COUNTRIES	Australia	92.2	7.8	58.4	16.9	75.2	24.8	90.3	9.7	34.3	29.6	63.9	36.1
	Austria	96.4	3.7	71.0	8.1	79.1	20.9	96.6	3.5	38.6	17.6	56.2	43.8
	Belgium	98.2	1.8	76.6	10.4	87.0	13.0	97.7	2.3	55.6	12.7	68.3	31.7
	Canada[1]	96.8	3.2	62.4	15.6	77.9	22.1	94.5	5.5	x(11)	x(11)	66.5	33.5
	Czech Republic	91.2	8.8	48.7	16.1	64.8	35.2	87.5	12.5	31.2	27.7	58.9	41.1
	Denmark[2]	92.0	8.0	52.6	25.9	78.5	21.6	92.0	8.0	52.3	25.5	77.7	22.3
	Finland	91.7	8.3	55.0	11.9	67.0	33.0	93.6	6.4	33.7	25.4	59.1	40.9
	France	91.7	8.3	x(5)	x(5)	78.9	21.1	89.7	10.3	x(11)	x(11)	70.1	29.9
	Germany	92.4	7.6	x(5)	x(5)	85.2	14.8	89.5	10.5	x(11)	x(11)	74.8	25.2
	Greece[3]	88.6	11.4	x(5)	x(5)	91.3	8.7	60.1	39.9	x(11)	x(11)	56.9	43.1
	Hungary[3]	92.2	7.8	x(5)	x(5)	74.9	25.1	82.2	17.8	x(11)	x(11)	63.4	36.6
	Iceland	86.1	13.9	x(5)	x(5)	m	m	96.2	3.8	x(11)	x(11)	81.9	18.1
	Ireland[3]	89.7	10.3	76.5	6.1	82.7	17.3	81.6	18.4	45.6	23.2	68.7	31.3
	Italy[3]	94.7	5.3	63.8	17.0	80.8	19.2	83.0	17.0	42.3	21.1	63.4	36.6
	Japan[2]	88.9	11.1	x(5)	x(5)	87.7	12.3	83.7	16.3	x(11)	x(11)	67.5	32.5
	Korea	78.7	21.3	61.7	7.8	69.5	30.5	79.5	20.5	34.2	11.1	45.2	54.8
	Luxembourg	85.2	14.8	80.8	9.7	90.5	9.5	m	m	m	m	m	m
	Mexico[3]	97.2	2.8	81.3	12.3	93.6	6.4	95.7	4.3	57.7	19.1	76.8	23.2
	Netherlands	94.6	5.4	x(5)	x(5)	77.8	22.2	95.4	4.6	x(11)	x(11)	75.2	24.8
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m
	Norway	88.7	11.3	x(5)	x(5)	82.8	17.2	90.1	9.9	x(11)	x(11)	64.9	35.1
	Poland[3]	91.9	8.1	x(5)	x(5)	75.8	24.2	96.2	3.8	x(11)	x(11)	71.8	28.2
	Portugal	96.2	3.8	x(5)	x(5)	94.3	5.7	87.0	13.0	x(11)	x(11)	77.4	22.6
	Slovak Republic	94.9	5.1	62.0	16.8	78.8	21.2	90.3	9.7	33.0	23.3	56.3	43.8
	Spain	93.5	6.5	76.0	9.9	85.9	14.1	80.9	19.1	59.9	19.4	79.3	20.7
	Sweden	m	m	48.7	16.1	65.1	34.9	m	m	x(11)	x(11)	57.9	42.1
	Switzerland[3]	91.2	8.8	71.5	13.1	84.6	15.4	88.5	11.5	52.8	24.1	76.9	23.1
	Turkey[3]	88.8	11.2	x(5)	x(5)	94.8	5.2	79.8	20.2	x(11)	x(11)	75.3	24.7
	United Kingdom	92.2	7.8	53.0	20.9	73.9	26.1	97.7	2.3	32.8	25.3	58.1	41.9
	United States[1,3]	88.1	11.9	55.7	25.3	81.0	19.0	89.4	10.6	31.6	35.9	67.4	32.6
	Country mean	***91.6***	***8.4***	***64.2***	***14.4***	***80.7***	***19.3***	***88.5***	***11.5***	***42.4***	***22.7***	***67.1***	***32.9***
PARTNER COUNTRIES	Argentina[3]	98.4	1.6	59.4	28.9	88.3	11.7	99.2	0.8	54.5	35.3	89.8	10.2
	Brazil[3,4]	93.3	6.7	x(5)	x(5)	79.2	20.8	96.9	3.1	x(11)	x(11)	82.2	17.8
	Chile[3,5]	83.5	16.5	x(5)	x(5)	61.0	39.0	90.2	9.8	x(11)	x(11)	66.4	33.6
	India[1,3]	95.3	4.7	86.7	5.4	92.2	7.8	98.8	1.2	99.7	x:X1	99.7	0.3
	Indonesia[3]	93.9	6.1	78.0	7.8	85.8	14.2	82.0	18.0	87.2	11.8	99.0	1.0
	Israel	92.3	7.7	x(5)	x(5)	78.1	21.9	90.5	9.5	x(11)	x(11)	75.1	24.9
	Jamaica[3]	94.3	5.7	70.1	12.9	83.0	17.0	84.7	15.3	47.4	24.3	71.6	28.4
	Jordan[3]	87.9	12.1	86.0	9.8	95.8	4.2	a	a	a	a	a	a
	Malaysia[3]	63.2	36.8	64.8	11.6	76.4	23.6	48.6	51.4	31.5	13.5	45.0	55.0
	Paraguay[3]	m	m	m	m	m	m	87.0	13.0	65.3	16.5	81.8	18.2
	Peru[3]	m	5.3	m	m	m	m	85.5	14.5	51.4	8.1	59.5	40.5
	Philippines[3]	91.6	8.4	85.6	a	85.6	14.4	95.4	4.6	75.2	a	75.2	24.8
	Tunisia[3]	89.6	10.5	x(1)	x(1)	x(1)	x(1)	75.2	24.8	m	m	m	m
	Uruguay[3]	96.6	3.4	35.3	12.0	47.4	52.6	92.0	8.0	59.3	24.2	83.5	16.5
	Zimbabwe[3,5]	99.1	0.9	100.0	n	100.0	a	a	a	a	a	a	a

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. Post-secondary non-tertiary included in tertiary education.
2. Post-secondary non-tertiary included in both upper secondary and tertiary education.
3. Public institutions only.
4. Year of reference 2000.
5. Year of reference 2002.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

Chapter

C

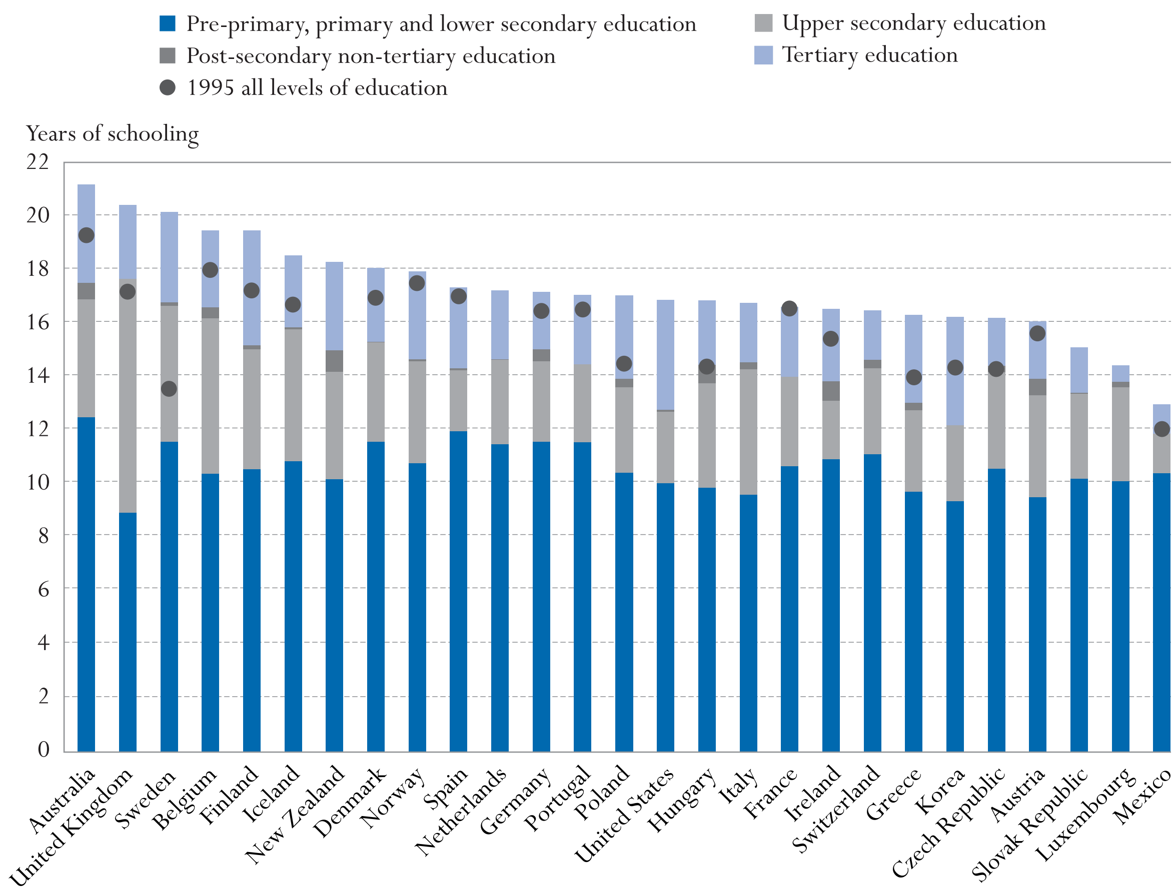
ACCESS TO EDUCATION, PARTICIPATION AND PROGRESSION

INDICATOR C1: SCHOOL EXPECTANCY AND ENROLMENT RATES

- In 24 out of 27 OECD countries, individuals participate in formal education for between 16 and 20 years, on average. Most of the variation among countries on this measure derives from differences in enrolments in upper secondary education.
- School expectancy increased between 1995 and 2002 in all OECD countries reporting comparable data.
- The sharpest decline in participation occurs not at the end of compulsory education, but at the end of upper secondary education.
- In half of the OECD countries, more than 70% of children aged 3 to 4 are enrolled in either pre-primary or primary programmes. At the other end of the spectrum, a 17-year-old can expect to spend an average of 2.7 years in tertiary education.
- In OECD countries, females can expect to receive 0.7 more years of education, on average, than males.

Chart C1.1. School expectancy, by level of education (2002)

Expected years of schooling under current conditions (excluding education for children under the age of five)



Countries are ranked in descending order of the total school expectancy for all levels of education in 2002.
Source: OECD. Table C1.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Policy context

This indicator examines enrolments at all levels of education.

A well-educated population is critical for a country's economic and social development, in both the present and the future. Societies therefore have an intrinsic interest in ensuring broad access to a wide variety of educational opportunities for children and adults. Early childhood programmes prepare children for primary education. They can help to combat linguistic and social disadvantages and provide opportunities to enhance and complement home educational experiences. Primary and secondary education lay the foundations for a wide range of competencies and prepare young people to become lifelong learners and productive members of society. Tertiary education, either immediately after school or later, provides a range of options for acquiring advanced knowledge and skills.

This indicator presents several measures of participation in education to elucidate levels of access to education in different OECD countries. Enrolment trends at different levels of education are also presented as an indicator of the evolution of access to education.

Evidence and explanations

Overall participation in education

In 24 out of 27 OECD countries, individuals participate in formal education for between 16 and 20 years, on average.

One way of looking at participation in education is to estimate the number of years during which a 5-year-old child can expect to be in either full-time or part-time education during his/her lifetime, given current enrolment rates. *School expectancy* is estimated by taking the sum of enrolment rates for each single year of age, starting at age 5 (Chart C1.1). In OECD countries, a child in Luxembourg, Mexico and the Slovak Republic can expect to be in education for 15 years or less, compared to 19 or more years in Australia, Belgium, Finland, Sweden and the United Kingdom.

Most of the variation comes from differences in enrolment rates in upper secondary education.

Most of the variation in school expectancy among OECD countries comes from differences in enrolment rates in upper secondary education. Relative differences in participation are large at the tertiary level, but apply to a smaller proportion of the cohort and therefore have less of an effect on school expectancy.

Measures of the average length of schooling like *school expectancy* are affected by enrolment rates over the life cycle and therefore underestimate the actual number of years of schooling in systems where access to education is expanding. Nor does this measure distinguish between full-time and part-time participation. OECD countries with relatively large proportions of part-time enrolments will therefore tend to have relatively high values. In Australia, Belgium, Portugal, Sweden and the United Kingdom, part-time education accounts for three or more years of school expectancy (Table C1.1).

In OECD countries where school expectancy at a given level of education exceeds the number of grades at that level, repeating a level (or, in the case of Australia, the number of adults enrolling in those programmes) has a greater impact on school expectancy than the proportion of students leaving school before completing that level of education.

Long school expectancy does not necessarily imply that all young people have access to higher levels of education but…

Enrolment rates are influenced by entry rates to a particular level of education and by the typical duration of studies. A high number of expected years in education, therefore, does not necessarily imply that all young people will participate in education for a long time. Belgium, where 5-year-olds can expect to be in school for more than 19 years, has nearly full enrolment (rates over 90%) for 15 years of education. Conversely, Australia, Finland, Sweden and the United Kingdom which have equally high school expectancy, have nearly full enrolment (rates over 90%) for only 13 or less years of education (Tables C1.1 and C1.2).

…in most OECD countries, virtually all young people receive at least 12 years of formal education.

In most OECD countries, virtually all young people have access to 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, by contrast, has enrolment rates exceeding 90% for a period of seven years (Table C1.2).

In OECD countries, females can expect to receive 0.7 more years, on average, of education than males.

The variation in school expectancy is generally greater for females than for males. In OECD countries, females can expect to receive 0.7 more years, on average, of education than males. The expected duration of enrolment for females exceeds that of males by more than one year in Belgium, Denmark, Finland, Iceland, Ireland, New Zealand, Norway, Sweden and the United Kingdom (in Sweden and in the United Kingdom, the difference is three years). The opposite is true in Korea and Switzerland, where males can expect to receive 1.9 and 0.6 years, respectively, more education than females (Table C1.1).

Trends in participation in education

School expectancy increased between 1995 and 2002 in all OECD countries reporting comparable data.

School expectancy increased between 1995 and 2002 in all OECD countries for which comparable trend data are available (Table C1.1). In Greece, Hungary, Poland, Sweden and the United Kingdom, the increase was 15% or more over this relatively short period.

Participation in early childhood education

In half of the OECD countries, more than 70% of children aged 3 to 4 are enrolled in either pre-primary or primary programmes.

In the majority of OECD countries, universal enrolment, which is defined here as enrolment rates exceeding 90%, starts between the ages of five and six years. However, in Belgium, the Czech Republic, Denmark, France, Germany, Hungary, Iceland, Italy, Japan, Luxembourg, New Zealand, Norway, the Slovak Republic, Spain, Sweden and the United Kingdom, more than 70% of children aged 3 to 4 are already enrolled in either pre-primary or primary programmes (Table C1.2). Their enrolment rates range from less than 22% in Korea and Switzerland to over 90% in Belgium, France, Iceland, Italy and Spain.

Given the impact of early childhood education and care on building a strong foundation for lifelong learning and on ensuring equitable access to learning opportunities later, pre-primary education is very important. However, institutionally based pre-primary programmes covered by this indicator are not the only form of quality early childhood education and care. Inferences about access to and quality of pre-primary education and care should therefore be made very carefully.

Participation towards the end of compulsory education and beyond

Several factors, including a higher risk of unemployment and other forms of exclusion for young people with insufficient education, influence the decision to stay enrolled beyond the end of compulsory education. In many OECD countries, the transition from education to employment has become a longer and more complex process that provides the opportunity or the obligation for students to combine learning and work to develop marketable skills (see Indicator C4).

Compulsory education ends between the ages of 14 and 18 in OECD countries, and in most countries at age 15 or 16.

Compulsory education in OECD countries ends between the ages of 14 (Korea, Portugal and Turkey) and 18 (Belgium, Germany and the Netherlands), and in most countries at age 15 or 16 (Table C1.2). However, the statutory age at which compulsory education ends does not always correspond to the age at which enrolment is universal.

Participation in education tends to be high until the end of compulsory education, but in seven OECD countries, more than 10% of students never finish compulsory education.

While participation rates in most OECD countries are high until the end of compulsory education, they drop below 90% before the age at which students are no longer legally required to be enrolled in school in Belgium, Germany, Mexico, the Netherlands, New Zealand, the United Kingdom and the United States. In Belgium, Germany, the Netherlands and the United States, this may be due in part to the fact that compulsory education ends at age 18 (17 for the United States), which is relatively advanced. By contrast, in 21 OECD countries, virtually all children remain in school beyond the age at which compulsory education ends (Table C1.2).

In the Czech Republic, Finland, Japan, Norway and Sweden, more than 93% of all 17-year-olds are still enrolled, even though the ending age of compulsory education is under 17 years of age (Table C1.3). In fact, in Sweden, 93% of all 18-year-olds are still enrolled in secondary education.

The sharpest decline in participation occurs not at the end of compulsory education…

In half of the OECD countries, enrolment in education remains close to universal beyond the end of compulsory education, particularly in countries where the age at which compulsory education ends is relatively low. There is no close correspondence between the end of compulsory education and the decline in enrolment rates. After the age of 16, however, enrolment rates begin to decline in all OECD countries. On average in OECD countries, the enrolment rate is 84% at the age of 17, 71% at the age of 18, and 57% at the age of 19 (Table C1.3).

…but at the end of upper secondary education.

In 20 out of 27 OECD countries, the sharpest decline in enrolment rates occurs at the end of upper secondary education. In Sweden, participation rates drop from 93 to 42% after the age of 18, the typical age at which upper secondary education ends (Table C1.3).

In Australia, Denmark, Finland, Iceland and Sweden, more than 30% of 20 to 29-year-olds participate in education.

In most OECD countries, enrolment rates gradually decline starting in the last years of upper secondary education. There are several noteworthy exceptions, however, where enrolment rates remain relatively high until the age of 20 to 29. In Australia, Denmark, Finland, Iceland and Sweden, enrolment rates for 20 to 29-year-olds still exceed 30% (Table C1.2).

The transition to post-secondary education

Upper secondary graduates in many education systems can enrol in relatively short programmes (less than two years) to prepare for trades or specific vocational fields.

Post-secondary non-tertiary programmes are offered as advanced or second upper secondary programmes in some OECD countries (*e.g.,* Austria, Germany, Hungary and Spain); in others they are offered in post-secondary education (*e.g.*, Canada and the United States). From an internationally comparable point of view, these programmes straddle upper secondary and tertiary education and are therefore classified as a different level of education (post-secondary non-tertiary education). In 27 out of 30 OECD countries, these kinds of programmes are offered to upper secondary graduates (Table C1.1).

Post-secondary non-tertiary programmes are offered in 27 of 30 OECD countries.

Graduates of upper secondary programmes who decide not to enter the labour market upon graduation and people who are already working and want to upgrade their skills can also choose from a wide range of tertiary programmes.

Participation in tertiary education

In OECD countries, tertiary programmes vary in the extent to which they are theoretically based and designed to prepare students for advanced research programmes or professions with high skill requirements (tertiary-type A), or focus on occupationally specific skills so that students can directly enter the labour market (tertiary-type B). The institutional location of programmes used to give a relatively clear idea of their nature (*e.g.*, university versus non-university institutions of higher education), but these distinctions have become blurred and are therefore not applied in the OECD indicators.

On average in OECD countries, a 17-year-old can expect to receive 2.7 years of tertiary education. Both tertiary entry rates and the typical duration of study affect the expectancy of tertiary education. In Australia, Finland, Greece, Korea, New Zealand, Norway, Poland, Spain, Sweden and the United States, the figure is three years or more. In the Czech Republic, Luxembourg, Mexico, the Slovak Republic and Switzerland, by contrast, the expectancy of tertiary education is 1.8 years or less (Table C1.1 and Indicator C2).

On average in OECD countries, a 17-year-old can expect to receive 2.7 years of tertiary education.

Policies to expand education have increased pressure for greater access to tertiary education in many OECD countries. Thus far, this pressure has more than compensated for declines in cohort sizes which had led, until recently, to predictions of stable or declining demand from school leavers in several OECD countries. Whereas some OECD countries are now showing signs of a levelling demand for tertiary education, the overall trend remains upward.

Policies to expand education have, in many OECD countries, increased pressure for greater access to tertiary education.

Definitions and methodologies

Except where otherwise noted, figures are based on head counts; that is, they do not distinguish between full-time and part-time study. A standardised distinction between full-time and part-time participants is very difficult because the concept of part-time study is not recognised by some countries. For other OECD countries, part-time education is covered only partially by the reported data.

Data refer to the school year 2001-2002 and are based on the UOE data collection on education statistics that is administered annually by the OECD, and the 2003 World Education Indicators Programme.

The average length of time a 5-year-old can expect to be formally enrolled in school during his/her lifetime, or *school expectancy*, is calculated by adding the net enrolment rates for each single year of age from 5 onwards. The average duration of schooling for the cohort will reflect any tendency to lengthen (or shorten) studies in subsequent years. When comparing data on school 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.

Net enrolment rates expressed as percentages in Table C1.2 are calculated by dividing the number of students of a particular age group enrolled in all levels of education by the size of the population of that age group. Table C1.1 shows the index of change in school expectancy between 1995 and 2002. Enrolment data for 1994-1995 were obtained through a special survey in 2000 and follow the ISCED-97 classification.

Table C1.1. School expectancy (2002)

Expected years of schooling under current conditions (excluding education for children under the age of five)

	Full-time and part-time: All levels of education combined, M+F	Full-time and part-time: All levels of education combined, Males	Full-time and part-time: All levels of education combined, Females	Full-time and part-time: Primary and lower secondary education, M+F	Full-time and part-time: Upper secondary education, M+F	Full-time and part-time: Post-secondary non-tertiary education, M+F	Full-time and part-time: Tertiary education, M+F	Full-time: All levels of education combined, M+F	Part-time: All levels of education combined, M+F	Index of change in school expectancy for all levels of education combined (1995 = 100), M+F
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD COUNTRIES										
Australia	21.1	20.9	21.4	11.8	4.4	0.6	3.6	14.7	6.4	110
Austria	16.0	16.0	16.1	8.2	3.8	0.6	2.1	16.0	n	103
Belgium	19.4	18.8	20.0	9.3	5.8	0.4	2.8	16.2	3.2	108
Canada	m	m	m	m	m	m	m	m	m	m
Czech Republic	16.2	16.1	16.3	9.0	3.6	0.2	1.8	16.0	0.2	114
Denmark	18.0	17.5	18.6	9.7	3.7	n	2.7	18.0	n	107
Finland	19.4	18.7	20.2	9.0	4.5	0.1	4.3	17.7	1.7	113
France	16.6	16.3	16.9	9.5	3.3	n	2.6	16.6	n	100
Germany	17.1	17.2	17.0	10.1	3.0	0.5	2.1	17.1	0.1	104
Greece	16.3	15.9	16.7	8.9	3.0	0.3	3.3	16.1	0.2	117
Hungary	16.8	16.5	17.1	8.1	3.9	0.7	2.4	15.1	1.7	117
Iceland	18.5	17.6	19.4	9.9	4.9	0.1	2.7	16.5	2.0	111
Ireland	16.5	16.0	17.1	10.9	2.2	0.7	2.7	15.5	1.0	107
Italy	16.7	16.3	16.9	8.4	4.6	0.1	2.6	16.6	0.1	m
Japan	m	m	m	9.1	3.0	m	m	m	m	m
Korea	16.2	17.1	15.3	8.9	2.8	a	4.0	16.2	n	113
Luxembourg	14.4	13.8	13.9	9.1	3.5	0.2	0.6	14.2	0.2	m
Mexico	12.9	12.8	13.1	9.6	1.5	a	1.1	12.9	n	107
Netherlands	17.2	17.3	17.1	10.5	3.1	n	2.6	16.5	0.6	m
New Zealand	18.3	17.3	19.2	10.1	4.0	0.8	3.3	15.7	2.5	m
Norway[1]	17.9	16.4	17.8	9.9	3.8	0.1	3.3	16.5	1.4	102
Poland	17.0	16.5	17.5	9.0	3.2	0.3	3.1	14.9	2.1	118
Portugal	17.0	16.6	17.5	10.6	2.9	a	2.6	13.8	3.3	103
Slovak Republic	15.1	15.0	15.2	9.0	3.1	0.1	1.7	14.4	0.7	m
Spain	17.3	16.9	17.8	10.9	2.3	0.1	3.0	16.7	0.6	102
Sweden	20.1	18.7	21.6	9.8	5.1	0.1	3.4	16.8	3.3	146
Switzerland	16.5	16.7	16.2	9.5	3.2	0.3	1.8	16.0	0.5	m
Turkey	m	m	m	m	m	m	m	m	m	m
United Kingdom	20.4	18.9	21.9	8.9	8.7	x(5)	2.8	14.7	5.7	119
United States	16.8	16.5	17.3	9.1	2.6	0.1	4.1	15.4	1.5	m
Country mean	***17.2***	***16.8***	***17.5***	***9.6***	***3.7***	***0.3***	***2.7***	***15.8***	***1.6***	***111***
PARTNER COUNTRIES										
Argentina[2]	17.4	16.7	18.1	10.7	2.4	a	3.3	14.9	2.5	m
Brazil[2]	16.1	15.9	16.3	10.8	2.8	a	1.1	16.1	n	m
Chile	14.9	15.1	14.7	8.3	3.7	a	1.9	14.9	a	m
China	11.1	m	m	8.6	1.1	m	m	10.9	0.2	m
Egypt	10.4	10.6	10.1	8.1	2.1	m	m	10.4	n	m
India[2]	8.5	9.5	7.5	6.5	1.3	n	0.5	8.3	0.2	m
Indonesia	12.0	12.1	11.9	9.6	1.2	a	0.7	12.0	n	m
Israel	15.9	15.5	16.2	8.6	3.2	0.1	3.0	15.3	0.6	m
Jamaica	12.7	12.1	13.2	8.4	1.6	0.8	0.9	12.3	0.4	m
Jordan[2]	11.8	11.4	12.3	8.9	1.4	a	1.3	11.8	n	m
Paraguay[2]	12.3	12.2	12.3	9.2	1.6	m	0.7	12.3	n	m
Peru[2]	14.6	14.6	14.6	10.3	1.5	0.6	1.6	14.6	n	m
Philippines	12.0	11.5	12.0	9.3	0.7	0.3	1.4	11.7	0.3	m
Russian Federation	14.9	14.6	15.7	6.4	1.7	0.1	3.3	12.1	2.8	m
Thailand	16.5	16.4	16.6	10.1	2.6	m	2.1	13.0	3.5	m
Tunisia	14.8	14.3	15.2	9.9	2.3	m	1.0	13.5	1.2	m
Uruguay[2]	15.9	15.1	16.8	9.9	2.7	n	1.9	15.9	n	m
Zimbabwe	11.5	12.0	11.0	9.0	1.1	m	0.2	11.5	n	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. The total (males + females) includes the 5-year-olds for Norway but is not reported in the distribution of 5-year-olds by sex.
2. Year of reference 2001.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

C1

Table C1.2. Enrolment rates (2002)

Full-time and part-time students in public and private institutions, by age

	Ending age of compulsory education	Number of years at which over 90% of the population is enrolled	Age range at which over 90% of the population is enrolled	Students aged: 4 and under as a percentage of the population of 3 to 4-year-olds	5-14 as a percentage of the population of 5 to 14-year-olds	15-19 as a percentage of the population of 15 to 19-year-olds	20-29 as a percentage of the population of 20 to 29-year-olds	30-39 as a percentage of the population of 30 to 39-year-olds	40 and over as a percentage of the population of over 40-year-olds
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD COUNTRIES									
Australia	15	12	5 - 16	35.9	99.3	82.6	32.9	15.2	6.7
Austria	15	12	5 - 16	63.8	98.9	77.1	17.0	3.1	0.3
Belgium	18	15	3 - 17	119.6	100.1	92.3	27.4	8.3	3.0
Canada	16	m	m	m	m	m	m	m	m
Czech Republic	15	13	5 - 17	78.7	99.3	88.4	15.9	1.3	0.1
Denmark	16	12	4 - 16	86.9	99.1	81.8	31.4	5.5	0.8
Finland	16	12	6 - 17	39.6	94.4	85.0	39.5	10.7	2.2
France	16	15	3 - 17	119.7	101.1	86.7	19.6	1.8	a
Germany	18	12	6 - 17	80.3	97.5	89.2	25.5	2.8	0.2
Greece	14.5	11	6 - 16	28.5	96.3	82.6	24.5	0.3	n
Hungary	16	12	4 - 16	81.1	100.3	81.1	21.2	4.2	0.4
Iceland	16	14	3 - 16	135.5	98.5	81.1	32.0	8.0	2.3
Ireland	15	12	5 - 16	26.3	101.4	81.6	17.8	2.6	x(8)
Italy	15	13	3 - 15	103.0	101.7	75.8	18.4	2.5	0.1
Japan	15	14	4 - 17	78.1	100.8	m	m	m	m
Korea	14	12	6 - 17	19.6	92.7	79.9	26.5	1.7	0.4
Luxembourg	15	11	4 - 15	76.8	93.4	75.3	6.3	0.4	n
Mexico	15	7	6 - 12	36.7	95.7	42.4	9.4	3.0	0.4
Netherlands	18	13	4 - 16	48.8	99.3	86.5	23.4	2.9	0.8
New Zealand	16	12	4 - 15	86.8	99.5	72.1	25.4	10.9	4.1
Norway	16	12	6 - 17	77.5	97.9	84.8	26.3	6.7	1.6
Poland	15	12	6 - 17	29.1	94.4	86.8	27.3	4.1	x(8)
Portugal	14	10	6 - 15	66.4	106.0	70.9	22.2	3.8	0.6
Slovak Republic	16	11	6 - 16	70.7	98.1	76.6	12.6	1.6	0.2
Spain[1]	16	14	3 - 16	112.5	103.8	80.4	23.3	2.6	0.4
Sweden	16	13	6 - 18	75.5	98.2	86.2	33.6	14.1	3.5
Switzerland	15	11	6 - 16	21.8	98.6	82.7	20.0	3.6	0.2
Turkey	14	m	m	m	m	m	m	m	m
United Kingdom	16	12	4 - 15	81.2	98.9	76.8	26.8	16.2	8.3
United States	17	10	6 - 15	52.7	96.9	74.8	25.2	4.6	1.3
Country mean	***16***	***12***		***67.8***	***98.5***	***79.4***	***22.7***	***5.4***	***1.5***
PARTNER COUNTRIES									
Argentina[2]	14	10	5 - 14	40.8	104.1	69.4	25.9	6.7	1.4
Brazil[2]	14	8	7 - 14	29.9	91.3	71.3	23.3	8.0	2.1
Chile	14	9	7 - 15	27.7	92.1	68.2	3.1	0.8	0.2
China	14	6	7 - 12	n	80.7	12.7	m	m	m
India[2]	14	2	6 - 7	42.4	65.0	28.1	m	m	m
Indonesia	15	7	6 - 13	n	93.4	45.6	3.6	n	n
Israel	15	11	6 - 16	100.7	96.1	65.3	21.5	5.5	1.1
Jamaica	12	m	m	75.8	90.4	40.5	m	m	m
Jordan	15	2	6 - 7	14.2	84.5	41.7	a	a	a
Malaysia[2]	12	12	6 - 12	16.0	91.9	55.4	6.8	0.2	0.1
Paraguay[2]	14	5	7 - 11	7.7	87.9	50.3	6.4	0.7	0.1
Peru[2]	16	9	6 - 14	54.0	99.4	55.1	9.4	1.9	0.5
Philippines	12	7	7 - 13	0.4	85.4	34.8	0.5	a	a
Russian Federation	15	9	7 - 15	31.5	84.6	73.6	12.7	0.1	n
Thailand	14	11	4 - 14	60.9	100.3	59.3	6.0	1.4	0.3
Tunisia	16	7	6 - 12	17.0	90.0	57.1	4.3	n	6.6
Uruguay[2]	15	9	6 - 14	27.9	97.5	68.4	21.2	4.6	0.6
Zimbabwe	12	7	7 - 13	n	83.4	32.9	m	m	m

Note: Ending age of compulsory education is the age at which compulsory schooling ends. For example, an ending age of 18 indicates that all students under 18 are legally obliged to participate in education.

x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.

Mismatches between the coverage of the population data and the student/graduate data mean that the participation/graduation rates for those countries that are net exporters of students may be underestimated (for instance Luxembourg) and those that are net importers may be overestimated.

1. The rate "4 and under as a percentage of the population of 3 to 4-year-olds" is overestimated. A significant number of students are younger than 3 years old. The net rate between 3 and 5 is around 100%.

2. Year of reference 2001.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

Table C1.3. Transition characteristics at ages 15, 16, 17, 18, 19 and 20 (2002)

Net enrolment rates, by level of education in public and private institutions (based on head counts)

		Graduation age at the upper secondary level of education	Age 15	Age 16			Age 17			Age 18			Age 19			Age 20		
			Secondary education	Secondary education	Post-secondary non-tertiary education	Tertiary education	Secondary education	Post-secondary non-tertiary education	Tertiary education	Secondary education	Post-secondary non-tertiary education	Tertiary education	Secondary education	Post-secondary non-tertiary education	Tertiary education	Secondary education	Post-secondary non-tertiary education	Tertiary education
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OECD COUNTRIES	Australia	17-18	97	92	n	n	80	1	5	38	3	30	25	3	37	19	3	38
	Austria	17-19	94	91	n	n	78	11	n	45	19	6	17	12	14	6	4	20
	Belgium	18-19	100	99	n	n	101	n	1	45	5	36	22	6	46	13	3	46
	Canada	18	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	18-19	99	100	n	n	98	n	n	79	3	4	34	9	20	6	6	28
	Denmark	19-20	96	91	n	n	83	n	n	78	n	n	57	n	3	33	n	12
	Finland	19	99	96	n	n	94	n	n	89	n	n	33	n	16	17	n	31
	France	18-20	97	97	n	n	89	n	2	53	n	27	27	n	38	11	n	40
	Germany	19	98	99	n	n	93	n	1	83	n	3	42	16	9	21	13	17
	Greece	18	93	93	n	a	70	n	a	25	5	46	31	5	47	n	5	51
	Hungary	16-18	97	90	n	n	85	1	n	49	13	12	15	19	26	7	12	29
	Iceland	20	99	91	n	n	81	n	n	72	n	n	65	n	1	36	n	15
	Ireland	17-18	99	92	1	n	72	4	6	26	15	35	2	10	40	n	8	37
	Italy	17-19	93	86	m	a	79	m	n	69	m	4	18	m	31	6	m	32
	Japan	18	102	97	a	a	93	a	n	3	m	m	1	m	m	m	m	m
	Korea	17-18	92	95	a	n	89	a	2	12	a	49	2	a	64	n	a	60
	Luxembourg	18-19	91	86	n	n	79	n	n	70	n	n	50	n	n	30	1	n
	Mexico	18	55	47	a	a	34	a	4	16	a	12	24	a	16	3	a	16
	Netherlands	18-19	100	100	n	n	83	n	6	58	n	18	35	n	27	23	n	33
	New Zealand	17-18	94	85	1	n	65	4	3	27	6	23	14	5	32	10	4	35
	Norway	19-20	100	94	n	n	93	n	n	85	n	n	40	1	12	18	1	25
	Poland	18-20	96	94	a	a	91	n	x(10)	84	n	1	32	6	30	15	7	38
	Portugal	18	92	81	a	a	70	a	1	44	a	17	27	a	25	17	a	29
	Slovak Republic	18-19	100	95	n	n	88	n	n	49	1	14	12	2	23	2	1	24
	Spain	17-18	102	95	n	n	82	n	n	40	1	28	22	1	35	13	1	39
	Sweden	19	99	97	n	n	96	n	n	93	n	n	29	1	12	19	1	24
	Switzerland	18-20	96	89	1	n	85	1	n	76	2	2	49	3	7	21	4	13
	Turkey	17	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	United Kingdom	16-18	110	87	x(2)	n	74	x(5)	2	31	x(8)	25	20	x(11)	34	16	x(14)	35
	United States	18	91	84	n	n	79	n	2	25	n	39	6	n	47	2	n	51
	Country mean	***18***	***96***	***91***	***n***	***n***	***82***	***1***	***1***	***52***	***3***	***16***	***27***	***4***	***26***	***14***	***3***	***30***
PARTNER COUNTRIES	Argentina[1]	18	86	78	a	n	71	a	5	36	a	16	19	a	24	10	a	28
	Brazil[1]	17-18	77	75	m	a	70	m	a	56	m	a	40	m	a	28	m	a
	Chile	18	91	87	a	n	80	a	n	55	a	m	20	a	m	8	a	m
	China	18	48	10	m	n	2	m	n	m	m	m	m	m	m	m	m	m
	Indonesia	18	54	45	a	a	48	a	a	29	a	18	10	a	23	3	a	21
	Israel	17	96	95	n	n	89	n	n	24	1	2	5	1	8	1	2	13
	Jamaica	16	82	67	3	m	33	4	m	7	2	m	1	1	m	n	n	m
	Jordan[1]	17	76	68	a	n	51	a	n	10	a	m	2	a	m	a	a	m
	Malaysia[1]	19	m	m	n	n	30	18	20	17	32	55	2	13	47	n	1	33
	Paraguay[1]	17	57	55	m	n	51	m	n	43	m	2	17	m	4	9	m	5
	Peru[1]	m	75	67	2	1	39	3	5	23	4	8	12	4	10	7	4	10
	Philippines	16	68	56	m	m	28	m	m	13	m	m	5	m	m	4	m	m
	Russian Federation	18	53	69	3	12	27	3	48	7	2	50	2	1	45	1	1	39
	Thailand	17	82	67	m	m	56	m	1	35	m	42	7	m	9	m	m	13
	Tunisia	18-19	74	67	n	n	59	n	n	49	n	n	32	m	m	20	m	m
	Uruguay[1]	17	87	82	a	a	70	n	n	48	n	7	28	n	15	19	n	18
	Zimbabwe	19	52	50	a	n	36	a	n	18	a	n	10	a	m	n	a	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2. Mismatches between the coverage of the population data and the student/graduate data mean that the participation/graduation rates for those countries that are net exporters of students may be underestimated (for instance Luxembourg) and those that are net importers may be overestimated.

1. Year of reference 2001.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

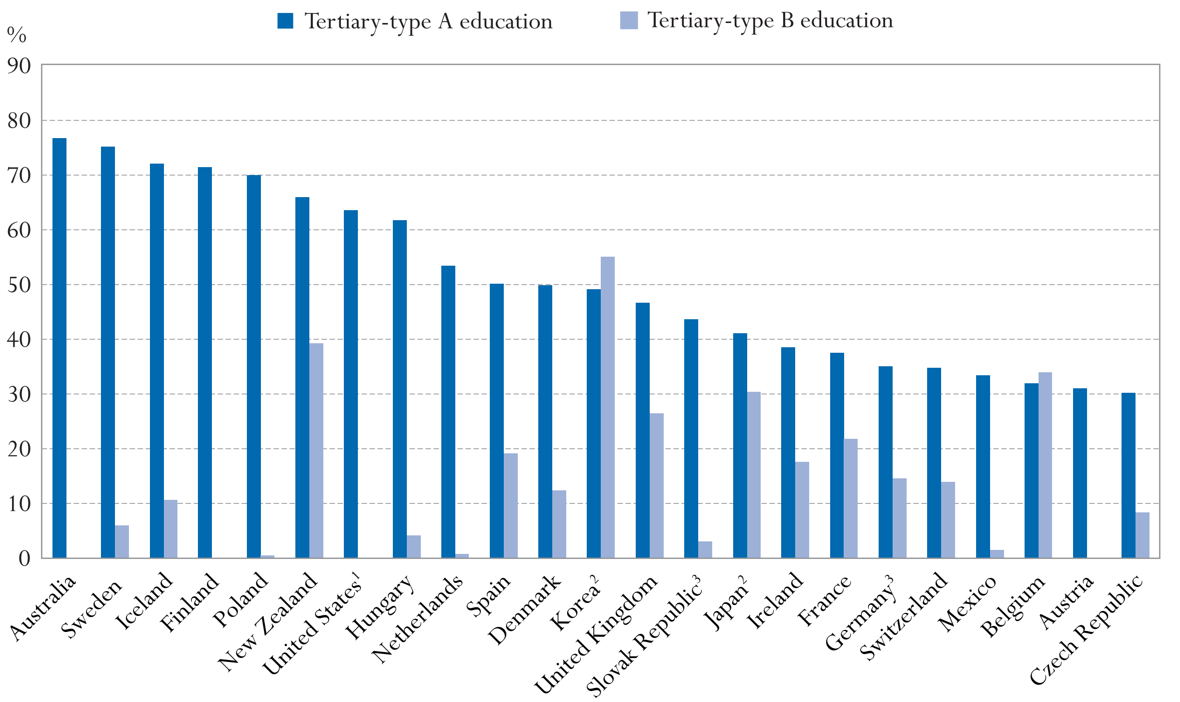
C1

INDICATOR C2: ENTRY INTO AND EXPECTED YEARS IN TERTIARY EDUCATION AND PARTICIPATION IN SECONDARY EDUCATION

- Today, every second young person in the OECD area will enter tertiary-type A programmes during his/her lifetime.
- On average in OECD countries, a 17-year-old can now expect to enrol in 2.7 years of tertiary programmes, of which 2 years will be full-time. In Finland, Korea and the United States, students can expect to receive about four years of full-time and part-time tertiary education.
- With the exception of Austria and France, participation in tertiary education grew in all OECD countries between 1995 and 2002.
- The majority of tertiary students are enrolled in public institutions, but in Belgium, Japan, Korea, the Netherlands and the United Kingdom, most students are enrolled in privately managed institutions.
- The majority of primary and secondary students are enrolled in public institutions. However, privately managed schools now enrol, on average, 10% of primary students, 14% of lower secondary students and 20% of upper secondary students.

Chart C2.1. Entry rates into tertiary education (2002)

Sum of net entry rates for each year of age into tertiary-type A and tertiary-type B education



Note: Net entry rates for tertiary-type A and B programmes cannot be added due to double counting.
1. Tertiary-type A programmes include tertiary-type B programmes.
2. Entry rate for tertiary-type A and B programmes calculated as gross entry rate.
3. Entry rate for tertiary-type B programmes calculated as gross entry rate.
Countries are ranked in descending order of the total entry rates into tertiary-type A education.
Source: OECD. Table C2.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Policy context

High tertiary entry and participation rates help to ensure the development and maintenance of a highly educated population and labour force. Tertiary education is associated with better access to employment and higher earnings (see Indicators A10 and A11). Rates of entry to tertiary education are a partial indication of the degree to which a population is acquiring high-level skills and knowledge that the labour market in knowledge societies values.

This indicator shows the percentage of the youth cohort that will enter different types of tertiary education during their lives.

As students have become more aware of the economic and social benefits of tertiary education, entry rates into tertiary-type A and tertiary-type B programmes have risen. Continued growth in participation, and a widening diversity of backgrounds and interests of the people aspiring to tertiary studies, will require a new kind of provision. Tertiary institutions will need to meet growing demand by expanding the number of students they admit and by adapting their programmes and teaching to the diverse needs of new generations of students.

Entry and participation rates reflect both the accessibility of tertiary education and the perceived value of attending tertiary programmes.

Graduation from upper secondary education is becoming the norm in most OECD countries, but the curricular content in upper secondary programmes can vary, depending on the type of education or occupation for which the programmes are designed. Most upper secondary programmes in OECD countries are designed primarily to prepare students for tertiary studies, and their orientation can be general, pre-vocational or vocational. Most OECD countries also have upper secondary programmes that prepare students to enter the labour market directly. Some OECD countries delay vocational training until after graduation from upper secondary education, although these post-secondary programmes often resemble upper secondary level programmes.

The indicator also shows patterns of participation at the secondary level of education.

Evidence and explanations

Overall access to tertiary education

In OECD countries, tertiary programmes vary in the extent to which they are theoretically based and designed to prepare students for advanced research programmes or professions with high skill requirements (tertiary-type A), or focus on occupationally specific skills so that students can directly enter the labour market (tertiary-type B). For a classification of national educational programmes into these categories, see Annex 3 at *www.oecd.org/edu/eag2004*.

Today, every second young person in the OECD area will enter tertiary-type A programmes during his/her lifetime, assuming that current entry rates continue. In fact, in Australia, Finland, Hungary, Iceland, New Zealand, Poland, Sweden and the United States, more than 60% of young people enter tertiary-type A programmes (Table C2.1).

51% of today's young people in OECD countries will enter tertiary-type A programmes.

In other OECD countries, the rates of first-time entry into tertiary-type A programmes are considerably lower: the estimated first-time entry rates for Austria, Belgium, the Czech Republic and Mexico are around 30%.

The proportion of people who enter tertiary-type B programmes is generally smaller than the proportion entering tertiary-type A programmes. In 20 OECD countries with available data, 16% of young people, on average, will enter tertiary-

16% of today's young people will enter tertiary-type B programmes.

type B programmes. The figures range from 4% or less in Hungary, Italy, Mexico, the Netherlands, Poland and the Slovak Republic to more than 30% in Belgium, Japan and New Zealand, and more than 50% in Korea (Table C2.1 and Chart C2.1).

In Belgium, wide access to tertiary-type B programmes counterbalances comparatively low rates of entry to tertiary-type A programmes. Other OECD countries, most notably Poland and Sweden, have entry rates above the OECD average for tertiary-type A programmes, and comparatively very low rates of entry to tertiary-type B programmes. New Zealand stands out as a country with entry rates at both levels that are the highest among OECD countries.

Net rates of entry into tertiary education should also be considered in light of participation in post-secondary non-tertiary programmes, which are an important alternative to tertiary education in some OECD countries (Indicator C1).

People entering tertiary-type B programmes may also enter tertiary-type A programmes later in their lives. Tertiary-type A and B entry rates cannot therefore be added together to obtain overall tertiary-level entry rates because entrants might be double counted.

Participation in tertiary education

Enrolment rates provide another perspective on participation in tertiary education. They reflect both the total number of individuals entering tertiary education and the duration of their studies. The sum of net enrolment rates for each year of age, referred to as the *expectancy of tertiary education*, gives an overall measure of the amount of tertiary education undertaken by an age cohort rather than by individual participants. In contrast to entry rates, expectancy of tertiary education, which is based on enrolments in tertiary-type A and tertiary-type B programmes, can be summed.

In seven OECD countries, young people can expect to receive at least three years of tertiary education .

On average in OECD countries, a 17-year-old can expect to receive 2.7 years of tertiary education, of which 2 years will, on average, be full-time. In Australia, Greece, New Zealand, Norway, Poland, Spain and Sweden, 17-year-olds can expect to receive at least three years of full-time and part-time tertiary education during their lifetimes (Table C2.2).

In Finland, Korea and the United States, students can expect to receive about four years of tertiary studies.

In Finland, Korea and the United States, students can expect to receive about four years of full-time and part-time tertiary studies. By contrast, the expectancy of tertiary education is less than two years in the Czech Republic, Mexico, the Slovak Republic and Switzerland.

The longer tertiary-type A programmes tend to increase the stock of enrolments, and therefore the volume of resources required.

On average in OECD countries, expectancy of enrolment in tertiary-type A programmes (2.3 years) is far higher than that in tertiary-type B programmes (0.4 years). Because tertiary-type A programmes tend to be longer, they dominate the stock of enrolments and therefore the volume of resources required, all other things being equal (see Indicator B1, Table B1.3).

The majority of tertiary students are enrolled in public institutions,...

In the majority of OECD countries, tertiary-type A programmes are mainly provided and managed by public institutions (Table C2.3). However, in Belgium, the Netherlands and the United Kingdom, the majority of students are enrolled in privately managed institutions that draw predominantly on public funds. In Japan and Korea, over 70% of students are enrolled in institutions that are privately managed and financed predominantly from private sources. In Mexico, Poland and Portugal, around 30% of students are enrolled in such institutions.

but in some OECD countries the majority are in privately managed institutions

Trends in participation

With the exception of Austria and France, participation in tertiary education grew in all OECD countries between 1995 and 2002. In half of the OECD countries with available data, the number of students enrolled in tertiary education increased by over 30%, and in the Czech Republic, Greece, Hungary and Poland, enrolment grew by 68, 78, 108 and 151%, respectively (Table C2.2).

Participation in tertiary education grew in most OECD countries between 1995 and 2002.

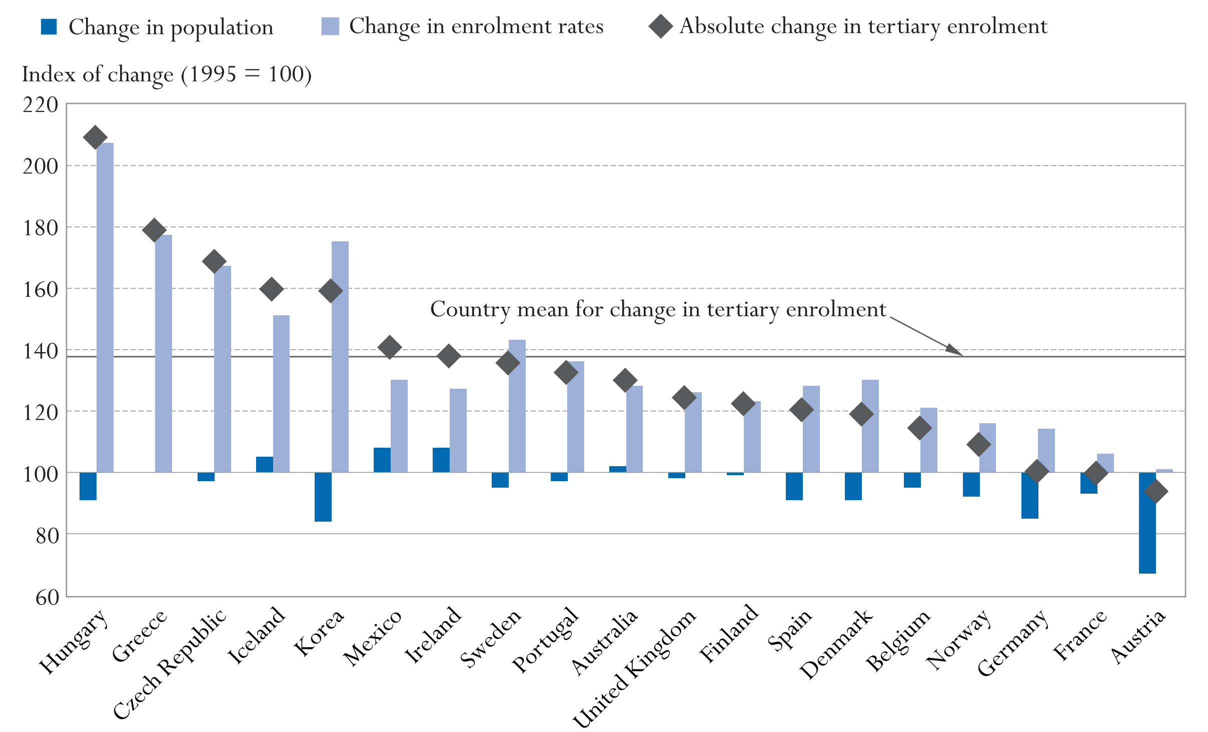
At the tertiary level, changes in enrolment rates are less closely tied to changes in the size of the relevant age cohort than are such changes in primary and secondary education. Chart C2.2 breaks down the change in the number of students enrolled into two components: changes in cohort sizes and changes in enrolment rates. Growing demand, reflected in higher enrolment rates, is the main factor driving expansion in tertiary enrolments. Australia, Iceland, Ireland and Mexico are the only OECD countries where population increases significantly contributed to higher tertiary enrolments; even in these cases, however, enrolment rates were significantly higher. Conversely, the actual increase in ter-

Growing demand, reflected in higher participation rates, is the main factor driving expansion in tertiary enrolments.

C2

Chart C2.2. Change in tertiary enrolment relative to changing participation rates and demography (1995-2002)

Index of change between 1995 and 2002 (1995 = 100)



Countries are ranked in descending order of the absolute change in tertiary enrolment.
Source: OECD. Table C2.2. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

tiary students would have been significantly higher in many OECD countries (in particular Austria and Korea) had the population not decreased. In Austria and France, these decreases were actually more significant than increases in enrolment rates, meaning that overall, there was a slight drop in tertiary enrolment, despite an increase in enrolment rates of 1 and 6%, respectively.

Age of entrants

In Belgium, the Czech Republic, France, Ireland, Mexico and Spain, more than 80% of tertiary-type A entrants are under 22…

Traditionally, students typically enter tertiary-type A programmes immediately after having completed upper secondary education, and this remains true in many OECD countries. In Belgium, the Czech Republic, France, Ireland, Mexico and Spain for example, more than 80% of all first-time entrants are under 22 years of age (Table C2.1).

…whereas in Denmark, Iceland, New Zealand and Sweden, more than half the students enter this level for the first time at the age of 22, or after.

In other OECD countries, the transition to the tertiary level is often delayed, in some cases by some time spent in the labour force. In these countries, first-time entrants to tertiary-type A programmes are typically older and show a much wider range of entry ages. In Denmark, Iceland, New Zealand and Sweden, for example, more than half the students enter this level for the first time at the age of 22 or after (Table C2.1). The proportion of older first-time entrants to tertiary-type A programmes may, among other factors, reflect the flexibility of these programmes and their suitability to students outside the typical or modal age cohort. It may also reflect a specific view of the value of work experience for higher education studies, which is characteristic of the Nordic countries and common in Australia and New Zealand, where a sizeable proportion of new entrants is much older than the typical age of entry. In Australia, New Zealand and the Nordic countries, more than 20% of first-time entrants are 27 years of age or older.

Participation in upper secondary vocational education

Upper secondary programmes are classified based on whether they are…

In most OECD countries, students do not follow an uniform curriculum at the upper secondary level. Programmes at the upper secondary level are subdivided into three categories based on the degree to which they are oriented towards a specific class of occupations or trades and lead to a labour-market relevant qualification:

…general,…

- ***Type 1 (general)*** education programmes are not designed explicitly to prepare participants for specific occupations or trades, or for entry into further vocational or technical education programmes.

…pre-vocational,…

- ***Type 2 (pre-vocational or pre-technical)*** education programmes are mainly designed to introduce participants to the world of work and to prepare them for entry into further vocational or technical education programmes. Successful completion of such programmes does not lead to a labour-market relevant vocational or technical qualification. At least 25% of the programme content should be vocational or technical.

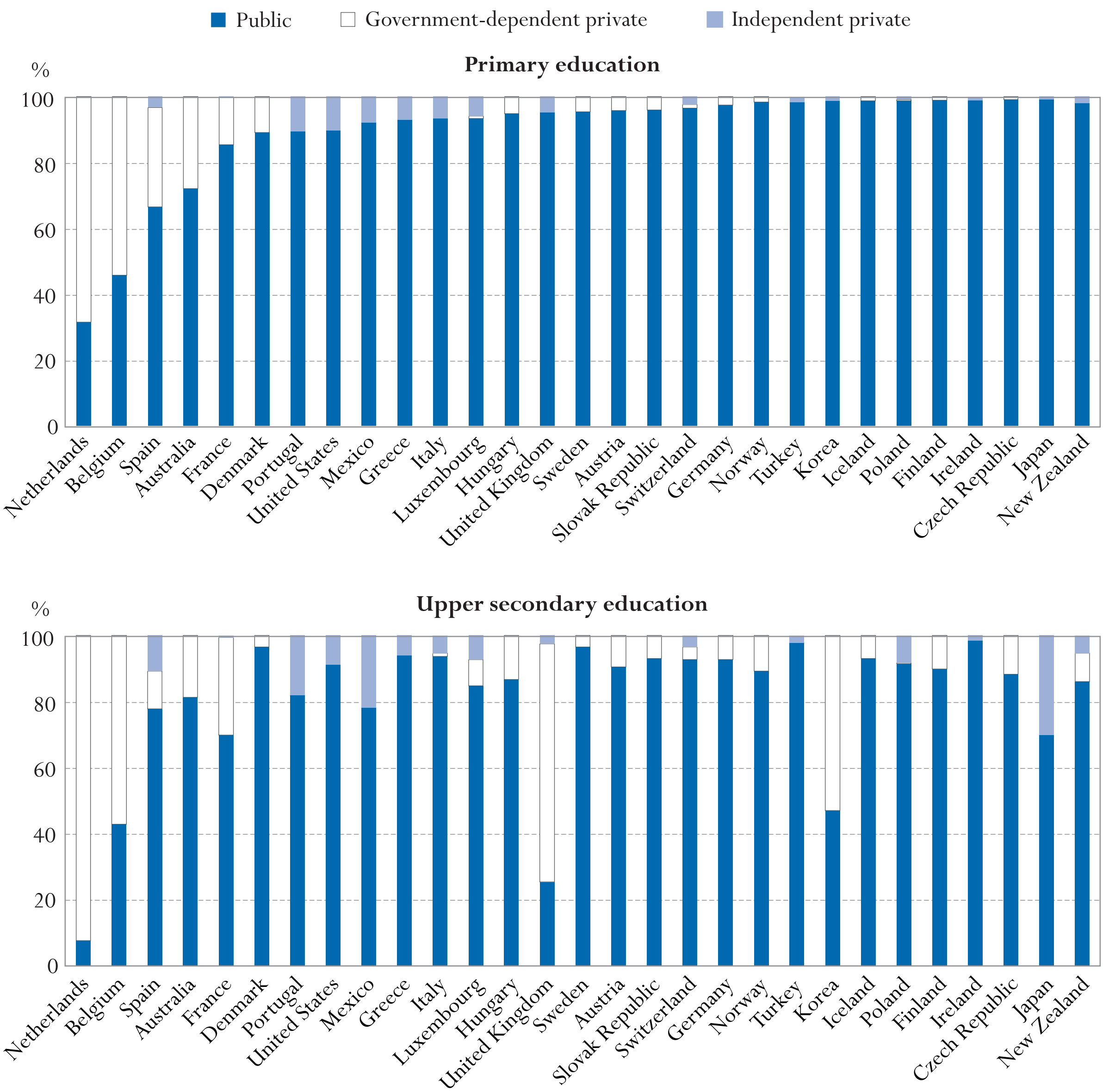
…or vocational.

- ***Type 3 (vocational or technical)*** education programmes prepare participants for direct entry into specific occupations without further training. Successful completion of such programmes leads to a labour-market relevant vocational or technical qualification.

The degree to which a programme has a vocational or general orientation does not necessarily determine whether participants have access to tertiary education. In several OECD countries, vocationally oriented programmes are designed to prepare students for further studies at the tertiary level, while in other countries, many general programmes do not provide direct access to further education.

In all OECD countries, students can choose vocational, pre-vocational or general programmes. In 15 OECD countries, the majority of upper secondary

Chart C2.3. Distribution of enrolled students, by type of institution (2002)



Countries are ranked in descending order of the percentage of students enrolled in private institutions in primary education.
Source: OECD. Table C2.4. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

C2

In more than half of the OECD countries, the majority of upper secondary students attend vocational or apprenticeship programmes.

students attend vocational or apprenticeship programmes. In OECD countries with dual-system apprenticeship programmes (Austria, Germany, Luxembourg, the Netherlands and Switzerland), and in Australia, Belgium, the Czech Republic, Poland, the Slovak Republic and the United Kingdom, 60% or more of upper secondary students are enrolled in vocational programmes. The exception is Iceland, where the majority of students are enrolled in general programmes even though dual-system apprenticeship programmes are offered (Table C2.5).

In most OECD countries, vocational education is school-based. In Austria, the Czech Republic, Iceland and the Slovak Republic, however, about half of the vocational programmes have combined school-based and work-based elements. In Denmark, Germany, Hungary and Switzerland, more than 80% of vocational programmes have both school-based and work-based elements.

Upper secondary enrolment by type of institution

Most primary and secondary students are enrolled in public institutions.

More than 80% of primary, and lower and upper secondary students are enrolled in public institutions in OECD countries (Table C2.4).

But, 20% of upper secondary students are enrolled in privately managed schools…

However, privately managed schools now enrol, on average, 10% of primary students, 14% of lower secondary students and 20% of upper secondary students (Table C2.4 and Chart C2.3).

…and enrolments in privately managed upper secondary institutions account for the majority of students in Belgium, Korea, the Netherlands and the United Kingdom.

C2

The majority of upper secondary students in Belgium, Korea, the Netherlands and the United Kingdom are enrolled in government-dependent private institutions (57, 53, 92 and 72%, respectively). Private educational institutions that are financed mainly by household payments are far less common at the upper secondary level and below, and are occasionally perceived as imposing barriers to participation for students from low income families. However, in Mexico, Portugal and Spain, between 10 and 22% of upper secondary students are enrolled in private institutions that are financed predominantly by unsubsidised household payments. In Japan, this figure is 30% (Table C2.4).

Definitions and methodologies

Data refer to the school year 2001-2002 and are based on the UOE data collection on education statistics that is administered annually by the OECD.

Table C2.1 shows, for all ages, the sum of net entry rates. The net entry rate of a specific age is obtained by dividing the number of first-time entrants of that age to each type of tertiary education by the total population in the corresponding age group (multiplied by 100). The sum of net entry rates is calculated by adding the rates for each year of age. The result represents the proportion of people in a synthetic age-cohort who enter tertiary education, irrespective of changes in population sizes and of differences between OECD countries in the typical entry age. Table C2.1 shows also the 20^{th}, 50^{th} and 80^{th} percentiles of the age distribution of first-time entrants, *i.e.*, the age below which 20%, 50% and 80% of first-time entrants are to be found.

New (first-time) entrants are students who are enrolling at the relevant level of education for the first time. Foreign students enrolling for the first time in a post-graduate programme are considered first-time entrants.

Not all OECD countries can distinguish between students entering a tertiary programme for the first time and those transferring between different levels of tertiary education or repeating or re-entering a level after an absence. Thus, first-time entry rates for each level of tertiary education cannot be added up to total tertiary-level entrance rate because it would result in double-counting entrants.

Table C2.2 shows the expected number of years for which 17-year-olds will be enrolled in tertiary education, or the sum of net enrolment rates for people aged 17 and over (divided by 100). This measure is a function of the number of participants in tertiary education and the duration of tertiary studies. Since the denominator also includes those who have never participated in tertiary education, the indicator cannot be interpreted as the average number of years an individual student requires to complete tertiary education.

Pre-vocational and vocational programmes include both school-based programmes and combined school and work-based programmes that are recognised as part of the education system. Entirely work-based education and training that is not overseen by a formal education authority is not taken into account.

Data on tertiary enrolment in 1994-1995 were obtained from a special survey carried out in 2000. OECD countries were asked to report according to the ISCED-97 classification.

Data for 1994-1995 are based on a special survey carried out in OECD countries in 2000.

Table C2.1. Entry rates into tertiary education and age distribution of new entrants (2002)

Sum of net entry rates for each year of age, by gender and programme destination

		Tertiary-type B			Tertiary-type A					
		Net entry rates			Net entry rates			Age at:		
		M+F	Males	Females	M+F	Males	Females	20th percentile[1]	50th percentile[1]	80th percentile[1]
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD COUNTRIES	Australia	m	m	m	77	70	84	18.6	20.9	29.0
	Austria	m	m	m	31	28	34	19.2	20.4	22.9
	Belgium	34	28	40	32	31	33	18.3	18.9	21.7
	Canada	m	m	m	m	m	m	m	m	m
	Czech Republic	8	5	12	30	30	30	19.2	20.0	21.8
	Denmark	12	14	11	50	38	62	22.1	23.8	28.3
	Finland	a	a	a	71	62	82	19.9	21.6	26.6
	France	22	22	22	37	30	45	18.3	18.9	20.2
	Germany[2]	15	10	19	35	35	35	20.1	21.4	24.2
	Greece	m	m	m	m	m	m	m	m	m
	Hungary	4	4	5	62	55	69	19.2	20.9	26.6
	Iceland	11	10	11	72	53	91	20.9	23.0	30.4
	Ireland[3]	18	17	18	39	34	43	18.3	19.0	19.9
	Italy[2]	1	1	1	50	44	57	20.2	20.8	23.0
	Japan[4]	30	21	40	41	48	34	m	m	m
	Korea[4]	55	54	56	49	52	46	m	m	m
	Luxembourg	m	m	m	m	m	m	m	m	m
	Mexico	2	2	1	33	31	36	18.2	19.4	21.8
	Netherlands	1	1	1	53	50	57	18.4	19.9	23.5
	New Zealand	39	34	44	66	54	78	18.9	22.9	<40
	Norway	m	m	m	m	m	m	m	m	m
	Poland	1	n	1	70	x(4)	x(4)	m	m	m
	Portugal	m	m	m	m	m	m	m	m	m
	Slovak Republic[2]	3	1	5	44	43	45	18.7	19.7	23.4
	Spain	19	19	20	50	44	57	18.5	19.3	21.5
	Sweden	6	6	6	75	59	92	20.3	22.7	<40
	Switzerland	14	16	12	35	37	32	20.2	21.8	26.4
	Turkey	m	m	m	m	m	m	18.4	19.8	23.6
	United Kingdom	27	23	30	47	43	51	18.4	19.4	24.1
	United States	x(4)	x(5)	x(6)	64	60	68	19.2	21.0	24.3
	Country mean	***16***	***14***	***18***	***51***	***45***	***55***			
PARTNER COUNTRIES	Argentina[5]	37	24	50	60	53	67	m	m	m
	Brazil[5]	m	m	m	27	x(4)	x(4)	m	m	m
	Chile	17	18	16	47	50	44	m	m	m
	China	13	14	12	10	10	9	m	m	m
	Indonesia	5	5	5	12	14	11	m	m	m
	Israel	m	m	m	57	51	64	20.5	23.0	26.9
	Jordan[5]	13	8	18	35	32	38	m	m	m
	Paraguay[5]	12	7	16	m	m	m	m	m	m
	Philippines	8	7	9	42	39	45	m	m	m
	Russian Federation	37	x(1)	x(1)	62	x(4)	x(4)	m	m	m
	Thailand	22	18	26	42	33	51	m	m	m
	Tunisia	m	m	m	26	24	28	m	m	m
	Uruguay[5]	16	x(1)	x(1)	32	24	41	m	m	m
	Zimbabwe	5	5	4	2	3	2	m	m	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2. Mismatches between the coverage of the population data and the student/graduate data mean that the participation/graduation rates for those countries that are net exporters of students may be underestimated (for instance Luxembourg) and those that are net importers may be overestimated.

1. Respectively 20/50/80% of new entrants are below this age.
2. Entry rate for tertiary-type B programmes calculated as gross entry rate.
3. Full-time entrants only.
4. Entry rate for tertiary-type A and B programmes calculated as gross entry rate.
5. Year of reference 2001.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table C2.2. Expected years in tertiary education and change in total tertiary enrolment (2002)

Expected years under current conditions, by gender and mode of study, and index of change (1995 = 100)

		Tertiary-type B education			Tertiary-type A education			Total tertiary education (type A, B and advanced research programmes)			Change in enrolment (1995 = 100)		
		Full-time and part-time		Full-time	Full-time and part-time		Full-time	Full-time and part-time		Full-time	Total tertiary education	Attributable to:	
		M + F	Females	M + F	M + F	Females	M + F	M + F	Females	M + F		Change in popula-tion	Change in enrolment rates
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD COUNTRIES	Australia	0.7	0.7	0.2	2.9	3.2	1.9	3.6	4.0	2.2	129	102	128
	Austria	0.2	0.3	x(1)	1.7	1.8	x(4)	2.1	2.2	x(7)	93	67	101
	Belgium	1.5	1.7	1.1	1.3	1.4	1.3	2.8	3.1	2.4	114	95	121
	Canada	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	0.2	0.3	0.2	1.5	1.5	1.3	1.8	1.9	1.6	168	97	167
	Denmark	0.3	0.2	0.3	2.4	2.9	2.4	2.7	3.2	2.7	118	91	130
	Finland	n	n	n	3.9	4.4	2.5	4.3	4.7	2.5	122	99	123
	France	0.6	0.7	0.6	1.8	2.1	1.9	2.6	2.9	2.6	99	93	106
	Germany	0.3	0.4	0.3	1.8	1.7	1.8	2.1	2.1	2.1	100	92	114
	Greece	1.1	1.1	1.1	2.1	2.4	2.1	3.3	3.5	3.3	178	100	177
	Hungary	0.1	0.1	0.1	2.3	2.6	1.2	2.4	2.7	1.3	208	91	207
	Iceland	0.2	0.2	0.1	2.5	3.2	1.9	2.7	3.4	2.0	159	105	151
	Ireland	x(7)	x(8)	x(9)	x(7)	x(8)	x(9)	2.7	3.0	2.0	137	108	127
	Italy	m	m	m	2.5	2.8	2.5	2.5	2.9	2.5	108	m	m
	Japan	m	m	m	m	m	m	m	m	m	m	m	m
	Korea	1.7	1.3	1.7	2.3	1.8	2.3	4.0	3.0	4.0	158	84	175
	Luxembourg	m	m	m	m	m	m	m	m	m	m	m	m
	Mexico	n	n	n	1.1	1.0	1.1	1.1	1.1	1.1	140	108	130
	Netherlands	n	n	n	2.5	2.6	2.1	2.6	2.6	2.1	m	m	m
	New Zealand	0.8	1.0	0.4	2.4	2.8	1.7	3.3	3.8	2.2	m	m	m
	Norway	0.2	0.2	0.1	3.0	3.7	2.1	3.3	3.9	2.3	109	92	116
	Poland	n	n	n	3.0	3.6	1.7	3.1	3.7	1.8	251	m	m
	Portugal	n	0.1	a	2.4	2.8	a	2.6	3.0	a	132	97	136
	Slovak Republic	0.1	0.1	n	1.5	1.6	1.1	1.7	1.8	1.1	m	m	m
	Spain	0.4	0.4	0.4	2.5	2.8	2.3	3.0	3.3	2.8	120	91	128
	Sweden	0.1	0.1	0.1	3.1	3.8	1.7	3.4	4.1	1.9	135	95	143
	Switzerland	0.4	0.3	0.1	1.3	1.2	1.2	1.8	1.6	1.5	m	m	m
	Turkey	m	m	m	m	m	m	m	m	m	m	m	m
	United Kingdom	0.8	1.0	0.3	1.8	2.0	1.4	2.8	3.1	1.7	124	98	126
	United States	0.2	0.2	0.1	3.9	4.3	2.9	4.1	4.5	3.0	m	m	m
	Country mean	***0.4***	***0.4***	***0.3***	***2.3***	***2.5***	***2.1***	***2.7***	***3.1***	***2.0***	***140***	***95***	***137***
PARTNER COUNTRIES	Argentina[1]	0.8	1.2	0.8	2.5	2.8	a	3.4	4.0	0.8	m	m	m
	Brazil[1]	x(4)	x(5)	x(6)	1.1	1.2	1.1	1.1	1.2	1.1	m	m	m
	Indonesia	0.2	0.2	0.2	0.5	0.5	0.5	0.7	0.7	0.7	m	m	m
	Israel	0.6	0.7	0.6	2.3	2.6	1.8	3.0	3.4	2.5	m	m	m
	Malaysia[1]	1.1	1.2	1.1	1.3	1.5	1.2	2.5	2.8	2.4	m	m	m
	Paraguay[1]	0.3	0.4	0.3	x(7)	x(8)	x(9)	1.2	1.3	1.2	m	m	m
	Peru[1]	0.8	0.9	0.8	m	m	m	2.0	2.0	2.0	m	m	m
	Russian Federation	1.0	1.2	0.7	2.4	2.8	1.2	3.4	4.0	2.0	m	m	m
	Thailand	m	m	m	1.6	1.8	m	2.0	2.1	0.4	m	m	m
	Uruguay[1]	0.4	0.6	0.4	1.5	1.8	1.5	1.9	2.4	1.9	m	m	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2. Mismatches between the coverage of the population data and the student/graduate data mean that the participation/graduation rates for those countries that are net exporters of students may be underestimated (for instance Luxembourg) and those that are net importers may be overestimated.

1. Year of reference 2001.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table C2.3. Students enrolled in public and private institutions and full-time and part-time programmes in tertiary education (2002)

Distribution of students, by mode of study, type of institution and programme destination

		Type of institution						Mode of study			
		Tertiary-type B education			Tertiary-type A and advanced research programmes			Tertiary-type B education		Tertiary-type A and advanced research programmes	
		Public	Government-dependent private	Independent private	Public	Government-dependent private	Independent private	Full-time	Part-time	Full-time	Part-time
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD COUNTRIES	Australia	99.1	0.9	a	100.0	a	n	33.7	66.3	65.5	34.5
	Austria	63.1	36.9	n	92.7	7.3	n	66.8	33.2	100.0	a
	Belgium	47.5	52.5	m	41.5	58.5	m	71.7	28.3	95.6	4.4
	Canada	m	m	m	m	m	m	m	m	m	m
	Czech Republic	67.9	32.1	a	98.3	n	1.7	100.0	n	89.1	10.9
	Denmark	100.0	a	a	99.5	0.5	a	100.0	a	100.0	a
	Finland	80.1	19.9	a	89.8	10.2	a	100.0	a	58.8	41.2
	France	73.0	8.7	18.3	87.8	0.8	11.4	100.0	a	100.0	a
	Germany	64.3	35.7	x(2)	100.0	a	a	85.1	14.9	100.0	a
	Greece	100.0	a	a	100.0	a	a	100.0	a	100.0	a
	Hungary	79.6	20.4	a	85.9	14.1	a	89.4	10.6	54.9	45.1
	Iceland	46.6	53.4	n	90.2	9.8	n	54.2	45.8	76.3	23.7
	Ireland	93.4	a	6.6	94.0	a	6.0	59.4	40.6	84.6	15.4
	Italy	85.3	a	14.7	93.5	a	6.5	100.0	a	100.0	a
	Japan	9.5	a	90.5	27.5	a	72.5	97.0	3.0	90.6	9.4
	Korea	14.1	a	85.9	22.7	a	77.3	100.0	a	100.0	a
	Luxembourg	100.0	a	a	100.0	a	a	97.9	2.1	92.9	7.1
	Mexico	96.2	a	3.8	66.3	a	33.7	100.0	a	100.0	a
	Netherlands	9.6	90.4	a	29.2	69.6	a	49.4	50.6	81.3	18.7
	New Zealand	78.5	21.5	0.6	97.3	1.4	n	50.9	49.6	69.6	29.1
	Norway	85.7	14.3	x(2)	87.6	12.4	x(5)	85.8	14.2	66.7	33.3
	Poland	82.6	a	17.4	71.6	a	28.4	100.0	a	56.7	43.3
	Portugal	43.4	a	56.6	72.3	a	27.7	100.0	x(7)	100.0	x(9)
	Slovak Republic	93.6	6.4	a	99.3	0.4	0.3	59.7	40.3	67.7	32.3
	Spain	75.9	16.6	7.4	87.9	n	12.1	99.5	0.5	90.1	9.9
	Sweden	69.8	1.0	29.2	94.1	5.9	a	91.9	8.1	52.8	47.2
	Switzerland	36.2	42.0	21.8	90.4	6.8	2.8	31.2	68.8	91.0	9.0
	Turkey	98.8	a	1.2	96.0	a	4.0	100.0	a	100.0	a
	United Kingdom	a	100.0	n	a	100.0	n	27.7	72.3	72.9	27.1
	United States	96.8	a	3.2	76.0	a	24.0	37.7	62.3	75.2	24.8
	Country mean	***68.6***	***19.1***	***13.7***	***79.0***	***10.3***	***11.4***	***78.9***	***21.8***	***83.9***	***16.7***
PARTNER COUNTRIES	Argentina[1]	58.9	29.6	11.5	87.0	a	13.0	100.0	a	a	100.0
	Brazil[1]	m	a	m	32.6	a	67.4	m	m	100.0	a
	Chile	8.1	5.4	86.4	31.5	22.1	46.4	100.0	a	100.0	a
	China	m	m	m	m	m	m	62.8	37.2	78.7	21.3
	India[1]	100.0	a	a	100.0	a	a	100.0	a	85.3	14.7
	Indonesia	49.8	a	50.2	33.5	a	66.5	100.0	a	100.0	a
	Israel	22.0	78.0	m	11.7	76.3	12.0	100.0	a	81.7	18.3
	Jamaica	74.7	a	25.3	68.4	a	31.6	59.5	40.5	62.1	37.9
	Jordan[1]	46.5	a	53.5	71.4	a	28.6	100.0	a	100.0	a
	Paraguay[1]	37.4	23.7	38.9	43.1	a	56.9	100.0	a	m	m
	Peru[1]	46.2	0.7	53.1	58.8	m	41.2	100.0	a	m	m
	Philippines	42.3	a	57.7	31.9	a	68.1	100.0	a	100.0	a
	Russian Federation	97.6	a	2.4	88.7	a	11.3	72.4	27.6	51.8	45.8
	Thailand	59.1	a	40.9	86.9	a	13.1	100.0	a	0.3	m
	Tunisia	100.0	a	m	100.0	a	n	100.0	a	100.0	a
	Uruguay[1]	98.9	a	1.1	86.2	a	13.8	100.0	a	100.0	a
	Zimbabwe	m	m	m	m	m	m	84.3	15.7	m	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. Year of reference 2001.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table C2.4. Students enrolled in public and private institutions and full-time and part-time programmes in primary and secondary education (2002)

Distribution of students, by mode of study and type of institution

	Type of institution									Mode of study	
	Primary education			Lower secondary education			Upper secondary education			Primary and secondary education	
	Public	Government-dependent private	Independent private	Public	Government-dependent private	Independent private	Public	Government-dependent private	Independent private	Full-time	Part-time
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD COUNTRIES											
Australia	72.0	28.0	a	69.6	30.4	a	81.1	18.9	a	75.9	24.1
Austria	95.7	4.3	x(2)	92.3	7.7	x(5)	90.3	9.7	x(8)	99.5	0.5
Belgium	45.7	54.3	m	42.3	57.7	m	42.8	57.2	m	80.6	19.4
Canada	m	m	m	m	m	m	m	m	m	m	m
Czech Republic	99.0	1.0	a	98.3	1.7	a	88.1	11.9	a	99.9	0.1
Denmark	89.0	11.0	a	80.9	19.1	a	96.5	3.5	a	100.0	a
Finland	98.8	1.2	a	95.6	4.4	a	89.7	10.3	a	100.0	a
France	85.4	14.3	0.2	78.9	20.9	0.2	69.7	29.5	0.7	100.0	a
Germany	97.4	2.6	x(2)	93.1	6.9	x(5)	92.8	7.2	x(8)	99.8	0.2
Greece	92.9	a	7.1	94.5	a	5.5	94.0	a	6.0	97.9	2.1
Hungary	94.8	5.2	a	94.0	6.0	a	86.6	13.4	a	96.1	3.9
Iceland	98.7	1.3	n	99.0	1.0	n	93.0	6.9	0.1	93.2	6.8
Ireland	98.9	a	1.1	100.0	a	n	98.3	a	1.7	99.9	0.1
Italy	93.3	a	6.7	96.6	a	3.4	93.5	1.0	5.5	99.2	0.8
Japan	99.1	a	0.9	94.2	a	5.8	69.7	a	30.3	98.8	1.2
Korea	98.6	a	1.4	78.7	21.3	a	47.0	53.0	a	100.0	a
Luxembourg	93.3	0.8	5.9	79.3	13.4	7.4	84.7	8.0	7.3	100.0	n
Mexico	92.1	a	7.9	86.8	a	13.2	78.0	a	22.0	100.0	a
Netherlands	31.6	68.4	a	23.9	76.1	a	7.6	92.4	a	98.1	1.9
New Zealand	97.9	a	2.1	95.7	a	4.3	85.9	8.8	5.3	93.6	7.1
Norway	98.3	1.7	x(2)	97.9	2.1	x(5)	89.4	10.6	x(8)	99.7	0.3
Poland	98.8	0.3	1.0	98.5	0.3	1.2	91.4	0.4	8.1	94.9	5.1
Portugal	89.5	a	10.5	89.5	a	10.5	82.0	a	18.0	93.2	6.8
Slovak Republic	96.0	4.0	a	95.0	5.0	a	93.0	7.0	a	99.0	1.0
Spain	66.4	30.2	3.4	66.4	30.4	3.2	77.8	11.5	10.7	96.2	3.8
Sweden	95.4	4.6	a	95.4	4.5	a	96.6	3.4	a	87.6	12.4
Switzerland	96.4	1.3	2.3	93.0	2.6	4.4	92.7	3.7	3.6	99.8	0.2
Turkey	98.3	a	1.7	a	a	a	97.7	a	2.3	100.0	a
United Kingdom	95.1	a	4.9	93.4	0.3	6.3	25.3	72.2	2.5	70.7	29.3
United States	89.7	a	10.3	91.2	a	8.8	91.2	a	8.8	100.0	n
Country mean	***89.7***	***8.0***	***2.3***	***86.2***	***11.1***	***2.6***	***80.2***	***15.2***	***4.6***	***95.6***	***4.4***
PARTNER COUNTRIES											
Argentina[1]	80.0	16.4	3.6	78.0	18.9	3.2	70.5	23.7	5.8	100.0	a
Brazil[1]	91.9	a	8.1	90.4	a	9.6	85.8	a	14.2	100.0	a
Chile	53.5	39.1	7.4	56.0	36.6	7.4	50.2	35.4	14.4	100.0	a
India[1]	83.5	8.5	8.0	65.9	19.4	14.7	45.4	36.3	18.2	99.9	0.1
Indonesia	84.0	a	16.0	63.6	a	36.4	46.8	a	53.2	100.0	a
Israel	100.0	n	n	100.0	n	n	100.0	a	a	99.1	0.9
Jamaica	95.2	a	4.8	97.1	a	2.9	97.1	a	2.9	m	m
Jordan[1]	70.6	a	29.4	80.9	a	19.1	91.1	a	8.9	100.0	a
Malaysia[1]	96.2	a	3.8	94.1	a	5.9	92.4	a	7.6	100.0	a
Paraguay[1]	85.1	9.6	5.2	77.3	11.0	11.7	67.9	9.2	22.9	100.0	a
Peru[1]	86.5	3.3	10.1	83.5	4.7	11.9	81.5	4.8	13.7	100.0	a
Philippines	92.9	a	7.1	79.2	a	20.8	75.2	a	24.8	100.0	a
Russian Federation	99.6	a	0.4	99.7	a	0.3	99.7	a	0.3	100.0	a
Thailand	86.4	13.6	x(2)	93.3	6.7	x(2)	89.8	10.2	x(2)	m	m
Tunisia	99.2	a	0.8	98.6	a	1.4	92.5	a	7.5	100.0	a
Uruguay[1]	87.3	a	12.7	87.6	a	12.4	88.6	a	11.4	100.0	a
Zimbabwe	12.4	87.6	a	27.0	73.0	a	30.6	69.4	a	100.0	a

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. Year of reference 2001.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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C2

Table C2.5. Upper secondary enrolment patterns (2002)

Percentage of students in public and private upper secondary institutions, by programme orientation

		Programme orientation			
		General	Pre-vocational	Vocational	of which: combined school and work-based
		(1)	(2)	(3)	(4)
OECD COUNTRIES	Australia	37.0	a	63.0	x(3)
	Austria	21.0	6.8	72.3	35.8
	Belgium	30.3	a	69.7	2.5
	Canada	m	m	m	m
	Czech Republic	19.6	0.2	80.2	38.2
	Denmark	47.0	a	53.0	53.0
	Finland	42.8	a	57.2	10.8
	France	43.7	a	56.3	11.8
	Germany	37.0	a	63.0	50.8
	Greece	60.0	a	40.0	a
	Hungary	50.3	36.8	12.8	12.8
	Iceland	61.7	1.3	37.0	16.7
	Ireland	72.7	27.3	a	a
	Italy	35.2	38.0	26.8	a
	Japan	74.3	0.8	24.9	a
	Korea	67.9	a	32.1	a
	Luxembourg	36.0	a	64.0	13.3
	Mexico	88.6	a	11.4	a
	Netherlands	30.8	a	69.2	23.5
	New Zealand	100.0	a	a	a
	Norway	42.0	a	58.0	a
	Poland	39.1	a	60.9	a
	Portugal	71.2	a	28.8	m
	Slovak Republic	23.6	a	76.4	41.3
	Spain	62.0	a	38.0	4.8
	Sweden	50.4	a	49.6	n
	Switzerland	35.4	a	64.6	58.6
	Turkey	60.6	a	39.4	9.3
	United Kingdom	27.9	x(3)	72.1	x(3)
	United States	100.0	a	a	a
	Country mean	***50.6***	***4.0***	***45.5***	***14.7***
PARTNER COUNTRIES	Argentina[1]	22.1	a	77.9	a
	Brazil[1]	86.0	a	14.0	m
	Chile	60.4	a	39.6	a
	China	57.2	38.6	4.3	m
	India[1]	99.9	a	0.1	a
	Israel	65.2	a	34.8	3.6
	Jamaica	99.5	a	0.5	m
	Jordan	94.6	a	5.4	m
	Malaysia[1]	85.0	a	15.0	m
	Paraguay[1]	79.9	a	20.1	a
	Philippines	100.0	a	a	a
	Russian Federation	67.1	a	32.9	a
	Thailand	76.0	a	24.0	a
	Tunisia	93.2	2.6	4.1	a
	Uruguay[1]	80.8	a	19.2	a
	Zimbabwe	100.0	a	a	a

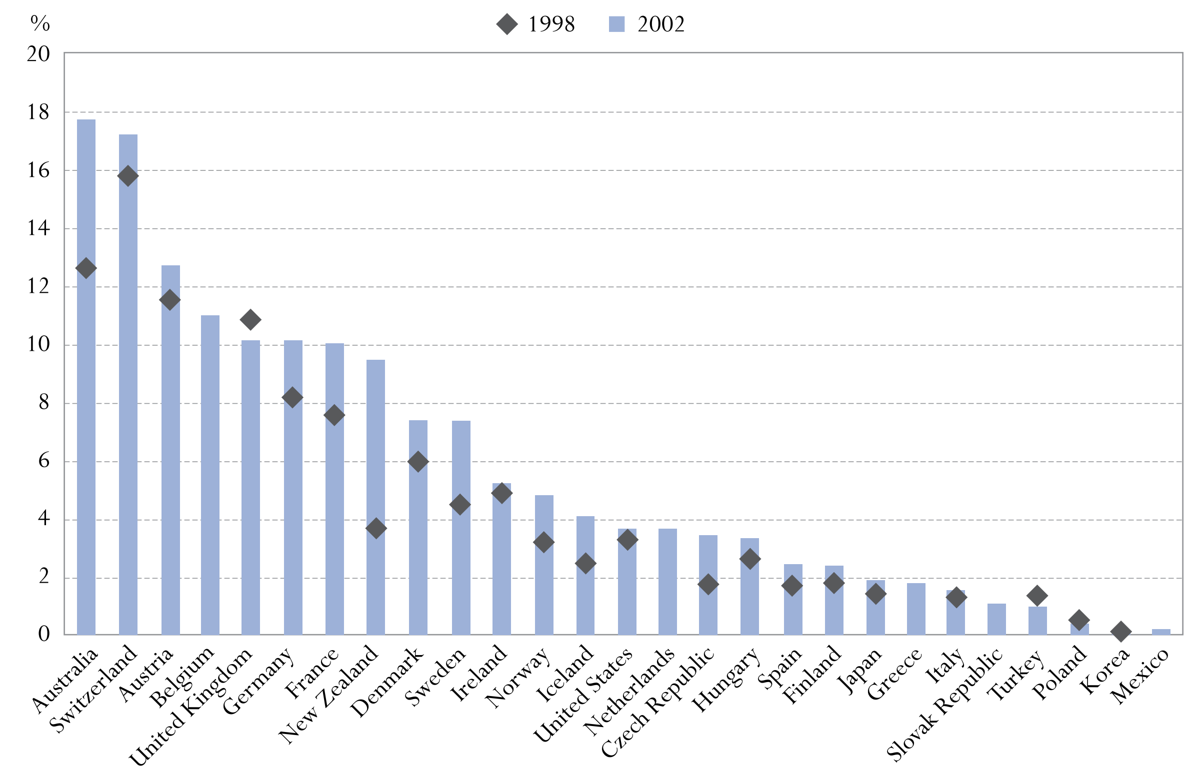
Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. Year of reference 2001.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

INDICATOR C3: FOREIGN STUDENTS IN TERTIARY EDUCATION

- In 2002, 1.90 million students were enrolled outside their country of origin. This represented a 15% increase in total student mobility since the previous year.
- Five countries (Australia, France, Germany, the United Kingdom and the United States) receive nearly 73% of all foreign students studying in the OECD area.
- 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.
- Relative to a country's total tertiary enrolement, the percentage of foreign students enrolled in OECD countries ranges from below 1 to almost 18%. Australia, Austria, Belgium, France, Germany, Switzerland and the United Kingdom take in the most foreign students, when measured as a percentage of their tertiary enrolments.
- In Finland, Spain and Switzerland, more than one in six foreign students is enrolled in highly theoretical advanced research programmes.
- As far as fields of study are concerned, 30% or more of foreign students are enrolled in sciences or engineering in Australia, Finland, Germany, Sweden, Switzerland and the United Kingdom.

Chart C3.1. Foreign students in tertiary education (2002)

Percentage of foreign students to total enrolment in tertiary education



Countries are ranked in descending order of the percentage of foreign students enrolled in tertiary education in 2002.
Source: OECD. Table C3.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

C3

Policy context

This indicator shows the mobility of students between countries…

The international dimension of higher education is receiving growing attention from multiple perspectives.

On the one hand, the general trend towards freely circulating capital, goods and services coupled with changes in the openness of labour markets have increased the demand for new kinds of educational provision in OECD countries. Governments as well as individuals are looking increasingly to higher education to play a role in broadening the horizons of students and allowing them to develop a deeper understanding of the multiplicity of languages, cultures and business methods in the world. One way for students to expand their knowledge of other societies and languages and hence to leverage their labour market prospects is to study in tertiary educational institutions in countries other than their own. Indeed, several OECD governments have set up schemes and policies to promote such mobility.

…in terms of sending and host country policies.

The international mobility of students involves economic costs and benefits, that depend to a large extent on sending countries' policies regarding financial aid to students going overseas for study, and host countries' policies on tuition fees and financial support for overseas students. While the direct short-term monetary costs and benefits of this mobility are relatively easy to measure, the long-term social and economic outcomes are far more difficult to quantify.

Internationalisation brings benefits and constraints to institutions,…

From the perspective of institutions, foreign enrolments may constrain the instructional settings and processes insofar as the curriculum and teaching methods sometimes have to be adapted to a culturally and linguistically diverse student body. These constraints are greatly outweighed, however, by numerous benefits to host institutions. Indeed, foreign enrolments can help to reach the critical mass needed to diversify the range of educational programmes offered, and may compensate for variations in domestic enrolment rates. They can also increase tertiary institutions' financial resources.

…has an impact on countries' balance of payments…

Last but not least, international negotiations currently underway on trade liberalisation of services highlight the economic implications of the internationalisation of the provision of education services. The trend towards greater internationalisation of education is likely to have a growing impact on countries' balances of payments, and some OECD countries already show signs of specialisation in education exports. In this perspective, it is worth noting that in addition to student flows across borders, cross-border electronic delivery of highly flexible educational programmes and campuses abroad are also relevant to the internationalisation and cross-border dimension of higher education, although no comparable data exist yet (see Box C3.1).

…and may improve the cost efficiency of education provision.

The internationalisation of higher education, however, has many more economic outcomes in addition to those reflected in the trade balance. The internationalisation of education can also be seen as an opportunity for smaller and/or less developed educational systems to improve the cost efficiency of their education provision. Indeed, training opportunities abroad may constitute a cost-efficient alternative to national provision, and allow countries to focus limited resources on educational programmes where economies of scale can be generated.

The numbers and trends in students studying in other countries can provide some idea of the extent of student mobility. In the future, it will also be important to develop ways to quantify and measure other components of cross-border education.

Box C3.1. Cross-border education: the main economic, social and political issues

In July 2004 the OECD released a book entirely devoted to the key trends and issues in cross-border post-secondary education: *Internationalisation and Trade in Higher Education: Opportunities and Challenges*.

In the last decade, new forms of cross-border post-secondary education have emerged. Cross-border education not only includes international student mobility, but also the mobility of educational programmes and institutions across borders. Cross-border mobility of students is by far the major form of cross-border post-secondary education. Programme and institution mobility involves lower individual costs than studying abroad, and although such services might not offer the same cultural and linguistic experiences as foreign study, they are likely to meet a growing demand in the future. Programme mobility is the second most common form of cross-border post-secondary education, while institution mobility is still limited in scale. In the degree-granting sector, the growth of for-profit cross-border education through programme and institution mobility is mostly driven by "traditional" public or private not-for-profit educational institutions, which are increasingly offering private provision. Commercial arrangements are becoming prominent in the Asia-Pacific region, mainly through franchises and twinning arrangements.

In the book, three regional analyses document how differently cross-border post-secondary education has developed across OECD countries and regions. By and large, student mobility has been policy-driven in Europe and demand-driven in the Asia-Pacific region, while North America has mostly been a magnet for foreign students. Largely driven by institutions themselves, the revenue-generating mobility of programmes and institutions has been facilitated by institutional frameworks which grant substantial autonomy to higher education institutions and by the policies adopted by receiving countries.

Behind these developments are four different, but not mutually exclusive, approaches to cross-border education: the mutual understanding, skilled migration, revenue-generating and capacity-building approaches. While academic, cultural, political and long-term economic rationales feeding a mutual understanding approach remain a common basis for all countries, some countries use cross-border education as a means to attract a skilled workforce into their knowledge economy (skilled migration approach) and sometimes, additionally, to generate export revenue to the education sector (revenue-generating approach). On the other hand, emerging economies also use imports of cross-border education services as a means of building their capacity in higher education, and more generally, of developing economically (capacity building approach).

The growth and diversification of cross-border education raises a number of questions for OECD governments and higher education institutions. Will recent trends in cross-border education lead to a reshaping of OECD higher and post-secondary education systems? Can they help enhance the diversity and flexibility of educational provision and lower the cost of post-secondary education for students and governments? Is liberalisation an answer to the growing importance of private provision as well as the rise in the demand for post-secondary education? What are the main policy strategies and issues arising from these new challenges?

Cross-border education represents an important source of export revenue and is included in the General Agreement on Trade in Services (GATS) negotiations. While analysing the possible implications of the GATS for public funding, subsidies and quality, the book shows that cross-border post-secondary education raises traditional educational policy issues: quality, access and equity, cost, contribution of education to growth. It offers an analysis of these issues and gives policy recommendations to reap the benefits of cross-border education while avoiding its risks.

C3

Evidence and explanations

Trends in student mobility

In 2002, 1.90 million students were enrolled outside their country of origin,…

In 2002, 1.90 million students were enrolled outside their country of origin, of which 1.78 million (or 94%) studied in the OECD area. According to available data, this represented a 15% increase in total student mobility since the previous year.

…a 34% increase since 1998.

Looking at the OECD countries only allows comparisons to be made over a longer time span, and to identify trends in the past five years. Since 1998, the absolute number of foreign students reported in the OECD area has increased by 34.2%, that is a 7.6% annual increase on average (Table C3.6).

Distribution of foreign students by host countries

Five OECD countries attract more than seven out of ten foreign students.

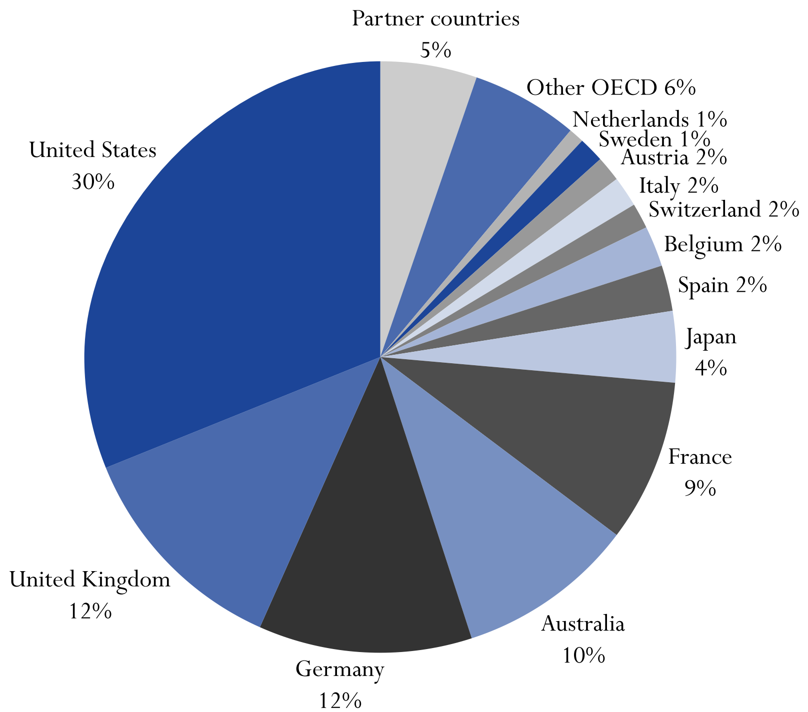
A relatively small number of countries enrols the vast majority of foreign students studying in the OECD area and in other partner countries reporting such data. The United States receives the most foreign students (in absolute terms) with 30% of the total of all foreign students, followed by the United Kingdom and Germany (12% each), Australia (10%) and France (9%). Altogether, these five host countries account for nearly 73% of all students studying abroad (Chart C3.2).

Among these five top receiving countries, it is noteworthy that Australia displayed a 2.1 percentage point increase in its share of foreign students over one year. This increase amounts to nearly 59 000 additional foreign students in absolute terms (see Indicator C3 from *Education at a Glance 2003*).

Not all non-national students came to the host country expressly with the intention to study.

This indicator defines a foreign student as someone who is not a citizen of the country of study. In most countries, it has not been possible to distinguish between foreign students who are residents in the country but who have immigrated (or whose parents have immigrated), and students who came to the country expressly to pursue their education. This leads to an overestimation of the foreign student body in countries with comparatively stringent naturalisation policies.

Chart C3.2. Distribution of foreign students in tertiary education, by country of study (2002)



Source: OECD. See Annex 3 for notes and Table C3.7 (*www.oecd.org/edu/eag2004*).

For example, Germany is a high-ranking destination for foreign students but the actual number of non-resident students registered in German tertiary education institutions accounts for about 69% of all foreign students in tertiary-type A programmes. This is because a significant number of "domestic foreigners" – mainly children of migrant workers – are considered foreign for the purposes of this indicator, despite having grown up in Germany and holding permanent residence in this country.

Language of instruction is a critical factor in selecting a country in which to study.

In addition, the foreign student body comprises some distance-learning students who are not strictly speaking mobile students. Hence interpretations of the data in terms of student mobility need to be made cautiously (see Annex 3 at *www.oecd.org/edu/eag2004* for country-specific coverage and definitions of foreign students).

The language spoken is critical for selecting a foreign country in which to study. Countries whose language of instruction is widely spoken and read (*e.g.,* English, French, German) dominate in hosting foreign students, be it in absolute or relative terms.

The dominance of English-speaking countries such as Australia, the United Kingdom and the United States (in absolute numbers) may be largely attributable to the fact that students intending to study abroad are most likely to have learnt English in their home country. Indeed, an increasing number of institutions in non-English-speaking countries now offer courses in English to attract foreign students, especially so in Nordic countries. This comparatively new feature of educational provision may explain the comparatively large increase in the proportion of foreign students enrolled in Iceland, Norway and Sweden between 1998 and 2002, with an overall increase in the foreign intake ranging between 50 and 70% (Table C3.1).

Proportion of foreign students by countries of origin

Trends in the geographic composition of the foreign students' intake show stronger growth in mobility by Asian students.

Unlike in previous years, the increase in the overall number of foreign students over the previous year has been associated in 2002 with a change in the geographic composition of the foreign students' intake.

In 2002, Asian students form the largest group of foreign students enrolled in reporting OECD and partner countries, with 45% of the total. The Asian group is followed by Europeans (30%), in particular citizens of the European Union (19%). Students from Africa account for 11% of all foreign students while North Americans account for only 6%. Finally, South Americans represent less than 4% of the total. Altogether, 38% of foreign students enrolled in reporting OECD and partner countries are citizens of an OECD country (Table C3.2).

Between 2001 and 2002, the share of Asian students among all foreign students has increased quite significantly, by 3 percentage points. By contrast, the share of foreign students of European origin dropped from 33 to 30% of the total. This trend suggests that the demand for training abroad increased faster in Asia than in Europe (see Indicator C3 from *Education at a Glance 2003*).

Students from France, Germany, Greece, Japan, Korea and Turkey represent the largest intakes from OECD countries…

The predominance of students from Asia and Europe among foreign intakes is also noticeable when focusing on OECD countries. Students from Korea and Japan comprise the largest groups of all foreign students, at 4.4 and 3.3% of the total respectively, followed by students from Germany (3%), France (2.7%), Greece (2.6%) and Turkey (2.5%). Together, these countries account for 19% of all foreign students enrolled in reporting OECD and partner countries (Table C3.2).

…while students from China, India and Southeast Asia make up the largest proportion of foreign students from partner countries.

With respect to foreign students originating from partner countries, students from China represent by far the largest group, with 9.6% of all foreign students (not including an additional 1.6% from Hong Kong, China). They are followed by students from India (4.7%), Morocco (2.7%), Malaysia (2%) and Indonesia (1.9%). Another 2.5% of all foreign students originate from Singapore and Thailand in Southeast Asia. For data see Annex 3 at *www.oecd.org/edu/eag2004*.

International trade, financial, economic and historical relations are important factors underlying student mobility. For example, the promotion of regional economic integration by organisations and treaties such as the European Union, NAFTA, ASEAN and APEC may provide incentives for students to develop their understanding of partner countries' cultures and languages, and to build bilateral or multilateral networks. Some national governments have made international student mobility an explicit part of their socio-economic development strategies. For example, several governments in the Asia-Pacific region, such as Australia, Japan and New Zealand, have initiated policies to attract foreign students to study in their higher education institutions, often on a revenue-generating or at least self-financing basis.

Foreign student intakes as a proportion of total enrolments

The foregoing analysis has focused on the distribution of absolute numbers of foreign students by countries of destination and origin. One way to take the size of the different national tertiary education systems into account is to examine the intake of tertiary students in a particular country as well as the number of its citizens studying abroad relative to its tertiary enrolments.

The percentage of foreign students enrolled in OECD countries ranges from below 1 to nearly 18%.

Australia and Switzerland receive the largest proportion of foreign students relative to their total tertiary enrolment, with more than one in six tertiary students enrolled in the country being foreign. Foreign enrolments are also significant in relative terms in Austria, Belgium, France, Germany and the United Kingdom, with foreign students representing 10 to 13% of tertiary domestic enrolments. By contrast, the proportion of foreign students in tertiary enrolment remains below 2% in Greece, Italy, Japan, Korea, Mexico, Poland, the Slovak Republic and Turkey (Chart C3.1).

In comparison with OECD countries, partner countries participating in the World Education Indicators project receive marginal numbers of foreign students relative to their size, with the exception of Jordan and Malaysia where foreign students reach 2.7 and 3% of enrolments respectively (Table C3.1).

Compared to 1998, several OECD countries have experienced a significant increase in the proportion of foreign students enrolled in their education system. This upward trend is especially noticeable in the Czech Republic, Iceland, Korea, Norway, Spain and Sweden, with indexes of change of around 150 or above.

Australia, Germany and New Zealand, which already play significant roles, might further increase their position in the international education market.

This trend of growing internationalisation of enrolments is also visible in several of the top receiving countries relative to their size, namely Australia (with an index of change of 141), Germany (124) and most significantly New Zealand. In the latter country, the proportion of foreign students in domestic enrolments rocketed from 3.7 to 9.5% (index of 259) thereby positionning New Zealand among the key-players in the international education market.

Students studying abroad relative to total enrolments

It is also possible to estimate the extent to which students study abroad by comparing the number of students of a particular citizenship studying abroad to national tertiary enrolments. The measure used here only covers students leaving their country to study in OECD and partner countries that report data. It does not cover students who study abroad in countries other than those reporting their intakes in Column 1 of Table C3.1. The indicator is thus likely to underestimate the proportion of students enrolled abroad. Another potential source of underestimation may be that the indicator is calculated on a full-year basis whereas many students study abroad for less than a full academic year. For example, the majority of students from the United States who study abroad do so for half a year or less.

Greece, Iceland, Ireland, Luxembourg, Norway and the Slovak Republic send a large proportion of their students abroad, while Australia, Mexico and the United States send relatively few.

The ratio of students studying abroad to total enrolment in the country of origin varies widely, from below 2% in the United States (0.2%), Australia (0.5%), Mexico (0.9%), Poland and the United Kingdom (1.2%), Spain (1.5%) and Japan (1.6%) to as much as 25% in Iceland and 205% in Luxembourg (see Table C3.1, Column 6). The latter case is specific, however, because Luxembourg only offers post-secondary non-tertiary programmes or the first year at the tertiary level. Since students in Luxembourg must continue their studies abroad, a large number of students are enrolled outside the country relative to those enrolled domestically.

In partner countries, Zimbabwe and Jamaica have the largest proportion of students enrolled abroad relative to their domestic enrolments, at 9.8 and 10.8% respectively.

Net balance of international student exchange

Proportional to their size, Australia, Switzerland and the United Kingdom show the largest net intake of foreign students.

Although the United States receives over 544 000 foreign students more than the total number of US students going abroad, other countries have much larger net intakes of students when the size of their tertiary systems is taken into account. In Australia, Switzerland and the United Kingdom, the net intake is between 5.1 and 8.1% of their tertiary enrolment (see Table C3.1, Column 7). Conversely, Greece, Iceland, Norway and the Slovak Republic show the highest relative net outflow of students, at 9.4, 22.1, 5.5 and 7% of total tertiary enrolments, respectively. The balances of student flows take only students to and from reporting OECD and partner countries into account. The absolute balance for countries that accept a significant number of students from non-reporting countries or that send students to non-reporting countries may differ from these figures.

Various push-pull factors help to explain student mobility patterns.

Given the numerous benefits that foreign students may bring to their host countries, it is important to identify the factors likely to enhance student mobility.

Student mobility patterns can be attributed to a variety of push-pull factors, such as language barriers, the academic reputation of particular institutions or programmes, the flexibility of programmes with respect to counting time spent abroad towards degree requirements, the limitations of higher education provision in the home country, restrictive university admission policies at home, financial incentives and tuition costs.

These patterns also reflect geographical and historical links between countries, future job opportunities, cultural aspirations, and government policies to facilitate credit transfer between home and host institutions. The transparency and flexibility of courses and degree requirements also count.

Trade effects and economic benefits of the internationalisation of higher education

The net intake of foreign students indicates the magnitude of the benefits countries can potentially reap from the international exchange of tertiary students.

A first direct benefit of the intake of foreign students is the tuition fee revenue that is generated and most importantly the domestic consumption by foreign students, which both appear in the balance of current accounts as exports of educational services. The magnitude of this gain is highest when host countries adopt a full-fee tuition policy for international students, while in countries where tuition fees charged to foreign students are below the cost of education provision, the net gain depends on the extent of foreign students' domestic consumption. In top receiving countries like Australia and New Zealand, exports of educational services ranked respectively third and fourth in terms of services exports in 2001, representing 13.1 and 8.1% of these countries' total service exports (see Box C3.1).

In addition to the direct benefits of internationalised higher education, a higher client-base of tertiary education may result in indirect gains, whereby net receiving countries generate economies of scale in tertiary education, and can therefore diversify their range of programmes and/or reduce their unit costs. This can be particularly important for host countries with a relatively small population (*e.g.* Switzerland).

The presence of a potential foreign student client-base also compels higher education institutions to offer quality programmes that stand out among competitors, which may contribute to the development of a highly reactive, client-driven higher education.

Finally, the intake of foreign students can to some extent involve technology transfers (especially in advanced research programmes), foster intercultural contacts and help to build social networks for the future.

Profile of foreign intake in different destinations

The profile of foreign students' intake varies significantly among countries, suggesting different specialisations on the international education market.

In some countries a comparatively large proportion of foreign students is enrolled in tertiary-type B programmes. This is the case in Belgium (44.9%), New Zealand (28.5%) and Korea (19.3%) among OECD countries, and to an even larger extent in Malaysia (63.9%) outside of the OECD.

C3

By contrast other countries see a large proportion of their foreign students enrolling in highly theoretical advanced research programmes. This is most notably the case in Finland (20%), Spain (19.3%), and Switzerland (18.3%), suggesting that these countries offer attractive advanced programmes to prospective foreign graduate students. This concentration can also be observed – although to a more limited extent – in Sweden (14.5%), the Czech Republic (14%), Korea (13.1%) and the United Kingdom (10%). All of these countries are likely to benefit from larger technology transfers from these high level foreign students. In addition, this specialisation can also generate higher tuition revenue per foreign student in the countries charging full tuition costs to foreign students (Table C3.4).

The profile of the intake by field of study underlines magnet centres.

Sciences attract more than one in five foreign students in Australia (22.1%) but less than one in fifty in Japan (1.9%). Other countries where a large proportion of foreign students is enrolled in sciences are New Zealand (15.5%), the United Kingdom (15.3%), Germany (14.9%), Norway (14.7%), Switzerland (14.5%), Iceland (13.6%) and Sweden (13.1%).

When considering scientific disciplines in a broader sense, *i.e.* adding engineering, manufacturing and construction programmes to those in sciences, the picture changes slightly. Finland now receives the largest proportion of its foreign students' intake in these fields, at 38.7%. The proportion of foreign students enrolled in sciences or engineering remains high in Australia (33%), Germany (31.8%), the United Kingdom (31.4%), Sweden (31.2%) and

Switzerland (30%). By contrast, few foreign students are enrolled in sciences and engineering in Poland, Belgium, the Slovak Republic and Japan (Chart C3.3).

It is noteworthy that most countries enrolling large proportions of their foreign students in the sciences and engineering fields deliver programmes in the English language. In the case of Germany, the large proportion of foreign students in scientific disciplines may also reflect the strong tradition of the country in these fields.

By contrast, non Anglo-saxon countries tend to enrol a higher proportion of their foreign students in the humanities and arts field, not surprisingly given the nature of these programmes' content. Indeed, humanities and arts are favoured by 44.3% of foreign students in Iceland, and by about one in four foreign students in Poland (26.5%), Austria (24.4%), Japan (24.2%) and Germany (22.5%).

Social sciences, business and law programmes also attract foreign students in large numbers. In New Zealand and the Netherlands, these fields of study enroll about half of all foreign students (at 52.7 and 46.9% respectively). The proportion of foreign students enrolled in social sciences, business and law is also high in Turkey (42%), Australia (40.6%) and Japan (35.8%).

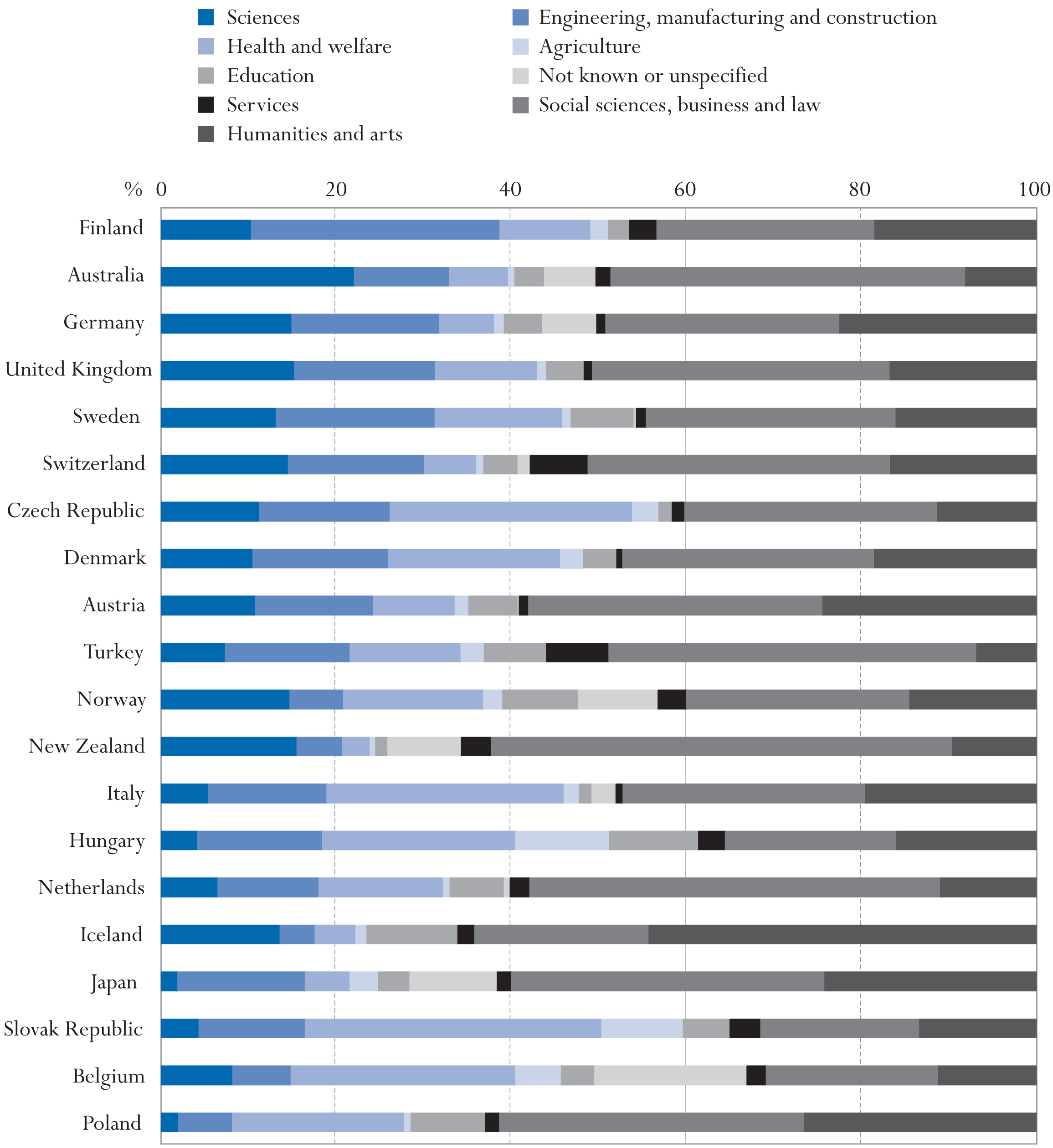
The situation of health and welfare educational programmes is fairly specific since it depends to a large extent on national policies of medical degree recognition. Health and welfare programmes attract large proportions of foreign students in EU and acceding countries, most notably in the Slovak Republic (33.9% of foreign students), the Czech Republic (27.7%), Italy (27.1%), Belgium (25.6%) and Hungary (22.1%). This pattern is clearly related to the existence of quotas in many European countries restricting the national offer of educational programmes in the medical field. This increases the demand for training abroad in other EU countries to bypass these quotas, and to take advantage of the EU countries' automatic recognition of medical degrees under the European Medical Directive.

Overall, the concentration of foreign students in specific disciplines in each country of destination highlights "magnet" programmes which attract students from abroad in large numbers. This attraction results from many factors on both the supply and demand side.

On the supply side, some destinations offer centres of excellence or traditional expertise able to attract students from other countries in large numbers (*e.g.* Finland and Germany in the sciences and engineering fields). In the humanities and arts, some destinations also have a natural monopoly in the offer of some programmes. This is especially obvious for linguistic or cultural studies (*e.g.* Germany, Austria, Iceland, Japan).

On the demand side, the characteristics of foreign students can explain their concentration in some fields of study. For instance, students in scientific disciplines are usually less likely to be fluent in many different languages, which may explain their stronger propensity to study in countries offering education programmes in English, and their lesser propensity to enrol in Japan. Similarly, the demand of many Asian students for business training may explain the strong

Chart C3.3. Distribution of foreign students in tertiary education, by field of study (2002)



Countries are ranked in descending order of the proportion of foreign students enrolled in sciences, engineering, manufacturing and construction.
Source: OECD. Table C3.5. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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concentration of foreign students in social sciences, business and law in neighbouring Australia and New Zealand. Last, EU provisions for the recognition of medical degrees clearly drive the concentration of foreign students in health and welfare programmes in EU countries.

Definitions and methodologies

Data refer to the academic year 2001–2002 and are based on the UOE data collection on education statistics that is administered annually by the OECD (see Annex 3).

Students are classified as foreign students if they are not citizens of the country in which the data are collected. While pragmatic and operational, this classification may create inconsistencies resulting from differing national policies regarding the naturalisation of immigrants and the inability of several countries to report foreign students net of permanent resident students. Countries that naturalise immigrants stringently and which cannot identify non-resident foreign students therefore over-estimate the size of their foreign student body, compared to more lenient countries. Bilateral comparisons of the data on foreign students should therefore be made with caution, since some countries differ in the definition and coverage of their foreign students (see Annex 3 at *www.oecd.org/edu/eag2004).*

Foreign student data are collected by host countries and therefore relate to students that are coming in rather than to students going abroad. Host countries covered by this indicator are all of the OECD countries with the exception of Canada, Luxembourg and Portugal as well as the following partner countries: Argentina, Chile, India, Indonesia, Jordan, Malaysia, the Philippines, the Russian Federation, Thailand and Tunisia. This indicator does not include students studying in OECD countries that did not report foreign students nor in partner countries other than those mentioned above. All statements on students studying abroad therefore underestimate the real number of students abroad, especially so for countries sending large numbers to non-reporting countries.

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The method of obtaining data on the number of foreign students is the same as that used for collecting data on total enrolments, *i.e.,* records of regularly enrolled students in an educational programme are used. Domestic and foreign students are usually counted on a specific day or period of the year. This procedure measures the proportion of foreign enrolments in an education system, but the actual number of individuals involved in foreign exchange may be much higher, since many students study abroad for less than a full academic year, or participate in exchange programmes that do not require enrolment (*e.g.,* inter-university exchange or advanced research short-term mobility).

Table C3.1 shows foreign enrolment as a proportion of the total enrolment in the host country or country of origin. Total enrolment, used as a denominator, comprises all persons studying in the country (including all foreign students) but excludes all students from that country who study abroad.

The index of intensity of foreign students' intake shown in Table C3.1 compares the numbers of foreign students as a proportion of domestic enrolments with the average order of magnitude for OECD countries. This makes it possible to refine the scale of foreign students intakes based on the size of the tertiary education system. An index higher (lower) than 1 reflects a higher (lower) intake as a proportion of enrolments compared with the OECD mean. Alternatively, this index can also be interpreted in terms of a comparison of the weight of a country in OECD foreign students intakes with its weight in OECD enrolments. If so, an index higher (lower) than 1 reflects a higher (lower) foreign students intake than the country's weight in OECD enrolments would suggest.

Tables C3.2, C3.4 and C3.5 show the distribution of foreign students enrolled in an education system according to their country of origin in Table C3.2, according to their level and type of education in Table C3.4, and according to the field of study they are enrolled in for Table C3.5.

Table C3.3 shows the distribution of students of a given citizenship enrolled abroad according to their country of destination or study. As mentioned above, the number of students enrolled abroad used as a denominator covers only students enrolled in other countries reporting data. Therefore, the resulting proportions can be biased and over-estimated for countries sending large numbers of students to non-reporting countries.

Table C3.6 shows trends in the absolute number of foreign students reported by OECD and partner countries, and the index of change between 1998 and 2002 and between 2001 and 2002. It should be noted that the figures are based on the number of foreign students enrolled in countries reporting data to the OECD. The coverage of these reporting countries has evolved over time, therefore the figures are not strictly comparable and caution should be taken in interpreting them.

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Table C3.1. Exchange of students in tertiary education (2002)

Foreign students enrolled as a percentage of all students (foreign plus domestic) and exchange of students as a percentage of total tertiary enrolment

Reading the first column: 12.7% of all students in tertiary education in Austria are foreign students (from throughout the world).
Reading the fourth column: Australia enrols 3.1 times more foreign tertiary students than the average OECD country, while Finland's proportion of foreign students is 0.4 times the OECD average.
Reading the fifth column: Foreign tertiary students from other countries that report foreign students represent 8.9% of all tertiary students in Austria.
Reading the sixth column: 5.5% of all tertiary students in Austria study in other countries that report foreign students.
Column 7 represents the difference between column 5 and column 6.

	Foreign students from throughout the world as a percentage of all students (foreign and domestic students)			Index of intensity[1] of foreign students' intake relative to OECD reference area	Exchange of students with other reporting countries[2] (relative to total tertiary enrolment)			Foreign enrolment by gender	
	2002	1998	Index of change (1998 = 100)		Intake of students from other reporting countries	National students enrolled abroad in other reporting countries	Net intake of foreign students from other reporting countries	% males	% females
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD COUNTRIES									
Australia	17.7	12.6	141	3.1	8.6	0.5	8.1	52.7	47.3
Austria	12.7	11.5	111	2.2	8.9	5.5	3.5	48.2	51.8
Belgium	11.0	m	m	1.9	6.2	2.8	3.3	50.5	49.5
Canada	m	2.8	m	m	m	m	m	m	m
Czech Republic	3.4	1.9	181	0.6	2.1	2.1	n	52.6	47.4
Denmark	7.4	6.0	123	1.3	3.0	3.3	-0.4	45.2	54.8
Finland	2.4	1.7	138	0.4	1.2	3.5	-2.3	55.1	44.9
France	10.0	7.7	130	1.8	2.4	2.5	-0.1	m	m
Germany[3]	10.1	8.2	124	1.8	5.6	2.6	3.0	51.2	48.8
Greece[4]	1.6	m	m	0.3	0.1	9.5	-9.4	m	m
Hungary	3.3	2.6	128	0.6	1.3	2.2	-0.9	54.4	45.6
Iceland	4.1	2.4	170	0.7	3.3	25.4	-22.1	36.4	63.6
Ireland	5.2	4.8	108	0.9	3.8	8.6	-4.8	47.9	52.1
Italy	1.5	1.2	124	0.3	0.7	2.2	-1.5	43.9	56.1
Japan	1.9	1.4	134	0.3	0.7	1.6	-0.9	53.2	46.8
Korea	0.2	0.1	160	n	n	2.6	-2.6	55.0	45.0
Luxembourg	m	30.5	m	m	m	204.8	m	m	m
Mexico	0.1	m	m	n	n	0.9	-0.8	m	m
Netherlands[3]	3.7	m	m	0.6	2.3	2.3	n	48.8	51.2
New Zealand	9.5	3.7	259	1.7	3.2	3.9	-0.7	49.5	50.5
Norway	4.8	3.2	152	0.8	2.6	8.0	-5.5	44.4	55.6
Poland[3]	0.4	0.5	85	0.1	0.1	1.2	-1.1	46.1	53.6
Portugal	m	m	m	m	m	2.8	m	m	m
Slovak Republic	1.1	m	m	0.2	0.4	7.4	-7.0	59.0	41.0
Spain	2.4	1.7	147	0.4	1.6	1.5	0.1	43.9	56.1
Sweden	7.5	4.5	167	1.0	4.6	4.0	0.6	43.8	56.2
Switzerland	17.2	15.9	108	3.0	12.3	4.8	7.5	56.6	43.4
Turkey[3]	1.0	1.3	74	0.2	0.2	2.8	-2.7	71.6	28.4
United Kingdom	10.1	10.8	94	1.8	6.3	1.2	5.1	51.5	48.5
United States	3.7	3.2	113	0.6	1.9	0.2	1.6	56.2	43.8
Country mean	***5.7***	***5.8***		***1.0***	***3.3***	***4.1***[5]		***50.7***	***49.3***

1. The index compares the numbers of foreign students as a proportion of domestic enrolments with the average order of magnitude for OECD countries. This makes it possible to refine the scale of foreign students intakes based on the size of the tertiary education system. An index higher (lower) than 1 reflects a higher (lower) intake as a proportion of enrolments compared with the OECD mean.
2. Data in columns 5 to 7 do not show the exchange of students throughout the world. Coverage is limited to the OECD and partner countries shown in the table that report data in column 1. Therefore data are not comparable to those reported in column 1.
3. Excluding advanced research programmes.
4. Excluding tertiary-type B programmes.
5. Country mean excludes Luxembourg.
6. Excluding tertiary-type A programmes.
7. Year of reference 2001.
8. The number of foreign students is significantly underestimated. See Annex 3 for details.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

Table C3.1. (*continued*) Exchange of students in tertiary education (2002)

Foreign students enrolled as a percentage of all students (foreign plus domestic) and exchange of students as a percentage of total tertiary enrolment

Reading the first column: 12.7% of all students in tertiary education in Austria are foreign students (from throughout the world).
Reading the fourth column: Australia enrols 3.1 times more foreign tertiary students than the average OECD country, while Finland's proportion of foreign students is 0.4 times the OECD average.
Reading the fifth column: Foreign tertiary students from other countries that report foreign students represent 8.9% of all tertiary students in Austria.
Reading the sixth column: 5.5% of all tertiary students in Austria study in other countries that report foreign students.
Column 7 represents the difference between column 5 and column 6.

		Foreign students from throughout the world as a percentage of all students (foreign and domestic students)				Exchange of students with other reporting countries[2] (relative to total tertiary enrolment)			Foreign enrolment by gender	
		2002	1998	Index of change (1998 = 100)	Index of intensity[1] of foreign students' intake relative to OECD reference area	Intake of students from other reporting countries	National students enrolled abroad in other reporting countries	Net intake of foreign students from other reporting countries	% males	% females
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
PARTNER COUNTRIES	Argentina[3, 6, 7]	0.2	m	m	n	n	0.4	-0.3	m	m
	Brazil	m	m	m	m	m	0.5	m	m	m
	Chile	0.9	m	m	0.2	0.4	1.0	-0.6	m	m
	China	m	m	m	m	m	1.4	m	m	m
	India[7]	0.1	m	m	n	n	0.9	-0.9	m	m
	Indonesia	n	m	m	n	n	1.1	-1.1	m	m
	Israel	m	m	m	m	m	2.8	m	m	m
	Jamaica	m	m	m	m	m	10.8	m	m	m
	Jordan[4, 7]	2.7	m	m	0.5	0.1	3.5	-3.4	m	m
	Malaysia[7]	3.0	m	m	0.5	1.2	6.8	-5.5	m	m
	Paraguay	m	m	m	m	m	1.1	m	m	m
	Peru	m	m	m	m	m	1.0	m	m	m
	Philippines	0.1	m	m	n	0.1	0.2	-0.2	m	m
	Russian Federation[3]	0.9	m	m	0.2	n	0.3	-0.3	m	m
	Thailand[8]	0.2	m	m	n	n	1.0	-1.0	m	m
	Tunisia	1.1	m	m	0.2	n	4.7	-4.7	m	m
	Uruguay	m	m	m	m	m	1.5	m	m	m
	Zimbabwe	m	m	m	m	m	9.8	m	m	m

1. The index compares the numbers of foreign students as a proportion of domestic enrolments with the average order of magnitude for OECD countries. This makes it possible to refine the scale of foreign students intakes based on the size of the tertiary education system. An index higher (lower) than 1 reflects a higher (lower) intake as a proportion of enrolments compared with the OECD mean.
2. Data in columns 5 to 7 do not show the exchange of students throughout the world. Coverage is limited to the OECD and partner countries shown in the table that report data in column 1. Therefore data are not comparable to those reported in column 1.
3. Excluding advanced research programmes.
4. Excluding tertiary-type B programmes.
5. Country mean excludes Luxembourg.
6. Excluding tertiary-type A programmes.
7. Year of reference 2001.
8. The number of foreign students is significantly underestimated. See Annex 3 for details.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table C3.2. Foreign students in tertiary education, by country of origin (2002)

Number of foreign students enrolled in tertiary education from a given country of origin as a percentage of all foreign students in the country of destination, based on head counts

The table shows for each country the proportion of foreign students in tertiary education who have citizenship of a given country of origin.
Reading the third column: 28.5% of Belgian foreign tertiary students are French citizens, 6.6% of Belgian foreign students are Dutch citizens, etc.
Reading the first row: 0.2% of foreign tertiary students in Denmark are Australian citizens, 0.7% of foreign tertiary students in Ireland are Australian citizens, etc.

	Countries of origin	Countries of destination																		
		Australia	Austria	Belgium	Czech Republic	Denmark	Finland	France	Germany	Greece	Hungary	Iceland	Ireland	Italy	Japan	Korea	Mexico	Netherlands	New Zealand	Norway
OECD COUNTRIES	Australia	a	0.1	n	n	0.2	0.3	0.1	0.1	n	n	n	0.7	0.1	0.4	0.3	x(Oc)	0.2	n	0.2
	Austria	0.1	a	0.1	0.1	0.2	0.4	0.2	3.2	n	0.2	2.1	0.4	0.3	n	n	x(Eu)	0.6	0.1	0.3
	Belgium	0.1	0.3	a	n	0.2	0.4	1.2	0.5	0.1	n	0.2	0.8	0.4	0.1	n	x(Eu)	10.0	n	0.2
	Canada	1.4	0.1	0.2	0.3	0.4	1.0	0.6	0.2	n	0.6	2.3	2.3	0.2	0.3	0.8	1.1	0.3	0.8	0.5
	Czech Republic	0.1	1.4	0.1	a	0.2	0.6	0.3	0.9	4.3	0.1	0.8	0.2	0.3	n	0.1	x(Eu)	0.3	0.1	0.4
	Denmark	0.2	0.3	0.1	n	a	0.7	0.2	0.3	n	n	11.4	0.2	0.1	n	n	x(Eu)	0.4	0.2	8.8
	Finland	0.1	0.6	0.5	0.1	0.7	a	0.2	0.5	0.1	0.1	9.5	1.0	0.2	n	n	x(Eu)	0.6	0.1	2.9
	France	0.3	1.2	28.5	0.1	0.8	1.7	a	3.0	0.1	0.1	4.2	6.0	1.7	0.3	n	x(Eu)	2.1	0.5	1.4
	Germany	1.1	18.1	1.2	0.5	4.1	3.7	3.2	a	0.3	4.4	10.4	5.4	3.1	0.4	0.4	x(Eu)	22.2	2.4	4.7
	Greece	n	0.9	1.6	3.0	0.2	0.5	1.4	3.6	a	2.7	n	0.5	26.7	n	n	x(Eu)	0.7	n	0.1
	Hungary	n	4.2	0.2	0.1	0.2	1.6	0.3	1.4	0.1	a	n	n	0.4	0.1	0.1	x(Eu)	0.5	n	0.3
	Iceland	n	0.1	n	n	5.5	0.4	n	0.1	n	0.1	a	0.1	0.1	n	n	x(Eu)	0.1	n	2.8
	Ireland	0.3	0.1	0.1	0.1	0.3	0.4	0.3	0.2	n	n	n	a	n	n	n	x(Eu)	0.2	n	0.3
	Italy	0.2	21.1	7.3	n	0.7	1.3	2.3	3.6	0.2	0.1	3.0	1.6	a	0.1	n	x(Eu)	1.7	n	0.7
	Japan	1.8	0.9	0.4	0.1	0.3	1.2	0.9	1.1	0.1	0.1	1.5	0.4	0.4	a	14.5	x(As)	0.4	2.8	0.3
	Korea	2.2	1.1	0.2	0.1	n	0.4	1.1	2.4	n	0.2	n	0.1	0.3	25.2	a	x(As)	0.4	4.4	0.1
	Luxembourg	n	0.9	3.5	x(ns)	n	n	0.9	0.8	n	n	n	0.1	0.1	n	n	x(Eu)	0.1	n	n
	Mexico	0.2	0.2	0.2	n	0.2	0.3	0.7	0.3	n	n	0.4	0.1	0.2	0.1	0.1	a	0.1	0.1	0.3
	Netherlands	0.3	0.4	6.6	n	0.7	0.7	0.3	0.8	n	n	1.3	0.6	0.2	0.1	n	x(Eu)	a	0.1	1.5
	New Zealand	3.1	n	n	n	0.1	0.1	n	n	n	n	0.4	0.1	n	0.1	0.2	x(Oc)	n	a	0.1
	Norway	2.1	0.2	0.1	0.6	10.0	0.9	0.2	0.4	n	4.7	7.4	1.8	0.1	n	n	x(Eu)	0.5	1.0	a
	Poland	0.1	3.4	0.7	0.9	2.0	1.2	1.4	5.4	0.3	1.1	2.5	0.5	1.8	0.1	0.1	x(Eu)	1.3	n	0.9
	Portugal	n	0.1	1.7	0.2	0.2	0.3	1.6	0.9	n	n	0.2	0.1	0.1	n	n	x(Eu)	0.8	0.1	0.3
	Slovak Republic	0.1	4.3	0.1	50.4	0.1	0.3	0.2	0.6	n	17.6	0.4	n	0.3	n	n	x(Eu)	0.1	n	0.1
	Spain	0.1	1.1	3.2	n	0.7	1.6	2.0	2.7	n	0.1	4.7	2.7	0.6	0.1	0.1	x(Eu)	5.4	0.1	0.6
	Sweden	0.9	0.7	0.2	0.5	5.1	8.6	0.4	0.4	0.1	0.7	7.4	0.8	0.3	0.1	0.1	x(Eu)	0.6	0.9	10.7
	Switzerland	0.1	0.8	0.3	n	0.3	0.6	0.7	0.9	n	0.1	1.3	0.2	2.8	n	n	x(Eu)	0.4	0.1	0.5
	Turkey	0.2	5.4	1.0	n	1.0	0.7	1.3	12.4	0.4	0.6	0.2	n	0.4	0.1	0.3	x(As)	4.8	n	0.4
	United Kingdom	3.3	0.6	0.6	2.4	2.8	2.1	1.5	1.0	n	0.3	2.3	21.3	0.4	0.5	0.2	x(Eu)	3.3	1.1	3.7
	United States	5.0	1.1	0.5	0.6	1.5	2.6	1.5	1.6	0.3	2.1	5.9	19.2	0.7	1.5	4.0	43.9	1.3	4.1	3.3
PARTNER COUNTRIES	Argentina	0.1	0.1	0.1	x(ns)	0.1	0.2	0.4	0.2	n	n	0.2	0.1	0.5	0.1	0.1	x(SA)	0.1	0.1	n
	Brazil	0.2	0.2	0.4	n	0.4	0.4	0.9	0.7	n	n	0.2	n	0.9	0.5	0.1	x(SA)	0.3	0.1	0.3
	Chile	0.1	0.1	0.3	n	0.1	0.2	0.2	0.2	n	n	n	n	0.3	0.1	0.1	x(SA)	0.2	0.2	0.6
	China	9.7	1.4	2.0	0.1	2.6	15.2	3.3	6.4	0.2	0.5	2.1	1.7	0.4	55.0	48.6	x(As)	4.3	47.9	2.5
	Egypt	0.1	0.5	0.2	0.1	0.1	0.2	0.5	0.6	0.3	0.1	n	0.1	0.3	0.3	n	x(Af)	0.1	n	0.1
	India	5.3	0.3	0.3	0.4	0.2	0.8	0.2	1.0	n	0.5	0.2	1.2	0.5	0.3	1.0	x(As)	0.3	5.4	1.2
	Indonesia	7.6	0.1	0.2	n	0.1	0.3	0.1	1.0	n	n	0.2	0.1	n	1.7	0.8	x(As)	3.0	2.1	0.1
	Jamaica	n	n	n	x(ns)	n	n	n	n	n	n	n	n	m	n	n	x(NA)	n	n	n
	Jordan	0.2	0.2	n	0.3	n	0.1	0.1	0.5	0.7	0.2	0.4	0.2	0.4	n	n	x(As)	n	n	0.1
	Malaysia	9.8	n	n	n	n	0.2	0.1	0.1	n	n	n	5.6	n	2.2	0.9	x(As)	0.1	5.0	0.1
	Paraguay	n	n	n	0.1	n	n	n	n	n	n	n	n	n	0.1	0.3	x(SA)	n	n	n
	Peru	n	0.2	0.2	0.1	0.1	0.2	0.2	0.4	n	n	n	0.1	1.2	0.2	n	x(SA)	0.1	0.1	0.2
	Philippines	0.5	n	0.1	n	0.2	0.4	n	0.1	n	n	0.6	n	0.1	0.6	1.0	x(As)	0.2	0.3	0.2
	Russian Federation	0.3	0.9	0.7	2.1	1.3	13.5	1.2	4.1	0.9	1.8	2.3	0.6	0.8	0.4	2.0	x(Eu)	1.4	0.3	4.8
	Sri Lanka	1.5	n	n	0.1	0.1	0.1	0.1	0.1	n	n	n	0.1	n	0.5	0.1	x(As)	0.1	0.6	1.0
	Thailand	2.8	0.1	0.1	n	0.3	0.3	0.2	0.3	n	n	n	0.1	n	1.7	0.1	x(As)	0.1	1.9	0.2
	Tunisia	n	0.1	0.7	n	n	0.1	4.7	0.7	n	n	0.2	n	0.4	0.1	n	x(Af)	0.1	n	0.1
	Uruguay	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	x(SA)	n	0.1	n
	Zimbabwe	0.4	n	n	0.1	0.1	n	n	n	n	n	n	0.1	n	n	n	x(Af)	n	0.1	0.2
	Total: OECD and partner countries																			
	Total: Africa	*3.5*	*2.2*	*28.8*	*2.3*	*2.9*	*11.3*	*53.3*	*9.5*	*2.1*	*1.4*	*1.9*	*5.4*	*7.7*	*1.0*	*1.3*	*1.0*	*14.2*	*1.1*	*8.2*
	Total: Asia	*66.7*	*12.7*	*7.0*	*8.4*	*8.3*	*25.8*	*13.9*	*34.5*	*85.9*	*15.1*	*6.8*	*24.9*	*10.4*	*92.2*	*88.6*	*1.4*	*20.1*	*78.4*	*11.6*
	Total: Europe	*10.4*	*82.2*	*59.7*	*66.4*	*44.5*	*55.0*	*25.6*	*50.5*	*11.4*	*80.6*	*80.1*	*46.6*	*72.5*	*2.9*	*3.7*	*5.9*	*57.0*	*7.4*	*54.6*
	Total: North America	*6.7*	*1.5*	*1.2*	*1.0*	*2.2*	*4.3*	*3.5*	*2.5*	*0.3*	*2.7*	*9.1*	*22.0*	*1.8*	*2.1*	*5.1*	*71.5*	*1.9*	*5.2*	*4.4*
	Total: Oceania	*4.4*	*0.1*	*n*	*n*	*0.3*	*0.5*	*0.1*	*0.2*	*n*	*n*	*0.4*	*0.8*	*0.1*	*0.6*	*0.5*	*0.1*	*0.2*	*7.4*	*0.3*
	Total: South America	*0.9*	*0.9*	*1.8*	*0.8*	*0.9*	*1.2*	*2.9*	*2.1*	*0.1*	*0.2*	*1.3*	*0.4*	*4.7*	*1.1*	*0.7*	*20.1*	*5.9*	*0.7*	*1.6*
	Not specified	*7.4*	*0.4*	*1.5*	*21.0*	*40.9*	*2.0*	*0.7*	*0.8*	*n*	*n*	*0.4*	*n*	*2.9*	*n*	*n*	*n*	*0.5*	*n*	*19.2*
	Total: All countries of origin	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*

Note: x indicates that data are included in the totals for Africa [x(Af)], Asia [x(As)], Europe [x(Eu)], North America [x(NA)], Oceania [x(Oc)], South America [x(SA)] or not specified country of origin [x(ns)].
1. Year of reference 2001.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table C3.2. (*continued*) Foreign students in tertiary education, by country of origin (2002)

Number of foreign students enrolled in tertiary education from a given country of origin as a percentage of all foreign students in the country of destination, based on head counts

The table shows for each country the proportion of foreign students in tertiary education who have citizenship of a given country of origin.
Reading the third column: 28.5% of Belgian foreign tertiary students are French citizens, 6.6% of Belgian foreign students are Dutch citizens, etc.
Reading the first row: 0.2% of foreign tertiary students in Denmark are Australian citizens, 0.7% of foreign tertiary students in Ireland are Australian citizens, etc.

	Countries of destination																		
Countries of origin	**Poland**	**Slovak Republic**	**Spain**	**Sweden**	**Switzerland**	**Turkey**	**United Kingdom**	**United States**	**Argentina**[1]	**Chile**	**India**[1]	**Indonesia**	**Jordan**[1]	**Malaysia**[1]	**Philippines**	**Russian Federation**	**Thailand**	**Tunisia**	***All reporting countries***
OECD COUNTRIES																			
Australia	0.1	n	0.1	0.7	0.2	0.1	0.6	0.5	n	0.5	0.2	5.6	n	0.1	0.4	m	0.2	n	*0.3*
Austria	0.2	0.2	1.4	1.3	2.8	0.1	0.6	0.2	n	0.2	n	n	0.1	n	n	m	n	n	*0.6*
Belgium	n	n	2.9	0.7	0.9	n	1.0	0.2	n	0.2	n	0.3	n	n	0.1	m	n	n	*0.6*
Canada	1.6	0.5	0.1	1.2	0.7	0.1	1.4	4.5	n	1.0	0.9	n	0.2	n	1.0	m	0.3	n	*1.9*
Czech Republic	3.1	18.6	0.5	0.5	0.5	n	0.2	0.2	n	0.1	n	n	n	n	n	m	n	n	*0.3*
Denmark	0.2	n	0.7	3.2	0.3	n	0.7	0.2	n	0.3	n	0.3	n	n	n	m	0.3	n	*0.3*
Finland	0.1	n	0.8	12.5	0.3	n	1.0	0.1	n	0.2	n	0.5	n	n	n	m	n	n	*0.5*
France	0.2	0.1	11.9	4.0	10.5	0.1	5.3	1.3	n	2.9	0.3	1.9	n	0.1	n	m	0.5	n	*2.7*
Germany	1.8	0.4	10.0	7.8	20.7	0.6	5.5	1.6	n	3.6	0.2	4.0	n	0.1	0.1	m	0.3	n	*3.0*
Greece	0.5	10.8	0.8	0.9	0.9	8.0	11.1	0.4	n	n	0.1	n	n	n	n	m	n	n	*2.6*
Hungary	0.9	1.1	0.4	0.7	0.6	n	0.2	0.2	n	n	n	0.8	n	n	n	m	n	n	*0.4*
Iceland	m	n	0.1	1.3	n	n	0.1	0.2	n	n	n	n	n	n	n	m	n	n	*0.2*
Ireland	n	n	0.8	0.5	0.1	n	5.2	0.2	n	n	n	n	n	n	n	m	n	n	*0.8*
Italy	0.3	0.1	12.8	2.3	14.6	0.1	2.5	0.6	n	0.7	0.2	n	n	n	n	m	n	n	*2.2*
Japan	0.2	0.2	0.2	0.6	0.8	0.1	2.5	8.0	n	0.6	0.6	41.1	n	1.1	1.0	m	2.1	n	*3.3*
Korea	0.1	n	0.1	0.2	0.5	0.1	1.0	8.4	n	0.8	1.2	21.2	n	2.1	22.5	m	1.9	n	*4.4*
Luxembourg	m	n	n	n	0.8	n	0.3	n	n	n	n	n	n	n	n	m	n	n	*0.3*
Mexico	0.1	n	3.5	0.4	0.3	n	0.6	2.1	n	1.9	n	n	n	n	n	m	n	n	*1.0*
Netherlands	0.1	n	2.1	2.0	0.9	n	1.0	0.3	n	0.2	0.1	1.9	n	n	n	m	0.4	n	*0.6*
New Zealand	m	n	n	0.1	n	n	0.2	0.2	n	n	0.1	1.6	n	n	0.1	m	0.1	n	*0.4*
Norway	5.2	0.5	0.6	4.6	0.4	n	1.6	0.4	n	0.4	n	n	0.2	n	0.2	m	0.3	n	*0.8*
Poland	a	1.3	1.2	2.8	1.3	n	0.3	0.4	n	0.1	0.2	n	n	n	n	m	n	n	*1.2*
Portugal	0.1	n	4.0	0.4	1.6	n	1.0	0.2	n	0.1	n	n	n	n	0.1	m	n	n	*0.6*
Slovak Republic	1.5	a	0.2	0.1	0.4	n	0.1	0.1	n	n	n	n	n	n	n	m	n	n	*0.6*
Spain	0.2	0.1	a	2.9	5.1	n	3.2	0.7	n	1.8	0.1	n	0.1	n	n	m	n	n	*1.4*
Sweden	1.3	0.1	1.0	a	0.8	n	1.7	0.7	n	1.7	n	0.5	0.3	n	0.1	m	0.3	n	*0.8*
Switzerland	n	n	0.5	0.6	a	n	0.6	0.3	n	0.4	0.1	n	n	n	n	m	n	n	*0.4*
Turkey	n	0.2	n	0.5	2.1	a	0.6	2.1	n	n	n	1.9	n	n	0.2	m	0.7	n	*2.5*
United Kingdom	0.4	0.3	5.0	2.8	1.0	0.7	a	1.4	n	0.8	0.7	3.2	0.3	0.2	0.7	m	0.6	n	*1.5*
United States	5.9	0.3	1.2	3.2	1.2	0.2	5.4	a	n	17.7	3.2	6.9	0.7	4.5	16.3	m	3.4	n	*2.0*
PARTNER COUNTRIES																			
Argentina	n	n	2.9	0.2	0.3	n	0.2	0.6	a	9.1	n	n	n	n	n	m	n	n	*0.4*
Brazil	0.4	0.2	2.7	0.3	0.8	n	0.4	1.5	5.9	3.9	n	n	n	n	n	m	n	n	*0.9*
Chile	n	0.1	1.9	0.9	0.3	n	0.1	0.3	21.6	a	n	n	n	n	n	m	n	n	*0.3*
China	0.5	0.1	0.5	2.3	1.6	0.5	7.7	10.8	n	0.9	0.3	0.5	n	29.4	25.8	m	23.1	n	*9.6*
Egypt	n	1.2	0.1	0.1	0.2	0.3	0.3	0.4	n	n	0.1	n	0.9	0.1	0.1	m	n	n	*0.3*
India	0.3	0.4	0.1	0.4	0.6	n	2.6	11.5	n	0.2	a	0.3	0.3	3.0	3.1	m	2.5	n	*4.7*
Indonesia	0.1	n	n	0.1	0.2	n	0.4	2.0	n	n	1.2	a	0.3	28.4	3.6	m	0.6	n	*1.9*
Jamaica	m	n	n	n	n	n	0.2	0.7	n	0.1	n	n	n	n	n	m	n	n	*0.3*
Jordan	0.6	0.7	0.1	0.1	0.1	1.2	0.3	0.4	n	n	0.7	0.3	a	0.9	n	m	n	n	*0.3*
Malaysia	n	n	n	0.1	n	n	4.0	1.3	n	n	1.9	n	n	a	0.5	m	1.4	n	*2.0*
Paraguay	n	n	0.1	n	n	n	n	0.1	11.2	1.0	n	n	n	n	0.1	m	n	n	*0.1*
Peru	0.1	0.1	2.4	0.2	0.6	n	0.1	0.5	10.3	15.6	n	n	n	n	n	m	n	n	*0.4*
Philippines	0.1	n	0.1	0.1	0.1	n	0.1	0.6	n	n	n	0.5	0.3	0.2	a	m	0.9	n	*0.3*
Russian Federation	3.9	2.9	0.3	2.0	1.6	5.2	0.6	1.2	n	0.2	0.2	a	0.2	n	0.1	a	0.5	n	*1.4*
Sri Lanka	n	n	n	0.2	0.1	n	0.7	0.4	n	n	4.9	n	15.9	0.3	0.2	m	0.4	n	*0.5*
Thailand	n	0.1	n	0.3	0.1	n	1.1	2.0	n	n	3.3	2.1	0.2	1.1	3.1	m	a	n	*1.2*
Tunisia	0.2	n	n	n	0.7	0.1	n	0.1	n	n	n	n	0.1	n	n	m	n	a	*0.6*
Uruguay	m	n	0.4	n	0.1	n	n	0.1	15.0	1.3	n	n	0.1	n	n	m	n	n	*0.1*
Zimbabwe	n	0.1	n	n	n	n	1.2	0.3	n	n	0.1	n	n	n	n	m	n	n	*0.3*
Total: OECD and partner countries																			
Total: Africa	*3.7*	*7.2*	*9.7*	*2.3*	*6.6*	*2.3*	*8.3*	*6.5*	*x(ns)*	*0.2*	*38.1*	*0.8*	*3.2*	*9.5*	*3.2*	*m*	*0.4*	*72.1*	*11.0*
Total: Asia	*15.1*	*24.8*	*2.6*	*8.9*	*8.4*	*64.3*	*35.6*	*62.5*	*x(ns)*	*3.9*	*49.6*	*70.6*	*93.1*	*84.2*	*76.5*	*43.4*	*74.6*	*25.1*	*45.4*
Total: Europe	*72.7*	*66.5*	*61.7*	*60.0*	*78.8*	*32.9*	*45.4*	*13.8*	*x(ns)*	*14.5*	*2.3*	*13.5*	*2.7*	*1.5*	*1.6*	*24.6*	*3.3*	*2.9*	*30.4*
Total: North America	*7.7*	*1.0*	*7.1*	*5.1*	*2.5*	*0.3*	*8.5*	*10.2*	*x(ns)*	*29.2*	*4.1*	*6.9*	*0.9*	*4.6*	*17.4*	*m*	*3.8*	*n*	*6.4*
Total: Oceania	*0.1*	*n*	*0.1*	*0.8*	*0.2*	*0.2*	*0.8*	*0.8*	*x(ns)*	*0.5*	*0.6*	*8.2*	*n*	*0.1*	*1.2*	*m*	*0.3*	*n*	*0.9*
Total: South America	*0.8*	*0.5*	*18.8*	*2.1*	*3.3*	*n*	*1.2*	*6.1*	*80.7*	*51.8*	*0.1*	*n*	*0.1*	*n*	*0.2*	*m*	*n*	*n*	*3.7*
Not specified	*n*	*n*	*n*	*20.7*	*0.2*	*n*	*0.3*	*n*	*19.3*	*n*	*5.2*	*n*	*n*	*n*	*n*	*32.0*	*n*	*n*	*2.3*
Total: All countries of origin	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*

Note: x indicates that data are included in the totals for Africa [x(Af)], Asia [x(As)], Europe [x(Eu)], North America [x(NA)], Oceania [x(Oc)], South America [x(SA)] or not specified country of origin [x(ns)].
1. Year of reference 2001.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table C3.3. Citizens studying abroad in tertiary education, by country of destination (2002)

Number of students enrolled in tertiary education in a given country of destination as a percentage of all students enrolled abroad, based on head counts

The table shows for each country the proportion of tertiary students enrolled abroad, by country of destination.
Reading the second column: 6.6% of Czech tertiary students enrolled abroad study in Austria, 9.1% of German tertiary students enrolled abroad study in Austria, etc.
Reading the first row: 3% of Australian tertiary students enrolled abroad study in France, 4% of Australian tertiary students enrolled abroad study in the United Kingdom, etc.

		Countries of destination																		
	Countries of origin	Australia	Austria	Belgium	Czech Republic	Denmark	Finland	France	Germany	Greece	Hungary	Iceland	Ireland	Italy	Japan	Korea	Mexico	Netherlands	New Zealand	Norway
OECD COUNTRIES	Australia	a	0.4	0.3	n	0.6	0.4	3.0	5.0	n	0.1	n	1.1	0.4	5.5	0.3	n	0.7	a	0.4
	Austria	1.9	a	0.5	0.1	0.3	0.2	3.2	56.6	n	0.2	0.1	0.3	0.8	0.3	n	n	0.9	0.1	0.3
	Belgium	0.9	0.8	a	n	0.2	0.2	19.8	9.7	n	n	n	0.7	1.2	0.4	n	n	18.2	0.1	0.2
	Canada	7.2	0.1	0.3	0.1	0.2	0.2	3.0	1.3	n	0.2	n	0.6	0.2	0.6	0.1	0.1	0.2	0.4	0.1
	Czech Republic	2.1	6.6	0.7	a	0.4	0.7	7.5	34.2	0.1	0.3	0.1	0.3	1.6	0.5	0.1	n	0.9	0.2	0.6
	Denmark	4.7	1.1	0.7	n	a	0.7	4.5	10.7	n	n	0.8	0.3	0.3	0.3	n	n	1.1	0.6	12.9
	Finland	1.6	1.6	2.0	0.1	1.1	a	3.2	10.6	0.1	0.1	0.5	0.9	0.6	0.3	n	n	1.1	0.1	2.8
	France	1.2	0.7	22.7	n	0.2	0.2	a	13.1	n	n	n	1.1	1.0	0.4	n	n	0.8	0.2	0.3
	Germany	3.6	9.1	0.8	0.1	1.1	0.4	9.3	a	n	0.9	0.1	0.9	1.5	0.5	n	n	7.4	0.8	0.8
	Greece	0.2	0.5	1.3	0.6	0.1	0.1	4.7	16.0	a	0.6	n	0.1	15.2	n	n	n	0.3	n	n
	Hungary	1.1	15.6	1.2	0.2	0.4	1.4	7.0	38.9	0.1	a	n	0.1	1.6	1.2	n	n	1.2	0.1	0.4
	Iceland	0.6	0.5	0.2	0.1	27.1	1.0	1.8	5.7	n	0.3	a	0.3	0.5	0.2	n	n	0.7	0.1	9.0
	Ireland	3.1	0.3	0.3	0.1	0.3	0.2	3.4	3.4	n	n	n	a	n	0.1	n	n	0.3	n	0.2
	Italy	0.7	14.5	7.1	n	0.2	0.2	9.2	18.8	n	n	n	0.3	a	0.2	n	n	0.8	n	0.2
	Japan	5.2	0.4	0.3	n	0.1	0.1	2.4	3.7	n	n	n	0.1	0.2	a	1.1	n	0.1	0.8	n
	Korea	4.7	0.4	0.1	n	n	n	2.1	6.1	n	n	n	n	0.1	22.5	a	n	0.1	0.9	n
	Luxembourg	0.1	4.4	23.3	n	n	n	24.8	30.0	n	n	n	0.2	0.4	n	n	n	0.3	n	n
	Mexico	1.8	0.3	0.4	n	0.1	0.1	6.2	3.2	n	n	n	n	0.3	0.6	n	a	0.1	0.1	0.1
	Netherlands	3.8	0.9	22.3	n	0.9	0.4	4.1	15.6	n	n	0.1	0.5	0.5	0.4	n	n	a	0.2	1.2
	New Zealand	75.5	0.1	n	n	0.2	0.1	0.5	0.8	n	n	n	0.2	n	1.2	0.1	n	0.1	a	0.1
	Norway	24.4	0.4	0.2	0.4	9.1	0.4	1.9	5.5	n	3.5	0.2	1.0	0.2	0.1	n	n	0.6	1.1	a
	Poland	1.0	4.4	1.3	0.4	1.3	0.4	10.2	53.0	0.1	0.6	0.1	0.2	2.4	0.4	n	n	1.1	n	0.4
	Portugal	0.7	0.3	6.0	0.1	0.2	0.2	23.9	16.9	n	n	n	0.1	0.3	0.2	n	n	1.3	0.1	0.2
	Slovak Republic	1.0	10.8	0.5	43.6	0.1	0.2	2.5	11.6	n	18.4	n	n	0.8	0.2	n	n	0.2	n	0.1
	Spain	0.6	1.2	4.9	n	0.4	0.4	12.5	22.3	n	0.1	0.1	0.9	0.6	0.2	n	n	3.9	n	0.2
	Sweden	10.9	1.2	0.4	0.3	4.8	3.8	4.8	5.5	n	0.6	0.2	0.5	0.6	0.3	n	n	0.7	1.0	6.7
	Switzerland	3.0	2.8	1.3	n	0.5	0.5	13.5	24.3	n	0.2	0.1	0.2	9.8	0.3	n	n	0.9	0.3	0.6
	Turkey	0.6	3.2	0.9	n	0.3	0.1	4.6	57.3	0.1	0.1	n	n	0.2	0.2	n	n	1.9	n	0.1
	United Kingdom	21.5	0.6	0.8	0.8	1.4	0.5	9.2	8.1	n	0.1	n	7.1	0.4	1.3	n	n	2.3	0.7	1.3
	United States	23.4	0.8	0.5	0.2	0.5	0.4	6.4	8.8	0.1	0.6	0.1	4.6	0.5	3.0	0.5	2.1	0.6	1.9	0.8
PARTNER COUNTRIES	Argentina	1.9	0.2	0.5	n	0.1	0.2	8.3	6.4	n	n	n	0.1	2.1	1.2	0.1	n	0.3	0.2	n
	Brazil	2.5	0.3	1.0	n	0.3	0.1	8.8	9.5	n	n	n	n	1.6	2.3	n	n	0.4	0.1	0.2
	Chile	4.3	0.4	2.1	n	0.3	0.2	7.4	9.1	n	n	n	0.1	1.5	0.7	0.1	n	0.6	0.6	1.1
	China	9.5	0.2	0.4	n	0.2	0.6	3.0	7.7	n	n	n	0.1	0.1	22.7	1.3	n	0.4	4.7	0.1
	Egypt	1.8	2.1	1.0	0.1	0.2	0.2	12.7	20.7	0.5	0.2	n	0.2	1.2	3.8	n	n	0.4	n	0.2
	India	10.8	0.1	0.2	n	n	0.1	0.4	2.5	n	0.1	n	0.1	0.2	0.2	0.1	n	0.1	1.1	0.1
	Indonesia	37.8	0.1	0.2	n	n	0.1	0.6	6.2	n	n	n	n	n	3.6	0.1	n	1.6	1.0	n
	Israel	3.1	0.4	0.5	0.7	0.5	0.2	2.9	10.3	0.3	7.5	n	n	8.0	0.4	n	n	1.1	0.1	0.2
	Jamaica	0.4	n	n	n	n	n	0.2	0.2	n	n	n	n	n	0.1	n	n	n	0.1	0.1
	Jordan	5.0	0.9	0.2	0.6	0.1	0.2	3.4	18.4	1.0	0.5	n	0.3	2.2	0.4	n	n	0.1	n	0.1
	Malaysia	46.5	n	n	n	n	n	0.6	0.6	n	n	n	1.4	n	4.3	0.1	n	0.1	2.4	n
	Paraguay	0.3	0.2	0.8	0.7	n	n	2.8	3.1	n	n	n	n	1.2	4.0	1.5	n	n	0.6	0.1
	Peru	0.9	0.7	1.2	0.1	0.2	0.2	4.3	10.7	n	n	n	0.1	4.3	1.7	n	n	0.3	0.1	0.3
	Philippines	16.3	0.2	1.0	n	0.4	0.5	0.8	3.9	n	n	0.1	n	0.6	7.7	0.9	n	0.6	1.0	0.3
	Russian Federation	2.3	1.0	1.1	0.8	0.7	3.5	7.5	34.7	0.3	0.8	n	0.2	0.9	1.2	0.4	n	1.0	0.2	1.8
	Sri Lanka	32.3	0.1	0.2	0.1	0.2	0.1	2.1	2.2	n	n	n	0.1	0.2	4.2	0.1	n	0.1	1.2	0.9
	Thailand	22.3	0.1	0.1	n	0.2	0.1	1.7	2.8	n	n	n	n	n	5.6	n	n	0.1	1.5	0.1
	Tunisia	n	0.3	2.6	n	n	0.1	74.1	13.9	n	n	n	n	1.1	0.4	n	n	0.1	n	0.1
	Uruguay	1.6	0.2	0.5	0.1	0.1	0.1	3.6	2.9	n	0.1	n	0.1	1.0	0.6	n	n	0.2	0.8	0.2
	Zimbabwe	14.1	0.1	0.2	0.1	0.1	n	0.1	0.8	n	n	n	0.1	0.1	0.2	n	n	0.1	0.5	0.4

Note: The proportion of students abroad is based only on the total of students enrolled in countries reporting data to the OECD. The resulting proportions are therefore overestimated, especially so for countries sending large number of students to countries that do not report to the OECD.
1. Year of reference 2001.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

Table C3.3. (*continued*) **Citizens studying abroad in tertiary education, by country of destination (2002)**

Number of students enrolled in tertiary education in a given country of destination as a percentage of all students enrolled abroad, based on head counts

The table shows for each country the proportion of tertiary students enrolled abroad, by country of destination.
Reading the second column: 6.6% of Czech tertiary students enrolled abroad study in Austria, 9.1% of German tertiary students enrolled abroad study in Austria, etc.
Reading the first row: 3% of Australian tertiary students enrolled abroad study in France, 24% of Australian tertiary students enrolled abroad study in the United Kingdom, etc.

		Countries of destination																	
	Countries of origin	Poland	Slovak Republic	Spain	Sweden	Switzerland	Turkey	United Kingdom	United States	*OECD total*	Argentina[1]	Chile	India[1]	Indonesia	Jordan[1]	Malaysia[1]	Philippines	Thailand	*Total partner countries*	*Total, all reporting countries*
OECD COUNTRIES	Australia	0.1	n	0.5	3.9	1.0	0.4	24.0	50.2	*98.2*	n	0.4	0.3	0.4	n	0.3	0.2	0.1	*1.8*	*100*
	Austria	0.1	n	5.1	3.0	6.8	0.1	10.3	8.8	*99.9*	n	0.1	n	n	n	n	n	n	*0.1*	*100*
	Belgium	n	n	12.5	2.0	2.6	n	21.6	8.5	*99.8*	n	0.1	n	n	n	n	n	n	*0.2*	*100*
	Canada	0.3	n	0.2	0.9	0.5	n	8.7	74.0	*99.5*	n	0.1	0.2	n	n	n	0.1	n	*0.5*	*100*
	Czech Republic	3.8	5.1	3.7	2.3	2.3	n	6.6	19.3	*99.9*	n	0.1	n	n	n	n	n	n	*0.1*	*100*
	Denmark	0.2	n	4.7	14.1	1.4	n	25.8	14.2	*99.5*	n	0.2	n	n	n	n	n	0.2	*0.5*	*100*
	Finland	0.1	n	3.8	36.4	0.9	n	23.7	8.3	*99.8*	n	0.1	n	n	n	n	n	n	*0.2*	*100*
	France	n	n	10.6	2.3	6.1	n	24.0	14.6	*99.6*	n	0.3	n	n	n	n	n	n	*0.4*	*100*
	Germany	0.2	n	7.9	4.0	10.7	0.2	22.1	17.0	*99.6*	n	0.3	n	n	n	n	n	n	*0.4*	*100*
	Greece	0.1	0.4	0.8	0.5	0.5	2.6	50.4	5.2	*100.0*	n	n	n	n	n	n	n	n	*n*	*100*
	Hungary	0.9	0.2	2.3	2.4	2.4	n	5.2	16.1	*99.9*	n	n	n	n	n	n	n	n	*0.1*	*100*
	Iceland	n	n	0.8	12.7	0.3	n	7.8	30.2	*100.0*	n	n	n	n	n	n	n	n	*n*	*100*
	Ireland	n	n	2.3	0.9	0.3	n	78.0	6.9	*99.9*	n	n	n	n	n	n	n	n	*0.1*	*100*
	Italy	n	n	13.9	1.6	10.4	n	13.6	8.1	*99.9*	n	0.1	n	n	n	n	n	n	*0.1*	*100*
	Japan	n	n	0.2	0.3	0.4	n	9.1	74.6	*99.2*	n	n	0.1	0.2	n	0.3	n	0.1	*0.8*	*100*
	Korea	n	n	0.1	0.1	0.2	n	2.8	58.4	*98.5*	n	n	0.1	0.1	n	0.4	0.7	0.1	*1.5*	*100*
	Luxembourg	n	n	0.2	0.1	3.8	n	11.3	1.0	*100.0*	n	n	n	n	n	n	n	n	*n*	*100*
	Mexico	n	n	8.6	0.6	0.5	n	8.0	68.3	*99.5*	n	0.5	n	n	n	n	n	n	*0.5*	*100*
	Netherlands	0.1	n	7.9	4.9	2.3	0.1	18.5	15.1	*99.7*	n	0.1	n	0.1	n	n	n	0.1	*0.3*	*100*
	New Zealand	n	n	0.1	0.3	0.2	n	5.8	14.4	*99.6*	n	n	0.1	0.1	n	0.1	n	0.1	*0.4*	*100*
	Norway	2.4	0.1	1.8	8.3	0.7	n	22.8	14.7	*99.7*	n	0.1	n	n	0.1	n	n	0.1	*0.3*	*100*
	Poland	a	0.1	2.4	3.6	1.7	n	3.3	11.7	*99.9*	n	n	0.1	n	n	n	n	n	*0.1*	*100*
	Portugal	0.1	n	16.0	1.1	4.2	n	19.4	8.4	*99.9*	n	n	n	n	n	n	n	n	*0.1*	*100*
	Slovak Republic	1.0	a	0.8	0.3	1.1	n	1.2	5.6	*100.0*	n	n	n	n	n	n	n	n	*n*	*100*
	Spain	0.1	n	a	3.1	5.6	n	27.4	15.2	*99.6*	n	0.3	n	n	n	n	n	n	*0.4*	*100*
	Sweden	0.6	n	3.0	a	1.5	n	25.1	26.5	*99.2*	n	0.6	n	n	0.1	n	n	0.1	*0.8*	*100*
	Switzerland	n	n	3.0	2.2	a	n	15.7	20.5	*99.7*	n	0.2	0.1	n	n	n	n	n	*0.3*	*100*
	Turkey	n	n	n	0.3	1.3	a	3.0	25.5	*99.9*	n	n	n	n	n	n	n	0.1	*0.1*	*100*
	United Kingdom	0.1	n	8.1	2.9	1.1	0.4	a	30.4	*99.3*	n	0.1	0.2	n	0.1	0.1	0.1	0.1	*0.7*	*100*
	United States	1.1	n	1.4	2.4	0.9	0.1	31.8	a	*93.6*	n	2.2	0.6	0.1	0.1	1.9	1.1	0.4	*6.4*	*100*
PARTNER COUNTRIES	Argentina	n	n	18.0	0.6	1.3	n	5.5	47.1	*93.9*	a	6.1	n	n	n	n	n	n	*6.1*	*100*
	Brazil	0.2	n	7.3	0.6	1.3	n	6.2	54.8	*97.6*	1.2	1.2	n	n	n	n	n	n	*2.4*	*100*
	Chile	n	n	15.6	5.0	1.5	n	4.7	31.0	*86.5*	13.5	a	n	n	n	n	n	n	*13.5*	*100*
	China	n	n	0.1	0.4	0.3	n	9.6	34.8	*96.4*	n	n	n	n	n	2.7	0.4	0.5	*3.6*	*100*
	Egypt	n	0.3	0.6	0.4	1.1	0.7	11.8	38.8	*99.0*	n	n	0.1	n	0.6	0.3	n	n	*1.0*	*100*
	India	n	n	0.1	0.1	0.2	n	6.8	76.0	*99.2*	n	n	a	n	n	0.6	0.1	0.1	*0.8*	*100*
	Indonesia	n	n	n	0.1	0.1	n	2.5	32.2	*86.4*	n	n	0.3	a	n	13.0	0.3	0.1	*13.6*	*100*
	Israel	0.6	1.2	0.9	0.3	0.5	0.5	18.9	40.5	*99.7*	n	0.1	0.1	n	n	n	n	n	*0.3*	*100*
	Jamaica	n	n	n	n	n	n	10.2	88.5	*99.9*	n	0.1	n	n	n	n	n	n	*0.1*	*100*
	Jordan	0.8	0.2	1.1	0.4	0.4	3.4	14.0	42.8	*96.4*	n	n	1.0	n	a	2.5	n	n	*3.6*	*100*
	Malaysia	n	n	n	0.1	n	n	23.8	19.6	*99.4*	n	n	0.4	n	n	a	n	0.2	*0.6*	*100*
	Paraguay	0.2	n	5.3	0.3	0.2	0.1	1.9	36.2	*59.3*	36.0	4.5	n	n	n	n	0.2	n	*40.7*	*100*
	Peru	0.1	n	14.1	0.8	2.1	n	2.2	41.2	*85.7*	4.4	9.8	n	n	n	n	n	n	*14.3*	*100*
	Philippines	0.1	n	0.6	0.4	0.3	n	4.9	57.7	*98.5*	n	n	0.1	n	0.3	0.5	a	0.6	*1.5*	*100*
	Russian Federation	1.1	0.2	0.6	2.3	1.8	3.3	5.7	26.2	*99.8*	n	n	n	n	n	n	n	0.1	*0.2*	*100*
	Sri Lanka	n	n	n	0.4	0.3	n	17.5	24.2	*86.6*	n	n	4.5	n	8.1	0.6	0.1	0.2	*13.4*	*100*
	Thailand	n	n	0.1	0.3	0.1	n	10.8	51.6	*97.6*	n	n	1.2	n	n	0.8	0.4	a	*2.4*	*100*
	Tunisia	0.1	n	0.2	0.1	2.1	0.1	0.4	4.3	*99.9*	n	n	n	n	0.1	n	n	n	*0.1*	*100*
	Uruguay	n	n	12.0	1.0	1.2	n	3.3	31.8	*61.4*	34.0	4.3	n	n	0.3	n	n	n	*38.6*	*100*
	Zimbabwe	0.1	n	0.1	0.2	0.1	0.1	47.0	35.6	*99.9*	n	n	0.1	n	n	n	n	n	*0.1*	*100*

Note: The proportion of students abroad is based only on the total of students enrolled in countries reporting data to the OECD. The resulting proportions are therefore overestimated, especially so for countries sending large number of students to countries that do not report to the OECD.
1. Year of reference 2001.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table C3.4. Distribution of foreign students, by level and type of tertiary education (2002)

		Tertiary-type B	Tertiary-type A	Advanced research programmes	Tertiary-type A and advanced research programmes	Total tertiary
		(1)	(2)	(3)	(4)	(5)
OECD COUNTRIES	Australia	6.2	89.3	4.5	93.8	100
	Austria[1]	2.4	88.1	9.5	97.6	100
	Belgium	44.9	50.2	4.9	55.1	100
	Czech Republic	3.3	82.7	14.0	96.7	100
	Denmark	11.5	82.5	6.0	88.5	100
	Finland	0.6	79.4	20.0	99.4	100
	France[2]	8.7	x(4)	x(4)	91.3	100
	Germany[3]	5.9	94.1	m	m	100
	Hungary	0.2	95.6	4.2	99.8	100
	Iceland	3.2	96.4	0.4	96.8	100
	Italy	5.9	93.3	0.8	94.1	100
	Japan	6.9	x(4)	x(4)	93.1	100
	Korea	19.3	67.6	13.1	80.7	100
	Netherlands[3]	0.7	99.3	m	m	100
	New Zealand	28.5	69.6	1.9	71.5	100
	Norway[2]	3.4	87.1	9.5	96.6	100
	Poland[3]	0.3	99.7	m	m	100
	Slovak Republic	0.5	92.8	6.7	99.5	100
	Spain	5.7	74.9	19.3	94.3	100
	Sweden	2.1	83.4	14.5	97.9	100
	Switzerland	15.0	66.7	18.3	85.0	100
	Turkey[3]	6.6	93.4	m	m	100
	United Kingdom	15.5	74.4	10.0	84.5	100
PARTNER COUNTRIES	Chile	9.2	x(4)	x(4)	90.8	100
	India[4]	n	x(4)	x(4)	100.0	100
	Indonesia	a	x(4)	x(4)	100.0	100
	Malaysia[4]	63.9	x(4)	x(4)	36.1	100
	Russian Federation[3]	8.8	91.2	m	m	100

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(4) means that data are included in column 4.
1. Based on the number of registrations, not head counts.
2. Based on partial data covering 81% of foreign students.
3. Excluding advanced research programmes.
4. Year of reference 2001.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

Table C3.5. Distribution of tertiary foreign students, by field of study (2002)

OECD COUNTRIES	Agriculture	Education	Engineering, manufac-turing and construction	Health and welfare	Humanities and arts	Sciences	Services	Social sciences, business and law	Not known or unspecified	Total, all fields of study
Australia	0.7	3.4	10.9	6.8	8.1	22.1	1.7	40.6	5.9	100
Austria[1]	1.6	5.6	13.5	9.4	24.4	10.7	1.0	33.6	0.1	100
Belgium	5.2	3.8	6.7	25.6	11.2	8.2	2.2	19.7	17.4	100
Czech Republic	3.0	1.5	14.9	27.7	11.3	11.2	1.4	28.9	n	100
Denmark	2.6	3.8	15.4	19.7	18.5	10.5	0.7	28.8	n	100
Finland	2.0	2.4	28.4	10.4	18.5	10.3	3.1	24.9	n	100
Germany[2]	1.1	4.3	16.9	6.2	22.5	14.9	1.0	26.8	6.2	100
Hungary	10.7	10.2	14.3	22.1	16.0	4.2	3.1	19.6	n	100
Iceland	1.3	10.4	4.0	4.7	44.3	13.6	1.9	19.9	n	100
Italy	1.8	1.4	13.5	27.1	19.5	5.4	0.8	27.7	2.7	100
Japan	3.2	3.6	14.6	5.1	24.2	1.9	1.7	35.8	10.0	100
Netherlands[2]	0.8	6.2	11.6	14.2	11.0	6.5	2.3	46.9	0.7	100
New Zealand	0.6	1.4	5.2	3.2	9.6	15.5	3.4	52.7	8.4	100
Norway	2.2	8.6	6.1	16.0	14.5	14.7	3.2	25.5	9.1	100
Poland[2]	0.8	8.5	6.2	19.7	26.5	2.0	1.6	34.8	n	100
Slovak Republic	9.3	5.4	12.1	33.9	13.3	4.3	3.5	18.2	n	100
Sweden	1.0	7.2	18.1	14.6	16.0	13.1	1.1	28.5	0.2	100
Switzerland	0.8	3.9	15.5	6.0	16.7	14.5	6.6	34.6	1.4	100
Turkey[2]	2.7	7.1	14.2	12.7	6.8	7.3	7.2	42.0	n	100
United Kingdom	1.1	4.3	16.1	11.6	16.7	15.3	0.9	34.0	n	100

1. Based on the number of registrations, not head counts.
2. Excluding advanced research programmes.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table C3.6. Trends in the number of foreign students enrolled outside their country of origin (1998, 2000, 2001, 2002)

Number of foreign students enrolled in tertiary education outside their country of origin, based on head counts

	Number of foreign students				Index of change (2002)	
	2002	2001	2000	1998	2001 = 100	1998 = 100
Foreign students from throughout the world enrolled in reporting OECD and partner countries	1 898 250	1 645 425	1 620 810	m	115.4	m
Foreign students from throughout the world enrolled in reporting OECD countries	1 781 090	1 538 867	1 522 719	1 327 154	115.7	134.2

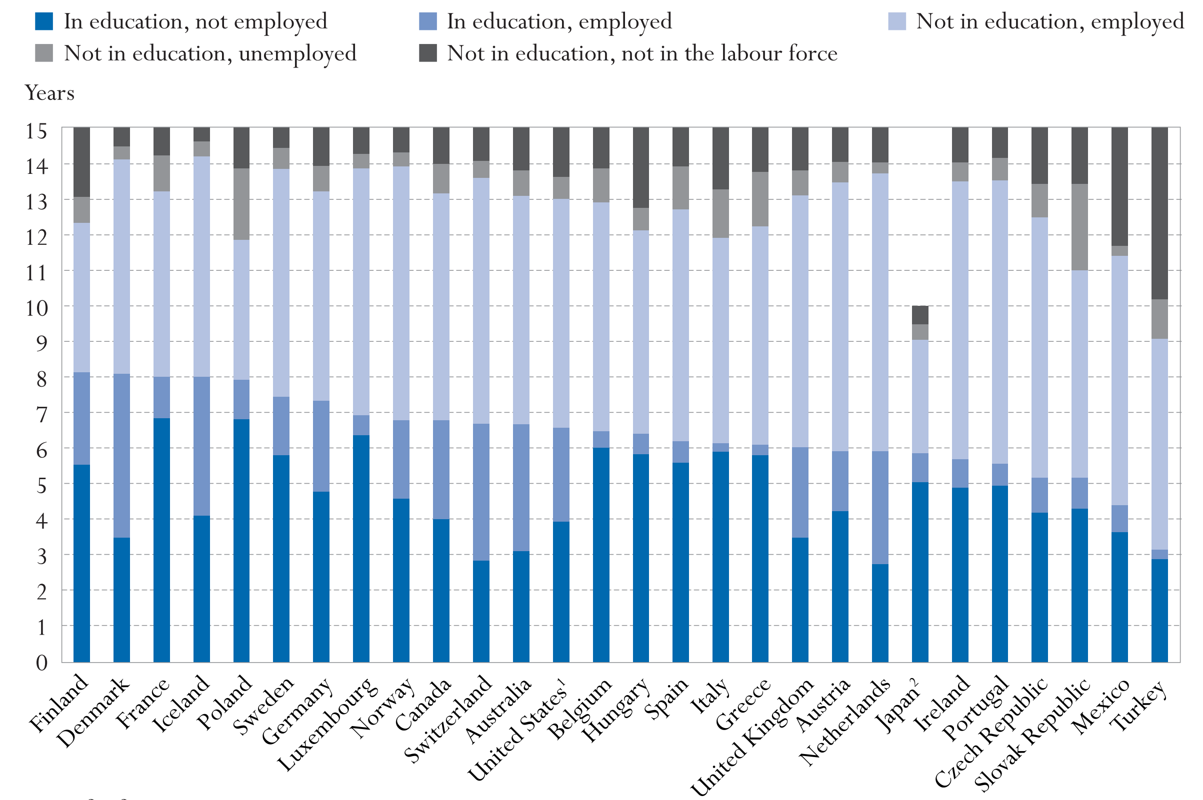
Note: Figures are based on the number of foreign students enrolled in OECD and partner countries reporting data. The coverage of these reporting countries has evolved over time, therefore the figures are not strictly comparable and caution should be taken in interpreting trends.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

INDICATOR C4: EDUCATION AND WORK STATUS OF THE YOUTH POPULATION

- On average among countries, a young person aged 15 in 2002 can expect to be in formal education for a little less than six and a half years. In 17 of the 28 countries studied, this period ranges from near six 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 6.4 of the 15 years to come, to be unemployed for a total of 0.8 years and to be out of the labour market for 1.3 years. Countries vary the most in the average duration of spells of unemployment; this factor primarily reflects differences in youth employment rates.
- 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. The percentage of 20 to 24-year-olds not in education ranges from 50 to 70% in most OECD countries.
- 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.

Chart C4.1. Expected years in education and not in education for 15 to 29-year-olds (2002)

Number of years, by work status



1. Year of reference 2001.
2. Data refer to 15 to 24-year-olds.

Countries are ranked in descending order of the expected years in education of the youth population.

Source: OECD. Table C4.1a. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Policy context

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. Some 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, although this situation affects males and females differently.

This indicator shows the expected years young people spend in education, employment and non-employment…

All OECD countries are experiencing rapid social and economic changes that are making the transition to working life more uncertain. In some OECD countries, education and work largely occur consecutively, while in other OECD countries they may be concurrent. The ways in which education and work are combined can significantly affect the transition process. Of particular interest, for example, is the extent to which working (beyond the usual "summer jobs" for students) while studying may facilitate entry into the labour force. It is also important to consider whether students who work many hours while studying may be more likely to drop out of education, and to examine if working and studying simultaneously contributes to a successful transition to the labour market.

…and examines the education and employment status of young males and females.

Evidence and explanations

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 school to work.

On average, a young person aged 15 in 2002 can expect to be in education for around six and a half years (Table C4.1a). In 17 of the 28 countries studied, a 15-year-old can expect to spend from 5.9 to 7.5 years in education. There is, however, a gap of around four years separating the two extreme groups: Denmark, Finland, France and Iceland (more than eight years on average) on the one hand and Mexico, the Czech and Slovak Republics and Turkey (four and half years on average) on the other.

On average, a 15-year-old can expect to be in the education system for about another six and a half years.

The figure for expected years of education covers some very different combinations of education and work. Employment combined with education includes both work-study programmes and part-time jobs. While such combinations are rare in half of the countries studied, in the other half they account for between one and four of the additional years that young people expect to spend in education.

The figure for expected years of education covers some very different combinations of education and work.

In addition to the average six and a half years spent in education, a young person aged 15 can expect to hold a job for 6.4 of the 15 years to come, to be unemployed for a total of 0.8 years and to be out of the labour market for 1.3 years, neither in education nor seeking work (Table C4.1a). It is worth noting that, in absolute terms, young people can expect to spend less time in unemployment after completion of initial education than they could ten years ago.

Today, a 15-year-old can expect to hold a job for 6.4 years, to be unemployed for almost one year and to be out of the labour force for 1.3 years until the age of 29.

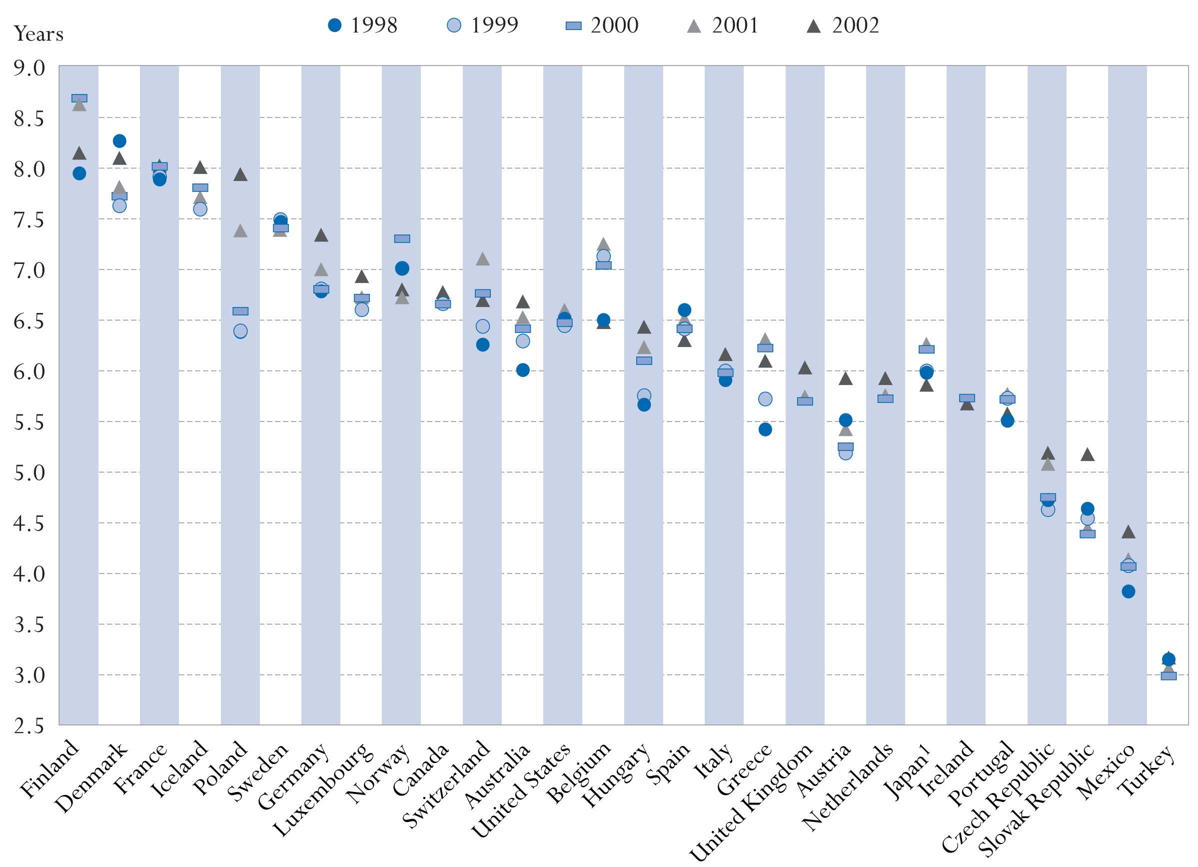
The average duration of unemployment varies significantly among countries; this mainly reflects differences in youth employment rates. The cumulative average duration of unemployment is less than five months in Denmark, Iceland, Luxembourg, Mexico, the Netherlands and Norway, but more than 18 months in Greece, Poland and the Slovak Republic.

A majority of countries have seen an increase in expected years of education over the past five years.

The trend observed in the last years is pursuing for the majority of countries. Few of them are stable: with a long duration in education already achieved for France and Sweden; with intermediate durations for Canada and the United States; and with short duration, which could be a concern in Ireland and moreover in Portugal and Turkey (Chart C4.2).

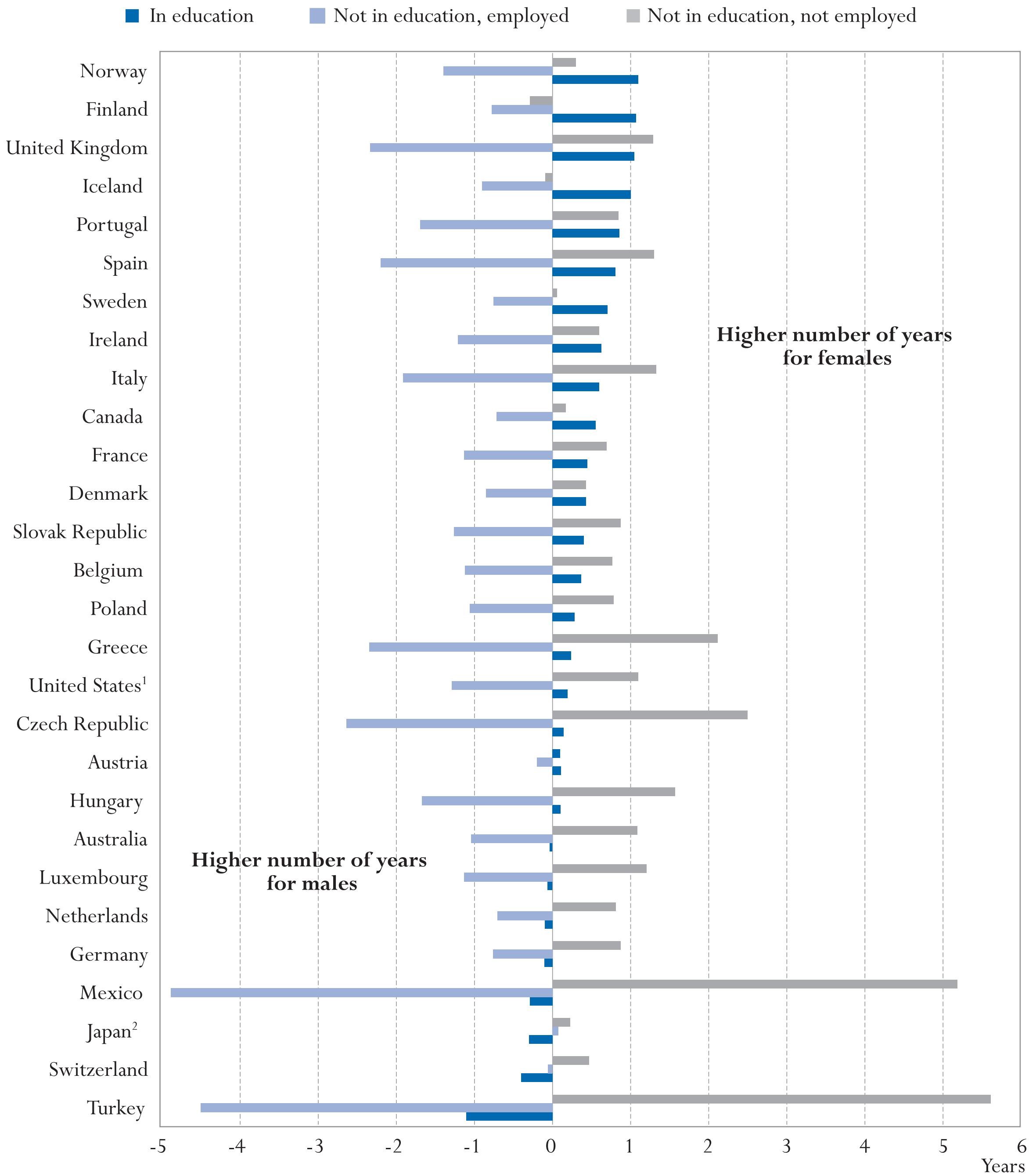
Only Norway and Spain show trends of diminishing duration in education. In all other countries the upward trend is still marked. Since 1998, Australia, Germany, Greece, Hungary, Mexico, Poland and the Slovak Republic showed an increase of more than six months in the number of expected years in education for 15-year-olds.

Chart C4.2. Change in expected years in education for 15 to 29-year-olds (1998-2002)



1. Data refer to 15 to 24-year-olds.
Countries are ranked in descending order of the expected years in education of the youth population in 2002.
Source: OECD. Table C4.1b. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Chart C4.3. Gender differences in expected years in education and not in education for 15 to 29-year-olds (2002)



1. Year of reference 2001.
2. Data refer to 15 to 24-year-olds.
Countries are ranked in descending order of the difference between females and males in expected years in education of the 15 to 29-year-olds.
Source: OECD. Table C4.1a. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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The average overall number of expected years in education is higher for females (6.6 compared with 6.3 years). In all countries but seven (Germany, Japan, Luxembourg, Mexico, the Netherlands, Switzerland and Turkey), the figures are higher for the duration in education for females. In Turkey, however, female students can expect to receive one year less education than their male classmates. At the other end of the scale, males can expect the same educational disadvantage in Finland, Iceland, Norway and the United Kingdom (Chart C4.3).

By and large, males and females differ very little in terms of the expected number of years in unemployment, even though expected unemployment periods tend to be longer for males. While the situation is similar for both genders in many countries or with a slight disadvantage for males, females appear to be at a clear disadvantage in the Czech Republic, Italy, Greece, Portugal and Spain, and at a sensible advantage in Canada, Hungary, Poland, the Slovak Republic and Turkey (Table C4.1a). In some of these countries, and most notably in Turkey, the lower expectancy for females is largely influenced by the fact that many females leave the labour market, thereby reducing pressure on jobs.

Whereas young males can expect to spend little more than one year and seven months in neither education nor employment between the ages of 15 and 29, the average figure for females is more than two years and nine months. In the Czech Republic, Greece, Hungary, Mexico and Turkey, there is a much stronger tendency for young females to leave the labour market, and spend time out of the educational system and not working. In very few countries – Austria, Finland and Sweden – young males and young females do not differ much in this measure. In all other countries, females between the ages of 15 and 29 spend an average of about 10 months more than males not in education and not employed.

Conversely, females between the ages of 15 and 29 in all OECD countries can expect a reduced duration of employment after education; this is partially a consequence of the time spent in education, but is also attributable to other factors. In the Czech Republic, Greece, Mexico and Turkey, expected years not in education and not in employment are much higher for females than for males, whereas the expected years in education are similar or even lower. In Italy, Spain and the United Kingdom the higher expected years in education for females counterbalance, at least partly, the shorter duration in employment.

Combining work and education

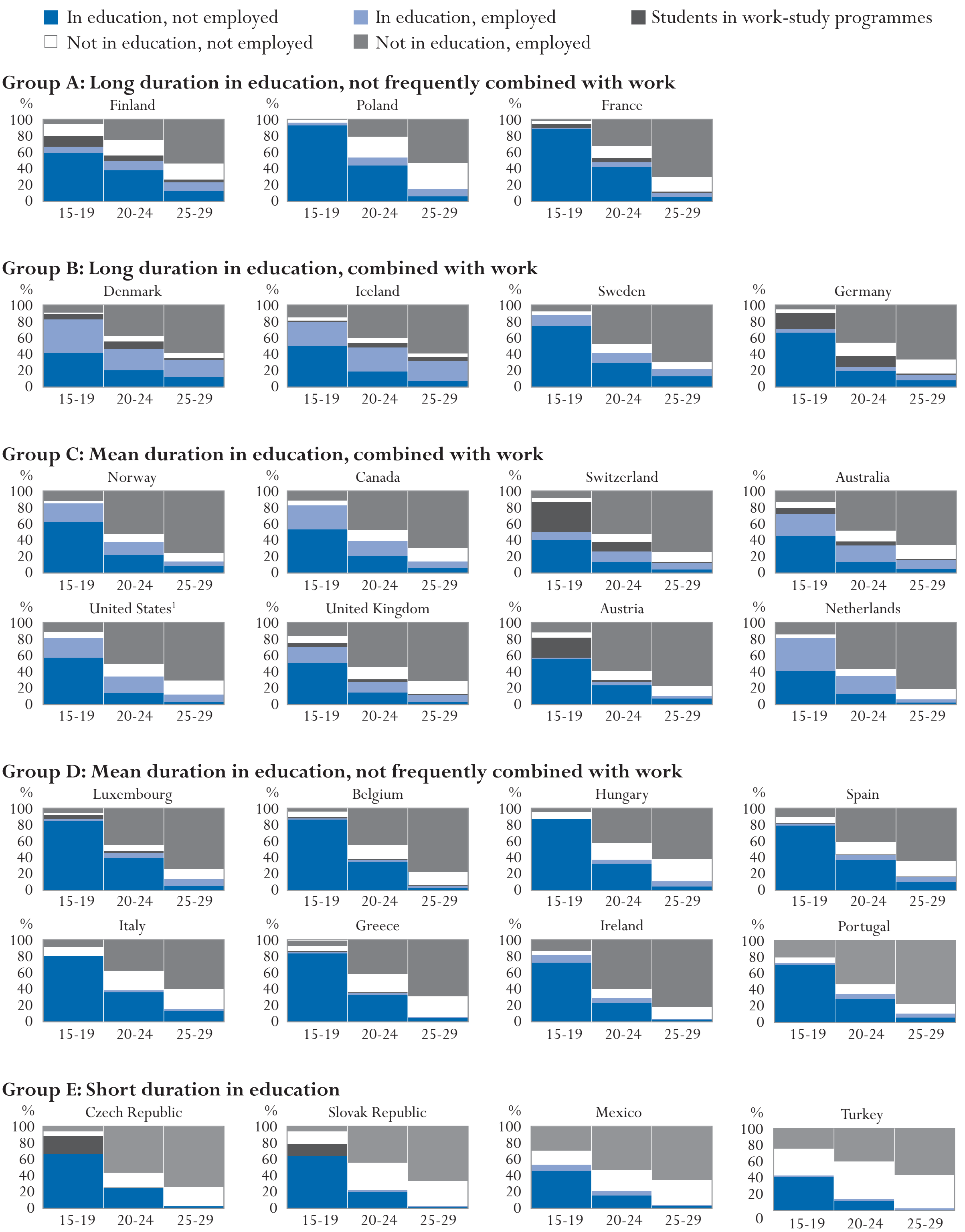
Countries differ not only in the duration of education but also how it is combined with work experiences.

The 27 OECD countries which provide data on youth transitions show differences in both the duration of education and how education is combined with work experiences in enterprise or by work study programmes (Chart C4.4).

The first group (Group A) is the smallest; only three countries present a long duration in education not frequently combined with work. The expected number of years in education between the ages of 15 and 29 is around eight years in Finland, France and Poland, with the oldest students most frequently enrolled in Finland. Work-study programmes and other forms of work experience during schooling exist but remain uncommon.

Chart C4.4. Country profiles on transition from education to work (2002)

Percentage of the 15 to 29-year-old population in education and not in education, by age group and work status



1. Year of reference 2001.

In each group, countries are ranked in descending order of the percentage of the 15 to 29-year-old population in education.

Source: OECD. Table C4.2. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Work-study programmes and other ways of combining work and education are common in some OECD countries, but rare in others.

The second group (Group B) is slightly bigger: four countries. They combine a long duration of education with a significant participation in work during study. The Nordic countries – Denmark, Iceland and Sweden – are part of this group, with high participation in employment in combination with education for the three age groups. Germany shows a similar pattern thanks to its dual system organising the combination of work and school.

Groups C and D include the majority of countries with an average duration of education. They clearly differ on how education is combined with work experience. In Group C, working while studying can occur as part of work-study programmes or in the form of part-time jobs out of school hours. Work-study programmes are relatively common in European countries such as Austria and Switzerland, and offer coherent vocational education routes to recognised occupational qualifications. Many young people also combine paid work out of school hours with education. This form of initial contact with the labour market for students between the ages of 15 and 24 is a major feature of the transition from education to work in Australia, Canada, the Netherlands, the United Kingdom and the United States and, to a lesser extent, Norway.

For Group D – composed of Belgium, Hungary, Ireland, Luxembourg, and the Mediterranean countries – initial education and work are rarely associated, neither by paid work out of schools hours nor by participation in work-study programmes.

A short duration in education is the main feature of Group E. In the Czech and Slovak Republics, work-study programmes ensure a relatively high participation in education between the ages of 15 and 19 years. That is not the case in Mexico and Turkey. From the age of 20, participation in education becomes very low for all the countries of this group.

During the years spent in education, the employment status of males and females is broadly similar in most OECD countries.

The employment status of males and females during the years spent in education is broadly similar, except in Austria, Germany and Switzerland, where noticeably more men participate in work-study programmes. In Australia, Canada, Denmark, Finland, Iceland, the Netherlands, Norway, Sweden and the United Kingdom, noticeably more females than males in the 15 to 24-year-old age group combine work outside school hours with education (Tables C4.2a and C4.2b).

Entry into the labour market after initial education

The transition from education to work occurs at different points of time in different OECD countries, depending on various educational and labour market factors.

As they grow older, young people participate decreasingly in education and increasingly in the labour force. The percentage of young people not in education in most OECD countries is between 10 and 30% for 15 to 19-year-olds, rises to between 50 and 70% for 20 to 24-year-olds and reaches 80 to 95% for 25 to 29-year-olds (Table C4.2). However, in many OECD countries young people begin their transition to work later, and in some cases over a longer period. This trend reflects not only the demand for education, but also the general state of the labour market, the length and orientation of educational programmes in relation to the labour market and the prevalence of part-time education.

The age at which people enter the labour market after completing initial education has consequences for employment. Overall, older non-students are more likely to be employed than non-students aged 15 to 19, while a higher percentage of male than female non-students are working. In relative terms, more females than males are out of the labour force, particularly during the years associated with child-bearing and child-rearing, captured by the age group 25 to 29 years in this indicator (Tables C4.2a and C4.2b).

Employment(-to-population) ratios among young adults who are not in education provide information on the effectiveness of transition frameworks and thus help policy makers to evaluate transition policies. In 21 out of 27 OECD countries, fewer than 66 (and in some countries even fewer than 50%) of 15 to 19-year-olds not in education are working, which may suggest that because these young people have left school early, they are not viewed by employers as having the skills necessary for productive employment. Employment ratios for 20 to 24-year-olds generally exceed 65%, but ratios in some OECD countries such as Finland, Italy, Poland, the Slovak Republic and Turkey are still around or below 60%. For the 25 to 29 age group, most OECD countries have ratios of between 67 and 87%, with the exception of Poland and Turkey (Table C4.2). Employment ratios for young males tend to be higher than for young females after leaving education, probably for family-related reasons and because the social acceptability of being unemployed is still higher for females than for males in many OECD countries (Tables C4.2a and C4.2b).

Unemployment rate and ratio of unemployed non-students to the total youth population

Young people represent the principal source of new skills in OECD countries. In most OECD countries, education policy seeks to encourage young people to complete at least upper secondary education. Since many jobs in the current labour market require ever higher general skill levels and more flexible learning skills, persons with low attainment are often severely penalised. Differences in the ratio of unemployed non-students to the total youth population by level of educational attainment are an indicator of the degree to which further education improves the economic opportunities of any young person.

Traditional unemployment measures overestimate unemployment in the transition period and are insensitive to different systems of combining education and work in the transition period.

The youth unemployment rate by age group is the most common measure available for describing the labour market status of young people. However, unemployment rates do not take educational circumstances into account. Consequently, an unemployed young person counted in the numerator may, in some OECD countries, be enrolled in education. The denominator may include young people in vocational training, provided they are apprenticed, but not those in school-based vocational courses. Hence, if almost all young people in a particular age group are still in education, the unemployment rate will reflect only the few in the labour market and may therefore appear very high, particularly among the youngest cohort, who have usually left the education system with very low qualifications.

The ratio of unemployed non-students to the total age cohort is therefore a more appropriate way to reflect the likelihood of youth unemployment. This is because young people who are looking for a job while still in education are usually seeking part-time or temporary work while studying, unlike those entering the labour market after leaving school.

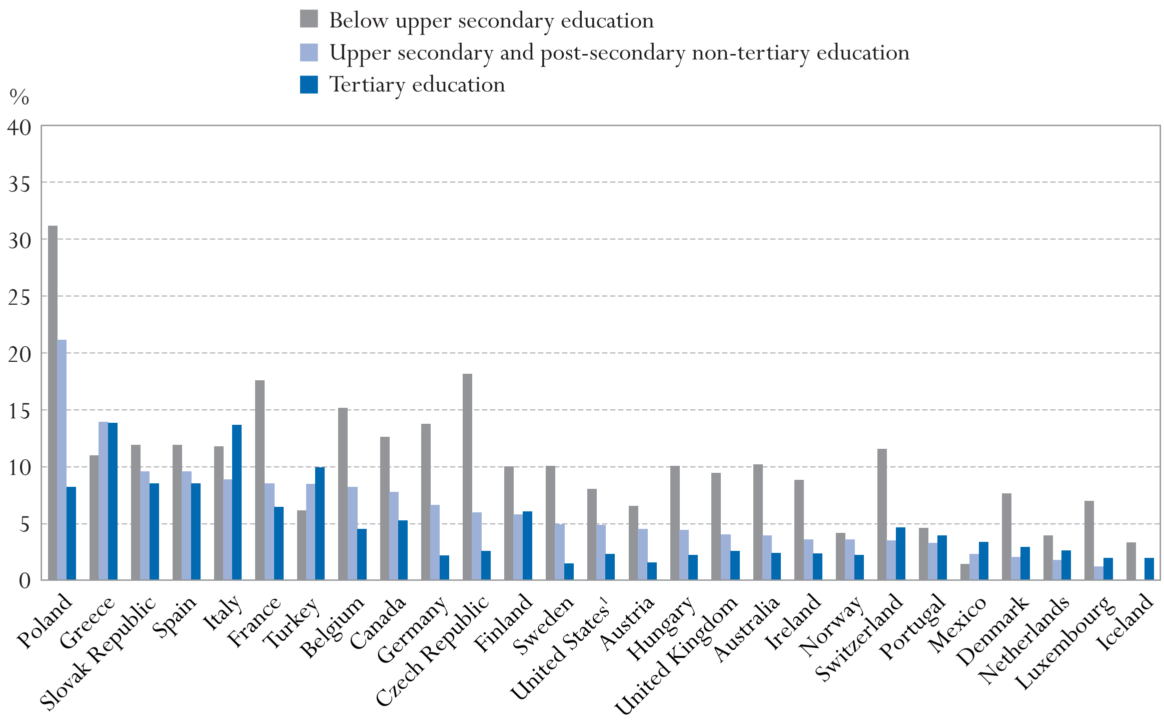
The ratio of unemployed people who have not completed upper secondary education to the total youth population is 1.5 times higher on average than for upper secondary graduates.

On average, completing upper secondary education reduces the unemployment-to-population ratio (*e.g.*, unemployment among non-students as a percentage of the entire age cohort) of 20 to 24-year-olds by about 6 percentage points, and that of 25 to 29-year-olds by about 4 percentage points (Table C4.3). In 20 out of 27 OECD countries, the unemployment ratio among 20 to 24-year-olds not in education is less than 8% for those with upper secondary or post-secondary non-tertiary education. This proportion remains below 8% for people without upper secondary education in only six OECD countries. Since it has become the norm in most OECD countries to complete upper secondary education, many young persons who do not are much more likely to have employment difficulties during their working lives.

Upper secondary education, and even tertiary-level education, significantly increases the chance of being employed.

At the end of the transition period, between the ages of 25 and 29, when most young people have finished studying, differences in access to employment are linked to the education level attained. Not attaining an upper secondary qualification is clearly a serious handicap. Conversely, tertiary education offers a premium for most job seekers (Chart C4.5).

Chart C4.5. Ratio of the population not in education and unemployed to the 25 to 29-year-old population, by level of education attained (2002)



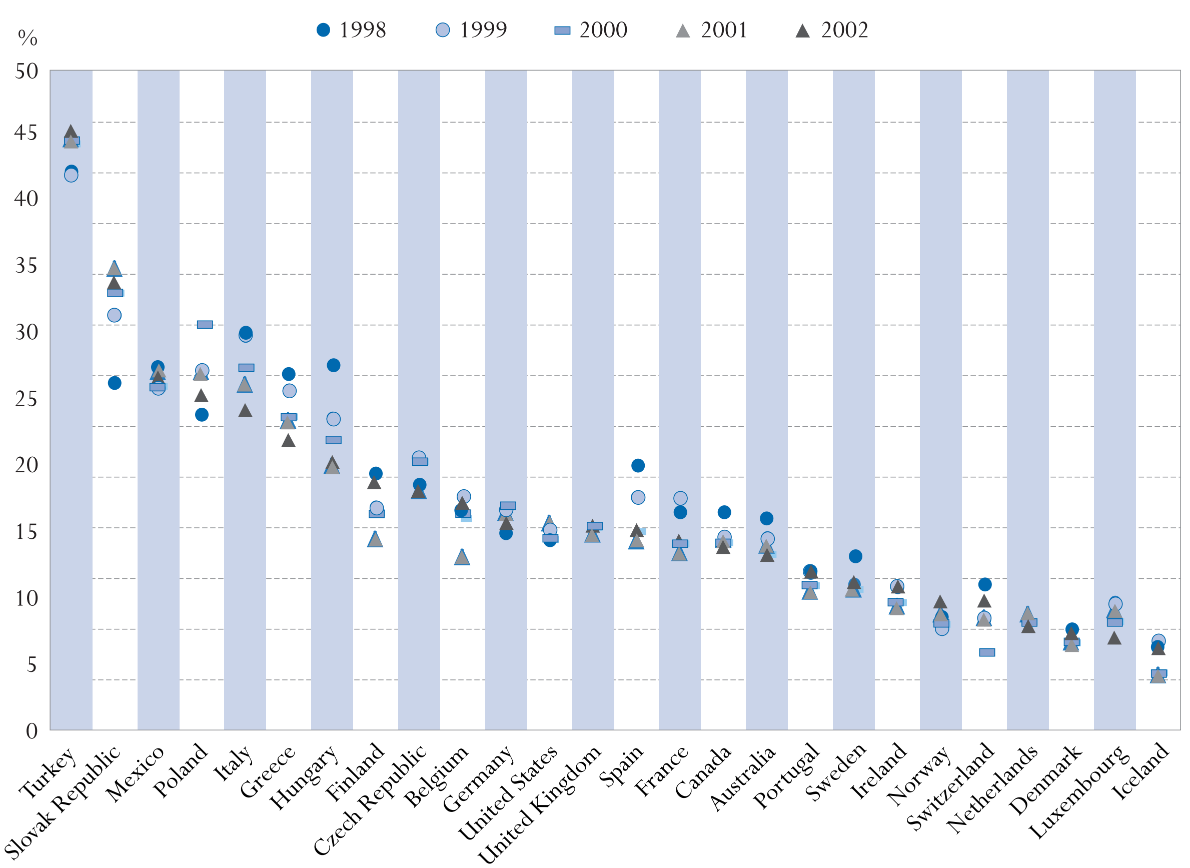
1. Year of reference 2001.
Countries are ranked in descending order of the ratio of the population not in education and unemployed to the 25 to 29-year-old population having attained upper secondary and post-secondary non-tertiary education.
Source: OECD. Table C4.3. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

In 12 OECD countries, for upper secondary graduates aged 25 to 29, the ratio of unemployed non-students to the total youth population is above 5%. In a few OECD countries, even young people who have completed tertiary-level education are subject to considerable unemployment risk when they enter the labour market. The ratio of unemployed non-students to the total youth population among this age group is 8% or more in Greece, Italy, Poland, the Slovak Republic, Spain and Turkey (Table C4.3).

For 20 to 24-year-olds in most countries, "non-employment" has been declining since 1998.

Focusing on the key transition period (*i.e.* ages 20 to 24) illustrates the changes in the prevalence of unemployment and withdrawal from the labour force – both represent "non-employment" – among individuals who have left education. Over a period of four years, important changes are evident in several countries. In the Mediterranean countries (Greece, Italy and Spain), as well as in Finland, where the proportion of non-employment was rather high, the improvement is remarkable, even if the trend shows an inflexion for the most recent year. Turkey presents an exception with a negative evolution for the non-employment ratio already the highest of the OECD. Central and Eastern European

Chart C4.6. Change in the ratio of the 20 to 24-year-old population not in education and not employed (1998-2002)



Countries are ranked in descending order of the ratio of the 20 to 24-year-old population not in education and not employed in 2002.
Source: OECD. Table C4.4. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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countries have very different profiles: regular decrease of non-employment in Hungary, regular increase in the Slovak Republic, increase followed by a decrease in Poland after a peak in 2000.

However, the situation is remarkably stable over the five last years for several countries: at a high level of the non-employment ratio in Mexico, at a low level in Denmark and at an intermediate level in the United Kingdom and the United States. Other profiles are less pronounced, but a general picture appears. With the exception of Norway, which shows a slight but regularly growing trend in growth of the non-employment ratio, and Switzerland, with a pronounced "V" curve with a lower point in 2000, most countries show only slight variations and a regular fall of unemployment and withdrawal from the labour force from 1998 to 2001, followed by a stabilisation or even an increase of unemployment and withdrawal from the labour force in 2002.

Definitions and methodologies

Data are derived from National Labour Force Surveys.

The statistics presented here are calculated from labour force survey data on age-specific proportions of young people in each of the specified categories. These proportions are then totalled over the 15 to 29 age group to yield the expected number of years spent in various situations. For countries providing data from the age of 16 only, it is assumed that all 15-year-olds are in education and out of the labour force. This improvement in the calculation tends to increase the average number of expected years in education compared to the last edition of *Education at a Glance*. The calculation thus assumes that young persons currently aged 15 will show the same pattern of education and work between the ages of 15 and 29 as the population between those ages in the given reference year.

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Persons in education include those attending part-time as well as full-time, where the coverage of education should be as close as possible to that of formal education in administrative sources on enrolment. Therefore, non-formal education or educational activities of very short duration (for example, at the work place) should be excluded.

Data for this indicator were obtained from a special OECD data collection on the first quarter of the year.

Data for this indicator, which were obtained from a special OECD data collection, usually refer to the first quarter or the average of the first three months of the calendar year, and therefore exclude summer employment. The labour force status categories shown in this section are defined according to ILO guidelines, with one exception. For the purposes of these indicators, persons in work-study programmes (see below) have been classified separately as *in education* and *employed*, without reference to their ILO labour force status during the survey reference week, since they may not necessarily be in the work component of their programmes during the reference week, and may therefore not be employed at the time. *"Other employed"* includes individuals employed according to the ILO definition, but excludes those attending work-study programmes who are already counted as employed. Finally, *"not in the labour force"* includes individuals who are not working and who are not unemployed, *i.e.* individuals who are not looking for a job.

Work-study programmes combine work and education as parts of an integrated, formal education or training activity, such as the dual system in Germany; *apprentissage* or *formation en alternance* in France and Belgium; internship or co-operative education in Canada; and apprenticeship in Ireland. Vocational education and training take place in school settings and working environments. Students or trainees can be paid or not, usually depending on the type of job and the course or training.

The enrolment counts are here estimated on the basis of self-reports collected during labour force surveys that often correspond only imprecisely with enrolments obtained from administrative sources shown elsewhere in this publication, for several reasons. First, age may not be measured in the same way. For example, in administrative data, both enrolment and age are measured on January 1st in OECD countries in the northern hemisphere, whereas in some labour force surveys, enrolment is measured in the reference week, while the age recorded is the age that will be attained at the end of the calendar year, even if the survey is conducted in the early part of the year. This means that recorded enrolment rates may occasionally reflect a population that is almost one year younger than the specified age range. At ages when movements out of education may be significant, this affects enrolment rates. Second, young people may be enrolled in several programmes and can sometimes be counted twice in administrative statistics but only once in a labour force survey. Moreover, not all enrolments may be captured in administrative statistics, particularly in profit-making institutions. Third, the programme classification used in the self-reports in labour force surveys does not always correspond to the qualification standards used for administrative data collections.

The unemployment ratio is the number of unemployed persons divided by the total number of persons in the population.

The employment ratio is the number of employed persons divided by the total number of persons in the population.

Table C4.1a. Expected years in education and not in education for 15 to 29-year-olds (2002)

By gender and work status

OECD COUNTRIES		Expected years in education			Expected years not in education			
		Not employed	Employed (including work-study programmes)	Sub-total	Employed	Unemployed	Not in the labour force	Sub-total
Australia	Males	3.2	3.5	6.7	6.9	0.8	0.5	8.3
	Females	3.0	3.7	6.7	5.9	0.6	1.9	8.3
	M+F	3.1	3.6	6.7	6.4	0.7	1.2	8.3
Austria	Males	3.9	2.0	5.9	7.6	0.7	0.8	9.1
	Females	4.6	1.3	6.0	7.4	0.5	1.1	9.0
	M+F	4.2	1.7	5.9	7.5	0.6	1.0	9.1
Belgium	Males	5.8	0.5	6.3	7.0	0.9	0.8	8.7
	Females	6.2	0.5	6.7	5.9	1.0	1.5	8.3
	M+F	6.0	0.5	6.5	6.4	1.0	1.1	8.5
Canada	Males	4.1	2.4	6.5	6.7	1.1	0.7	8.5
	Females	4.0	3.1	7.1	6.0	0.6	1.4	7.9
	M+F	4.0	2.8	6.8	6.4	0.8	1.0	8.2
Czech Republic	Males	3.9	1.2	5.1	8.6	0.9	0.4	9.9
	Females	4.5	0.7	5.3	5.9	1.0	2.8	9.7
	M+F	4.2	1.0	5.2	7.3	1.0	1.6	9.8
Denmark	Males	3.4	4.5	7.9	6.4	0.4	0.3	7.1
	Females	3.6	4.7	8.3	5.6	0.3	0.8	6.7
	M+F	3.5	4.6	8.1	6.0	0.4	0.5	6.9
Finland	Males	5.1	2.5	7.6	4.6	0.8	2.0	7.4
	Females	6.0	2.7	8.7	3.8	0.7	1.9	6.3
	M+F	5.5	2.6	8.1	4.2	0.7	1.9	6.9
France	Males	6.6	1.2	7.8	5.8	1.1	0.4	7.2
	Females	7.1	1.1	8.2	4.6	1.0	1.2	6.8
	M+F	6.9	1.2	8.0	5.2	1.0	0.8	7.0
Germany	Males	4.7	2.6	7.4	6.3	0.8	0.5	7.6
	Females	4.8	2.4	7.3	5.5	0.6	1.7	7.7
	M+F	4.8	2.5	7.3	5.9	0.7	1.1	7.7
Greece	Males	5.7	0.3	6.0	7.3	1.2	0.5	9.0
	Females	6.0	0.3	6.2	5.0	1.9	2.0	8.8
	M+F	5.8	0.3	6.1	6.1	1.5	1.2	8.9
Hungary	Males	5.8	0.6	6.4	6.5	0.8	1.3	8.6
	Females	5.9	0.6	6.5	4.9	0.4	3.2	8.5
	M+F	5.8	0.6	6.4	5.7	0.6	2.3	8.6
Iceland	Males	3.9	3.6	7.5	6.6	0.7	c	7.5
	Females	4.3	4.2	8.5	5.7	c	0.7	6.5
	M+F	4.1	3.9	8.0	6.2	0.4	0.4	7.0
Ireland	Males	4.7	0.7	5.4	8.4	0.7	0.5	9.6
	Females	5.1	0.9	6.0	7.2	0.4	1.4	9.0
	M+F	4.9	0.8	5.7	7.8	0.5	1.0	9.3
Italy	Males	5.6	0.2	5.9	6.7	1.3	1.1	9.1
	Females	6.2	0.3	6.5	4.8	1.4	2.4	8.5
	M+F	5.9	0.2	6.2	5.7	1.4	1.7	8.8
Japan[1]	Males	5.2	0.8	6.0	3.2	0.5	0.4	4.0
	Females	4.9	0.8	5.7	3.2	0.4	0.7	4.3
	M+F	5.1	0.8	5.9	3.2	0.4	0.5	4.1

Note: c indicates that there are few observations to provide reliable estimates.
1. Data refer to 15 to 24-year-olds.
2. Year of reference 2001.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table C4.1a. (*continued*) **Expected years in education and not in education for 15 to 29-year-olds (2002)**
By gender and work status

			Expected years in education			Expected years not in education			
			Not employed	Employed (including work-study programmes)	Sub-total	Employed	Unemployed	Not in the labour force	Sub-total
OECD COUNTRIES	Luxembourg	Males	6.3	0.6	7.0	7.5	0.4	0.1	8.0
		Females	6.4	0.5	6.9	6.4	0.4	1.4	8.1
		M+F	6.4	0.6	6.9	6.9	0.4	0.7	8.1
	Mexico	Males	3.6	1.0	4.6	9.5	0.4	0.6	10.4
		Females	3.7	0.6	4.3	4.6	0.2	5.9	10.7
		M+F	3.6	0.8	4.4	7.0	0.3	3.3	10.6
	Netherlands	Males	2.8	3.2	6.0	8.1	0.3	0.5	9.0
		Females	2.7	3.1	5.9	7.4	0.3	1.4	9.1
		M+F	2.8	3.2	5.9	7.8	0.3	1.0	9.1
	Norway	Males	4.5	1.8	6.2	7.8	0.5	0.5	8.8
		Females	4.8	2.6	7.3	6.4	0.3	1.0	7.7
		M+F	4.6	2.2	6.8	7.1	0.4	0.7	8.2
	Poland	Males	6.6	1.2	7.8	4.5	2.2	0.5	7.2
		Females	7.0	1.0	8.1	3.4	1.8	1.7	6.9
		M+F	6.8	1.1	7.9	3.9	2.0	1.1	7.1
	Portugal	Males	4.5	0.6	5.1	8.8	0.6	0.5	9.9
		Females	5.4	0.6	6.0	7.1	0.7	1.2	9.0
		M+F	5.0	0.6	5.6	7.9	0.6	0.8	9.4
	Slovak Republic	Males	4.0	1.0	5.0	6.5	2.7	0.8	10.0
		Females	4.7	0.7	5.4	5.2	2.1	2.4	9.6
		M+F	4.3	0.9	5.2	5.8	2.4	1.6	9.8
	Spain	Males	5.3	0.6	5.9	7.5	1.1	0.6	9.1
		Females	6.0	0.7	6.7	5.3	1.4	1.6	8.3
		M+F	5.6	0.6	6.3	6.5	1.2	1.1	8.7
	Sweden	Males	5.8	1.3	7.1	6.8	0.7	0.5	7.9
		Females	5.8	2.0	7.8	6.0	0.5	0.7	7.2
		M+F	5.8	1.7	7.5	6.4	0.6	0.6	7.5
	Switzerland	Males	2.8	4.1	6.9	6.9	0.6	0.6	8.1
		Females	2.9	3.6	6.5	6.9	0.4	1.3	8.5
		M+F	2.8	3.9	6.7	6.9	0.5	0.9	8.3
	Turkey	Males	3.3	0.4	3.7	8.1	1.5	1.8	11.3
		Females	2.4	0.2	2.6	3.6	0.7	8.2	12.4
		M+F	2.9	0.3	3.2	5.9	1.1	4.8	11.8
	United Kingdom	Males	3.3	2.3	5.6	8.1	0.8	0.5	9.4
		Females	3.7	2.9	6.6	5.8	0.6	2.1	8.4
		M+F	3.5	2.5	6.0	7.1	0.7	1.2	9.0
	United States[2]	Males	4.1	2.4	6.5	7.1	0.7	0.8	8.5
		Females	3.8	2.9	6.7	5.8	0.5	2.0	8.3
		M+F	3.9	2.6	6.6	6.4	0.6	1.4	8.4
	Country mean	***Males***	***4.6***	***1.7***	***6.3***	***7.1***	***0.9***	***0.7***	***8.7***
		Females	***4.8***	***1.8***	***6.6***	***5.6***	***0.7***	***2.0***	***8.4***
		M+F	***4.7***	***1.7***	***6.4***	***6.4***	***0.8***	***1.3***	***8.6***
PARTNER COUNTRY	Israel	Males	4.5	1.2	5.8	4.4	1.0	3.8	9.2
		Females	4.6	1.4	6.0	4.3	0.8	3.8	9.0
		M+F	4.6	1.3	5.9	4.4	0.9	3.8	9.1

Note: c indicates that there are few observations to provide reliable estimates.
1. Data refer to 15 to 24-year-olds.
2. Year of reference 2001.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table C4.1b. Change in expected years in education and not in education for 15 to 29-year-olds (1998-2002)
By gender and work status

		1998		1999		2000		2001		2002	
		In education	Not in education	In education	Not in education	In education	Not in education	In education	Not in education	In education	Not in education
OECD COUNTRIES Australia	Males	6.0	9.0	6.4	8.6	6.4	8.6	6.6	8.4	6.7	8.3
	Females	6.0	9.0	6.2	8.8	6.5	8.5	6.4	8.6	6.7	8.3
	M+F	6.0	9.0	6.3	8.7	6.4	8.6	6.5	8.5	6.7	8.3
Austria	Males	5.7	9.3	5.2	9.8	5.3	9.7	5.4	9.6	5.9	9.1
	Females	5.4	9.6	5.2	9.8	5.2	9.8	5.4	9.6	6.0	9.0
	M+F	5.5	9.5	5.2	9.8	5.2	9.8	5.4	9.6	5.9	9.1
Belgium	Males	6.4	8.6	7.2	7.8	6.9	8.1	7.3	7.7	6.3	8.7
	Females	6.5	8.5	7.4	7.6	7.2	7.8	7.2	7.8	6.7	8.3
	M+F	6.5	8.5	7.3	7.7	7.0	8.0	7.2	7.8	6.5	8.5
Canada	Males	6.6	8.4	6.5	8.5	6.5	8.5	6.5	8.5	6.5	8.5
	Females	6.8	8.2	6.9	8.1	6.9	8.1	7.0	8.0	7.1	7.9
	M+F	6.7	8.3	6.7	8.3	6.7	8.3	6.8	8.2	6.8	8.2
Czech Republic	Males	4.7	10.3	4.6	10.4	4.7	10.3	5.0	10.0	5.1	9.9
	Females	4.8	10.2	4.7	10.3	4.8	10.2	5.1	9.9	5.3	9.7
	M+F	4.7	10.3	4.6	10.4	4.8	10.2	5.1	9.9	5.2	9.8
Denmark	Males	8.1	6.9	7.3	7.7	7.1	7.9	7.6	7.4	7.9	7.1
	Females	8.4	6.6	8.0	7.0	8.2	6.8	8.1	6.9	8.3	6.7
	M+F	8.3	6.7	7.6	7.4	7.7	7.3	7.8	7.2	8.1	6.9
Finland	Males	7.4	7.6	7.7	7.3	8.1	6.9	8.1	6.9	7.6	7.4
	Females	8.5	6.5	8.6	6.4	9.3	5.7	9.1	5.9	8.7	6.3
	M+F	7.9	7.1	8.1	6.9	8.7	6.3	8.6	6.4	8.1	6.9
France	Males	7.8	7.2	7.8	7.2	7.9	7.1	7.8	7.2	7.8	7.2
	Females	8.0	7.0	8.0	7.0	8.1	6.9	8.1	6.9	8.2	6.8
	M+F	7.9	7.1	7.9	7.1	8.0	7.0	8.0	7.0	8.0	7.0
Germany	Males	6.9	8.1	6.8	8.2	6.8	8.2	7.0	8.0	7.4	7.6
	Females	6.8	8.2	6.8	8.2	6.8	8.2	7.0	8.0	7.3	7.7
	M+F	6.8	8.2	6.8	8.2	6.8	8.2	7.0	8.0	7.3	7.7
Greece	Males	5.5	9.5	5.8	9.2	6.1	8.9	6.2	8.8	6.0	9.0
	Females	5.4	9.6	5.7	9.3	6.3	8.7	6.3	8.7	6.2	8.8
	M+F	5.4	9.6	5.7	9.3	6.2	8.8	6.3	8.7	6.1	8.9
Hungary	Males	5.6	9.4	5.6	9.4	6.1	8.9	6.1	8.9	6.4	8.6
	Females	5.7	9.3	5.9	9.1	6.1	8.9	6.4	8.6	6.5	8.5
	M+F	5.7	9.3	5.7	9.3	6.1	8.9	6.2	8.8	6.4	8.6
Iceland	Males	m	m	7.5	7.5	7.9	7.1	7.2	7.8	7.5	7.5
	Females	m	m	7.6	7.4	7.7	7.3	8.3	6.7	8.5	6.5
	M+F	m	m	7.6	7.4	7.8	7.2	7.7	7.3	8.0	7.0
Ireland	Males	m	m	5.4	9.6	5.3	9.7	5.3	9.7	5.4	9.6
	Females	m	m	6.0	9.0	6.1	8.9	6.1	8.9	6.0	9.0
	M+F	m	m	5.7	9.3	5.7	9.3	5.7	9.3	5.7	9.3
Italy	Males	5.7	9.3	5.8	9.2	5.7	9.3	5.8	9.2	5.9	9.1
	Females	6.2	8.8	6.2	8.8	6.2	8.8	6.3	8.7	6.5	8.5
	M+F	5.9	9.1	6.0	9.0	6.0	9.0	6.0	9.0	6.2	8.8
Japan[1]	Males	6.2	3.8	6.2	3.8	6.5	3.5	6.6	3.4	6.0	4.0
	Females	5.7	4.3	5.8	4.2	5.9	4.1	5.9	4.1	5.7	4.3
	M+F	6.0	4.0	6.0	4.0	6.2	3.8	6.3	3.7	5.9	4.1

1. Data refer to 15 to 24-year-olds.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table C4.1b. *(continued)* **Change in expected years in education and not in education for 15 to 29-year-olds (1998-2002)**

By gender and work status

OECD COUNTRIES		1998 In education	1998 Not in education	1999 In education	1999 Not in education	2000 In education	2000 Not in education	2001 In education	2001 Not in education	2002 In education	2002 Not in education
Luxembourg	Males	m	m	7.0	8.0	6.8	8.2	6.9	8.1	7.0	8.0
	Females	m	m	6.2	8.8	6.6	8.4	6.5	8.5	6.9	8.1
	M+F	m	m	6.6	8.4	6.7	8.3	6.7	8.3	6.9	8.1
Mexico	Males	4.0	11.0	4.2	10.8	4.2	10.8	4.3	10.7	4.6	10.4
	Females	3.7	11.3	4.0	11.0	4.0	11.0	4.0	11.0	4.3	10.7
	M+F	3.8	11.2	4.1	10.9	4.1	10.9	4.1	10.9	4.4	10.6
Netherlands	Males	7.9	7.1	7.8	7.2	5.8	9.2	5.8	9.2	6.0	9.0
	Females	7.3	7.7	7.4	7.6	5.7	9.3	5.7	9.3	5.9	9.1
	M+F	7.6	7.4	7.6	7.4	5.7	9.3	5.7	9.3	5.9	9.1
Norway	Males	6.5	8.5	6.6	8.4	6.7	8.3	6.2	8.8	6.2	8.8
	Females	7.4	7.6	7.5	7.5	7.8	7.2	7.2	7.8	7.3	7.7
	M+F	7.0	8.0	7.0	8.0	7.3	7.7	6.7	8.3	6.8	8.2
Poland	Males	6.3	8.7	6.3	8.7	6.5	8.5	7.2	7.8	7.8	7.2
	Females	6.4	8.6	6.5	8.5	6.6	8.4	7.5	7.5	8.1	6.9
	M+F	6.4	8.6	6.4	8.6	6.6	8.4	7.4	7.6	7.9	7.1
Portugal	Males	5.2	9.8	5.5	9.5	5.4	9.6	5.4	9.6	5.1	9.9
	Females	5.8	9.2	6.0	9.0	6.0	9.0	6.1	8.9	6.0	9.0
	M+F	5.5	9.5	5.7	9.3	5.7	9.3	5.7	9.3	5.6	9.4
Slovak Republic	Males	4.5	10.5	4.5	10.5	4.4	10.6	4.3	10.7	5.0	10.0
	Females	4.8	10.2	4.6	10.4	4.4	10.6	4.5	10.5	5.4	9.6
	M+F	4.6	10.4	4.5	10.5	4.4	10.6	4.4	10.6	5.2	9.8
Spain	Males	6.1	8.9	5.9	9.1	6.1	8.9	6.0	9.0	5.9	9.1
	Females	7.1	7.9	6.9	8.1	6.8	8.2	6.9	8.1	6.7	8.3
	M+F	6.6	8.4	6.4	8.6	6.4	8.6	6.5	8.5	6.3	8.7
Sweden	Males	7.0	8.0	7.1	7.9	7.0	8.0	7.0	8.0	7.1	7.9
	Females	7.9	7.1	7.9	7.1	7.8	7.2	7.7	7.3	7.8	7.2
	M+F	7.4	7.6	7.5	7.5	7.4	7.6	7.4	7.6	7.5	7.5
Switzerland	Males	6.7	8.3	6.8	8.2	7.2	7.8	7.4	7.6	6.9	8.1
	Females	5.8	9.2	6.1	8.9	6.3	8.7	6.7	8.3	6.5	8.5
	M+F	6.3	8.7	6.4	8.6	6.8	8.2	7.1	7.9	6.7	8.3
Turkey	Males	3.8	11.2	3.7	11.3	3.5	11.5	3.6	11.4	3.7	11.3
	Females	2.5	12.5	2.6	12.4	2.5	12.5	2.5	12.5	2.6	12.4
	M+F	3.1	11.9	3.1	11.9	3.0	12.0	3.1	11.9	3.2	11.8
United Kingdom	Males	m	m	m	m	6.0	9.0	5.9	9.1	5.6	9.4
	Females	m	m	m	m	6.3	8.7	6.4	8.6	6.6	8.4
	M+F	m	m	m	m	6.1	8.9	6.1	8.9	6.0	9.0
United States	Males	6.4	8.6	6.5	8.5	6.4	8.6	6.5	8.5	m	m
	Females	6.6	8.4	6.4	8.6	6.6	8.4	6.7	8.3	m	m
	M+F	6.5	8.5	6.5	8.5	6.5	8.5	6.6	8.4	m	m
Country mean	***Males***	***6.1***	***8.9***	***6.2***	***8.8***	***6.2***	***8.8***	***6.2***	***8.8***	***6.3***	***8.7***
	Females	***6.2***	***8.8***	***6.3***	***8.7***	***6.4***	***8.6***	***6.5***	***8.5***	***6.6***	***8.4***
	M+F	***6.2***	***8.8***	***6.3***	***8.7***	***6.3***	***8.7***	***6.4***	***8.6***	***6.4***	***8.6***

1. Data refer to 15 to 24-year-olds.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table C4.2. Percentage of the youth population in education and not in education (2002)

By age group and work status

OECD COUNTRIES

	Age group	In education: Students in work-study programmes[1]	In education: Other employed	In education: Unem-ployed	In education: Not in the labour force	In education: Sub-total	Not in education: Employed	Not in education: Unem-ployed	Not in education: Not in the labour force	Not in education: Sub-total	Total in education and not in education
Australia	15-19	7.1	27.6	5.6	39.5	79.7	13.3	4.2	2.9	20.3	100
	20-24	4.9	20.5	2.0	11.2	38.7	48.1	5.4	7.8	61.3	100
	25-29	0.9	10.9	1.2	3.6	16.5	65.7	4.7	13.1	83.5	100
Austria	15-19	24.3	1.1	0.4	55.7	81.5	12.1	2.3	4.0	18.5	100
	20-24	1.9	3.9	0.2	23.5	29.4	58.9	4.8	6.9	70.6	100
	25-29	0.1	3.0	0.2	7.0	10.3	77.3	4.2	8.2	89.7	100
Belgium	15-19	1.9	1.0	0.3	86.4	89.6	3.6	1.9	4.9	10.4	100
	20-24	0.7	2.6	0.6	34.4	38.2	44.4	8.9	8.6	61.8	100
	25-29	0.5	2.6	0.4	2.3	5.8	77.0	7.9	9.3	94.2	100
Canada	15-19	a	28.9	6.1	47.8	82.7	10.8	2.8	3.6	17.3	100
	20-24	a	18.7	1.9	18.7	39.3	46.8	7.0	6.9	60.7	100
	25-29	a	7.7	0.6	5.9	14.2	69.0	7.0	9.7	85.8	100
Czech Republic	15-19	21.6	0.2	n	66.5	88.3	5.7	3.5	2.5	11.7	100
	20-24	0.3	0.5	0.1	24.8	25.7	56.2	8.8	9.3	74.3	100
	25-29	n	0.3	n	2.6	2.9	73.3	6.3	17.5	97.1	100
Denmark	15-19	5.9	41.0	3.5	38.4	88.7	8.9	0.4	2.0	11.3	100
	20-24	8.8	25.9	2.4	18.2	55.3	37.4	3.5	3.9	44.7	100
	25-29	1.7	21.2	1.2	11.0	35.0	58.3	2.8	3.9	65.0	100
Finland	15-19	13.0	7.7	4.2	55.5	80.4	4.7	2.6	12.3	19.6	100
	20-24	6.7	10.8	2.5	36.0	56.1	25.1	5.8	13.0	43.9	100
	25-29	3.1	10.9	0.9	11.8	26.7	53.6	6.3	13.5	73.3	100
France	15-19	5.3	0.9	0.1	88.3	94.6	1.9	1.7	1.7	5.4	100
	20-24	5.5	5.2	0.9	41.5	53.2	32.5	9.2	5.1	46.8	100
	25-29	1.7	4.6	0.4	5.0	11.7	70.1	9.4	8.9	88.3	100
Germany	15-19	19.5	4.1	0.7	65.9	90.1	5.2	1.7	3.0	9.9	100
	20-24	12.9	5.9	0.3	18.9	38.1	46.0	7.0	8.9	61.9	100
	25-29	1.6	6.1	0.3	8.3	16.3	66.3	6.5	11.0	83.7	100
Greece	15-19	1.5	1.0	0.5	83.9	86.8	6.9	3.0	3.2	13.2	100
	20-24	0.7	2.1	1.0	32.5	36.3	41.7	13.4	8.6	63.7	100
	25-29	n	1.3	0.3	4.4	6.1	68.7	13.1	12.1	93.9	100
Hungary	15-19	a	0.4	0.1	86.9	87.5	4.5	1.7	6.3	12.5	100
	20-24	a	4.9	0.3	32.5	37.7	42.0	5.4	14.9	62.3	100
	25-29	a	5.9	0.3	4.4	10.6	61.8	5.1	22.5	89.4	100
Iceland	15-19	c	29.5	c	49.1	80.9	14.8	c	c	19.1	100
	20-24	5.4	29.4	c	18.2	53.8	40.1	c	c	46.2	100
	25-29	c	23.8	c	7.4	36.5	58.8	c	c	63.5	100
Ireland	15-19	a	9.2	0.6	71.8	81.6	13.6	2.4	2.4	18.4	100
	20-24	a	5.7	0.4	22.8	29.0	60.2	4.1	6.7	71.0	100
	25-29	a	0.6	0.1	2.8	3.5	81.8	4.0	10.7	96.5	100
Italy	15-19	n	0.5	0.7	79.6	80.8	8.7	4.3	6.2	19.2	100
	20-24	0.1	1.8	1.6	34.7	38.2	37.5	11.8	12.5	61.8	100
	25-29	0.1	2.2	1.1	12.3	15.6	59.5	10.4	14.5	84.4	100

Note: c indicates that there are few observations to provide reliable estimates.

1. Students in work-study programmes are considered to be both in education and employed, irrespective of their labour market status according to the ILO definition.

2. Year of reference 2001.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table C4.2. (*continued*) Percentage of the youth population in education and not in education (2002)

By age group and work status

		Age group	In education: Students in work-study programmes[1]	In education: Other employed	In education: Unem-ployed	In education: Not in the labour force	In education: Sub-total	Not in education: Employed	Not in education: Unem-ployed	Not in education: Not in the labour force	Not in education: Sub-total	Total in education and not in education
OECD COUNTRIES	Luxembourg	15-19	4.4	2.3	0.4	84.2	91.3	5.7	1.6	1.4	8.7	100
		20-24	1.8	6.9	n	39.2	47.8	45.2	2.8	4.2	52.2	100
		25-29	0.5	8.3	0.2	5.0	13.9	74.5	3.2	8.4	86.1	100
	Mexico	15-19	a	7.5	0.3	45.7	53.4	29.0	1.7	15.8	46.6	100
		20-24	a	5.0	0.3	15.4	20.8	52.6	2.5	24.1	79.2	100
		25-29	a	1.6	0.1	2.8	4.6	64.8	1.9	28.8	95.4	100
	Netherlands	15-19	m	39.8	3.8	37.2	80.7	14.7	1.7	2.9	19.3	100
		20-24	m	21.9	0.9	12.5	35.3	56.8	2.1	5.8	64.7	100
		25-29	m	3.5	0.2	2.4	6.2	80.9	2.5	10.4	93.8	100
	Norway	15-19	a	22.8	5.4	57.1	85.3	11.5	1.4	1.8	14.7	100
		20-24	a	16.1	2.6	19.8	38.5	51.8	3.7	6.0	61.5	100
		25-29	a	4.9	0.8	8.5	14.2	75.0	3.2	7.5	85.8	100
	Poland	15-19	a	3.0	0.8	92.2	95.9	1.0	1.8	1.3	4.1	100
		20-24	a	9.9	8.3	35.7	53.8	20.8	18.0	7.4	46.2	100
		25-29	a	8.6	2.2	4.0	14.9	53.3	18.7	13.2	85.1	100
	Portugal	15-19	a	2.0	0.5	70.0	72.4	20.3	3.0	4.2	27.6	100
		20-24	a	5.9	0.8	28.1	34.7	53.3	5.4	6.6	65.3	100
		25-29	a	4.6	0.4	5.6	10.7	77.1	4.1	8.1	89.3	100
	Slovak Republic	15-19	14.4	0.1	0.1	64.0	78.6	5.8	9.4	6.2	21.4	100
		20-24	0.3	1.6	0.8	19.4	22.1	44.0	22.4	11.5	77.9	100
		25-29	0.2	0.8	0.2	1.8	2.9	66.6	16.0	14.5	97.1	100
	Spain	15-19	0.5	2.6	1.4	77.4	81.9	11.0	3.9	3.2	18.1	100
		20-24	0.6	6.2	3.0	33.6	43.4	41.5	9.3	5.8	56.6	100
		25-29	0.3	5.9	2.3	7.6	16.1	64.2	9.5	10.2	83.9	100
	Sweden	15-19	a	12.8	3.9	71.7	88.4	7.0	1.8	2.8	11.6	100
		20-24	a	12.2	2.4	27.1	41.7	47.0	6.0	5.2	58.3	100
		25-29	a	9.5	1.2	11.8	22.4	69.5	4.0	4.1	77.6	100
	Switzerland	15-19	36.7	9.2	c	38.1	86.2	8.0	c	4.4	13.8	100
		20-24	11.4	12.9	c	12.7	38.0	52.3	3.4	6.3	62.0	100
		25-29	c	7.9	c	4.1	12.7	74.7	4.7	7.9	87.3	100
	Turkey	15-19	a	1.8	0.3	41.0	43.0	24.2	5.1	27.7	57.0	100
		20-24	a	2.1	0.9	11.5	14.5	40.1	9.8	35.6	85.5	100
		25-29	a	1.6	0.2	1.2	3.1	56.1	7.2	33.7	96.9	100
	United Kingdom	15-19	4.3	20.1	2.4	48.5	75.3	16.2	4.5	4.0	24.7	100
		20-24	2.7	13.3	1.0	14.0	31.0	53.7	5.6	9.7	69.0	100
		25-29	1.0	8.9	0.6	2.8	13.3	70.7	4.2	11.8	86.7	100
	United States[2]	15-19	a	23.9	3.5	53.7	81.2	11.4	2.8	4.7	18.8	100
		20-24	a	19.5	1.3	13.1	33.9	50.5	5.4	10.2	66.1	100
		25-29	a	8.4	0.5	2.9	11.8	70.5	4.1	13.5	88.2	100
	Country mean	*15-19*	*6.0*	*11.1*	*1.8*	*62.8*	*81.7*	*10.4*	*2.8*	*5.1*	*18.3*	*100*
		20-24	*2.4*	*10.1*	*1.4*	*24.1*	*37.9*	*45.4*	*7.2*	*9.4*	*62.1*	*100*
		25-29	*0.6*	*6.5*	*0.6*	*5.5*	*13.3*	*68.1*	*6.4*	*12.2*	*86.7*	*100*
PARTNER COUNTRY	Israel	15-19	a	4.1	0.8	64.5	69.4	6.0	1.7	22.9	30.6	100
		20-24	a	9.5	1.6	15.7	26.8	31.7	8.2	33.4	73.2	100
		25-29	a	13.1	1.0	5.1	19.1	52.2	8.7	20.0	80.9	100

Note: c indicates that there are few observations to provide reliable estimates.

1. Students in work-study programmes are considered to be both in education and employed, irrespective of their labour market status according to the ILO definition.

2. Year of reference 2001.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table C4.2a. Percentage of young males in education and not in education (2002)

By age group and work status

	Age group	In education					Not in education				Total in education and not in education
		Students in work-study programmes[1]	Other employed	Unem-ployed	Not in the labour force	Sub-total	Employed	Unem-ployed	Not in the labour force	Sub-total	
OECD COUNTRIES											
Australia	15-19	10.0	22.2	5.8	41.2	79.3	13.8	4.3	2.6	20.7	100
	20-24	7.9	17.0	2.2	11.3	38.4	51.3	6.9	3.4	61.6	100
	25-29	1.1	11.1	1.6	3.0	16.8	72.9	5.4	4.9	83.2	100
Austria	15-19	30.8	0.7	0.3	49.0	80.8	11.0	2.4	5.8	19.2	100
	20-24	2.3	3.3	0.1	21.1	26.9	59.7	6.1	7.3	73.1	100
	25-29	0.1	3.1	0.2	7.7	11.1	80.7	4.9	3.3	88.9	100
Belgium	15-19	2.6	1.3	0.4	83.7	88.0	4.7	2.6	4.7	12.0	100
	20-24	0.9	2.1	0.4	32.8	36.2	48.0	8.5	7.3	63.8	100
	25-29	0.2	2.3	0.4	2.3	5.2	83.5	7.6	3.6	94.8	100
Canada	15-19	a	25.9	7.0	48.0	80.8	12.0	3.6	3.6	19.2	100
	20-24	a	16.0	2.0	17.7	35.8	50.2	9.1	4.9	64.2	100
	25-29	a	6.7	0.9	6.0	13.6	72.0	9.2	5.2	86.4	100
Czech Republic	15-19	27.5	0.3	n	59.6	87.4	6.8	3.4	2.4	12.6	100
	20-24	0.4	0.6	0.1	23.7	24.7	62.9	9.5	2.8	75.3	100
	25-29	n	0.3	n	2.7	3.0	89.2	5.3	2.5	97.0	100
Denmark	15-19	9.3	36.1	4.4	39.1	88.9	8.7	0.7	1.6	11.1	100
	20-24	12.4	21.8	2.6	15.2	52.0	41.1	4.8	2.2	48.0	100
	25-29	1.9	21.8	1.2	7.1	32.0	64.3	2.2	1.5	68.0	100
Finland	15-19	16.1	5.1	2.9	51.6	75.7	3.3	2.9	18.2	24.3	100
	20-24	5.8	9.3	2.1	33.6	50.8	28.5	7.1	13.6	49.2	100
	25-29	3.7	10.7	1.1	10.2	25.7	59.9	6.0	8.4	74.3	100
France	15-19	7.7	0.9	n	85.0	93.7	2.7	1.9	1.7	6.3	100
	20-24	5.8	4.3	0.8	38.9	49.8	37.6	9.3	3.3	50.2	100
	25-29	1.7	3.6	0.4	4.9	10.6	76.4	10.0	3.0	89.4	100
Germany	15-19	21.5	4.0	0.7	63.6	89.8	5.9	1.9	2.4	10.2	100
	20-24	12.2	5.2	0.3	18.4	36.1	49.6	8.9	5.4	63.9	100
	25-29	2.1	6.8	0.3	10.2	19.4	69.1	7.9	3.6	80.6	100
Greece	15-19	2.1	1.4	0.4	82.2	86.1	8.8	2.5	2.7	13.9	100
	20-24	0.7	1.7	0.7	31.2	34.3	50.2	10.8	4.7	65.7	100
	25-29	0.1	1.2	0.4	4.4	6.1	81.0	9.8	3.1	93.9	100
Hungary	15-19	a	0.5	0.1	86.2	86.8	5.0	1.8	6.4	13.2	100
	20-24	a	4.4	0.3	32.0	36.7	46.4	7.4	9.6	63.3	100
	25-29	a	6.3	0.3	3.7	10.3	73.7	6.7	9.3	89.7	100
Iceland	15-19	c	23.2	c	51.6	77.3	16.5	c	c	22.7	100
	20-24	c	27.2	c	16.4	51.8	42.1	c	c	48.2	100
	25-29	c	25.0	c	c	33.5	63.3	c	c	66.5	100
Ireland	15-19	a	8.0	0.5	68.7	77.2	17.6	3.0	2.1	22.8	100
	20-24	a	5.2	0.4	20.4	26.0	64.8	5.3	3.9	74.0	100
	25-29	a	0.5	0.1	3.3	3.9	85.8	5.1	5.2	96.1	100
Italy	15-19	n	0.7	0.5	77.3	78.5	10.7	4.5	6.2	21.5	100
	20-24	0.1	1.5	1.1	31.7	34.4	43.8	11.6	10.2	65.6	100
	25-29	n	2.0	0.8	12.1	15.0	69.2	9.7	6.1	85.0	100

Note: c indicates that there are few observations to provide reliable estimates.

1. Students in work-study programmes are considered to be both in education and employed, irrespective of their labour market status according to the ILO definition.

2. Year of reference 2001.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table C4.2a. (*continued*) Percentage of young males in education and not in education (2002)
By age group and work status

		Age group	In education: Students in work-study programmes[1]	In education: Other employed	In education: Unem-ployed	In education: Not in the labour force	In education: Sub-total	Not in education: Employed	Not in education: Unem-ployed	Not in education: Not in the labour force	Not in education: Sub-total	Total in education and not in education
OECD COUNTRIES	Luxembourg	15-19	5.9	1.7	0.6	83.3	91.6	6.7	1.4	0.3	8.4	100
		20-24	2.5	8.3	n	37.2	48.1	49.4	2.1	0.5	51.9	100
		25-29	0.1	7.9	n	6.0	14.0	80.3	3.9	1.8	86.0	100
	Mexico	15-19	a	9.7	0.3	43.3	53.3	39.2	2.1	5.3	46.7	100
		20-24	a	6.2	0.4	15.7	22.2	71.4	3.1	3.3	77.8	100
		25-29	a	2.2	0.1	3.4	5.7	89.5	2.5	2.3	94.3	100
	Netherlands	15-19	m	39.6	3.8	36.5	79.9	15.4	1.9	2.8	20.1	100
		20-24	m	21.3	1.1	12.8	35.3	58.3	2.4	4.0	64.7	100
		25-29	m	4.4	0.2	2.7	7.2	86.2	2.6	4.0	92.8	100
	Norway	15-19	a	18.9	5.5	57.3	81.8	14.5	1.9	1.8	18.2	100
		20-24	a	12.4	2.3	18.9	33.6	57.5	4.8	4.1	66.4	100
		25-29	a	4.9	0.9	7.1	12.9	79.1	3.6	4.4	87.1	100
	Poland	15-19	a	3.9	0.8	90.4	95.1	1.4	2.2	1.3	4.9	100
		20-24	a	9.6	8.4	33.5	51.5	23.3	20.7	4.5	48.5	100
		25-29	a	9.3	2.2	3.5	15.0	60.6	19.9	4.6	85.0	100
	Portugal	15-19	a	2.0	0.3	65.1	67.4	24.9	3.5	4.2	32.6	100
		20-24	a	6.2	0.7	24.3	31.2	60.1	4.8	3.8	68.8	100
		25-29	a	4.6	0.4	4.9	9.9	82.3	3.0	4.7	90.1	100
	Slovak Republic	15-19	17.9	n	n	59.9	77.8	4.5	10.6	7.1	22.2	100
		20-24	0.4	1.2	0.5	17.1	19.2	47.2	26.8	6.8	80.8	100
		25-29	0.1	0.7	0.1	1.9	2.8	77.4	16.6	3.3	97.2	100
	Spain	15-19	0.6	2.4	1.2	74.2	78.4	14.7	4.2	2.7	21.6	100
		20-24	0.5	5.6	2.4	30.1	38.6	49.0	8.8	3.6	61.4	100
		25-29	0.3	5.2	1.6	7.5	14.6	73.3	7.8	4.3	85.4	100
	Sweden	15-19	a	10.3	3.0	74.2	87.5	6.6	2.0	3.9	12.5	100
		20-24	a	9.2	2.8	25.3	37.3	50.9	7.4	4.5	62.7	100
		25-29	a	8.6	1.2	10.8	20.7	73.5	4.2	1.6	79.3	100
	Switzerland	15-19	41.7	8.0	c	35.8	88.3	5.9	c	c	11.7	100
		20-24	13.6	9.8	c	12.6	37.2	52.1	c	6.6	62.8	100
		25-29	c	9.5	c	4.6	14.5	78.3	5.5	c	85.5	100
	Turkey	15-19	a	2.6	0.4	45.8	48.8	29.7	6.5	15.0	51.2	100
		20-24	a	2.5	1.1	14.9	18.5	54.3	13.8	13.3	81.5	100
		25-29	a	2.2	0.2	1.3	3.7	79.9	9.7	6.7	96.3	100
	United Kingdom	15-19	6.0	16.8	2.5	48.2	73.5	18.3	5.4	2.8	26.5	100
		20-24	2.9	11.5	0.9	12.8	28.1	60.6	7.0	4.3	71.9	100
		25-29	0.6	7.1	0.5	2.2	10.5	81.0	4.4	4.2	89.5	100
	United States[2]	15-19	a	21.9	3.8	54.6	80.3	12.7	3.0	4.0	19.7	100
		20-24	a	17.7	1.2	13.5	32.5	55.3	6.3	5.8	67.5	100
		25-29	a	7.8	0.5	2.2	10.5	79.3	4.4	5.8	89.5	100
	Country mean	***15-19***	***7.4***	***9.9***	***1.8***	***61.3***	***80.5***	***11.9***	***3.2***	***4.3***	***19.5***	***100***
		20-24	***2.8***	***8.9***	***1.4***	***22.7***	***35.8***	***50.6***	***8.2***	***5.3***	***64.2***	***100***
		25-29	***0.6***	***6.5***	***0.6***	***5.2***	***12.9***	***76.4***	***6.7***	***4.1***	***87.1***	***100***
PARTNER COUNTRY	Israel	15-19	a	4.6	0.6	63.4	68.7	5.6	2.0	23.7	31.3	100
		20-24	a	7.3	0.8	14.7	22.8	31.0	8.0	38.1	77.2	100
		25-29	a	13.3	1.2	6.2	20.7	54.9	10.5	14.0	79.3	100

Note: c indicates that there are few observations to provide reliable estimates.
1. Students in work-study programmes are considered to be both in education and employed, irrespective of their labour market status according to the ILO definition.
2. Year of reference 2001.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table C4.2b. Percentage of young females in education and not in education (2002)

By age group and work status

OECD COUNTRIES	Age group	In education: Students in work-study programmes[1]	In education: Other employed	In education: Unem-ployed	In education: Not in the labour force	In education: Sub-total	Not in education: Employed	Not in education: Unem-ployed	Not in education: Not in the labour force	Not in education: Sub-total	Total in education and not in education
Australia	15-19	3.9	33.1	5.3	37.6	80.0	12.8	4.0	3.1	20.0	100
	20-24	1.8	24.1	1.9	11.1	38.9	44.9	3.9	12.3	61.1	100
	25-29	0.6	10.7	0.8	4.2	16.2	58.5	4.0	21.3	83.8	100
Austria	15-19	17.5	1.5	0.6	62.7	82.2	13.3	2.3	2.1	17.8	100
	20-24	1.4	4.4	0.2	26.0	32.1	58.1	3.3	6.5	67.9	100
	25-29	0.2	2.8	0.2	6.4	9.6	74.0	3.4	13.0	90.4	100
Belgium	15-19	1.2	0.6	0.2	89.1	91.2	2.4	1.2	5.2	8.8	100
	20-24	0.5	3.0	0.7	36.1	40.3	40.6	9.3	9.9	59.7	100
	25-29	0.7	3.0	0.4	2.3	6.4	70.3	8.3	15.0	93.6	100
Canada	15-19	a	32.1	5.1	47.5	84.7	9.6	2.0	3.7	15.3	100
	20-24	a	21.4	1.7	19.8	42.8	43.2	4.8	9.1	57.2	100
	25-29	a	8.8	0.3	5.8	14.9	66.0	4.8	14.3	85.1	100
Czech Republic	15-19	15.5	0.1	n	73.6	89.2	4.5	3.7	2.6	10.8	100
	20-24	0.2	0.5	0.1	25.9	26.6	49.2	8.0	16.1	73.4	100
	25-29	n	0.4	n	2.4	2.8	56.8	7.3	33.0	97.2	100
Denmark	15-19	2.2	46.2	2.6	37.5	88.5	9.0	n	2.4	11.5	100
	20-24	5.4	29.8	2.1	21.0	58.3	34.0	2.2	5.4	41.7	100
	25-29	1.4	20.6	1.1	14.7	37.9	52.6	3.4	6.1	62.1	100
Finland	15-19	9.6	10.7	5.7	59.8	85.8	6.3	2.2	5.6	14.2	100
	20-24	7.6	12.3	2.9	38.4	61.3	21.8	4.5	12.5	38.7	100
	25-29	2.5	11.0	0.7	13.5	27.7	47.0	6.6	18.7	72.3	100
France	15-19	2.7	0.9	0.2	91.8	95.6	1.2	1.5	1.7	4.4	100
	20-24	5.2	6.1	1.0	44.2	56.6	27.2	9.1	7.0	43.4	100
	25-29	1.7	5.6	0.4	5.1	12.8	63.8	8.7	14.7	87.2	100
Germany	15-19	17.4	4.3	0.6	68.2	90.5	4.4	1.5	3.7	9.5	100
	20-24	13.8	6.6	0.3	19.4	40.1	42.3	5.0	12.7	59.9	100
	25-29	1.2	5.4	0.3	6.3	13.2	63.4	5.0	18.5	86.8	100
Greece	15-19	0.9	0.5	0.6	85.6	87.6	5.1	3.5	3.8	12.4	100
	20-24	0.7	2.4	1.3	33.7	38.1	33.7	15.9	12.3	61.9	100
	25-29	0.1	1.3	0.2	4.4	6.1	55.9	16.5	21.5	93.9	100
Hungary	15-19	a	0.4	0.1	87.6	88.2	4.0	1.7	6.1	11.8	100
	20-24	a	5.3	0.4	33.0	38.7	37.8	3.4	20.1	61.3	100
	25-29	a	5.6	0.3	5.0	10.9	50.4	3.5	35.2	89.1	100
Iceland	15-19	c	35.9	c	46.5	84.6	13.0	c	c	15.4	100
	20-24	c	31.8	c	20.0	55.9	37.9	c	c	44.1	100
	25-29	c	22.6	c	11.3	39.6	54.1	c	c	60.4	100
Ireland	15-19	a	10.5	0.7	75.1	86.3	9.3	1.7	2.8	13.7	100
	20-24	a	6.3	0.4	25.2	31.9	55.6	3.0	9.5	68.1	100
	25-29	a	0.7	0.2	2.2	3.1	77.6	3.0	16.3	96.9	100
Italy	15-19	n	0.2	0.8	82.1	83.1	6.6	4.0	6.3	16.9	100
	20-24	0.1	2.2	2.1	37.8	42.2	31.1	11.9	14.9	57.8	100
	25-29	0.1	2.4	1.4	12.4	16.3	49.7	11.0	23.0	83.7	100

Note: c indicates that there are few observations to provide reliable estimates.
1. Students in work-study programmes are considered to be both in education and employed, irrespective of their labour market status according to the ILO definition.
2. Year of reference 2001.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table C4.2b. *(continued)* **Percentage of young females in education and not in education (2002)**

By age group and work status

		Age group	In education: Students in work-study programmes[1]	In education: Other employed	In education: Unem-ployed	In education: Not in the labour force	In education: Sub-total	Not in education: Employed	Not in education: Unem-ployed	Not in education: Not in the labour force	Not in education: Sub-total	Total in education and not in education
OECD COUNTRIES	Luxembourg	15-19	2.8	3.0	0.1	85.2	91.1	4.7	1.8	2.4	8.9	100
		20-24	1.0	5.4	n	41.1	47.5	40.9	3.6	7.9	52.5	100
		25-29	0.9	8.6	0.4	4.0	13.9	68.8	2.4	14.9	86.1	100
	Mexico	15-19	a	5.3	0.2	48.0	53.5	19.0	1.3	26.1	46.5	100
		20-24	a	4.0	0.2	15.2	19.4	35.7	2.0	42.8	80.6	100
		25-29	a	1.2	0.2	2.3	3.7	43.7	1.3	51.3	96.3	100
	Netherlands	15-19	m	40.0	3.7	37.8	81.6	14.0	1.6	2.9	18.4	100
		20-24	m	22.4	0.8	12.1	35.2	55.3	1.8	7.7	64.8	100
		25-29	m	2.7	0.3	2.2	5.2	75.6	2.4	16.7	94.8	100
	Norway	15-19	a	26.6	5.3	56.9	88.8	8.5	1.0	1.7	11.2	100
		20-24	a	20.0	2.8	20.6	43.5	45.9	2.6	8.0	56.5	100
		25-29	a	5.0	0.7	9.9	15.6	70.8	2.7	10.8	84.4	100
	Poland	15-19	a	2.0	0.7	94.1	96.8	0.6	1.3	1.3	3.2	100
		20-24	a	10.1	8.2	37.7	56.1	18.4	15.4	10.2	43.9	100
		25-29	a	7.9	2.3	4.5	14.7	45.9	17.4	21.9	85.3	100
	Portugal	15-19	a	1.9	0.7	75.0	77.6	15.6	2.5	4.3	22.4	100
		20-24	a	5.7	0.8	31.8	38.3	46.4	6.0	9.3	61.7	100
		25-29	a	4.6	0.5	6.3	11.4	71.9	5.1	11.6	88.6	100
	Slovak Republic	15-19	10.7	0.2	0.2	68.3	79.4	7.1	8.2	5.3	20.6	100
		20-24	0.2	2.0	1.1	21.9	25.1	40.7	17.8	16.4	74.9	100
		25-29	0.3	0.8	0.3	1.7	3.1	55.5	15.4	26.0	96.9	100
	Spain	15-19	0.4	2.7	1.6	80.8	85.5	7.0	3.6	3.8	14.5	100
		20-24	0.7	6.8	3.7	37.3	48.4	33.6	9.8	8.1	51.6	100
		25-29	0.3	6.6	3.1	7.6	17.6	54.6	11.4	16.4	82.4	100
	Sweden	15-19	a	15.5	4.7	69.1	89.4	7.3	1.6	1.7	10.6	100
		20-24	a	15.3	2.0	29.1	46.4	43.0	4.7	5.9	53.6	100
		25-29	a	10.4	1.1	12.7	24.3	65.3	3.8	6.7	75.7	100
	Switzerland	15-19	31.6	10.5	c	40.6	83.9	10.2	c	5.0	16.1	100
		20-24	9.2	16.2	c	12.9	38.9	52.5	c	6.0	61.1	100
		25-29	c	6.4	c	c	11.0	71.3	c	13.9	89.0	100
	Turkey	15-19	a	0.9	0.2	35.4	36.5	18.0	3.4	42.0	63.5	100
		20-24	a	1.7	0.7	8.3	10.7	26.5	5.9	56.9	89.3	100
		25-29	a	1.0	0.2	1.1	2.4	27.6	4.1	65.9	97.6	100
	United Kingdom	15-19	2.3	23.9	2.3	48.8	77.3	13.8	3.5	5.4	22.7	100
		20-24	2.3	15.4	1.2	15.5	34.4	45.5	3.8	16.3	65.6	100
		25-29	1.4	11.2	0.8	3.7	17.1	56.8	3.9	22.2	82.9	100
	United States[2]	15-19	a	26.0	3.2	52.8	82.0	9.9	2.6	5.4	18.0	100
		20-24	a	21.2	1.3	12.8	35.3	45.7	4.5	14.4	64.7	100
		25-29	a	9.0	0.6	3.5	13.0	62.2	3.9	20.9	87.0	100
	Country mean	***15-19***	***4.4***	***12.4***	***1.8***	***64.4***	***83.0***	***8.8***	***2.3***	***5.9***	***17.0***	***100***
		20-24	***2.0***	***11.2***	***1.5***	***25.5***	***40.1***	***40.3***	***6.1***	***13.5***	***59.9***	***100***
		25-29	***0.6***	***6.5***	***0.6***	***5.9***	***13.7***	***59.6***	***6.0***	***20.6***	***86.3***	***100***
PARTNER COUNTRY	Israel	15-19	a	3.5	1.0	65.7	70.2	6.5	1.3	22.0	29.8	100
		20-24	a	11.8	2.4	16.7	30.9	32.4	8.3	28.5	69.1	100
		25-29	a	12.9	0.7	3.9	17.6	49.4	7.0	26.0	82.4	100

Note: c indicates that there are few observations to provide reliable estimates.

1. Students in work-study programmes are considered to be both in education and employed, irrespective of their labour market status according to the ILO definition.

2. Year of reference 2001.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table C4.3. Percentage of the population not in education and unemployed in the total population (2002)

By level of educational attainment, age group and gender

			Below upper secondary education			Upper secondary and post-secondary non-tertiary education			Tertiary education		All levels of education			
			15-19	20-24	25-29	15-19	20-24	25-29	20-24	25-29	15-19	20-24	25-29	15-29
OECD COUNTRIES	Australia	Males	9.3	17.6	13.1	2.2	6.1	3.4	1.6	3.1	5.0	6.9	5.4	5.8
		Females	8.7	8.6	7.4	2.9	5.3	4.6	1.3	1.8	5.0	3.9	4.0	4.2
		M+F	9.0	13.3	10.1	2.6	5.8	3.9	1.4	2.4	5.0	5.4	4.7	5.0
	Austria	Males	8.3	16.3	10.5	1.6	6.6	5.2	0.4	1.1	2.5	6.1	4.9	4.5
		Females	16.6	7.4	4.1	0.3	3.9	3.7	0.8	1.9	2.4	3.3	3.4	3.1
		M+F	12.2	11.9	6.5	1.0	5.3	4.5	0.6	1.5	2.5	4.8	4.2	3.8
	Belgium	Males	2.5	15.0	13.6	3.1	6.1	6.7	8.4	5.3	2.6	8.5	7.6	6.3
		Females	0.4	22.3	17.1	3.8	8.0	9.9	3.5	3.9	1.2	9.3	8.3	6.4
		M+F	1.5	18.0	15.1	3.5	7.0	8.2	5.3	4.5	1.9	8.9	7.9	6.3
	Canada	Males	2.9	17.5	16.3	5.6	8.0	9.6	6.5	6.8	3.7	9.1	9.2	7.4
		Females	1.5	9.9	7.8	3.3	4.7	5.4	3.5	4.0	2.0	4.8	4.8	3.9
		M+F	2.2	14.6	12.6	4.4	6.5	7.8	4.7	5.2	2.9	7.0	7.0	5.7
	Czech Republic	Males	8.4	29.2	22.0	2.3	10.9	4.4	0.5	3.1	3.5	9.6	5.3	6.2
		Females	7.6	15.3	14.6	3.1	9.7	7.5	1.8	2.1	3.9	8.0	7.3	6.6
		M+F	8.0	21.9	18.1	2.7	10.3	6.0	1.2	2.6	3.7	8.8	6.3	6.4
	Denmark	Males	1.5	10.7	2.7	a	5.4	1.8	1.7	3.2	0.8	5.1	2.5	2.7
		Females	n	6.3	12.7	a	1.7	2.4	1.2	2.7	n	2.4	3.8	2.3
		M+F	0.8	8.2	7.6	a	3.7	2.0	1.4	2.9	0.4	3.7	3.1	2.5
	Finland	Males	2.1	9.1	8.8	5.9	6.7	5.9	7.2	4.7	2.9	7.1	6.0	5.4
		Females	0.9	5.1	12.4	10.1	3.9	5.5	8.9	6.9	2.2	4.5	6.6	4.5
		M+F	1.5	7.4	10.0	7.6	5.3	5.7	8.4	6.0	2.6	5.8	6.3	5.0
	France	Males	1.7	20.1	19.6	3.6	6.8	8.1	4.8	7.4	1.9	9.3	10.0	7.0
		Females	1.2	17.2	15.3	3.6	8.6	9.0	4.2	5.7	1.5	9.1	8.7	6.5
		M+F	1.4	18.8	17.5	3.6	7.6	8.5	4.5	6.4	1.7	9.2	9.4	6.8
	Germany	Males	3.1	22.7	18.4	0.7	8.3	8.4	0.8	2.2	1.9	8.9	7.9	6.2
		Females	2.4	13.5	9.8	0.8	4.8	4.9	0.6	2.2	1.5	5.0	5.0	3.8
		M+F	2.8	18.1	13.7	0.7	6.7	6.6	0.7	2.2	1.7	7.0	6.5	5.0
	Greece	Males	9.3	13.4	9.6	1.4	16.3	9.6	1.0	10.6	2.9	10.8	9.8	8.3
		Females	13.8	19.7	13.1	2.5	24.4	18.3	4.4	16.2	4.3	16.1	16.7	13.2
		M+F	11.2	15.9	11.0	2.0	20.5	13.8	2.9	13.8	3.6	13.6	13.2	10.7
	Hungary	Males	1.2	17.9	15.0	4.9	5.8	5.6	3.7	0.9	1.8	7.4	6.7	5.5
		Females	0.8	5.1	5.2	5.6	3.0	3.1	5.5	3.2	1.7	3.4	3.5	2.9
		M+F	1.0	11.2	10.0	5.3	4.4	4.4	4.8	2.2	1.7	5.4	5.1	4.2
	Iceland	Males	c	c	c	a	a	a	a	c	c	c	c	4.6
		Females	c	c	a	a	c	a	a	a	c	c	a	c
		M+F	c	c	c	a	c	a	a	c	c	c	c	c
	Ireland	Males	2.9	12.3	11.5	3.6	3.2	3.6	4.7	3.0	3.0	5.3	5.1	4.5
		Females	1.2	6.0	5.2	3.0	2.9	3.6	2.0	1.8	1.7	3.0	3.1	2.6
		M+F	2.1	10.0	8.8	3.3	3.0	3.6	3.1	2.4	2.4	4.2	4.1	3.6
	Italy	Males	3.9	16.9	11.8	9.3	9.0	7.7	9.7	13.0	4.5	11.6	9.7	8.9
		Females	3.4	15.5	11.7	8.5	10.4	9.9	23.4	14.1	4.0	11.9	11.0	9.4
		M+F	3.7	16.3	11.8	8.9	9.7	8.8	17.7	13.6	4.3	11.8	10.4	9.1

Note: c indicates that there are few observations to provide reliable estimates.
1. Year of reference 2001.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table C4.3. (*continued*) Percentage of the population not in education and unemployed in the total population (2002)

By level of educational attainment, age group and gender

			Below upper secondary education			Upper secondary and post-secondary non-tertiary education			Tertiary education		All levels of education			
			15-19	20-24	25-29	15-19	20-24	25-29	20-24	25-29	15-19	20-24	25-29	15-29
OECD COUNTRIES	Luxembourg	Males	4.0	5.9	7.1	n	2.1	2.5	n	2.5	1.5	2.2	4.2	2.7
		Females	4.1	7.6	6.8	0.3	4.7	n	n	1.4	1.6	3.9	2.5	2.7
		M+F	4.0	6.9	7.0	0.1	3.2	1.2	n	2.0	1.5	3.0	3.4	2.7
	Mexico	Males	2.1	3.1	2.2	6.2	4.1	2.2	2.0	3.6	2.2	2.9	2.4	2.5
		Females	1.3	1.7	0.8	2.9	3.7	2.4	2.5	3.2	1.3	2.0	1.3	1.5
		M+F	1.7	2.4	1.5	4.4	3.9	2.3	2.3	3.4	1.7	2.4	1.8	2.0
	Netherlands	Males	1.8	3.2	4.4	2.3	1.7	1.6	5.8	3.0	1.9	2.4	2.6	2.3
		Females	1.4	3.0	3.5	2.3	1.4	2.0	1.3	2.4	1.6	1.8	2.4	2.0
		M+F	1.6	3.1	4.0	2.3	1.6	1.8	2.9	2.6	1.7	2.1	2.5	2.1
	Norway	Males	1.3	23.8	2.7	2.3	4.4	4.5	0.7	1.3	1.9	4.6	3.4	3.3
		Females	0.5	7.4	5.8	1.5	2.9	2.3	1.1	2.9	1.0	2.6	2.7	2.1
		M+F	0.9	17.4	4.2	1.9	3.7	3.6	1.0	2.2	1.4	3.6	3.1	2.7
	Poland	Males	2.8	46.4	37.3	1.9	26.9	21.5	0.5	6.4	2.2	20.7	19.9	14.8
		Females	1.5	32.9	23.0	1.3	25.1	20.5	0.7	9.5	1.3	15.4	17.4	12.0
		M+F	2.2	41.0	31.1	1.6	26.1	21.0	0.6	8.2	1.8	18.0	18.7	13.4
	Portugal	Males	5.8	6.7	3.6	0.9	4.8	1.7	1.2	2.9	3.8	4.9	3.1	4.0
		Females	5.8	9.8	5.8	0.6	4.7	4.6	3.1	4.6	2.9	6.2	5.2	4.9
		M+F	5.8	8.0	4.6	0.7	4.7	3.3	2.3	3.9	3.3	5.6	4.2	4.4
	Slovak Republic	Males	11.5	13.9	10.1	1.3	10.8	7.2	4.0	6.2	6.6	9.1	8.1	8.1
		Females	11.8	16.6	14.3	1.8	15.5	12.1	5.4	10.4	5.9	10.3	12.0	10.2
		M+F	11.6	14.9	11.9	1.6	13.2	9.6	4.8	8.5	6.3	9.7	10.0	9.1
	Spain	Males	6.7	13.9	10.1	1.3	10.8	7.2	4.0	6.2	4.8	9.1	8.1	7.6
		Females	6.0	16.6	14.3	1.8	15.5	12.1	5.4	10.4	4.2	10.3	12.0	9.4
		M+F	6.4	14.9	11.9	1.6	13.2	9.6	4.8	8.5	4.5	9.7	10.0	8.5
	Sweden	Males	3.7	18.4	13.0	1.3	8.6	4.4	0.2	2.0	1.9	7.3	4.3	4.5
		Females	3.1	14.5	6.7	0.9	6.0	5.5	0.5	1.1	1.5	4.6	3.9	3.3
		M+F	3.4	16.7	10.0	1.1	7.4	4.9	0.4	1.5	1.7	6.0	4.1	3.9
	Switzerland	Males	5.8	7.7	16.3	0.3	4.4	3.2	2.3	5.5	2.0	4.1	5.5	3.9
		Females	0.5	8.9	6.4	1.0	2.6	3.7	0.4	3.4	0.8	2.6	3.9	2.5
		M+F	3.1	8.3	11.6	0.6	3.5	3.5	1.3	4.6	1.4	3.4	4.7	3.2
	Turkey	Males	5.7	14.3	10.4	9.2	11.6	9.1	25.7	8.6	6.5	13.8	9.7	9.8
		Females	2.2	2.2	2.2	9.0	9.0	7.3	26.0	12.6	3.4	5.9	4.1	4.5
		M+F	4.0	7.5	6.1	9.1	10.5	8.4	25.9	9.8	5.0	9.8	7.2	7.3
	United Kingdom	Males	3.8	16.8	11.5	6.3	6.1	3.7	5.2	2.6	5.3	6.9	4.1	5.4
		Females	2.0	5.3	6.8	4.2	4.0	4.4	2.9	2.5	3.4	3.9	3.9	3.7
		M+F	3.0	11.8	9.4	5.3	5.2	4.0	4.1	2.6	4.4	5.5	4.0	4.6
	United States[1]	Males	9.7	12.5	7.1	1.8	7.7	4.4	2.3	3.5	3.2	6.3	4.4	4.6
		Females	9.0	12.0	9.0	1.9	6.1	5.3	1.1	1.3	2.8	4.5	3.9	3.8
		M+F	9.4	12.3	8.0	1.8	6.9	4.8	1.7	2.3	3.0	5.4	4.1	4.2
	Country mean	***Males***	***4.9***	***15.6***	***11.7***	***2.9***	***7.5***	***5.7***	***3.9***	***4.6***	***3.2***	***7.6***	***6.4***	***5.8***
		Females	***4.0***	***10.8***	***8.9***	***2.9***	***7.2***	***6.3***	***4.1***	***4.9***	***2.4***	***5.9***	***6.0***	***4.9***
		M+F	***4.5***	***13.4***	***10.3***	***2.9***	***7.4***	***6.0***	***4.0***	***4.7***	***2.8***	***6.8***	***6.2***	***5.4***
PARTNER COUNTRY	Israel	Males	8.3	11.2	15.9	0.8	9.4	10.1	2.6	9.0	2.0	8.0	10.5	6.7
		Females	5.5	6.7	1.5	0.8	12.6	9.0	2.6	6.7	1.3	8.3	7.0	5.4
		M+F	7.2	9.6	9.6	0.8	10.9	9.6	2.6	7.8	1.7	8.2	8.7	6.1

Note: c indicates that there are few observations to provide reliable estimates.

1. Year of reference 2001.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table C4.4. Change in the percentage of the youth population in education and not in education (1995-2002)

By age group and work status

		1995			1998			1999			2000			2001			2002		
		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education	
	Age group	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed
OECD COUNTRIES																			
Australia	15-19	73.4	16.7	9.9	77.3	13.8	8.8	78.2	14.4	7.4	79.5	13.7	6.8	79.5	13.0	7.6	79.7	13.3	7.0
	20-24	27.0	56.1	16.9	32.7	51.3	16.0	34.9	50.6	14.5	35.9	50.9	13.3	36.5	49.6	13.9	38.7	48.1	13.2
	25-29	11.4	67.1	21.5	13.7	67.1	19.2	15.0	66.5	18.5	15.5	65.5	19.0	15.8	67.0	17.2	16.5	65.7	17.8
Austria	15-19	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	81.5	12.1	6.3
	20-24	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	29.4	58.9	11.7
	25-29	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	10.3	77.3	12.4
Belgium	15-19	86.1	3.3	10.5	85.3	3.9	10.8	89.4	3.7	6.8	89.9	3.6	6.5	89.7	4.1	6.2	89.6	3.6	6.8
	20-24	37.5	43.6	19.0	40.6	42.5	16.9	43.7	38.6	17.7	43.8	40.2	16.0	44.2	42.8	13.0	38.2	44.4	17.4
	25-29	6.8	74.2	19.0	9.3	72.4	18.2	14.4	67.7	17.9	11.8	72.5	15.7	15.0	69.5	15.5	5.8	77.0	17.2
Canada	15-19	83.6	9.1	7.3	83.2	9.4	7.4	82.7	10.3	7.1	82.6	10.4	7.0	83.4	10.5	6.1	82.7	10.8	6.5
	20-24	36.8	46.0	17.2	39.5	44.1	16.5	39.6	45.8	14.6	38.7	47.1	14.2	39.2	46.4	14.4	39.3	46.8	14.0
	25-29	11.7	67.2	21.1	12.5	69.2	18.3	12.3	70.4	17.3	12.4	71.3	16.3	13.1	71.1	15.7	14.2	69.0	16.7
Czech Republic	15-19	69.8	23.7	6.5	77.1	15.8	7.2	75.6	14.8	9.7	82.1	10.0	7.9	87.0	6.2	6.8	88.3	5.7	6.0
	20-24	13.1	67.1	19.8	17.1	64.3	18.5	19.6	59.8	20.6	19.7	60.0	20.3	23.1	58.9	18.1	25.7	56.2	18.1
	25-29	1.1	76.1	22.9	1.8	75.1	23.1	2.4	71.7	25.9	2.4	72.1	25.6	3.0	72.1	25.0	2.9	73.3	23.8
Denmark	15-19	88.4	8.7	3.0	90.3	7.9	1.8	85.8	10.8	3.4	89.9	7.4	2.7	86.8	9.4	3.8	88.7	8.9	2.4
	20-24	50.0	39.3	10.7	55.0	38.0	7.0	55.8	36.6	7.6	54.8	38.6	6.6	55.3	38.1	6.6	55.3	37.4	7.3
	25-29	29.6	59.0	11.4	34.5	57.8	7.7	35.5	56.7	7.8	36.1	56.4	7.5	32.4	60.0	7.6	35.0	58.3	6.7
Finland	15-19	m	m	m	86.1	4.3	9.6	86.6	4.7	8.7	86.0	4.7	9.3	86.3	5.7	8.0	80.4	4.7	14.8
	20-24	m	m	m	47.8	32.7	19.5	50.2	32.9	16.9	52.7	30.8	16.5	53.9	31.7	14.4	56.1	25.1	18.8
	25-29	m	m	m	24.0	57.0	19.0	23.4	57.0	19.6	32.5	50.7	16.8	29.8	54.5	15.8	26.7	53.6	19.7
France	15-19	96.2	1.3	2.5	95.6	1.3	3.1	95.7	1.0	3.3	95.3	1.5	3.3	94.9	1.7	3.4	94.6	1.9	3.4
	20-24	51.2	31.3	17.5	53.5	30.0	16.5	53.1	29.4	17.5	54.2	31.7	14.1	53.6	33.1	13.4	53.2	32.5	14.4
	25-29	11.4	67.5	21.0	11.4	66.5	22.1	11.9	66.6	21.4	12.2	69.2	18.6	11.4	70.3	18.3	11.7	70.1	18.2
Germany	15-19	m	m	m	91.6	5.0	3.4	89.5	6.0	4.5	87.4	6.8	5.7	88.5	6.4	5.1	90.1	5.2	4.7
	20-24	m	m	m	36.3	48.8	15.0	34.3	49.0	16.7	34.1	49.0	16.9	35.0	48.7	16.4	38.1	46.0	15.9
	25-29	m	m	m	13.9	68.4	17.7	13.6	68.2	18.1	12.7	69.8	17.5	13.5	68.5	18.0	16.3	66.3	17.4
Greece	15-19	80.0	9.6	10.5	80.5	9.9	9.6	82.4	7.5	10.1	83.5	7.9	8.6	85.7	6.8	7.5	86.8	6.9	6.2
	20-24	29.2	43.0	27.8	29.3	43.8	26.9	31.4	42.8	25.7	34.8	41.5	23.7	36.5	40.2	23.4	36.3	41.7	22.0
	25-29	4.7	65.2	30.2	4.4	66.4	29.1	5.2	67.3	27.6	6.8	65.7	27.5	6.7	67.4	25.9	6.1	68.7	25.2
Hungary	15-19	82.5	6.7	10.8	78.2	10.0	11.8	79.3	9.2	11.6	83.7	7.7	8.6	85.0	6.7	8.3	87.5	4.5	8.0
	20-24	22.5	44.4	33.1	26.5	45.9	27.6	28.6	47.7	23.6	32.3	45.7	22.0	35.0	45.1	20.0	37.7	42.0	20.3
	25-29	7.3	56.8	35.9	7.4	58.9	33.7	8.7	60.1	31.3	9.4	61.4	29.2	9.4	63.4	27.1	10.6	61.8	27.6
Iceland	15-19	59.5	25.7	14.8	82.2	15.1	c	81.6	17.0	c	83.1	14.8	c	79.5	19.0	c	80.9	14.8	c
	20-24	33.3	52.6	14.0	47.8	45.9	6.3	44.8	48.4	6.8	48.0	47.7	c	50.3	45.6	c	53.8	40.1	6.2
	25-29	24.1	64.7	11.1	32.8	57.4	9.8	34.7	58.8	6.5	34.9	59.2	5.9	33.8	61.5	c	36.5	58.8	c
Ireland	15-19	m	m	m	m	m	m	79.4	15.4	5.2	80.0	15.6	4.4	80.3	15.5	4.1	81.6	13.6	4.8
	20-24	m	m	m	m	m	m	24.6	64.6	10.8	26.7	63.6	9.7	28.3	62.4	9.3	29.0	60.2	10.8
	25-29	m	m	m	m	m	m	3.1	82.4	14.5	3.3	83.4	13.3	3.3	83.1	13.5	3.5	81.8	14.7
Italy	15-19	m	m	m	75.4	9.5	15.2	76.9	8.3	14.8	77.1	9.8	13.1	77.6	9.8	12.6	80.8	8.7	10.5
	20-24	m	m	m	35.8	34.1	30.1	35.6	34.5	29.9	36.0	36.5	27.5	37.0	36.9	26.1	38.2	37.5	24.3
	25-29	m	m	m	16.5	54.1	29.4	17.7	53.4	28.9	17.0	56.1	26.9	16.4	58.0	25.6	15.6	59.5	24.8

Note: c indicates that there are few observations to provide reliable estimates.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

Table C4.4. *(continued)* **Change in the percentage of the youth population in education and not in education (1995-2002)**

By age group and work status

OECD COUNTRIES

		1995			1998			1999			2000			2001			2002		
		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education	
	Age group	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed
Luxembourg	15-19	82.7	9.3	8.0	88.6	5.3	6.1	89.2	5.8	5.0	92.2	6.1	1.7	91.2	7.0	1.8	91.3	5.7	3.0
	20-24	36.5	52.7	10.8	40.4	50.1	9.5	47.2	43.2	9.6	42.8	48.9	8.2	46.7	44.2	9.0	47.8	45.2	7.0
	25-29	8.3	71.6	20.1	11.9	74.0	14.1	11.3	74.1	14.6	11.6	75.5	12.9	11.6	75.9	12.5	13.9	74.5	11.6
Mexico	15-19	45.0	31.8	23.2	46.9	33.8	19.3	49.6	32.7	17.7	49.6	32.7	17.7	50.3	31.9	17.8	53.4	29.0	17.5
	20-24	15.9	53.4	30.7	17.1	55.4	27.4	19.1	54.8	26.1	19.1	54.8	26.1	19.1	53.8	27.1	20.8	52.6	26.6
	25-29	4.6	62.0	33.4	4.2	65.2	30.6	4.9	65.0	30.1	4.9	65.0	30.1	4.1	64.9	31.0	4.6	64.8	30.6
Netherlands	15-19	m	m	m	89.7	7.6	2.7	88.2	8.9	3.0	80.6	15.7	3.7	79.6	16.3	4.2	80.7	14.7	4.6
	20-24	m	m	m	50.5	42.0	7.5	50.7	42.5	6.7	36.5	55.2	8.2	34.4	56.9	8.7	35.3	56.8	7.9
	25-29	m	m	m	24.4	64.9	10.7	25.0	65.2	9.8	5.0	83.0	12.1	6.4	82.3	11.3	6.2	80.9	12.9
Norway	15-19	m	m	m	92.1	6.0	1.9	91.9	6.4	1.7	92.4	5.9	1.7	85.8	11.1	3.0	85.3	11.5	3.2
	20-24	m	m	m	40.2	51.4	8.4	38.4	53.8	7.8	41.7	50.3	8.0	39.6	51.7	8.7	38.5	51.8	9.7
	25-29	m	m	m	14.4	76.1	9.6	17.2	74.4	8.3	17.5	72.1	10.4	13.9	75.9	10.2	14.2	75.0	10.7
Poland	15-19	89.6	4.2	6.2	91.0	4.2	4.8	93.2	2.3	4.6	92.8	2.6	4.5	91.8	2.4	5.8	95.9	1.0	3.1
	20-24	23.7	42.5	33.8	30.8	45.3	23.9	33.1	39.7	27.2	34.9	34.3	30.8	45.2	27.7	27.1	53.8	20.8	25.4
	25-29	3.1	67.5	29.4	5.7	70.5	23.8	5.4	68.0	26.6	8.0	62.9	29.1	11.4	59.9	28.7	14.9	53.3	31.8
Portugal	15-19	72.4	18.5	9.1	71.6	20.1	8.3	72.3	19.6	8.1	72.6	19.7	7.7	72.8	19.8	7.4	72.4	20.3	7.3
	20-24	37.8	46.6	15.6	32.4	55.7	12.0	34.9	53.2	11.9	36.5	52.6	11.0	36.3	53.3	10.4	34.7	53.3	12.0
	25-29	11.6	70.9	17.4	9.5	74.8	15.8	11.5	75.1	13.4	11.0	76.6	12.5	11.2	77.3	11.6	10.7	77.1	12.2
Slovak Republic	15-19	70.1	14.0	15.9	69.4	12.3	18.3	69.6	10.1	20.4	67.3	6.4	26.3	67.3	6.3	26.4	78.6	5.8	15.6
	20-24	14.8	54.9	30.3	17.4	56.3	26.3	17.4	51.2	31.4	18.1	48.8	33.1	19.4	45.7	34.9	22.1	44.0	33.9
	25-29	1.6	65.5	32.9	1.1	71.6	27.2	1.6	70.2	28.2	1.3	66.9	31.8	2.3	65.0	32.7	2.9	66.6	30.5
Spain	15-19	77.3	11.2	11.5	80.2	9.9	9.8	79.3	11.3	9.4	80.6	11.4	8.0	81.4	11.6	6.9	81.9	11.0	7.2
	20-24	40.0	34.2	25.8	44.3	35.7	20.1	43.6	38.8	17.6	44.6	40.3	15.0	45.0	40.7	14.2	43.4	41.5	15.1
	25-29	14.6	51.5	33.9	15.3	57.3	27.5	15.2	59.6	25.1	16.2	62.4	21.4	17.0	63.1	19.8	16.1	64.2	19.8
Sweden	15-19	87.4	6.9	5.6	90.9	4.3	4.7	91.5	4.9	3.7	90.6	5.8	3.6	88.4	7.3	4.3	88.4	7.0	4.6
	20-24	38.8	43.7	17.5	42.6	44.3	13.1	43.8	45.2	11.0	42.1	47.2	10.7	41.2	48.2	10.6	41.7	47.0	11.2
	25-29	19.9	67.0	13.2	24.9	65.0	10.0	22.5	68.1	9.5	21.9	68.9	9.2	22.7	70.0	7.2	22.4	69.5	8.1
Switzerland	15-19	65.6	10.2	24.2	85.5	9.6	4.8	84.4	8.0	7.6	84.6	7.5	7.9	85.7	7.5	6.8	86.2	8.0	5.8
	20-24	29.5	59.2	11.3	34.8	54.2	11.0	35.8	55.8	8.4	37.4	56.7	5.9	39.3	52.3	8.4	38.0	52.3	9.7
	25-29	10.6	76.2	13.2	10.1	77.9	12.1	10.4	79.3	10.3	15.0	73.9	11.1	13.5	75.1	11.4	12.7	74.7	12.6
Turkey	15-19	39.0	33.6	27.3	41.4	31.4	27.3	40.9	31.3	27.9	40.4	28.6	31.0	42.2	25.7	32.1	43.0	24.2	32.8
	20-24	10.4	46.2	43.4	13.5	44.3	42.2	13.3	44.7	42.1	13.0	42.5	44.4	13.2	42.1	44.7	14.5	40.1	45.4
	25-29	2.7	59.7	37.5	3.0	60.3	36.7	3.4	57.7	38.9	3.0	58.5	38.6	2.6	56.9	40.5	3.1	56.1	40.8
United Kingdom	15-19	m	m	m	m	m	m	m	m	m	77.0	15.0	8.0	76.1	15.7	8.2	75.3	16.2	8.6
	20-24	m	m	m	m	m	m	m	m	m	32.4	52.2	15.4	33.5	51.7	14.8	31.0	53.7	15.3
	25-29	m	m	m	m	m	m	m	m	m	13.3	70.3	16.3	13.3	70.6	16.0	13.3	70.7	16.0
United States	15-19	81.5	10.7	7.8	82.2	10.5	7.3	81.3	11.3	7.4	81.3	11.7	7.0	81.2	11.4	7.5	m	m	m
	20-24	31.5	50.7	17.8	33.0	52.6	14.4	32.8	52.1	15.1	32.5	53.1	14.4	33.9	50.5	15.6	m	m	m
	25-29	11.6	71.4	17.0	11.9	72.7	15.4	11.1	73.2	15.7	11.4	72.8	15.8	11.8	70.5	17.7	m	m	m
Country mean	***15-19***	***75.3***	***13.4***	***11.3***	***80.0***	***11.1***	***8.8***	***80.6***	***11.0***	***8.4***	***80.9***	***10.9***	***8.3***	***80.7***	***11.1***	***8.2***	***81.8***	***10.4***	***7.9***
	20-24	***30.5***	***47.8***	***21.7***	***35.8***	***46.1***	***18.2***	***36.3***	***46.2***	***17.5***	***36.3***	***46.9***	***16.8***	***37.5***	***46.1***	***16.4***	***38.1***	***45.2***	***16.7***
	25-29	***10.4***	***66.4***	***23.3***	***13.3***	***66.6***	***20.1***	***13.5***	***67.1***	***19.4***	***13.3***	***67.8***	***18.9***	***13.3***	***68.2***	***18.5***	***13.3***	***68.0***	***18.6***

Note: c indicates that there are few observations to provide reliable estimates.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

C4

Table C4.4a. Change in the percentage of the young male population in education and not in education (1995-2002)

By age group and work status

OECD COUNTRIES	Age group	1995 In education: Total	1995 Not in education: Employed	1995 Not in education: Not employed	1998 In education: Total	1998 Not in education: Employed	1998 Not in education: Not employed	1999 In education: Total	1999 Not in education: Employed	1999 Not in education: Not employed	2000 In education: Total	2000 Not in education: Employed	2000 Not in education: Not employed	2001 In education: Total	2001 Not in education: Employed	2001 Not in education: Not employed	2002 In education: Total	2002 Not in education: Employed	2002 Not in education: Not employed
Australia	15-19	74.4	16.3	9.2	76.6	14.4	9.0	78.6	14.1	7.3	79.8	13.8	6.4	79.4	12.8	7.9	79.3	13.8	6.9
	20-24	28.6	58.8	12.6	33.5	53.9	12.5	34.8	54.3	10.9	34.9	54.6	10.5	38.1	50.5	11.4	38.4	51.3	10.3
	25-29	12.3	76.1	11.5	13.3	75.5	11.2	15.3	73.9	10.8	14.9	75.4	9.7	15.8	74.7	9.5	16.8	72.9	10.3
Austria	15-19	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	80.8	11.0	8.1
	20-24	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	26.9	59.7	13.4
	25-29	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	11.1	80.7	8.3
Belgium	15-19	85.9	4.2	9.9	84.3	4.9	10.8	88.5	5.2	6.3	88.7	4.6	6.7	88.2	5.7	6.0	88.0	4.7	7.3
	20-24	38.4	46.4	15.2	39.0	47.3	13.7	41.4	43.1	15.5	42.1	44.7	13.2	43.3	45.8	10.9	36.2	48.0	15.8
	25-29	7.7	81.1	11.2	10.2	78.1	11.7	14.6	72.2	13.2	11.7	76.5	11.7	17.2	73.4	9.4	5.2	83.5	11.3
Canada	15-19	82.5	10.2	7.3	81.6	10.4	8.0	81.3	10.9	7.8	80.7	11.7	7.6	81.4	11.8	6.8	80.8	12.0	7.2
	20-24	36.1	47.6	16.3	37.8	47.3	14.9	36.7	48.7	14.7	35.8	50.8	13.5	36.7	48.8	14.5	35.8	50.2	14.0
	25-29	11.9	70.9	17.2	12.4	72.3	15.2	12.3	74.4	13.4	12.5	75.1	12.4	11.7	76.1	12.2	13.6	72.0	14.4
Czech Republic	15-19	68.2	25.8	6.0	75.1	18.2	6.7	72.9	16.9	10.2	81.5	11.2	7.3	86.3	7.3	6.4	87.4	6.8	5.8
	20-24	13.0	79.6	7.4	17.5	74.6	7.9	20.0	67.5	12.5	18.7	67.2	14.1	21.6	65.8	12.7	24.7	62.9	12.4
	25-29	1.4	92.9	5.7	1.9	91.5	6.6	2.7	88.6	8.7	2.9	87.6	9.5	3.3	88.5	8.3	3.0	89.2	7.9
Denmark	15-19	91.1	7.0	1.9	89.1	9.5	1.5	84.0	11.8	4.2	90.5	7.6	1.9	87.4	7.9	4.7	88.9	8.7	2.4
	20-24	49.3	44.8	6.0	54.6	39.5	6.0	53.2	40.8	6.1	50.8	44.1	5.2	50.5	45.7	3.8	52.0	41.1	6.9
	25-29	27.9	66.2	5.8	33.4	62.7	3.9	31.5	64.0	4.5	31.7	63.6	4.7	32.8	62.8	4.4	32.0	64.3	3.7
Finland	15-19	m	m	m	82.5	3.9	13.6	83.7	4.1	12.2	82.1	4.0	13.9	82.7	5.3	12.0	75.7	3.3	21.0
	20-24	m	m	m	43.2	36.4	20.4	45.4	36.8	17.8	46.8	34.7	18.5	48.5	35.6	15.9	50.8	28.5	20.7
	25-29	m	m	m	23.2	62.9	14.0	23.7	63.2	13.1	30.9	57.1	12.0	29.3	61.6	9.1	25.7	59.9	14.5
France	15-19	95.8	1.9	2.3	94.8	1.7	3.5	95.2	1.2	3.5	94.7	1.9	3.4	94.5	2.1	3.4	93.7	2.7	3.7
	20-24	48.6	36.9	14.5	51.9	34.3	13.7	50.4	33.7	15.9	51.5	36.6	11.9	50.5	38.5	10.9	49.8	37.6	12.6
	25-29	11.1	75.5	13.5	11.0	73.5	15.5	11.6	73.9	14.6	11.5	76.5	12.0	10.5	78.4	11.1	10.6	76.4	13.0
Germany	15-19	m	m	m	91.1	5.8	3.1	88.7	7.1	4.2	86.9	7.9	5.2	87.6	7.5	4.9	89.8	5.9	4.3
	20-24	m	m	m	34.7	52.7	12.6	32.4	53.1	14.5	32.5	52.8	14.6	32.9	52.8	14.3	36.1	49.6	14.2
	25-29	m	m	m	17.0	72.0	11.0	16.1	72.0	11.9	14.8	74.4	10.8	16.1	72.3	11.6	19.4	69.1	11.6
Greece	15-19	81.0	12.3	6.7	80.4	12.8	6.8	82.1	9.8	8.0	83.4	10.0	6.7	85.8	8.6	5.6	86.1	8.8	5.2
	20-24	28.1	55.2	16.7	28.4	53.9	17.7	31.0	51.9	17.1	31.8	50.4	17.8	34.2	48.2	17.7	34.3	50.2	15.4
	25-29	5.0	82.1	12.9	4.5	82.0	13.6	5.5	80.3	14.2	6.6	79.0	14.4	7.2	79.4	13.3	6.1	81.0	12.9
Hungary	15-19	81.9	6.3	11.8	77.6	10.0	12.4	78.6	9.6	11.8	83.9	7.5	8.6	84.1	7.1	8.8	86.8	5.0	8.2
	20-24	23.0	50.6	26.4	25.0	52.3	22.7	26.5	54.1	19.4	31.4	50.5	18.1	32.7	51.7	15.6	36.7	46.4	16.9
	25-29	7.7	72.2	20.1	7.1	72.9	20.0	8.2	73.9	18.0	8.7	74.7	16.6	8.2	75.9	15.8	10.3	73.7	16.0
Iceland	15-19	58.4	26.9	14.8	77.2	20.0	c	82.4	17.1	c	82.5	16.5	c	75.3	22.7	c	77.3	16.5	c
	20-24	28.2	58.1	13.7	51.0	47.4	c	45.3	51.1	c	48.9	48.4	c	48.3	48.3	c	51.8	42.1	c
	25-29	23.2	69.5	7.4	31.3	65.0	c	35.2	64.3	c	35.1	64.9	c	28.2	70.3	c	33.5	63.3	c
Ireland	15-19	m	m	m	m	m	m	75.3	19.7	5.0	75.0	20.5	4.5	75.4	20.3	4.3	77.2	17.6	5.2
	20-24	m	m	m	m	m	m	22.7	68.4	8.9	23.4	69.9	6.7	24.8	68.5	6.7	26.0	64.8	9.1
	25-29	m	m	m	m	m	m	3.1	87.8	9.1	3.4	88.0	8.7	3.2	89.0	7.8	3.9	85.8	10.3
Italy	15-19	m	m	m	73.3	12.2	14.5	75.5	10.5	14.0	75.8	12.0	12.2	76.3	11.6	12.1	78.5	10.7	10.8
	20-24	m	m	m	31.9	39.8	28.2	32.4	40.2	27.4	32.5	41.5	26.0	33.3	42.3	24.4	34.4	43.8	21.8
	25-29	m	m	m	16.6	64.0	19.4	17.8	63.4	18.7	16.5	65.7	17.8	15.8	67.4	16.8	15.0	69.2	15.8

Note: c indicates that there are few observations to provide reliable estimates.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

Table C4.4a. *(continued)* **Change in the percentage of the young male population in education and not in education (1995-2002)**

By age group and work status

OECD COUNTRIES

		1995			1998			1999			2000			2001			2002		
		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education	
	Age group	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed
Luxembourg	15-19	83.1	9.6	7.3	87.4	6.2	6.4	89.9	6.5	3.6	90.3	8.1	1.6	91.3	7.1	1.6	91.6	6.7	1.7
	20-24	39.8	54.0	6.2	44.2	50.8	4.9	50.9	42.2	6.9	43.6	52.6	3.8	46.1	46.7	7.2	48.1	49.4	2.5
	25-29	11.1	82.7	6.2	12.6	84.9	2.6	14.9	80.9	4.2	13.9	81.7	4.3	14.1	80.5	5.4	14.0	80.3	5.8
Mexico	15-19	45.5	42.5	12.0	47.6	44.9	7.5	50.0	43.7	6.3	50.0	43.7	6.3	50.2	42.6	7.2	53.3	39.2	7.4
	20-24	17.4	72.8	9.8	18.5	75.2	6.4	20.6	74.3	5.1	20.6	74.3	5.1	20.9	73.6	5.6	22.2	71.4	6.4
	25-29	5.0	86.7	8.3	5.2	89.6	5.2	5.4	90.3	4.3	5.4	90.3	4.3	4.9	90.4	4.7	5.7	89.5	4.8
Netherlands	15-19	m	m	m	89.4	8.4	2.2	89.8	7.6	2.6	78.6	17.5	3.8	76.6	19.6	3.8	79.9	15.4	4.7
	20-24	m	m	m	54.2	40.9	5.0	53.6	40.6	5.8	37.4	57.3	5.3	36.3	58.1	5.6	35.3	58.3	6.4
	25-29	m	m	m	27.4	65.9	6.6	27.4	67.3	5.3	6.0	88.4	5.6	7.9	86.6	5.5	7.2	86.2	6.6
Norway	15-19	m	m	m	90.2	8.4	1.5	90.9	7.5	1.5	90.6	7.1	2.3	83.8	12.9	3.3	81.8	14.5	3.7
	20-24	m	m	m	33.3	60.1	6.7	31.8	62.2	6.0	32.7	60.2	7.1	33.3	58.7	8.0	33.6	57.5	8.9
	25-29	m	m	m	13.7	81.0	5.3	15.9	79.1	5.0	16.4	75.3	8.3	11.7	80.7	7.6	12.9	79.1	8.0
Poland	15-19	87.2	5.5	7.3	89.6	5.7	4.7	91.9	2.9	5.2	91.7	3.3	5.0	90.9	2.9	6.2	95.1	1.4	3.5
	20-24	24.6	48.4	27.1	30.1	50.5	19.3	32.0	44.7	23.4	34.5	38.4	27.2	43.0	31.4	25.6	51.5	23.3	25.2
	25-29	3.0	79.0	18.0	6.3	81.3	12.4	5.9	76.4	17.8	8.3	72.6	19.1	11.0	69.9	19.1	15.0	60.6	24.5
Portugal	15-19	70.4	20.9	8.7	69.1	23.9	6.9	70.3	23.0	6.7	69.7	24.1	6.2	70.3	24.3	5.4	67.4	24.9	7.7
	20-24	32.7	53.0	14.3	28.3	62.0	9.7	32.0	59.0	9.0	32.5	59.2	8.3	30.6	61.3	8.1	31.2	60.1	8.6
	25-29	11.0	78.5	10.5	10.3	79.4	10.4	10.7	81.7	7.6	11.4	81.9	6.7	11.5	81.8	6.7	9.9	82.3	7.7
Slovak Republic	15-19	69.2	13.4	17.4	68.1	10.2	21.7	69.4	8.1	22.5	67.4	4.8	27.8	68.0	4.1	27.9	77.8	4.5	17.7
	20-24	15.0	64.4	20.6	15.6	62.6	21.8	15.6	55.7	28.7	17.1	50.5	32.4	16.5	47.6	35.9	19.2	47.2	33.6
	25-29	2.5	79.4	18.1	1.7	83.3	14.9	1.8	79.4	18.8	1.3	75.0	23.8	2.4	72.7	24.9	2.8	77.4	19.8
Spain	15-19	73.6	15.2	11.2	75.9	14.0	10.1	75.3	15.3	9.4	76.9	15.4	7.7	77.1	16.3	6.6	78.4	14.7	6.9
	20-24	35.6	41.7	22.7	39.1	43.6	17.3	38.2	47.4	14.5	39.9	48.3	11.7	40.9	48.3	10.8	38.6	49.0	12.4
	25-29	13.2	63.6	23.2	13.8	67.5	18.7	14.1	70.5	15.3	15.5	71.8	12.7	15.8	72.1	12.1	14.6	73.3	12.1
Sweden	15-19	85.2	6.9	8.0	89.4	4.2	6.4	90.5	4.7	4.8	89.5	5.7	4.7	87.9	6.7	5.4	87.5	6.6	5.9
	20-24	37.0	43.9	19.1	38.5	47.1	14.4	39.2	49.5	11.4	37.2	51.4	11.4	36.9	52.6	10.6	37.3	50.9	11.8
	25-29	20.2	68.8	11.0	22.1	70.1	7.8	20.5	72.1	7.4	19.9	73.1	6.9	20.8	74.0	5.2	20.7	73.5	5.8
Switzerland	15-19	68.6	8.4	22.9	87.7	8.3	4.0	86.0	6.0	8.0	85.9	6.7	7.3	86.8	6.8	6.4	88.3	5.9	5.8
	20-24	32.4	58.2	9.4	37.3	54.9	7.9	38.2	54.4	7.4	38.8	56.0	5.2	42.2	48.5	9.3	37.2	52.1	10.7
	25-29	13.4	81.9	4.7	13.1	80.0	6.9	11.1	84.8	4.0	21.0	74.5	4.5	16.4	79.2	4.4	14.5	78.3	7.2
Turkey	15-19	46.4	39.1	14.5	47.0	39.0	14.0	46.3	38.5	15.3	46.0	36.3	17.7	48.1	33.0	19.0	48.8	29.7	21.5
	20-24	14.7	64.7	20.6	18.6	61.7	19.6	16.6	60.1	23.3	16.0	60.5	23.5	16.6	58.3	25.1	18.5	54.3	27.1
	25-29	3.3	86.5	10.3	3.5	87.3	9.2	3.9	84.2	11.9	3.1	84.2	12.6	3.2	82.2	14.6	3.7	79.9	16.4
United Kingdom	15-19	m	m	m	m	m	m	m	m	m	76.1	15.7	8.2	75.0	16.7	8.3	73.5	18.3	8.2
	20-24	m	m	m	m	m	m	m	m	m	32.2	56.7	11.1	33.1	56.4	10.5	28.1	60.6	11.3
	25-29	m	m	m	m	m	m	m	m	m	11.4	79.3	9.3	10.9	79.6	9.5	10.5	81.0	8.5
United States	15-19	82.1	11.5	6.4	81.3	12.2	6.5	81.5	12.4	6.1	80.2	13.0	6.8	80.3	12.7	6.9	m	m	m
	20-24	31.0	57.0	12.0	32.3	58.0	9.7	32.1	57.6	10.3	30.8	58.6	10.5	32.5	55.3	12.2	m	m	m
	25-29	11.0	79.6	9.4	10.9	80.3	8.8	10.7	80.9	8.4	10.0	81.0	8.9	10.5	79.3	10.2	m	m	m
Country mean	***15-19***	***75.3***	***14.9***	***9.8***	***78.9***	***13.2***	***7.9***	***79.9***	***12.6***	***7.5***	***79.9***	***12.7***	***7.3***	***79.6***	***12.9***	***7.4***	***80.5***	***11.9***	***7.6***
	20-24	***30.2***	***54.5***	***15.3***	***35.0***	***51.9***	***13.1***	***34.9***	***51.6***	***13.4***	***34.4***	***52.7***	***12.9***	***35.5***	***51.5***	***12.9***	***36.0***	***50.4***	***13.6***
	25-29	***10.6***	***77.5***	***11.8***	***13.3***	***76.1***	***10.6***	***13.6***	***76.0***	***10.4***	***13.3***	***76.4***	***10.3***	***13.1***	***76.9***	***10.0***	***13.0***	***76.3***	***10.8***

Note: c indicates that there are few observations to provide reliable estimates.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table C4.4b. Change in the percentage of the young female population in education and not in education (1995-2002)

By age group and work status

OECD COUNTRIES

		1995			1998			1999			2000			2001			2002		
		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education	
	Age group	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed
Australia	15-19	72.2	17.1	10.6	78.1	13.2	8.7	77.8	14.7	7.5	79.2	13.5	7.3	79.7	13.2	7.2	80.0	12.8	7.2
	20-24	25.4	53.3	21.3	31.8	48.7	19.5	34.9	46.8	18.3	36.8	47.0	16.2	34.9	48.6	16.5	38.9	44.9	16.2
	25-29	10.5	58.1	31.4	14.0	58.7	27.3	14.7	59.1	26.1	16.1	55.6	28.2	15.7	59.3	25.0	16.2	58.5	25.3
Austria	15-19	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	82.2	13.3	4.4
	20-24	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	32.1	58.1	9.9
	25-29	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	9.6	74.0	16.4
Belgium	15-19	86.3	2.4	11.2	86.4	2.9	10.8	90.4	2.2	7.3	91.1	2.6	6.3	91.1	2.4	6.4	91.2	2.4	6.4
	20-24	36.5	40.7	22.8	42.3	37.5	20.2	46.0	34.1	20.0	45.6	35.5	18.9	45.1	39.7	15.2	40.3	40.6	19.1
	25-29	5.8	67.1	27.1	8.4	66.6	24.9	14.2	63.2	22.6	11.9	68.3	19.9	12.9	65.5	21.6	6.4	70.3	23.3
Canada	15-19	84.9	7.9	7.2	84.9	8.3	6.7	84.1	9.6	6.3	84.6	9.1	6.3	85.5	9.1	5.4	84.7	9.6	5.7
	20-24	37.6	44.3	18.1	41.2	40.8	18.0	42.7	42.7	14.5	41.7	43.3	15.0	41.8	43.9	14.2	42.8	43.2	13.9
	25-29	11.5	63.6	25.0	12.6	66.0	21.3	12.4	66.4	21.3	12.3	67.4	20.3	14.6	66.1	19.3	14.9	66.0	19.1
Czech Republic	15-19	71.6	21.5	6.9	79.1	13.2	7.7	78.3	12.6	9.1	82.8	8.7	8.5	87.7	5.0	7.3	89.2	4.5	6.3
	20-24	13.2	54.1	32.7	16.8	53.6	29.6	19.2	51.8	29.0	20.7	52.4	26.9	24.6	51.7	23.7	26.6	49.2	24.1
	25-29	0.8	58.5	40.8	1.7	58.0	40.3	2.0	54.1	43.9	1.8	55.9	42.3	2.6	55.1	42.3	2.8	56.8	40.3
Denmark	15-19	85.4	10.5	4.1	91.6	6.3	2.1	87.7	9.7	2.6	89.2	7.2	3.6	86.3	11.0	2.7	88.5	9.0	2.4
	20-24	50.6	34.2	15.3	55.4	36.7	7.9	58.0	33.1	8.9	58.5	33.5	7.9	59.9	30.8	9.3	58.3	34.0	7.7
	25-29	31.5	51.1	17.4	35.7	52.6	11.7	39.2	49.7	11.1	40.2	49.6	10.2	32.0	57.0	11.0	37.9	52.6	9.5
Finland	15-19	m	m	m	89.8	4.6	5.5	89.5	5.3	5.2	90.1	5.4	4.6	90.2	6.0	3.8	85.8	6.3	7.8
	20-24	m	m	m	52.7	28.7	18.5	55.2	28.8	15.9	58.9	26.7	14.4	59.2	27.9	12.9	61.3	21.8	16.9
	25-29	m	m	m	24.9	50.8	24.4	23.1	50.3	26.5	34.2	43.8	21.9	30.3	46.6	23.2	27.7	47.0	25.3
France	15-19	96.7	0.6	2.7	96.5	0.9	2.6	96.2	0.8	3.0	95.9	1.0	3.2	95.3	1.2	3.5	95.6	1.2	3.2
	20-24	53.8	25.7	20.5	55.2	25.7	19.2	55.9	25.0	19.1	56.8	26.8	16.4	56.6	27.6	15.8	56.6	27.2	16.2
	25-29	11.8	59.8	28.5	11.9	59.5	28.6	12.3	59.5	28.2	12.9	61.9	25.2	12.3	62.3	25.3	12.8	63.8	23.4
Germany	15-19	m	m	m	92.1	4.2	3.7	90.2	4.9	4.9	88.0	5.7	6.3	89.3	5.3	5.3	90.5	4.4	5.1
	20-24	m	m	m	38.0	44.5	17.5	36.2	44.7	19.0	35.8	44.8	19.4	37.2	44.1	18.7	40.1	42.3	17.6
	25-29	m	m	m	10.6	64.5	24.9	11.1	64.2	24.7	10.5	65.1	24.4	10.7	64.6	24.7	13.2	63.4	23.4
Greece	15-19	79.0	7.0	14.1	80.7	6.9	12.4	82.8	5.1	12.1	83.6	5.7	10.7	85.6	4.8	9.5	87.6	5.1	7.3
	20-24	30.2	32.2	37.6	30.2	34.4	35.4	31.8	34.7	33.5	37.4	33.5	29.1	38.5	33.1	28.4	38.1	33.7	28.2
	25-29	4.4	50.0	45.6	4.4	51.5	44.0	4.8	54.4	40.8	6.9	52.3	40.8	6.3	55.0	38.8	6.1	55.9	38.0
Hungary	15-19	83.2	7.1	9.7	78.9	10.0	11.1	79.9	8.7	11.3	83.5	7.9	8.6	85.9	6.3	7.8	88.2	4.0	7.8
	20-24	22.0	38.5	39.5	27.9	39.6	32.5	30.7	41.5	27.8	33.1	41.1	25.7	37.2	38.6	24.2	38.7	37.8	23.5
	25-29	7.0	42.6	50.4	7.8	45.2	47.1	9.1	46.8	44.1	10.1	48.9	41.0	10.6	51.6	37.8	10.9	50.4	38.8
Iceland	15-19	60.6	24.5	14.8	87.7	c	c	80.7	16.8	c	83.7	13.0	c	83.8	15.1	c	84.6	13.0	c
	20-24	38.7	46.8	14.4	44.3	44.3	11.4	44.4	45.5	c	47.0	47.0	c	52.4	42.6	c	55.9	37.9	c
	25-29	25.1	60.1	14.8	34.4	49.7	15.9	34.1	52.9	12.9	34.7	53.2	c	39.8	52.0	c	39.6	54.1	c
Ireland	15-19	m	m	m	m	m	m	83.7	10.9	5.5	85.4	10.4	4.3	85.6	10.5	3.9	86.3	9.3	4.5
	20-24	m	m	m	m	m	m	26.5	60.7	12.8	30.0	57.3	12.7	31.8	56.2	11.9	31.9	55.6	12.5
	25-29	m	m	m	m	m	m	3.0	76.9	20.0	3.2	78.7	18.1	3.4	77.1	19.4	3.1	77.6	19.3
Italy	15-19	m	m	m	77.6	6.6	15.9	78.5	6.0	15.6	78.5	7.4	14.1	79.0	8.0	13.0	83.1	6.6	10.3
	20-24	m	m	m	39.8	28.2	32.1	38.9	28.8	32.4	39.5	31.5	29.0	40.7	31.4	27.8	42.2	31.1	26.8
	25-29	m	m	m	16.5	44.0	39.5	17.5	43.2	39.3	17.6	46.2	36.1	17.0	48.4	34.5	16.3	49.7	34.0

Note: c indicates that there are few observations to provide reliable estimates.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

Table C4.4b. *(continued)* **Change in the percentage of the young female population in education and not in education (1995-2002)**

By age group and work status

OECD COUNTRIES

		1995			1998			1999			2000			2001			2002		
		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education		In education	Not in education	
	Age group	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed	Total	Employed	Not employed
Luxembourg	15-19	82.2	9.1	8.8	89.7	4.5	5.8	88.6	5.2	6.3	94.3	4.0	1.7	91.1	6.8	2.0	91.1	4.7	4.3
	20-24	33.1	51.3	15.6	36.3	49.4	14.3	43.3	44.2	12.5	42.1	45.2	12.7	47.3	41.8	10.9	47.5	40.9	11.5
	25-29	5.3	60.1	34.6	11.1	62.7	26.2	7.6	67.1	25.2	9.2	69.2	21.6	9.2	71.3	19.5	13.9	68.8	17.3
Mexico	15-19	44.5	21.1	34.4	46.2	23.0	30.8	49.2	21.9	28.9	49.2	21.9	28.9	50.4	21.4	28.2	53.5	19.0	27.4
	20-24	14.4	35.0	50.6	15.9	37.4	46.7	17.8	37.1	45.1	17.8	37.1	45.1	17.6	36.4	46.0	19.4	35.7	44.8
	25-29	4.2	40.4	55.3	3.4	43.2	53.5	4.5	42.0	53.5	4.5	42.0	53.5	3.5	42.3	54.1	3.7	43.7	52.6
Netherlands	15-19	m	m	m	88.4	8.0	3.6	89.6	7.6	2.9	82.6	13.8	3.6	82.7	12.8	4.5	81.6	14.0	4.4
	20-24	m	m	m	47.7	43.0	9.4	47.4	43.4	9.2	35.6	53.1	11.2	32.6	55.6	11.8	35.2	55.3	9.5
	25-29	m	m	m	19.7	62.6	17.7	21.3	62.5	16.2	3.9	77.5	18.6	4.9	78.0	17.2	5.2	75.6	19.2
Norway	15-19	m	m	m	94.2	3.6	2.3	93.0	5.1	1.9	94.2	4.6	1.2	87.9	9.3	2.7	88.8	8.5	2.8
	20-24	m	m	m	47.4	42.4	10.1	45.3	45.2	9.6	51.1	39.9	9.0	46.1	44.5	9.4	43.5	45.9	10.6
	25-29	m	m	m	15.1	70.9	14.0	18.6	69.7	11.7	18.7	68.7	12.6	16.1	70.9	13.0	15.6	70.8	13.5
Poland	15-19	92.1	2.8	5.1	92.5	2.7	4.9	94.5	1.6	3.9	94.0	2.0	4.0	92.8	1.8	5.4	96.8	0.6	2.6
	20-24	22.9	37.1	40.0	31.4	40.3	28.3	34.2	35.0	30.8	35.4	30.4	34.2	47.4	24.1	28.5	56.1	18.4	25.5
	25-29	3.1	55.8	41.1	5.0	59.4	35.6	5.0	59.3	35.7	7.7	53.0	39.3	11.9	49.6	38.5	14.7	45.9	39.4
Portugal	15-19	74.5	15.9	9.6	74.1	16.3	9.7	74.4	16.0	9.6	75.6	15.1	9.2	75.4	15.1	9.5	77.6	15.6	6.8
	20-24	42.9	40.2	16.9	36.4	49.4	14.2	37.9	47.3	14.8	40.4	46.0	13.5	41.9	45.3	12.7	38.3	46.4	15.4
	25-29	12.2	63.7	24.1	8.7	70.1	21.2	12.3	68.4	19.3	10.5	71.2	18.3	10.8	72.8	16.4	11.4	71.9	16.7
Slovak Republic	15-19	71.1	14.6	14.3	70.7	14.4	14.9	69.8	12.1	18.1	67.2	8.1	24.7	66.5	8.6	24.9	79.4	7.1	13.5
	20-24	14.5	45.0	40.5	19.2	49.9	31.0	19.3	46.4	34.3	19.1	47.1	33.8	22.4	43.8	33.8	25.1	40.7	34.2
	25-29	0.7	51.2	48.1	0.5	59.6	39.9	1.4	60.6	38.0	1.3	58.7	40.0	2.2	57.2	40.6	3.1	55.5	41.4
Spain	15-19	81.2	6.9	11.9	84.7	5.7	9.6	83.5	7.1	9.3	84.5	7.3	8.2	86.0	6.7	7.3	85.5	7.0	7.5
	20-24	44.6	26.3	29.0	49.6	27.4	23.0	49.3	29.8	20.9	49.5	32.0	18.5	49.3	32.8	17.9	48.4	33.6	18.0
	25-29	16.1	39.0	45.0	16.8	46.6	36.5	16.3	48.3	35.3	16.8	52.7	30.5	18.4	53.8	27.9	17.6	54.6	27.8
Sweden	15-19	89.8	7.0	3.2	92.6	4.5	2.9	92.5	5.0	2.5	91.8	5.8	2.4	88.9	8.0	3.1	89.4	7.3	3.3
	20-24	40.7	43.5	15.8	47.0	41.3	11.7	48.7	40.6	10.7	47.3	42.8	9.9	45.7	43.6	10.6	46.4	43.0	10.6
	25-29	19.5	65.1	15.4	27.8	59.8	12.4	24.5	63.9	11.6	24.0	64.5	11.6	24.8	65.9	9.3	24.3	65.3	10.5
Switzerland	15-19	62.4	12.1	25.5	83.3	11.0	5.7	82.8	10.1	7.1	83.3	8.3	8.5	84.5	8.3	7.2	83.9	10.2	5.8
	20-24	26.7	60.1	13.2	32.2	53.5	14.3	33.3	57.3	9.4	35.9	57.4	6.6	36.2	56.3	7.5	38.9	52.5	8.6
	25-29	7.8	70.3	22.0	7.3	75.8	16.9	9.7	74.4	15.9	9.0	73.3	17.7	10.5	71.0	18.5	11.0	71.3	17.8
Turkey	15-19	30.9	27.5	41.6	35.1	22.9	41.9	34.9	23.3	41.8	34.0	19.6	46.3	35.5	17.5	47.0	36.5	18.0	45.5
	20-24	6.5	29.7	63.8	9.0	29.3	61.7	10.3	31.0	58.7	10.2	25.5	64.4	10.0	26.5	63.5	10.7	26.5	62.8
	25-29	2.1	29.7	68.2	2.4	29.9	67.7	2.8	28.5	68.7	2.8	28.2	69.0	2.0	27.0	71.1	2.4	27.6	70.0
United Kingdom	15-19	m	m	m	m	m	m	m	m	m	78.0	14.2	7.9	77.3	14.7	8.0	77.3	13.8	8.9
	20-24	m	m	m	m	m	m	m	m	m	32.7	47.6	19.8	33.9	46.9	19.2	34.4	45.5	20.2
	25-29	m	m	m	m	m	m	m	m	m	15.3	61.1	23.6	15.8	61.4	22.8	17.1	56.8	26.1
United States	15-19	80.8	9.9	9.3	83.1	8.8	8.2	81.1	10.2	8.7	82.3	10.4	7.3	82.0	9.9	8.0	m	m	m
	20-24	31.9	44.6	23.5	33.6	47.4	19.0	33.4	46.8	19.8	34.1	47.5	18.3	35.3	45.7	19.0	m	m	m
	25-29	12.2	63.5	24.3	12.9	65.4	21.7	11.4	66.0	22.6	12.7	65.1	22.2	13.0	62.2	24.8	m	m	m
Country mean	***15-19***	***75.2***	***11.9***	***12.9***	***81.1***	***9.0***	***9.8***	***81.3***	***9.3***	***9.4***	***81.8***	***8.9***	***9.3***	***81.8***	***9.2***	***9.0***	***83.0***	***8.7***	***8.2***
	20-24	***30.9***	***41.2***	***28.0***	***36.7***	***40.4***	***23.0***	***37.6***	***40.9***	***21.5***	***38.2***	***41.2***	***20.6***	***39.5***	***40.8***	***19.8***	***40.3***	***40.1***	***19.6***
	25-29	***10.1***	***55.2***	***34.7***	***13.2***	***56.9***	***29.9***	***13.3***	***58.1***	***28.6***	***13.4***	***58.9***	***27.7***	***13.5***	***59.4***	***27.1***	***13.7***	***59.5***	***26.7***

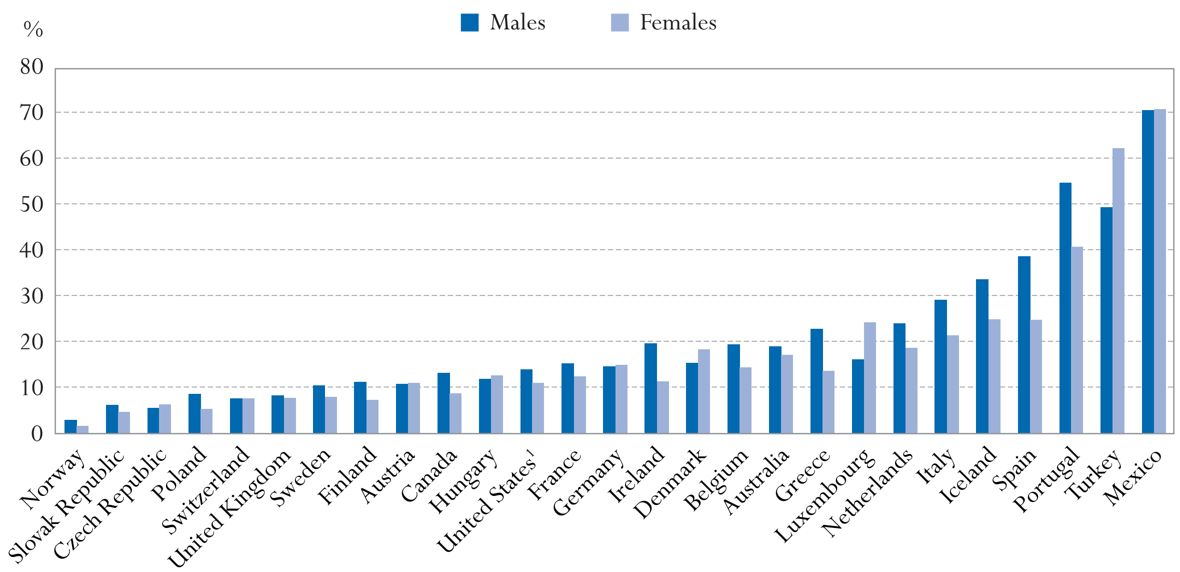
Note: c indicates that there are few observations to provide reliable estimates.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

C4

INDICATOR C5: THE SITUATION OF THE YOUTH POPULATION WITH LOW LEVELS OF EDUCATION

- In eight OECD countries the proportion of young people not in education without upper secondary education in the 20 to 24-year-old age group remains under 10%.
- In 11 out of 27 OECD countries, this potentially "at risk" group represents between 10 and 18% of the age group. For the remaining eight OECD countries, more than 20% of the age group falls under this category.
- The problem affects more young males than females in 19 out of 27 countries including Greece, Iceland, Ireland, Italy, Portugal and Spain. The reverse is true in Denmark, Luxembourg and Turkey.

Chart C5.1. Percentage of 20 to 24-year-olds who are not in education and have not attained upper secondary education, by gender (2002)



1. Year of reference 2001.

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/eag2004).*

C5

Policy context

This indicator reflects the situation of young people who are neither in education nor in employment.

Entering the labour market is often a difficult period of transition. While the length of time spent in education has increased, a significant proportion of young people remain neither in education nor working (*i.e.*, they are either unemployed or in non-employment). This situation gives particular cause for concern for younger age groups, many of whom have no unemployment status or welfare coverage.

As the inter-relationships among education, the economy and the well-being of nations become ever closer, providing effective educational careers for young people and ensuring successful transitions from initial education to working life become major policy concerns. Rising skill demands in OECD countries have made upper secondary diplomas a minimum requirement for successful entry into the labour market and a basis for further participation in lifelong learning. Young people with lower qualifications run a higher risk of long-term unemployment or unstable or unfulfilling employment, which can have additional consequences, such as social exclusion.

Evidence and explanations

Young people not in education or work

Most 15 to 19-year-olds are still in school. In many OECD countries, a high percentage of those who are not are either unemployed or not in the labour force.

Over 80% of persons between the ages of 15 and 19 are in education in most OECD countries. A small proportion of this age group is employed after having left school, although this figure is as high as 10% for 10 OECD countries and even more than 20% in three others (Table C4.2).

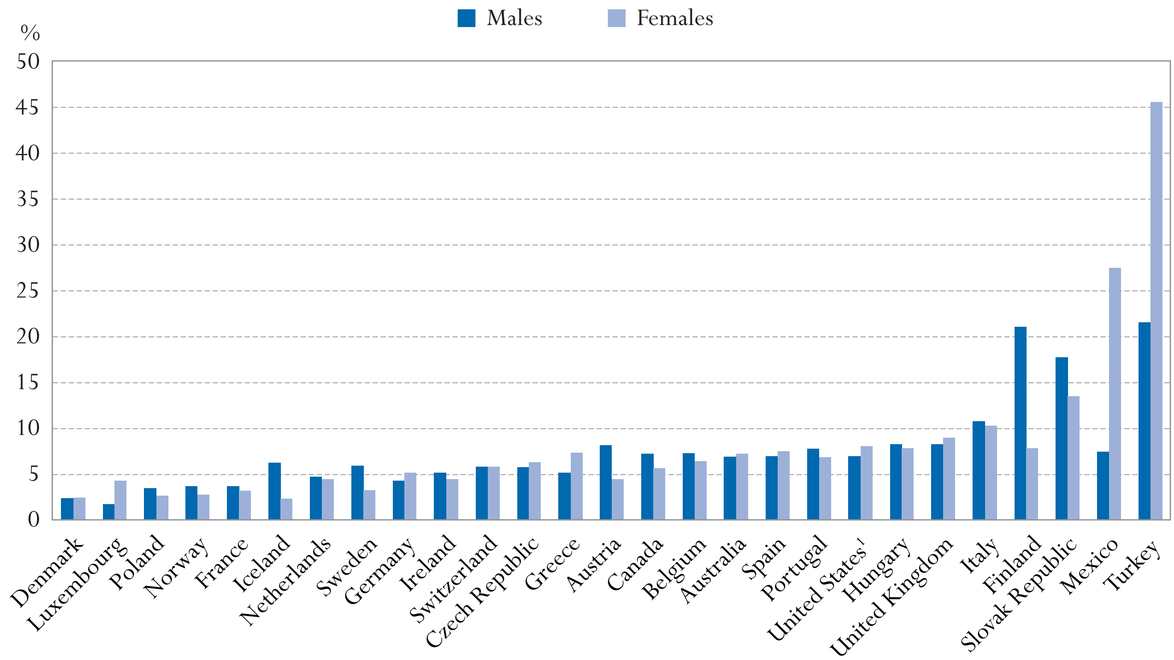
There is, however, a group of young people who are neither in education nor at work. Some are officially unemployed, if they are actively seeking work, while those who are not doing so are considered to be in non-employment. Their reasons may be many and varied, such as discouragement due to the difficulty of finding work or voluntary withdrawal because of family circumstances. In 19 out of 27 OECD countries, the proportion of these young people is higher than the proportion of those with unemployment status.

To be out of education and out of employment is very uncommon in Denmark, France, Luxembourg, Norway and Poland; it is common in Finland, Italy, Mexico, the Slovak Republic and Turkey. In these countries, more than 10% of young people aged 15 to 19 are neither at school nor in work (Table C4.2). In other OECD countries, the proportion is lower but not insignificant, ranging from 4 to 9%. The problem affects more young males than females in Austria, Finland, Iceland, the Slovak Republic and Sweden, and the reverse is true in Mexico and Turkey (Chart C5.2). Differences according to gender remain small in the other countries, even if young males are generally more affected.

Between the ages of 20 and 24, the scale of the problem grows and changes since most young people enter the labour market at that age.

Young people with low qualifications may run an increased risk of long-term unemployment or of unstable, unfulfilling employment, which can have other negative consequences such as social exclusion. Early drop-out has become one of the most important educational policy problems. For students aged between 20 and 24 years, compared with those aged 15 to 19, the scale of the problem grows and changes, since most 20 to 24-year-olds are entering the labour market for the first time after

Chart C5.2. Percentage of 15 to 19-year-olds who are neither in education nor at work, by gender (2002)



1. Year of reference 2001.

Countries are ranked in ascending order of 15 to 19-year-olds who are neither in education nor at work.

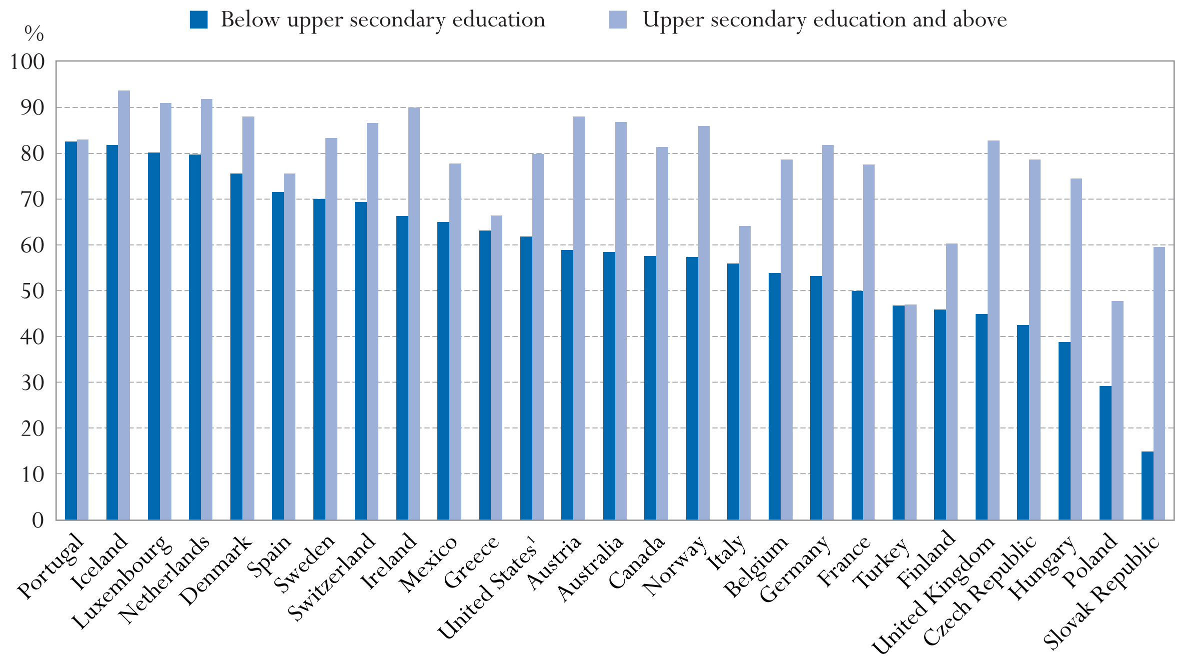
Source: OECD. Tables C4.2a and C4.2b. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

having completed initial education. Individuals often experience a period of unemployment and adjustment before finding a secure and satisfying job.

In eight OECD countries, including the Nordic and Eastern European countries as well as Switzerland and the United Kingdom, the proportion of young people (aged 20 to 24) no longer in education without upper secondary education remains under 10%. This is a small group, but one that is certainly in a difficult position. In 11 out of 27 OECD countries, this potentially "at risk" group represents between 10 and 18% of the age group. The challenge in terms of increasing upper secondary graduation rates is significant here. For the remaining eight OECD countries, more than 20% of the age group falls into this category. The problem affects more young males than females in 19 out of 27 countries including Greece, Iceland, Ireland, Italy, Portugal and Spain. The reverse is true in Denmark, Luxembourg and Turkey (Chart C5.1). Differences according to gender remain small in the other countries.

The consequences of leaving school without an upper secondary qualification can be observed by comparing the work status of those with and those without an upper secondary qualification. In all OECD countries, higher educational attainment is associated with an increase in the employment rate, on average 19 percentage points (Chart C5.3). The comparison also reveals some patterns related to the specific organisation of the labour market. The gap in employment rates between those with upper secondary qualifications and those without is

Chart C5.3. Employment rates for 20 to 24-year-olds who are not in education, by level of educational attainment (2002)



1. Year of reference 2001.
Countries are ranked in descending order of the employment rates 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/eag2004).*

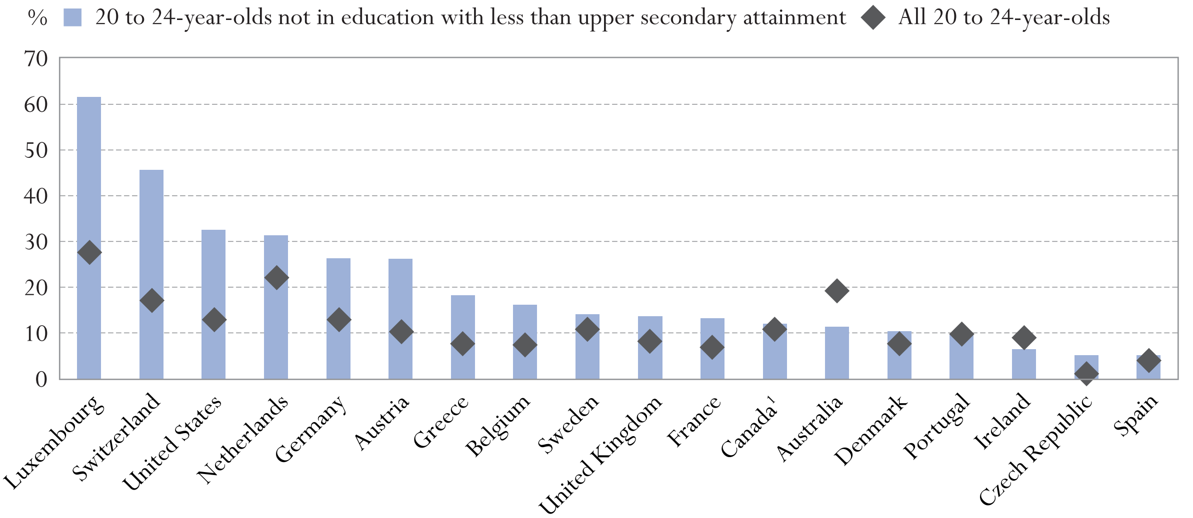
C5

remarkably small in all Mediterranean countries, which suggests a good match between qualifications – even if these are low – and employment. The United Kingdom is an interesting case; the prevalence of low qualifications is one of the lowest among OECD countries, but the unemployment differentials are particularly high, suggesting that the few persons who have not obtained an upper secondary qualification are particularly disadvantaged. In a different economic context, this is also the case in Eastern European countries: Hungary and the Czech and Slovak Republics.

Non-native individuals are very often associated with a low level of educational attainment.

Young persons with a low level of qualifications are more likely to have been born outside of the country in wich they live. In some countries, a sizeable proportion of the youth population has come to the country as immigrants. In 10 out of 18 countries reporting data, immigrants represent more than 10% of the 20 to 24-year-old population. In order of increasing proportion, these countries are: Portugal (10%), Austria, Sweden, Canada, Germany (13 %), the United States, Switzerland, Australia (19%), Netherlands and Luxembourg (28%). The proportion of 20 to-24 year-olds not born in the country is much higher among those who are not in education and have not completed upper secondary education (Chart C5.4). Being born out of the country is a clear disadvantage in all but five countries: Australia, Canada, Ireland, Portugal and Spain. In other countries the proportion of non-native young persons is remarkably high among low-qualified individuals, on average twice as high

Chart C5.4. Percentage of 20 to 24-year-olds not born in the country (2002)

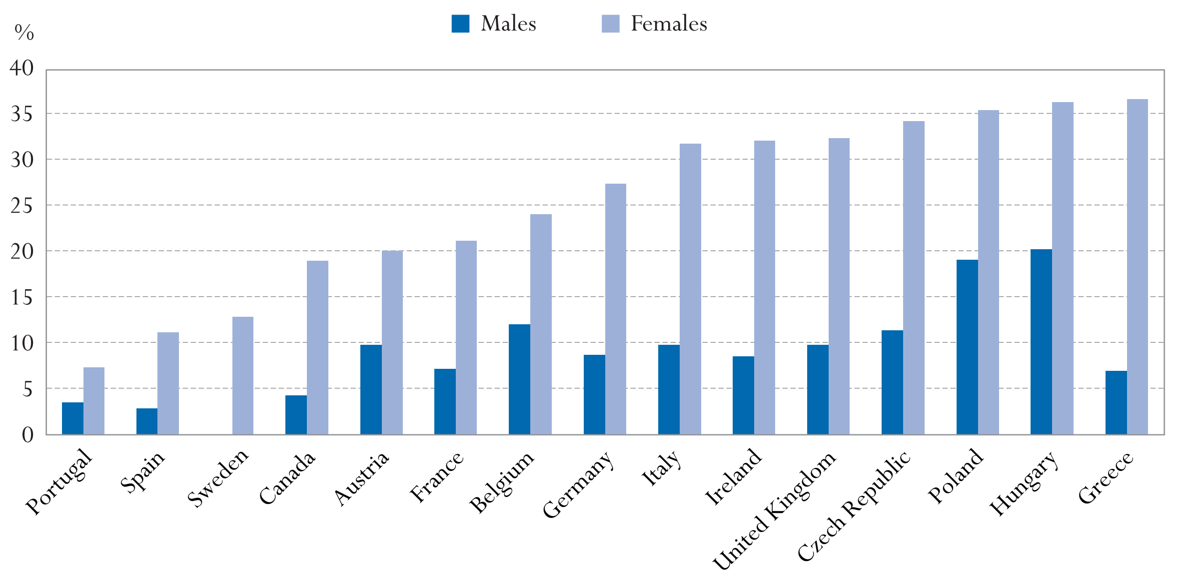


1. Year of reference 2001.

Countries are ranked in descending order of the percentage of 20 to 24-year-olds not in education with less than upper secondary attainment not born in the country.

Source: OECD. Table C5.2. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

Chart C5.5. Percentage of 20 to 24-year-olds with less than upper secondary attainment, who are not in the labour force and have never had a job, by gender (2002)



Countries are ranked in ascending order of the percentage for the female population.

Source: OECD. Table C5.3. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

as for persons born in the country, and much more in Austria, the Czech Republic, Switzerland and the United States.

A significant proportion of under-qualified young people is continuously left out of the labour market (Chart C5.5). Focusing on those not in the labour force (*i.e.* who are not actively seeking a job) one in 10 males and one in 4 females, on average, has never had a job. The percentage remains low in Portugal, Spain and Sweden, but increases dramatically in Eastern European countries and in Greece. Females are very frequently left out of the labour market, not only in these countries, but also in Italy, Ireland and the United Kingdom.

Definitions and methodologies

Data for this indicator were calculated from the special OECD data collection on transition from education to work.

The indicator is based on labour force survey data on age-specific proportions of young people in each of the specified categories. The definitions of the labour force statuses of those not in education (and not enrolled in work-study programmes) are based on ILO guidelines. Data for this indicator were calculated from the special OECD data collection on transition from education to work (see Indicator C4). In 2003, the OECD Network B carried out a specific and enriched data collection for which requirements coincide with the requirements for the transition data collection. In the absence of data submission from the country itself Network B obtained data from the Eurostat Labour Force Survey. As different definitions are used for people "in education", inconsistencies might occur between the regular OECD transition data collection and the specific data collection; this is partly addressed by Eurostat data regarding the indicator "percentage of 20 to 24-year-olds who are not in education and who have not attained upper secondary education". As a result, percentages for early school leavers published in *Education at a Glance 2004* will not necessarily be reproduced in the planned separate publication of detailed results on the young adults with low levels of education.

An "early school leaver" could broadly be defined as "a young person who has not attained upper secondary education and is not in education, or in a work-study programme leading to an upper secondary qualification or higher". However, such a definition must include the specification of an age group within which very few people can still be attending school at the primary or secondary level. Young people aged 18 and 19, in a significant number of OECD countries, are still enrolled in upper secondary education. Very early leavers may eventually return to school. Moreover, labour market outcomes at early ages may not be representative of outcomes at later ages. The OECD therefore defines a young adult with low level of education as "a person aged 20 to 24 years who has not attained upper secondary education and who is not enrolled in education nor in a work-study programme".

Table C5.1. Percentage of 20 to 24-year-olds, by level of educational attainment, work status and gender (2002)

		Not in education									
		Below upper secondary attainment				At least upper secondary attainment					
		Employed	Unem-ployed	Not in the labour force	Sub-total	Employed	Unem-ployed	Not in the labour force	Sub-total	In education	Total 20 to 24-year-olds
OECD COUNTRIES											
Australia	Males	13.0	3.8	2.0	18.9	38.3	3.1	1.4	42.7	38.4	100
	Females	7.9	1.7	7.3	17.0	37.0	2.1	4.9	44.0	38.9	100
	M+F	10.5	2.8	4.7	17.9	37.6	2.6	3.1	43.4	38.7	100
Austria	Males	6.4	1.8	2.6	10.7	53.3	4.4	4.7	62.4	26.9	100
	Females	6.3	0.8	3.7	10.9	51.8	2.5	2.8	57.1	32.1	100
	M+F	6.4	1.3	3.2	10.8	52.6	3.5	3.7	59.8	29.4	100
Belgium	Males	12.1	3.5	3.7	19.3	35.9	5.0	3.6	44.5	36.2	100
	Females	5.9	3.7	4.6	14.2	34.7	5.6	5.2	45.5	40.3	100
	M+F	9.0	3.6	4.2	16.8	35.3	5.3	4.4	45.0	38.2	100
Canada	Males	8.6	2.7	1.8	13.1	41.6	6.4	3.1	51.1	35.8	100
	Females	3.9	1.0	3.7	8.7	39.3	3.8	5.3	48.5	42.8	100
	M+F	6.3	1.9	2.8	10.9	40.5	5.2	4.2	49.8	39.3	100
Czech Republic	Males	3.1	1.6	0.8	5.5	59.9	7.9	1.9	69.7	24.8	100
	Females	1.9	1.0	3.4	6.2	47.4	7.0	12.7	67.1	26.7	100
	M+F	2.5	1.3	2.1	5.9	53.8	7.5	7.2	68.4	25.7	100
Denmark	Males	12.3	1.8	1.1	15.2	31.6	3.3	1.2	36.1	48.6	100
	Females	13.0	1.3	4.0	18.2	23.7	1.2	1.9	26.7	55.0	100
	M+F	12.6	1.5	2.6	16.8	27.5	2.2	1.6	31.3	51.9	100
Finland	Males	5.6	1.4	4.0	11.1	22.9	5.6	9.6	38.1	50.8	100
	Females	2.8	0.6	3.9	7.3	19.0	3.9	8.6	31.4	61.3	100
	M+F	4.2	1.0	3.9	9.2	20.9	4.7	9.1	34.8	56.1	100
France	Males	8.7	4.4	2.0	15.1	28.9	5.0	1.2	35.1	49.8	100
	Females	5.0	3.2	4.2	12.4	22.3	5.9	2.8	31.0	56.6	100
	M+F	6.9	3.8	3.1	13.8	25.6	5.4	2.0	33.1	53.2	100
Germany	Males	9.0	3.5	2.0	14.4	40.9	5.5	3.1	49.4	36.1	100
	Females	6.5	2.1	6.2	14.9	36.3	2.9	5.8	45.1	40.0	100
	M+F	7.8	2.8	4.1	14.7	38.7	4.2	4.4	47.3	38.0	100
Greece	Males	17.9	3.1	1.7	22.7	32.6	7.8	3.0	43.4	33.9	100
	Females	5.1	2.7	5.7	13.5	29.1	13.4	6.7	49.2	37.3	100
	M+F	11.3	2.9	3.8	18.0	30.8	10.7	4.9	46.4	35.6	100
Hungary	Males	5.4	2.4	3.9	11.7	40.9	5.0	5.7	51.6	36.7	100
	Females	4.0	0.7	7.8	12.5	33.8	2.7	12.3	48.7	38.7	100
	M+F	4.7	1.6	5.8	12.1	37.3	3.8	9.0	50.2	37.7	100
Iceland	Males	26.7	c	c	33.3	18.9	c	c	18.9	47.8	100
	Females	20.8	c	c	24.7	20.8	c	c	23.6	51.7	100
	M+F	23.8	c	c	29.2	19.8	c	c	21.2	49.7	100
Ireland	Males	14.7	2.5	2.3	19.5	50.0	2.8	1.5	54.3	26.2	100
	Females	5.6	0.7	4.9	11.3	49.9	2.3	4.6	56.8	32.0	100
	M+F	10.2	1.6	3.6	15.4	49.9	2.6	3.0	55.5	29.1	100
Italy	Males	19.0	5.7	4.3	29.0	24.8	5.9	5.8	36.6	34.4	100
	Females	9.0	3.8	8.4	21.3	22.0	8.1	6.4	36.6	42.2	100
	M+F	14.1	4.8	6.4	25.2	23.4	7.0	6.1	36.6	38.2	100

Note: c indicates that there are few observations to provide reliable estimates.

1. Year of reference 2001.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

C5

Table C5.1. (*continued*) **Percentage of 20 to 24-year-olds, by level of educational attainment, work status and gender (2002)**

			Not in education									
			Below upper secondary attainment				At least upper secondary attainment					
			Employed	Unem-ployed	Not in the labour force	Sub-total	Employed	Unem-ployed	Not in the labour force	Sub-total	In education	Total 20 to 24-year-olds
OECD COUNTRIES	Luxembourg	Males	14.5	1.0	0.4	15.9	38.0	1.1	0.1	39.2	44.8	100
		Females	17.5	1.9	4.7	24.1	24.9	2.0	3.1	29.9	46.0	100
		M+F	16.0	1.5	2.5	20.0	31.5	1.6	1.6	34.6	45.4	100
	Mexico	Males	64.7	2.4	3.1	70.1	6.7	0.5	0.3	7.5	22.3	100
		Females	27.8	1.3	41.2	70.4	6.7	0.6	2.3	9.6	20.0	100
		M+F	45.6	1.9	22.8	70.3	6.7	0.6	1.3	8.6	21.1	100
	Netherlands	Males	20.9	1.0	2.1	23.9	37.5	1.4	2.0	40.8	35.3	100
		Females	12.9	0.7	4.9	18.5	42.4	1.1	2.8	46.3	35.2	100
		M+F	16.9	0.9	3.4	21.2	39.9	1.2	2.4	43.5	35.3	100
	Norway	Males	1.7	0.7	0.4	2.9	55.9	3.9	3.5	63.3	33.8	100
		Females	0.9	0.2	0.6	1.7	45.0	2.4	6.8	54.2	44.1	100
		M+F	1.3	0.4	0.5	2.3	50.5	3.2	5.1	58.8	38.9	100
	Poland	Males	2.8	4.0	1.7	8.6	20.4	16.7	2.8	40.0	51.5	100
		Females	1.2	1.8	2.3	5.3	17.2	13.6	7.9	38.7	56.1	100
		M+F	2.0	2.9	2.0	6.9	18.8	15.1	5.4	39.3	53.8	100
	Portugal	Males	48.6	3.7	2.2	54.4	12.8	1.3	0.8	14.9	30.7	100
		Females	29.7	4.0	6.8	40.4	17.9	2.2	2.1	22.2	37.4	100
		M+F	39.1	3.8	4.5	47.4	15.4	1.7	1.4	18.5	34.0	100
	Slovak Republic	Males	1.2	3.6	1.3	6.1	46.0	23.2	5.5	74.7	19.2	100
		Females	0.4	1.3	3.0	4.7	40.3	16.5	13.5	70.2	25.1	100
		M+F	0.8	2.5	2.1	5.4	43.2	19.9	9.4	72.5	22.1	100
	Spain	Males	30.1	5.4	2.8	38.3	20.7	3.6	0.9	25.2	36.5	100
		Females	14.8	4.2	5.6	24.6	20.3	6.1	2.9	29.2	46.1	100
		M+F	22.6	4.8	4.2	31.7	20.5	4.8	1.8	27.2	41.2	100
	Sweden	Males	7.8	2.0	0.6	10.4	43.9	5.3	3.8	53.0	36.5	100
		Females	5.0	1.2	1.7	7.9	38.7	3.4	4.1	46.2	45.9	100
		M+F	6.4	1.6	1.2	9.2	41.3	4.4	3.9	49.7	41.1	100
	Switzerland	Males	5.8	c	c	7.6	46.2	c	5.4	55.2	37.2	100
		Females	4.6	c	c	7.5	47.7	c	c	53.4	39.1	100
		M+F	5.2	c	c	7.5	46.9	2.8	4.6	54.3	38.2	100
	Turkey	Males	35.9	7.2	6.0	49.1	18.4	6.7	7.3	32.3	18.5	100
		Females	16.7	1.4	43.8	61.9	9.8	4.5	13.0	27.4	10.7	100
		M+F	26.1	4.2	25.4	55.7	14.0	5.6	10.2	29.8	14.5	100
	United Kingdom	Males	5.2	1.5	1.5	8.2	55.7	5.4	2.6	63.7	28.0	100
		Females	1.6	0.4	5.6	7.7	44.5	3.4	10.3	58.3	34.1	100
		M+F	3.6	1.0	3.4	8.0	50.6	4.5	6.1	61.2	30.8	100
	United States[1]	Males	10.3	1.8	1.8	13.9	45.0	4.6	4.1	53.6	32.5	100
		Females	5.0	1.3	4.6	10.8	40.8	3.2	9.9	53.9	35.3	100
		M+F	7.6	1.5	3.2	12.3	42.8	3.9	7.0	53.7	33.9	100
	Country mean	***Males***	***15.3***	***2.9***	***2.2***	***20.3***	***35.8***	***5.4***	***3.1***	***44.4***	***35.3***	***100***
		Females	***8.7***	***1.6***	***7.3***	***17.7***	***32.0***	***4.6***	***6.1***	***42.6***	***39.7***	***100***
		M+F	***12.0***	***2.3***	***4.8***	***19.0***	***33.9***	***5.0***	***4.6***	***43.5***	***37.5***	***100***
PARTNER COUNTRY	Israel	Males	8.3	1.5	3.5	13.3	22.7	6.5	34.7	63.9	22.8	100
		Females	1.5	0.5	5.8	7.9	30.8	7.7	22.6	61.2	30.9	100
		M+F	5.0	1.0	4.6	10.6	26.7	7.1	28.8	62.6	26.8	100

Note: c indicates that there are few observations to provide reliable estimates.
1. Year of reference 2001.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

C5

Table C5.2. Percentage of 20 to 24-year-olds by place of birth (2002)

Total population and population not in education, below upper secondary attainment

	All 20 to 24-year-olds				20 to 24-year-olds not in education, below upper secondary attainment			
	Born in the country	Born in another country	No information about country of birth	Total	Born in the country	Born in another country	No information about country of birth	Total
OECD COUNTRIES								
Australia	81	19	n	100	89	11	n	100
Austria	90	10	n	100	74	26	n	100
Belgium	93	7	n	100	84	16	n	100
Canada[1]	78	11	11	100	88	12*	n	100
Czech Republic	99	1	n	100	95	5	n	100
Denmark	92	8	n	100	89	10*	n	100
France	93	7	n	100	87	13	n	100
Germany	80	13	7	100	65	26	9	100
Greece	92	8	n	100	82	18*	n	100
Ireland	91	9	n	100	93	7	n	100
Luxembourg	72	28	n	100	38	62	n	100
Netherlands	78	22	n	100	69	31	n	100
Portugal	90	10	n	100	90	10	n	100
Spain	96	4	n	100	95	5	n	100
Sweden	88	11	1	100	84	14	2	100
Switzerland	83	17	n	100	54	46	n	100
United Kingdom	92	8	n	100	86	14	n	100
United States	87	13	n	100	67	33	n	100
Country mean	***87***	***11***	***1***	***100***	***79***	***20***	***1***	***100***

* Data to be considered with caution due to small sample size.
1. Year of reference 2001.
Source: OECD and EULFS. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

C5

Table C5.3. Percentage of 20 to 24-year-old non-students with low level of educational attainment, who are not in the labour force and have never had a job, by gender (2002)

	Males	Females
OECD COUNTRIES		
Austria	10	20
Belgium	12	24
Canada	4	19
Czech Republic	11	34
France	7*	21
Germany	9	27
Greece	7	37
Hungary	20	36
Ireland	9*	32
Italy	10	32
Poland	19	35
Portugal	4*	7*
Spain	3	11
Sweden	m	13
United Kingdom	10	32
Country mean	***10***	**25**

* Data to be considered with caution due to small sample size.
Note: Students in work-study programmes are considered to be both in education and employed, irrespective of their labour market status according to the ILO definition.
Source: OECD and EULFS. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

Chapter

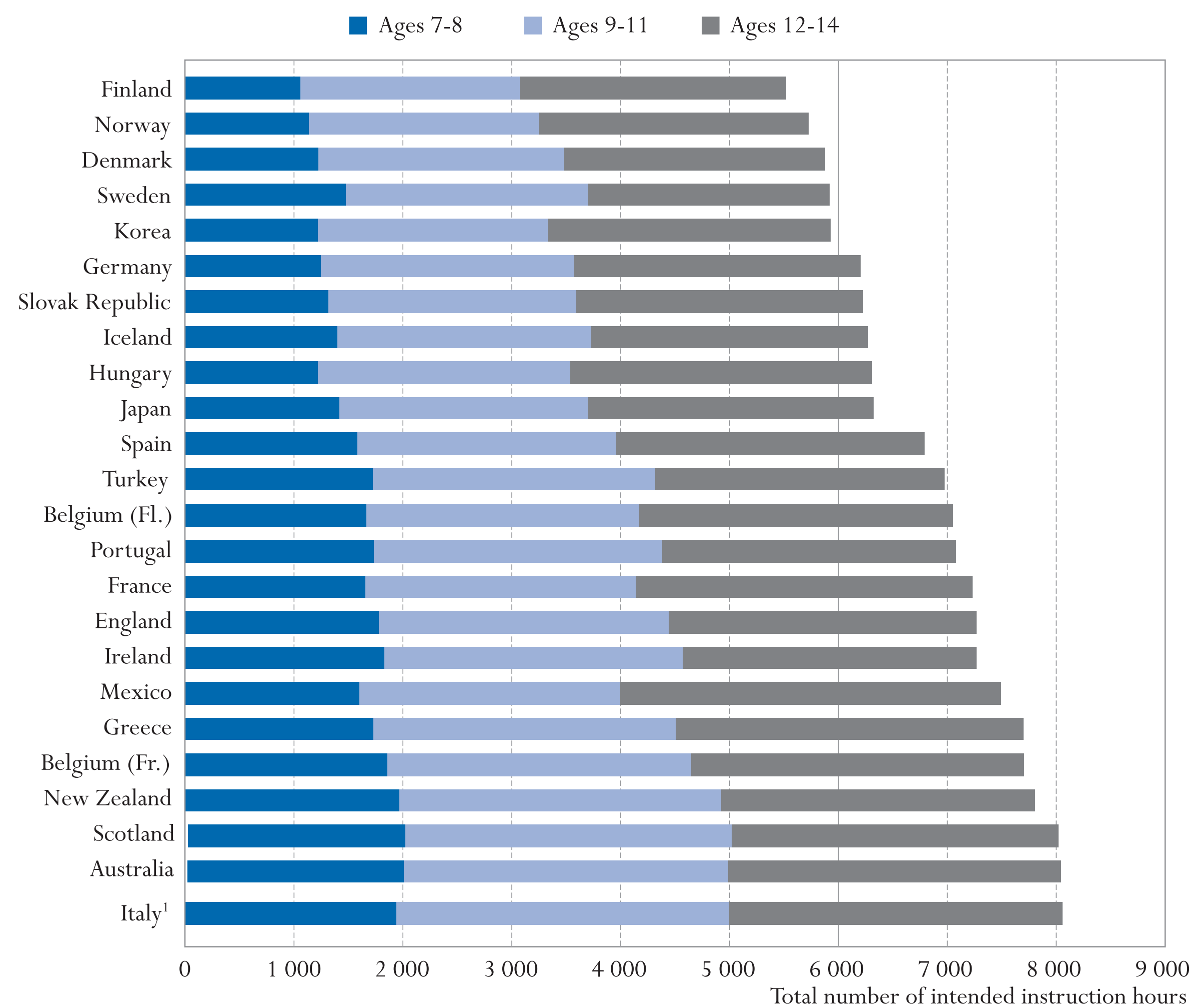
D

THE LEARNING ENVIRONMENT AND ORGANISATION OF SCHOOLS

INDICATOR D1: TOTAL INTENDED INSTRUCTION TIME FOR STUDENTS IN PRIMARY AND SECONDARY EDUCATION

- Students receive, on average, 6 868 hours of instruction between the ages of 7 and 14, of which 1 576 hours are between ages 7 and 8, 2 510 hours between ages 9 and 11 and 2 782 hours between ages 12 and 14 years.
- Students between the ages of 7 and 8 in OECD countries receive an average of 752 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. However, these figures vary significantly among countries.
- The teaching of reading and writing, mathematics and science comprises almost half of the compulsory instruction time for students aged 9 to 11 years and 41% for students aged 12 to 14 years. Among countries, there is great variation in the percentage of the curriculum for 9 to 11-year-olds that is devoted to reading and writing as a compulsory subject; this ranges from 12% of the curriculum in Portugal to 31% in the Slovak Republic.

Chart D1.1. Total number of intended instruction hours in public institutions between ages 7 and 14 (2002)



1. Year of reference 2001.

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/eag2004).*

D1

Policy context

This indicator shows intended instruction time in classroom settings in the formal education system.

The amount and quality of time that people spend learning between early childhood and the start of their working lives, shapes their lives, socially and economically. Instruction time in formal classroom settings comprises a large part of the public investment in student learning. Matching resources with students' needs and using time in an optimal manner, from the perspective of the learner and of public investment, are major challenges for education policy. Costs of education include primarily teacher labour, institutional maintenance and other educational resources. The length of time during which resources are made available to students, as shown in this indicator on instruction time in classroom settings in the formal education system, is therefore important.

Evidence and explanations

What this indicator shows

Intended instruction time is an important indicator of the public resources invested in education…

This indicator captures intended instruction time as a measure of exposure to learning in formal classroom settings as per public regulations. It also shows how instruction time is allocated to different curricular areas. The indicator is calculated as the intended net hours of instruction for the grades in which the majority of students are 7 to 15 years of age. Although such data are difficult to compare among countries because of different curriculum policies, they nevertheless provide an indication of how much contact time countries consider students need in order to achieve the educational goals that have been set for them.

…but needs to be interpreted in the context of often considerable variation among regions and schools…

In some countries, intended instruction time varies considerably among regions or different types of school. In many countries, local education authorities or schools can determine the number and allocation of hours of instruction. Additional teacher time is often planned for individual remedial teaching or enhancement of the curriculum. On the other hand, time may be lost due to a lack of qualified substitutes to replace absent teachers, or to student absences.

…and in the context of other forms of learning time and of the quality of teaching, which are not captured by this indicator.

Annual instruction time should also be examined together with the length of compulsory education, which measures the time during which young people receive full-time educational support from public resources, or during which more than 90% of the population participates in education (see Indicator C1). In addition, intended instruction time also does not capture the quality of learning opportunities being provided or the level or quality of human and material resources involved. Indicator D2, measuring the numbers of teachers relative to the student population provides some context for this.

D1

Total intended instruction time in classroom settings in the formal education system

Total intended instruction time is an estimate of the number of hours during which students are taught both the compulsory and non-compulsory parts of the curriculum.

Students receive, on average, 6 868 hours of instruction between the ages of 7 and 14.

The total number of instruction hours that students are intended to receive between ages 7 and 14 averages 6 868 hours among OECD countries. However, formal requirements range from 5 523 hours in Finland to around 8 000 hours in Australia, Italy and Scotland. These hours comprise compulsory and non-compulsory hours during which the school is obliged to offer instruction to students. Whereas the total intended instruction time within this age range is a good indicator of students' theoretical workload, it cannot be interpreted as actual instruction students receive over the years they spend in initial education. In some countries with greater student workload, the age band of compulsory education is less and students drop out of the school system earlier, whereas in other countries a more even distribution of study time over more years amounts in the end to a larger number of total instruction hours for all. Table D1.1 shows the age range at which over 90% of the population is in education and Chart D1.1 shows the total amount of intended instruction time students receive between ages 7 and 14.

Compulsory instruction time in classroom settings in the formal education system

Total compulsory instruction time is an estimate of the number of hours during which students are taught both the compulsory core and compulsory flexible parts of the curriculum.

For 7 to 8-year-olds and 9 to 11-year-olds, total intended instruction time equals total compulsory instruction time in most countries, while for older age groups this is less frequently the case. Intended instruction time is fully compulsory for all age groups between 7 and 15 years in Denmark, Germany, Iceland, Korea, Norway, Scotland and Sweden.

Within the formal education system, the annual amount of total compulsory instruction time in classroom settings averages 752 hours for 7 to 8-year-olds, 816 hours for 9 to 11-year-olds and 900 hours for 12 to 14-year-olds. The average number of compulsory instruction hours per year is 923 for the typical programme in which most 15-year-olds are enrolled (Table D1.1).

Curriculum reform in Portugal

In 2001/2002 Portugal undertook curricular reform for primary education; this resulted in a new curriculum, new priorities and a re-allocation of time. In upper secondary education a less demanding programme was launched to award students with an ISCED level 2 of professional education and give them direct access to the labour market.

The first cycle (pupils aged 6-10) of 25 hours compulsory curriculum per week does not specify the amount of time allocated to each area. The curriculum comprises both subject and non-subject areas. Subject areas include: Portuguese language, mathematics, environmental studies and expressions (artistic and physical). Non-subject areas include: project area, tutorial learning and civic education. In the second cycle of primary education (pupils aged 10-11), the amount of time allocated to each area is specified but within these areas schools can decide to a certain extent the time to be allocated to each subject. The curriculum comprises subject areas and non-subject areas. Subject areas encompass language and social studies (Portuguese, foreign language, history and geography of Portugal), mathematics and science, artist and technological education. The non-subject areas include: project area, tutorial learning and civic education. Students can attend classes on religion as a non-curricular subject.

Curriculum policies

In some OECD countries, subjects and content are defined, and time is allocated at a national (or sub-national) level…

Decision-making responsibilities for planning students' programmes of learning vary greatly from country to country. Two basic models exist in OECD countries, with several variants.

In one model of curriculum regulation, national or regional authorities specify subject areas, the time allocated to them and their content. Schools must respect these national or sub-national curricular specifications with varying degrees of flexibility. In Austria, England, France, Germany, Greece, Portugal and Spain, the national authorities (German *Länder*, Spanish Autonomous Communities) establish curricula for all types of schools, grades and subjects. Typically, the documents define subjects, the time allocated to them and the content in more or less detail by grade level and type of programme; the school is responsible for managing and delivering the curriculum.

Curriculum regulation in Spain

Through official regulations, the Spanish Ministry of Education establishes the national minimum core curriculum, which must be implemented in the Autonomous Communities (55-65% of instruction time). The remainder of instruction time is regulated by each Autonomous Community, according to its own priorities. Instruction time has not changed for primary education since 1991, except for the experimental introduction of foreign language studies in the first two years of primary education in some Autonomous Communities. Regarding lower secondary education, the Ministry of Education changed the national minimum core curriculum at the end of the year 2000, so that for the school year 2001-2002 all the Autonomous Communities had to reorganise their own timetables in order to incorporate the changes at the national level. This explains the changes between the 2001 and 2002 data.

…while in others, local school authorities, or the schools themselves, are primarily responsible for providing the curricula, with attainment targets set at the national level.

D1

In the second model of curriculum regulation, national authorities establish attainment targets or standards, while local authorities or schools are responsible for planning and implementing curricula. For example, in both the Flemish and French Communities of Belgium, the Czech Republic, Denmark, the Netherlands, New Zealand and Scotland, national policy documents describe the targets, and local authorities or schools specify the subjects, content and time allocated to them. National policy documents in these countries often provide a frame for planning by specifying minimum requirements for subjects to be taught, time to be devoted to study areas and/or desirable content for studies thereby giving guidance to schools for curriculum planning.

Compulsory curriculum regulations in Denmark

In Denmark, the Ministry of Education issues regulations pertaining to the aims of teaching in each subject and topic, as well as curriculum guidelines for individual subjects and the distribution of lessons. Within this framework, schools and municipalities are permitted to work out their own curricula.

Development of curriculum policies in different countries suggests that countries seek a balance between national standards and local autonomy in curriculum decisions.

National curriculum documents play an important role in shaping school curricula irrespective of the legal status of the curriculum documents. Combined with graduation requirements and examinations they serve the purpose of harmonising the content of education within countries. Recent developments in curriculum policies show a tendency towards decentralisation of curriculum decisions in countries where centralised prescriptive syllabi were in use for many decades (*e.g.* in the German-speaking European countries and Eastern Europe). At the same time, in countries with traditionally decentralised curriculum policies (like Australia, New Zealand and the United Kingdom), national standards of competence levels have been negotiated in the past 20 years. As a result of cross-fertilisation, national curriculum documents have become more similar among countries, and an international "core curriculum" appears to be emerging with similar study areas and more similar descriptions of desired competence levels.

The teaching of reading and writing, mathematics and science comprises almost half the compulsory instruction time for all students aged 9 to 11 years…

For students aged 9 to 11 years, 49% of the compulsory curriculum on average is devoted to the three basic subject areas: reading and writing (24%), mathematics (16%) and science (9%). On average, 8% of the compulsory curriculum is devoted to social studies and 6% to modern foreign languages. The arts account for 12% and physical education accounts for 9% of the total compulsory curriculum time. These seven study areas form part of the curriculum in all OECD countries for these age cohorts. At this level, classroom activities in the study areas are not necessarily organised as separate subject classes (Table D1.2a and Chart D1.2a).

On average reading and writing account for the greatest share of the curriculum, but the variation in this share among countries is greater than for other subjects; reading and writing accounts for only 12% of instruction time in Portugal, compared with 31% in the Slovak Republic. Sizeable variation is also evident in the social sciences, which account for 2% of instruction time in Austria and Finland but 20% in Mexico.

…and 41% for students aged 12 to 14 years.

For 12 to 14-year-old students in OECD countries, an average of 41% of the compulsory curriculum is devoted to three basic subject areas: reading and writing (16%), mathematics (13%) and science (12%). In these age cohorts, a relatively larger part of the curriculum is devoted to social studies (12%) and modern foreign languages (11%), whereas somewhat less time is devoted to the arts (8%). Physical education accounts for 8%. These seven study areas form part of the compulsory curriculum in all OECD countries for lower secondary students. Technology is included as part of the compulsory curriculum in about half of the countries, and religion is included in over half of the OECD countries (Table D1.2b and Chart D1.2b).

The variation between countries in the percentage share of subjects within the curriculum for 12 to 14-year-olds is less than it is for 9 to 11-year-olds. Again, the greatest variation is evident in reading and writing with a range from 10% in the Netherlands to 29% in Ireland (reading and writing includes both in English and Irish).

Chart D1.2a. Intended instruction time for 9 to 11-year-olds in public institutions, by school subject (2002)

Percentage of total intended instruction time devoted to various subject areas within the total compulsory curriculum and non-compulsory curriculum

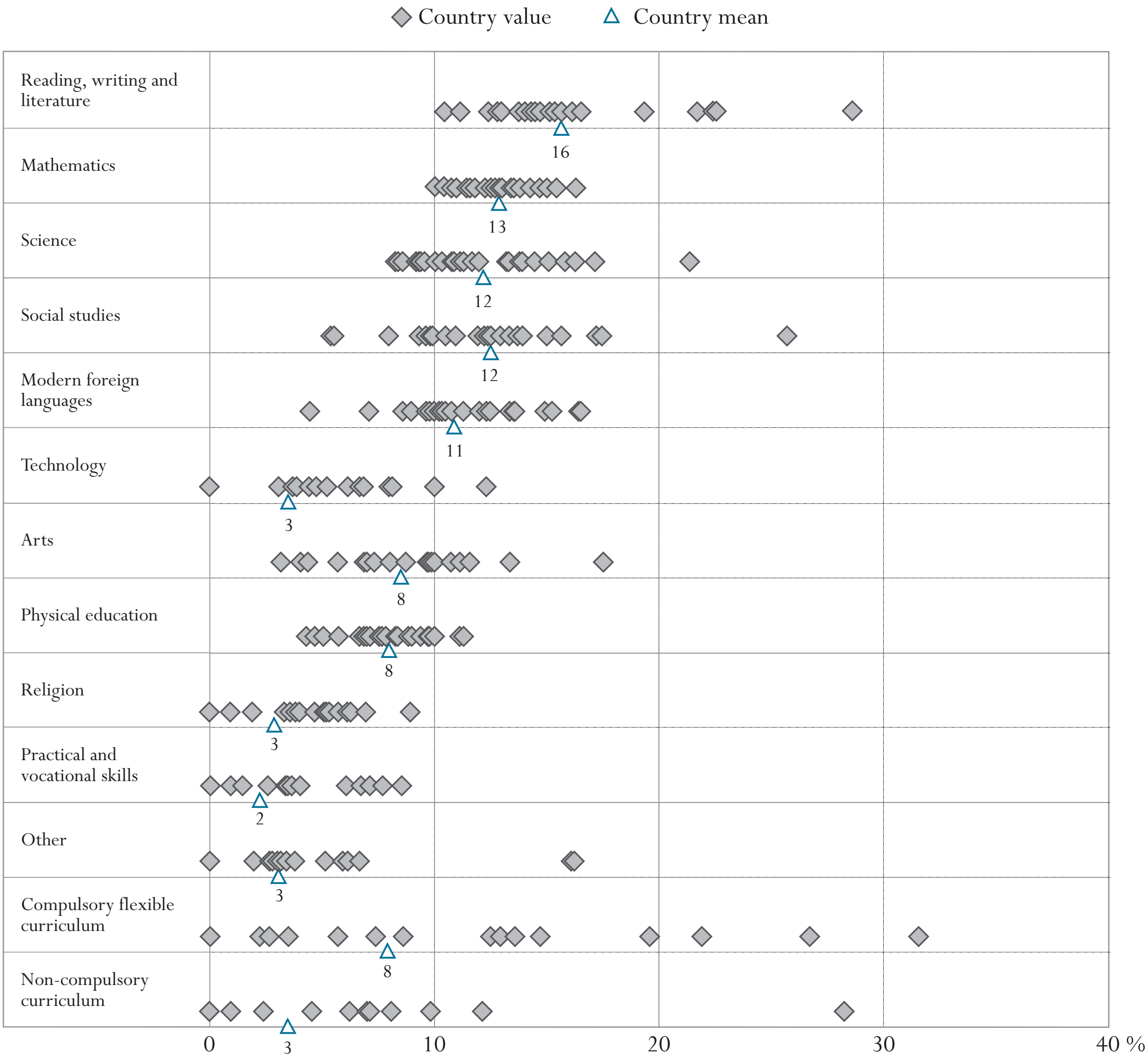
Source: OECD. Table D1.2a. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

On average, the non-compulsory part of the curriculum accounts for 2% of total intended instruction time for the 9 to 11-year-olds and 3% for the 12 to 14-year-olds, but this varies greatly among countries.

On average, the non-compulsory part of the curriculum comprises 2% of the total intended instruction time for 9 to 11-year-old students and 3% for 12 to 14-year-old students. However, a considerable amount of additional non-compulsory instruction time can sometimes be provided. In primary schools, all intended instruction time is compulsory for students in most OECD countries, but the additional non-compulsory part is as high as 20% in Turkey, 15% in Hungary and 11% in the French Community of Belgium. In lower secondary education, non-compulsory instruction time is a feature in Australia, the French Community of Belgium, England, Finland, France, Hungary, Ireland, the Slovak

Chart D1.2b. Intended instruction time for 12 to 14-year-olds in public institutions, by school subject (2002)

Percentage of total intended instruction time devoted to various subject areas within the total compulsory curriculum and non-compulsory curriculum



Source: OECD. Table D1.2b. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

D1

Republic, Spain and Turkey, and ranges from 1% in Spain to 28% in Hungary (Tables D1.2a and D1.2b). On average, 4% of compulsory instruction time belongs to the flexible part of the curriculum in the grades where most students are 9 to 11 years of age while the corresponding proportion is 8% for students aged 12 to 14.

The curriculum in Ireland

The curriculum for students aged 12-15 years consists of compulsory subjects and approved subjects. The compulsory subjects for students attending secondary schools are Irish, English, mathematics, history, geography and civic, social and political education (CSPE). For students attending vocational schools or community colleges, history and geography are not compulsory. In place of these two subjects, students must take one of the following: technical graphics; art; craft and design; home economics or business studies. Students must also take at least two more subjects from the following list of approved subjects which includes all of the subjects above plus Latin, Greek, classical studies, Hebrew studies, Spanish, Italian, French, German, science, technology, music, materials technology (wood), metalwork, typewriting, environmental and social studies and religious education. In practice most schools offer, and most students take, three rather than two of the above listed approved subjects. From September 2003, all students in this age group must take social, personal and health education (SPHE) as a non-examinable subject. Physical education should also form part of the curriculum.

Because most students take science and at least one foreign language from the list of approved subjects, these two subjects have been entered in the data as compulsory subjects and the third subject taken by students has been entered under non-compulsory curriculum.

There are no regulations governing the precise amount of time to be spent each year on teaching the individual subjects in the curriculum.

In most OECD countries, the number of hours of compulsory instruction is defined. Within the compulsory part of the curriculum, students have varying degrees of freedom to choose the subjects they want to learn. However, for 9 to 11-year-olds, Australia stands out as operating 58% of the compulsory curriculum on a flexible basis. Scotland has the second highest degree of flexibility (20%). For 12 to 14-year-olds, Australia and Scotland again have the highest degree of flexibility in the compulsory curriculum (32% and 27% respectively), although several other countries allow more than 10% of flexibility in the compulsory curriculum (the French Community of Belgium, Finland, Iceland, Korea, the Netherlands, Portugal and Spain) (Tables D1.2a and D1.2b).

Definitions and methodologies

Data on instruction time are from the 2003 OECD-INES Survey on Teachers and the Curriculum and refer to the school year 2001-2002.

Instruction time for 7 to 15-year-olds refers to the formal number of 60-minute hours per school year organised by the school for class instructional activities for students in the reference school year 2001-2002. For countries with no formal policy on instruction time, the number of hours was estimated from survey data. Hours lost when schools are closed for festivities and celebrations, such as national holidays, are excluded. Intended instruction time does not include non-compulsory time outside the school day, homework, individual tutoring, or private study done before or after school.

- ***Compulsory curriculum*** refers to the amount and allocation of instruction time that almost every school must provide and almost all students must attend. The measurement of the time devoted to specific study areas (subjects) focuses on the minimum common core rather than on the average time spent on study areas, since the data sources (policy documents) do not allow more precise measurement. Total compulsory curriculum comprises the compulsory core curriculum as well as the compulsory flexible curriculum.
- The ***compulsory core curriculum*** refers to the set or groups of subjects (study areas) that are common to all students – such as mathematics, science, social studies, language of instruction and, in some cases, a foreign language – and which can be considered core study areas. Even if all students must study all core study areas, choices may be made within a study area. For example, there may be a choice between an integrated science subject and separate science subjects like biology or physics, or between foreign languages.
- ***Compulsory flexible curriculum*** refers to the part of the compulsory curriculum where there is flexibility in time spent on a subject and/or a choice can be made between study areas. For example, a school may be able to choose between offering religious education or more science, or art, but is required to offer one of these subjects within the compulsory time framework.
- The ***non-compulsory part of the curriculum*** refers to the average time of instruction to which students are entitled above the compulsory hours of instruction. These subjects often vary from school to school or from region to region, and may take the form of "non-compulsory elective" subjects.
- ***Intended instruction time*** refers to the number of hours per year during which students receive instruction in the compulsory and non-compulsory parts of the curriculum.

For 15-year-olds, typical instruction time refers to the programme in which most 15-year-olds are enrolled. This can be a programme in lower or upper secondary education, and in most countries it refers to a general programme. If the system channels students into different programme types at this age, an estimation of the average instruction time may have been necessary for the most important mainstream programmes weighted by the proportion of students in the grade level where most 15-year-olds are enrolled. Where vocational programmes are also calculated in typical instruction time, only the school-based part of the programme should be included in the calculations.

The instruction time for the least demanding programme refers to programmes stipulated for students who are least likely to continue studying beyond mandatory school age or beyond lower secondary education. Such programmes may or may not exist in a country depending on streaming and selection policies. In many countries students are offered the same amount of instruction time in all or most programmes, but there is flexibility in the choice of study areas or subjects. Often such choices have to be made quite early if programmes are long and differ substantially.

For the classification of subject areas and specific notes on countries, see *www.oecd.org/edu/eag2004*.

Table D1.1. Compulsory and non-compulsory instruction time in public institutions (2002)

Average number of hours per year of total compulsory and non-compulsory instruction time in the curriculum for 7 to 8, 9 to 11, 12 to 14 and 15-year-olds

OECD COUNTRIES	Age range at which over 90% of the population are enrolled	Average number of hours per year of total compulsory instruction time					Average number of hours per year of total intended instruction time				
		Ages 7-8	Ages 9-11	Ages 12-14	Age 15 (typical programme)	Age 15 (minimum required programme)	Ages 7-8	Ages 9-11	Ages 12-14	Age 15 (typical programme)	Age 15 (minimum required programme)
Australia	5 - 16	993	994	974	964	964	993	994	1 019	1 021	1 021
Austria	5 - 16	678	833	997	1 095	1 048	m	m	m	m	m
Belgium (Fl.)	3 - 17	a	a	a	a	a	835	835	960	960	450
Belgium (Fr.)	3 - 17	840	840	960	1 020	m	930	930	1 020	m	m
Czech Republic	5 - 17	645	716	800	881	342	m	m	m	m	m
Denmark	4 - 15	615	750	800	720	720	615	750	800	720	720
England	4 - 15	861	889	870	893	a	890	890	940	940	a
Finland	6 - 17	530	654	796	858	a	530	673	815	858	a
France	3 - 17	829	829	939	1 018	m	829	829	1 031	1 122	m
Germany	6 - 17	626	774	877	899	m	626	774	877	899	m
Greece	6 - 16	864	928	1 064	1 216	1 034	864	928	1 064	1 459	1 277
Hungary	5 - 16	555	670	722	832	833	611	772	925	1 206	1 207
Iceland	3 - 16	700	778	848	863	a	700	778	848	863	a
Ireland	5 - 16	915	915	839	802	713	915	915	899	891	891
Italy[1]	3 - 15	969	1 020	1 020	m	m	969	1 020	1 020	m	m
Japan	4 - 17	709	761	875	m	a	709	761	875	m	a
Korea	6 - 17	612	703	867	1 020	a	612	703	867	1 020	a
Mexico	6 - 12	800	800	1 167	1 058	a	800	800	1 167	1 124	a
Netherlands	4 - 16	m	1 000	1 067	m	a	m	1 000	1 067	m	a
New Zealand	4 - 15	m	m	m	m	m	985	985	962	950	950
Norway	6 - 17	570	703	827	855	a	570	703	827	855	a
Portugal	5 - 15	870	865	899	827	1 233	870	882	899	827	1 233
Scotland	4 - 15	1 000	1 000	1 000	1 000	a	1 000	1 000	1 000	1 000	a
Slovak Republic	6 - 16	616	716	821	831	a	659	759	879	888	a
Spain	3 - 16	792	792	936	963	969	792	792	944	969	969
Sweden	6 - 18	741	741	741	741	a	741	741	741	741	a
Switzerland	6 - 16	m	m	m	m	m	m	m	m	m	m
Turkey	7 - 12	720	720	791	959	a	864	864	887	959	a
United States	5 - 15	m	m	m	m	m	m	m	m	m	m
Country mean		*752*	*816*	*900*	*923*	*873*	*788*	*843*	*933*	*965*	*969*

1. Year of reference 2001. "Ages 12-14" covers ages 12 to 13 only.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

D1

Table D1.2a. Instruction time per subject as a percentage of total compulsory instruction time for 9 to 11-year-olds (2002)

Percentage of intended instruction time devoted to various subject areas within the total compulsory curriculum

		Compulsory core curriculum														
		Reading, writing and literature	Mathematics	Science	Social studies	Modern foreign languages	Technology	Arts	Physical education	Religion	Practical and vocational skills	Other	Total compulsory core curriculum	Compulsory flexible curriculum	Total compulsory curriculum	Non-compulsory curriculum
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD COUNTRIES	Australia[1]	13	9	3	3	2	3	4	4	1	n	n	42	58	100	n
	Austria	23	15	10	2	7	n	20	12	7	x(12)	2	100	x(12)	100	m
	Belgium (Fl.)	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	Belgium (Fr.)[1]	x(11)	x(11)	x(11)	x(11)	5	x(11)	x(11)	7	7	x(11)	81	100	m	100	11
	Czech Republic[2]	24	19	16	4	12	n	15	8	n	3	n	100	n	100	m
	Denmark	25	16	8	4	7	n	21	11	4	n	4	100	n	100	n
	England	28	23	10	8	n	9	9	7	5	n	n	100	n	100	n
	Finland	23	16	11	2	9	n	14	9	6	n	n	90	10	100	3
	France	28	20	5	10	9	3	8	15	n	n	n	100	n	100	n
	Germany	21	18	6	6	7	1	16	11	7	n	4	97	3	100	n
	Greece	29	14	11	11	10	n	8	7	7	n	2	100	n	100	n
	Hungary	26	18	6	6	7	n	13	11	n	6	7	100	n	100	15
	Iceland	16	15	8	8	4	6	12	9	3	5	3	89	11	100	n
	Ireland	30	12	12	4	n	n	12	4	10	n	17	100	n	100	n
	Italy	17	10	8	11	10	3	13	7	6	n	n	84	16	100	n
	Japan	23	17	10	10	n	5	14	10	n	n	10	100	n	100	n
	Korea	19	13	10	10	5	n	13	10	n	4	3	87	13	100	n
	Mexico	30	25	15	20	n	n	5	5	n	n	n	100	n	100	n
	Netherlands[3]	30	19	x(4)	15	2	2	10	7	4	n	12	100	n	100	n
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Norway	22	15	7	8	6	n	16	7	9	n	9	100	n	100	n
	Portugal[4]	12	12	9	9	11	12	6	9	n	n	17	97	3	100	3
	Scotland	20	15	5	5	x(1)	5	10	5	5	x(13)	10	80	20	100	n
	Slovak Republic	31	20	8	8	5	n	12	11	1	4	n	100	n	100	6
	Spain	21	17	9	9	12	n	12	11	x(13)	n	n	92	8	100	n
	Sweden	22	14	12	13	12	x(3)	7	8	x(4)	7	n	94	6	100	n
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	19	13	10	10	9	n	7	6	7	10	1	91	9	100	20
	United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Country mean[1]	***24***	***16***	***9***	***8***	***6***	***2***	***12***	***9***	***4***	***2***	***4***	***96***	***4***	***100***	***2***
PARTNER COUNTRIES	Argentina[5]	19	19	15	15	7	4	7	7	a	a	n	93	7	100	m
	Chile	m	m	m	m	m	m	m	m	m	m	m	75	25	100	m
	Egypt	30	15	9	6	9	2	5	7	7	5	5	100	a	100	m
	India	19	17	12	12	19	a	4	12	a	a	a	96	4	100	m
	Indonesia	22	22	13	11	a	a	5	5	5	13	5	100	a	100	m
	Jordan	23	15	12	8	15	a	3	a	9	5	9	100	a	100	m
	Malaysia[5]	21	15	11	9	15	n	4	4	13	4	4	100	a	100	m
	Paraguay[5]	26	13	8	10	x(1)	7	10	7	3	x(7)	10	93	7	100	m
	Peru[5]	14	14	12	23	6	a	6	6	6	7	n	93	7	100	m
	Philippines	13	13	13	13	13	a	8	4	a	13	13	100	a	100	m
	Russian Federation	31	15	4	9	6	6	6	6	a	m	m	85	15	100	m
	Sri Lanka	13	20	20	10	13	5	5	5	5	5	n	100	n	100	m
	Thailand	14	10	m	m	m	m	m	m	m	23	39	86	14	100	m
	Tunisia	27	13	5	2	35	2	4	3	4	n	5	100	n	100	m
	Uruguay[5]	24	23	12	17	a	a	8	3	a	a	a	86	14	100	m
	Zimbabwe	19	13	8	8	17	8	4	4	8	8	n	100	n	100	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. Australia and Belgium (Fr.) are not included in the country mean.
2. For 9 to 10-year-olds, social studies is included in science.
3. Includes 9 and 11-year-olds only.
4. Includes 10 to 11-year-olds only.
5. Year of reference 2001.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

D1

Table D1.2b. Instruction time per subject as a percentage of total compulsory instruction time for 12 to 14-year-olds (2002)

Percentage of intended instruction time devoted to various subject areas within the total compulsory curriculum

	Compulsory core curriculum														
	Reading, writing and literature	Mathematics	Science	Social studies	Modern foreign languages	Technology	Arts	Physical education	Religion	Practical and vocational skills	Other	Total compulsory core curriculum	Compulsory flexible curriculum	Total compulsory curriculum	Non-compulsory curriculum
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD COUNTRIES															
Australia	11	11	9	8	4	7	7	8	1	n	3	68	32	100	5
Austria	12	15	14	12	10	n	18	11	6	n	n	100	x(12)	100	m
Belgium (Fl.)	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
Belgium (Fr.)[1]	16	13	9	13	13	3	3	9	6	n	3	88	13	100	6
Czech Republic	14	14	21	14	11	n	11	7	n	7	n	100	n	100	m
Denmark	23	15	14	13	11	n	10	8	4	n	4	100	n	100	n
England	14	13	14	14	10	12	10	8	5	n	n	100	n	100	8
Finland	13	12	13	5	14	n	9	7	4	4	n	80	20	100	2
France	17	15	12	13	12	6	7	11	n	n	n	93	7	100	10
Germany	14	13	10	12	16	4	10	9	5	1	2	97	3	100	n
Greece	12	11	10	10	15	5	6	8	6	1	16	100	n	100	n
Hungary	13	13	13	15	9	4	12	9	n	8	5	100	n	100	28
Iceland	14	14	8	6	17	4	7	8	2	4	3	85	15	100	n
Ireland[2]	29	13	11	16	7	x(15)	4	5	9	x(15)	6	100	n	100	7
Italy[1]	22	10	10	15	10	10	13	7	3	n	n	100	n	100	n
Japan	14	12	11	12	13	7	11	10	n	n	7	98	2	100	n
Korea	14	12	11	10	10	4	7	9	n	3	6	85	15	100	n
Mexico	14	14	17	26	9	n	6	6	n	9	n	100	n	100	n
Netherlands	10	10	8	11	14	5	7	9	n	3	n	78	22	100	n
New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Norway	16	13	9	11	10	n	8	10	7	n	16	100	n	100	n
Portugal	13	13	15	17	10	n	10	10	n	n	n	87	13	100	n
Scotland	19	10	9	9	x(1)	8	8	5	5	x(13)	n	73	27	100	n
Slovak Republic	15	16	16	17	10	n	7	7	3	3	n	97	3	100	7
Spain	15	11	11	10	10	8	11	7	x(13)	x(13)	3	86	14	100	1
Sweden	22	14	12	13	12	x(3)	7	8	x(4)	7	n	94	6	100	n
Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Turkey	15	14	16	10	15	n	4	4	5	6	3	91	9	100	12
United States	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Country mean	***16***	***13***	***12***	***12***	***11***	***3***	***8***	***8***	***3***	***2***	***3***	***92***	***8***	***100***	***3***
PARTNER COUNTRIES															
Argentina[3]	13	13	13	15	8	8	8	8	a	a	5	90	10	100	m
Chile	m	m	m	m	m	m	m	m	m	m	m	79	21	100	m
Egypt	24	13	11	8	13	5	5	5	5	5	4	100	a	100	m
India	11	15	15	13	13	a	4	13	a	a	a	83	17	100	m
Indonesia	16	16	14	13	6	a	5	5	5	15	5	100	a	100	m
Jordan	20	12	8	8	15	5	3	2	8	6	12	100	a	100	m
Malaysia[3]	13	11	11	13	11	n	4	4	9	9	13	100	a	100	m
Paraguay[3]	20	12	14	13	x(1)	12	10	5	2	x(7)	7	95	5	100	m
Peru[3]	14	14	12	23	6	a	6	6	6	7	n	93	7	100	m
Philippines	9	9	9	9	9	18	6	3	a	a	9	82	18	100	m
Russian Federation	23	13	14	13	8	6	4	5	a	a	m	87	13	100	m
Sri Lanka	13	20	20	10	13	5	5	5	5	5	n	100	n	100	m
Thailand	11	6	9	11	m	m	3	9	m	6	14	69	31	100	m
Tunisia	17	14	5	5	23	7	7	10	5	n	7	100	n	100	m
Uruguay[3]	13	13	16	16	12	9	11	5	a	a	5	100	n	100	m
Zimbabwe	13	11	11	8	13	11	10	5	7	11	n	100	n	100	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.

1. Includes 12 to 13-year-olds only.
2. For 13 to 14-year-olds, arts is included in non-compulsory curriculum.
3. Year of reference 2001.

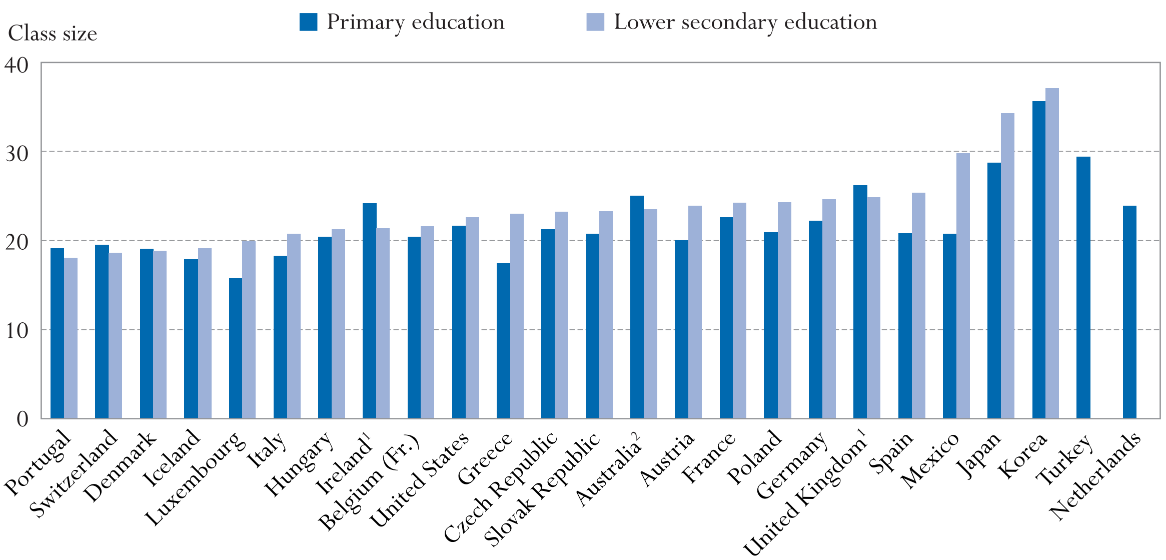
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

D1

INDICATOR D2: CLASS SIZE AND RATIO OF STUDENTS TO TEACHING STAFF

- The average class size in primary education is 22, but varies between countries from 36 students per class in Korea to less than half of that number in Greece, Iceland 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.
- Teaching and non-teaching staff employed in primary and secondary schools ranges from less than 81 persons per 1 000 students enrolled in Japan, Korea and Mexico to 119 persons or more per 1 000 students in France, Hungary, Iceland, Italy and the United States.

Chart D2.1. Average class size in educational institutions, by level of education (2002)



1. Public institutions only.
2. Year of reference 2001.
Countries are ranked in ascending order of average class size in lower secondary education.
Source: OECD. Table D2.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

D2

Policy context

This indicator shows class sizes…

Class sizes are widely debated in many OECD countries. Smaller classes are valued because they may allow students to receive more individual attention from their teachers and reduce the disadvantage of managing large numbers of students and their work. However the predominance of teacher costs in educational expenditure means that reducing class sizes leads to sharp increases in the costs of education. Smaller class sizes may also influence parents when they choose schools for their children. In this respect class size is considered as a way to assess the quality of the school system.

School quality is also influenced by other factors, including 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. The number of students per class summarises different quality factors, but distinguishing between them would allow to understand differences between countries in the quality of the educational system (Box D2.1).

Box D2.1 Relationship between class size and ratio of students to teaching staff

The number of students per class results from different elements: the number of students compared to the number of teachers, the number of classes or students for which a teacher is responsible, the instruction time of students compared to the length of teachers' working days, the proportion of time teachers spend teaching, the grouping of students within classes and team teaching. The first element can be summarised by the number of full-time equivalent students compared to the number of full-time equivalent teachers, that is to say the ratio of students to teaching staff.

For example, in a school of 48 full-time students and 8 full-time teachers, the ratio of students to teaching staff equals 6. If teachers' working week is estimated to be 35 hours including 10 hours teaching, and if instruction time for each student is 40 hours per week, then whatever the grouping of students in this school, average class size can be estimated as follows:

Estimated class size = 6 students per teacher * (40 hours of instruction time per student / 10 hours of teaching per teacher) = 24 students.

Compared to this estimated figure, class size presented in Table D2.1 is defined as the division of students who are following a common course of study, based on the highest number of common courses (usually compulsory studies), and excludes teaching in sub-groups. Thus the estimated class size will be close to the average class size of Table D2.1 where teaching in sub-groups is less frequent (as is the case in primary and lower secondary education).

Because of these definitions, similar students-to-teacher ratios between countries can lead to different class sizes. For example, in primary education, Japan and the Slovak Republic have the same ratios of students to teaching staff (20.3 and 20.1) and yet the class size is notably larger in Japan than in the Slovak Republic (28.8 compared with 20.8 – see Table D2.1). Even allowing for some differences in coverage between the indicators, the explanation for this lies in the smaller proportion of time teachers spend teaching in Japan compared with the Slovak Republic: teachers spend 31.8% of their working time teaching in Japan compared with 47.9% in the Slovak Republic (see Indicator D4).

…ratios of students to teaching staff…

Determining the ratio of students to teaching staff aims to assess the quality of educational systems, on the assumption that a smaller ratio of students to teaching staff means better student access to teaching resources. This ratio is obtained by dividing the number of full-time equivalent "students" at a given level of education by the number of full-time equivalent "teachers" at that level and in similar types of institutions. However, this ratio does not take into account instruction time compared to the length of a teacher's working day, nor how much time teachers spend teaching, and therefore it cannot be interpreted in terms of class size.

The ratio of students to teaching staff is also an important indicator of the resources devoted to education. A smaller ratio of students to teaching staff may have to be weighed against higher salaries for teachers, greater investment in teaching technology, or more widespread use of assistant teachers and other paraprofessionals whose salaries are often considerably lower than those of qualified teachers. Moreover, as larger numbers of children with special educational needs are integrated into normal classes, more use of specialised personnel and support services may limit the resources available for reducing the ratio of students to teaching staff.

…and the proportion of teaching and non-teaching staff employed in education.

The number of teaching and non-teaching staff employed in education per 1 000 students is an indicator of the proportion of a country's human resources devoted to educating the population. The number of persons employed as either teachers or educational support personnel, and the level of compensation of educational staff (Indicator D3), are both important factors affecting the financial resources that countries commit to education.

Evidence and explanations

Average class size in primary and lower secondary education

The average class size in primary education is 22, but varies among countries from 36 students per class to less than half of that.

At the primary level, the average class size across OECD countries is 22 students per class, but varies widely among countries. It ranges from 36 students per primary class in Korea to fewer than 20 in Denmark, Greece, Iceland, Italy, Luxembourg, Portugal and Switzerland. At the lower secondary level, the average class size across OECD countries is 24 students per class and varies from 37 students per class in Korea to fewer than 20 in Denmark, Iceland, Luxembourg, Portugal and Switzerland (Table D2.1).

The number of students per class increases by an average of two students between primary and lower secondary education.

The number of students per class tends to increase, on average, by two students between primary and lower secondary education. In Greece, Japan, Luxembourg, Mexico and Spain, the increase in average class size exceeds four students, while Australia, Denmark, Ireland, Portugal and Switzerland show a drop in the number of students per class between these two levels (Chart D2.1). The indicator on class size is limited to primary and lower secondary education because class sizes are difficult to define and compare at higher levels of education, where students often attend several different classes, depending on the subject area.

Public institutions at the primary level have at least four students more per class than private institutions in the Czech Republic, Poland and Turkey.

There are some large differences in primary class sizes between public and private institutions within countries, but the differences are in both directions. Average class sizes at the primary level are more than four pupils per class higher in public institutions than in private institutions in the Czech Republic, Poland and Turkey, whereas the opposite is true in Greece, Japan, Portugal and Spain. Differences tend to be smaller at the lower secondary level, where private education is in fact more prevalent, and again the picture is a mixed one. There are on average four more students per class in public institutions than in private institutions in the United States but conversely, three students per class fewer in public institutions compared with private institutions in Greece and Spain (Table D2.1).

Ratio of students to teaching staff

In Korea, Mexico and Turkey, the ratio of students to teaching staff in primary education is approximately three times as high as it is in Hungary and Italy.

In primary education, the ratio of students to teaching staff, expressed in full-time equivalents, ranges from around 30 students per teacher in Korea, Mexico and Turkey to less than 11 in Hungary and Italy. The country mean in primary education is 17 students per teacher.

There is similar variation among countries in the ratio of students to teaching staff at the secondary level, ranging from about 29 students per full-time equivalent teacher in Mexico to less than 10 in Belgium, Greece, Luxembourg and Portugal. On average among countries, the ratio of students to teaching staff at the secondary level of education is around 14, which is close to the ratios in the Czech Republic (14), Finland (13), Germany (15), Japan (15), Poland (14), the Slovak Republic (14), Sweden (13) and the United Kingdom (15) (Table D2.2).

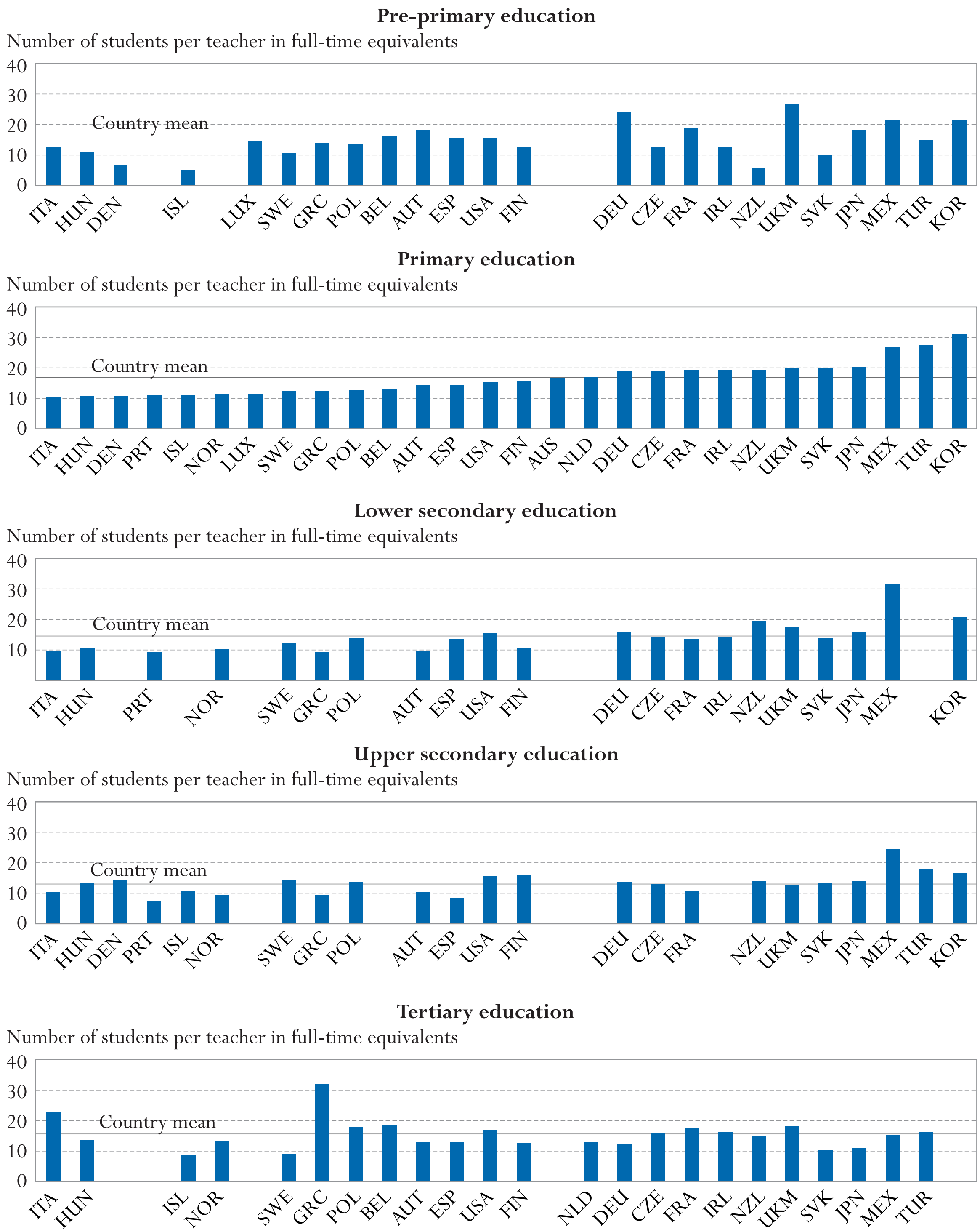
The ratio of students to teaching staff (expressed in full-time equivalents) varies also by type of institution. At the upper secondary level, among the 21 countries with comparable data, there are on average two students more per teacher in public institutions than in private institutions (Chart D2.3). However, in Austria, the Czech Republic, France, Iceland, Japan, Korea and Spain, private institutions have more students per teacher than public institutions (at least two students more except in Austria). On the contrary, in Italy, Mexico, Turkey and the United Kingdom public institutions have at least five students more per teacher than in private institutions.

Between primary and secondary education, there are fewer students per teacher as the level of education rises.

As the difference in the mean ratios of students to teaching staff between primary and secondary education indicates, there are fewer full-time equivalent students per full-time equivalent teacher as the level of education rises. With the exception of Hungary, Mexico, Poland, Sweden and the United States, the ratio of students to teaching staff in every OECD country decreases between primary and secondary levels of education, despite a tendency for class sizes to increase. This is mostly because instruction time tends to increase with the level of education.

In France, Korea and Turkey, the decrease in the ratio of students to teaching staff from the primary to the secondary level is between 7 and 13 full-time equivalent students per full-time equivalent teacher, which is more marked

Chart D2.2. Ratio of students to teaching staff in educational institutions, by level of education (2002)



Note: Please refer to the Reader's Guide for list of country codes and country names used in this chart.
Countries are ranked in ascending order of number of students per teacher in primary education.
Source: OECD. Table D2.2. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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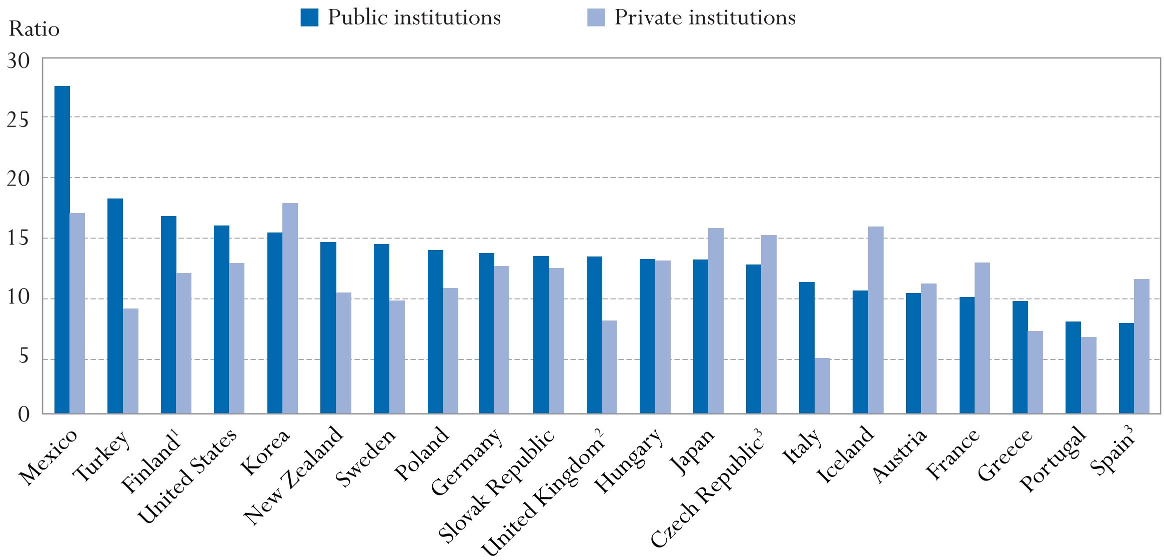
Chart D2.3. Ratio of students to teaching staff in upper secondary education, by type of institution (2002)



1. Includes programmes from post-secondary non-tertiary and tertiary-types A and B education.
2. Includes only general programmes in lower and upper secondary education.
3. Includes post-secondary non-tertiary education.
Countries are ranked in descending order of the ratio of students to teaching staff in public institutions.
Source: OECD. Table D2.2. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

than in other countries. In France and Korea, this mainly reflects differences in the annual instruction time, but it may also result from delays in matching the teaching force to demographic changes, or from differences in teaching hours for teachers at different levels of education. The general trend is consistent among countries, but it is not obvious from an educational perspective why a smaller ratio of students to teaching staff should be more desirable at higher levels of education (Table D2.2).

In general, the ratio of students to teaching staff at the tertiary level tends to be higher than that in secondary education.

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At the tertiary level of education, the ratio of students to teaching staff ranges from about 32 students per teacher in Greece to 11 or below in Iceland, Japan, the Slovak Republic and Sweden (Table D2.2). Such comparisons in tertiary education, however, should be made with caution since it is still difficult to calculate full-time equivalent students and teachers on a comparable basis at this level.

In 11 out of the 14 countries for which data are available for both tertiary-type A and advanced research programmes and tertiary-type B education, the ratio of students to teaching staff is lower in the generally more occupationally specific tertiary-type B programmes than in tertiary-type A and advanced research programmes (Table D2.2). The Czech Republic, Germany and Turkey are the only countries with a higher ratio in tertiary-type B programmes, and in the case of Turkey, this is particularly marked.

The ratio of students to teaching staff in pre-primary education tends to be lower than in primary education, but slightly higher than in secondary education. In pre-primary education, the ratio ranges from fewer than six students per teacher in Iceland and New Zealand to 21 students or more per teacher in Germany, Korea, Mexico and the United Kingdom. There is little apparent relationship between the ratio of students to teaching staff in pre-primary and primary education, suggesting that the staffing requirements or emphases at these levels differ within countries (Table D2.2).

The ratio of students to teaching staff in pre-primary education tends to be between that in primary and secondary education.

Teaching staff and non-teaching staff employed in education

The variation among countries in the relative size of the teaching force cannot be explained solely by differences in the size of the school-age population, but is also affected by the average class size, the total instruction time of students (Indicator D1), teachers' average working time (Indicator D4) and the division of teachers' time between teaching and other duties.

Average class sizes, total instruction time and teachers' working time contribute to country variation.

There are significant differences among OECD countries in the distribution of educational staff between teaching and other categories, reflecting differences among countries in the organisation and management of schooling. Teaching and non-teaching staff employed in primary and secondary schools ranges from less than 81 persons per 1 000 students enrolled in Japan, Korea and Mexico to 119 persons or more per 1 000 students in France, Hungary, Iceland, Italy and the United States (Chart D2.4).

The relative proportions of teachers and other educational personnel differ widely from one country to another.

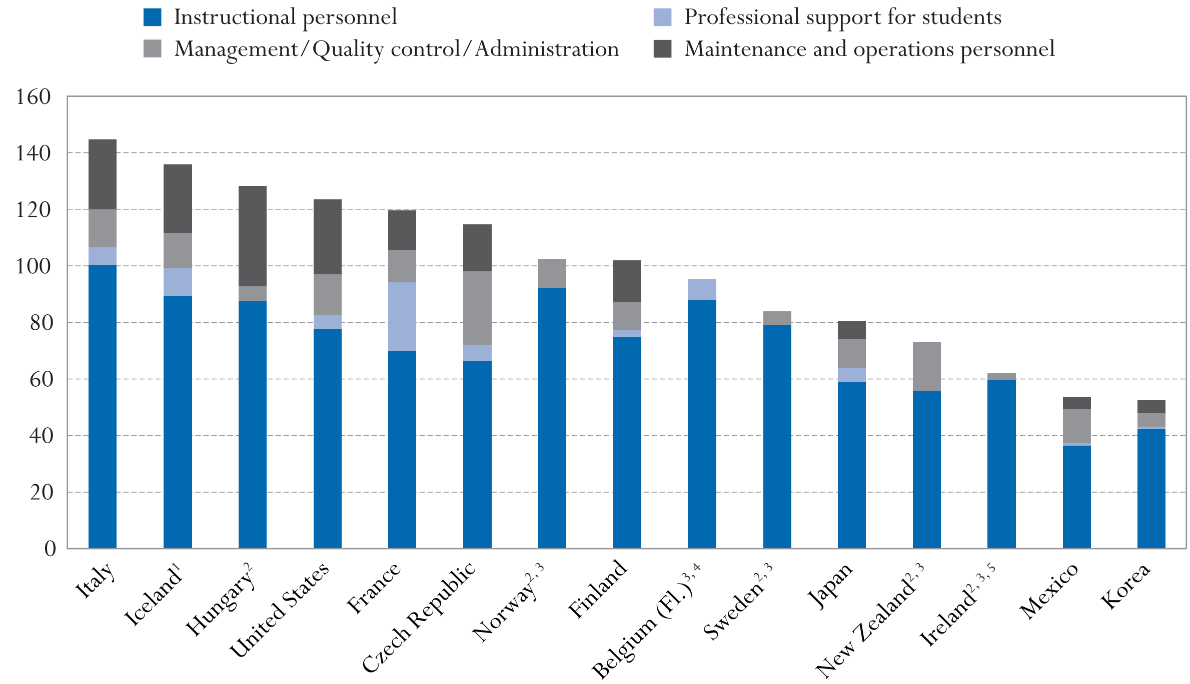
Among the 10 OECD countries for which data are available for each category of personnel employed in education, the staff not classified as instructional personnel represent on average more than 30% of the total teaching and non-teaching staff in primary and secondary schools. In five of these countries, these staff represent between 30 and 40% of total teaching and non-teaching staff. This proportion exceeds 40% in the Czech Republic and France and is lowest in Korea at 19%. Compared to the number of students enrolled in primary and secondary schools, non-teaching staff employed in education represents more than 40 persons per 1 000 students in the Czech Republic, France, Hungary, Iceland, Italy and the United States (Table D2.3 and Chart D2.4).

Non-teaching staff represent on average more than 30% of the total teaching and non-teaching staff in primary and secondary schools.

These differences reflect the numbers of staff that countries employ in non-teaching capacities, *e.g.*, principals without teaching responsibilities, guidance counsellors, school nurses, librarians, researchers without teaching responsibilities, bus drivers, janitors and maintenance workers, and also administrative and management personnel both inside and outside the school. In Hungary, Iceland, Italy and the United States, maintenance and operations personnel working in primary and secondary schools represent more than 20 persons per 1 000 students enrolled in these schools. Administrative personnel represent between 8 and 12 persons per 1 000 students enrolled in primary and secondary schools in Italy, Mexico and the United States and 18 or more persons per 1 000 students in the Czech Republic, whereas the staff employed in school and higher level management exceed 6 persons per 1 000 students in the Czech Republic, France, Iceland and the Slovak Republic, 10 persons in Norway and

Chart D2.4. Teaching staff and non-teaching staff in primary and secondary schools (2002)

Teaching staff and non-teaching staff in primary and secondary schools per 1 000 students, based on full-time equivalents



1. Data on higher-level management and administrative personnel are missing.
2. Data on professionnal support for students are missing.
3. Data on maintenance and operations personnel are missing.
4. Data on management/quality control/administration personnel are missing.
5. Includes post-secondary non-tertiary education.

Countries are ranked in descending order of the proportion of teaching staff and non-teaching staff per 1 000 students.

Source: OECD. Table D2.3. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

16 persons in New Zealand (Table D2.3). Finally, the staff employed to provide professional support for students are relatively numerous in France (more than 24 persons per 1 000 students enrolled in primary and secondary schools) and to a lesser extent in Iceland (about 10 persons per 1 000 students enrolled in both primary and secondary schools).

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Definitions and methodologies

Data refer to the school year 2001-2002, and are based on the UOE data collection on education statistics that is administered annually by the OECD.

Class sizes have been calculated by dividing the number of students enrolled by the number of classes. In order to ensure comparability among countries, special needs programmes have been excluded. Data include only regular programmes at primary and lower secondary levels of education and exclude teaching in sub-groups outside the regular classroom setting.

The ratio of students to teaching staff has been calculated by dividing the number of full-time equivalent "students" at a given level of education by the number of full-time equivalent "teachers" at that level and in the specified type of institution.

The breakdown of the ratio of students to teaching staff by type of institution distinguishes between students and teachers in public institutions and in private institutions (government-dependent private institutions and independent private institutions). In some countries the proportion of students in private institutions is small (see Table C2.4).

Instructional personnel comprises:

- *Teaching staff* refers to professional personnel directly involved in teaching students. The classification includes classroom teachers; special education teachers; and other teachers who work with a whole class of students in a classroom, in small groups in a resource room, or in one-to-one teaching situations inside or outside a regular classroom. Teaching staff also includes department chairpersons whose duties include some teaching, but excludes non-professional personnel who support teachers in providing instruction to students, such as teachers' aides and other paraprofessional personnel.

- *Teachers' aides and teaching/research assistants* include non-professional personnel or students who support teachers in providing instruction to students. This type of personnel is not included in Tables D2.1 and D2.2.

Non-instructional personnel comprises four categories:

- *Professional support for students* includes professional staff who provide services to students that support their learning. In many cases, these staff originally qualified as teachers but then moved into other professional positions within the education system. This category also includes all personnel employed in education systems who provide health and social support services to students, such as guidance counsellors, librarians, doctors, dentists, nurses, psychiatrists and psychologists and other staff with similar responsibilities.

- *School and higher level management* includes professional personnel who are responsible for school management and administration and personnel whose primary responsibility is the quality control and management of higher levels of the education system. This category covers principals, assistant principals, headmasters, assistant headmasters, superintendents of schools, associate and assistant superintendents, commissioners of education and other management staff with similar responsibilities.

- *School and higher level administrative personnel* includes all personnel who support the administration and management of schools and of higher levels of the education system. The category includes: receptionists, secretaries, typists and word processing staff, book-keepers and clerks, analysts, computer programmers, network administrators, and others with similar functions and responsibilities.

- *Maintenance and operations personnel* includes personnel who support the maintenance and operation of schools, the transportation of students to and from school, school security and catering. This category includes the following types of personnel: masons, carpenters, electricians, maintenance repairers, painters and paperhangers, plasterers, plumbers and vehicle mechanics. It also includes bus drivers and other vehicle operators, construction workers, gardeners and grounds staff, bus monitors and crossing guards, cooks, custodians, food servers and others with similar functions.

Table D2.1. Average class size, by type of institution and level of education (2002)

Calculations based on number of students and number of classes

		Primary education				Lower secondary education (general programmes)			
		Public institutions	Government-dependent private institutions	Independent private institutions	TOTAL: public and private institutions	Public institutions	Government-dependent private institutions	Independent private institutions	TOTAL: public and private institutions
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD COUNTRIES	Australia[1]	24.9	25.9	a	25.0	23.6	22.2	a	23.5
	Austria	20.0	21.2	m	20.1	23.8	24.8	x(6)	23.9
	Belgium	m	m	m	m	m	m	m	m
	Belgium (Fr.)	20.0	21.0	a	20.4	21.1	21.9	a	21.6
	Canada	m	m	m	m	m	m	m	m
	Czech Republic	21.3	16.8	a	21.3	23.3	20.9	a	23.3
	Denmark	19.4	16.7	a	19.1	19.1	17.5	a	18.8
	Finland	m	m	a	m	m	m	a	m
	France	22.3	23.9	n	22.6	24.1	25.0	13.1	24.3
	Germany	22.2	23.7	x(2)	22.2	24.6	26.0	x(6)	24.7
	Greece	17.2	a	21.5	17.5	22.9	a	26.0	23.0
	Hungary	20.5	19.5	a	20.4	21.2	21.7	a	21.3
	Iceland	17.9	18.8	n	17.9	19.2	17.7	n	19.1
	Ireland	24.2	m	m	m	21.4	m	m	m
	Italy	18.1	a	20.1	18.3	20.7	a	21.4	20.8
	Japan	28.7	a	34.3	28.8	34.2	a	36.7	34.3
	Korea	35.7	a	34.8	35.7	37.3	36.5	a	37.1
	Luxembourg	15.6	21.3	17.6	15.7	19.9	20.5	18.8	19.9
	Mexico	20.6	a	23.8	20.8	29.9	a	28.7	29.8
	Netherlands	x(4)	x(4)	x(4)	23.9	m	m	m	m
	New Zealand	m	m	m	m	m	m	m	m
	Norway	m	m	m	m	m	m	m	m
	Poland	21.1	12.4	12.1	20.9	24.5	24.6	14.1	24.3
	Portugal	18.7	a	23.0	19.1	18.0	a	18.2	18.1
	Slovak Republic	20.8	20.3	a	20.8	23.3	23.8	a	23.3
	Spain	19.4	24.9	22.5	20.9	24.4	28.2	23.5	25.4
	Sweden	m	m	m	m	m	m	m	m
	Switzerland	19.7	14.9	16.6	19.6	18.7	18.5	16.2	18.6
	Turkey	29.6	a	20.2	29.4	a	a	a	a
	United Kingdom	26.0	a	m	m	24.7	m	m	m
	United States	22.0	a	19.6	21.7	23.2	a	18.8	22.6
	Country mean	***21.9***	***20.1***	***22.2***	***21.8***	***23.6***	***23.3***	***21.4***	***23.7***
PARTNER COUNTRIES	Brazil[1]	27.2	a	18.6	26.1	34.7	a	27.0	33.7
	Chile	32.8	36.0	24.0	32.9	32.3	35.5	25.3	32.6
	Egypt	41.5	36.7	35.6	40.9	44.3	41.0	32.0	43.5
	India	x(4)	x(4)	x(4)	40.0	x(8)	x(8)	x(8)	40.0
	Israel	25.6	a	a	25.6	31.0	a	a	31.0
	Jamaica	34.3	m	m	m	32.4	m	m	m
	Jordan	28.8	a	27.8	28.5	30.7	a	30.2	30.6
	Malaysia[1]	32.9	a	a	32.9	37.1	a	a	37.1
	Paraguay[1]	18.1	22.1	16.7	18.3	27.7	27.5	19.4	26.3
	Peru[1]	19.5	30.5	17.0	19.5	35.2	37.9	23.2	33.3
	Philippines	40.3	a	32.4	39.7	53.7	a	44.9	51.6
	Russian Federation	16.1	a	9.8	16.1	20.7	a	10.7	20.6
	Sri Lanka	26.2	m	n	m	29.8	m	n	m
	Thailand	23.2	52.1	a	25.1	36.6	32.7	a	36.3
	Tunisia	28.3	a	25.1	28.2	33.5	a	19.8	33.1
	Uruguay[1]	19.1	a	m	m	29.5	a	26.4	29.0

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. Year of reference 2001.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table D2.2. Ratio of students to teaching staff in educational institutions (2002)

By level of education, calculations based on full-time equivalents

	Pre-primary education	Primary education	Secondary education: Lower secondary	Secondary education: Upper secondary	Secondary education: All secondary	Post secondary non-tertiary education	Tertiary education: Type B	Tertiary education: Type A and advanced research programmes	Tertiary education: All
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD COUNTRIES									
Australia[1]	m	16.9	x(5)	x(5)	12.5	m	m	16.2	m
Austria	18.2	14.4	9.8	10.3	10.0	10.2	7.7	13.7	13.0
Belgium	16.3	13.1	x(5)	x(5)	9.3	x(5)	x(9)	x(9)	18.7
Canada	m	m	m	m	m	m	m	m	m
Czech Republic	12.9	18.9	14.4	12.9	13.6	x(4)	16.3	16.0	16.1
Denmark	6.6	10.9	x(2)	14.2	m	m	m	m	m
Finland	12.7	15.8	10.6	16.0	13.4	x(4)	x(4)	12.6	12.6
France	19.0	19.4	13.7	10.6	12.2	a	14.1	18.7	17.9
Germany	24.2	18.9	15.7	13.6	15.1	14.8	16.1	12.1	12.6
Greece	13.9	12.5	9.3	9.3	9.3	8.0	24.9	37.5	32.2
Hungary	10.9	10.8	10.7	13.1	11.7	10.4	x(9)	x(9)	13.8
Iceland	5.2	11.4	x(2)	10.6	m	x(5,9)	2.0	9.1	8.7
Ireland	13.5	19.5	14.3	x(3)	x(3)	x(3)	15.6	16.7	16.3
Italy	12.8	10.6	9.9	10.3	10.2	m	7.7	23.7	23.1
Japan	18.1	20.3	16.2	13.7	14.8	x(4,9)	8.4	12.6	11.2
Korea	21.7	31.4	20.7	16.5	18.4	a	m	m	m
Luxembourg[2]	14.5	11.6	x(5)	x(5)	9.0	m	m	m	m
Mexico	21.6	26.9	31.5	24.3	28.8	a	x(9)	x(9)	15.3
Netherlands	x(2)	17.0	x(5)	x(5)	15.9	x(5)	x(9)	x(9)	13.0
New Zealand	5.6	19.6	19.4	13.8	16.6	13.0	12.1	16.1	15.0
Norway[2]	m	11.5	10.3	9.2	10.4	x(4)	x(9)	x(9)	13.2
Poland	13.5	12.8	14.1	13.7	13.9	12.0	11.5	18.1	18.0
Portugal	m	11.0	9.3	7.5	8.3	m	m	m	m
Slovak Republic	9.8	20.1	14.0	13.3	13.7	9.6	10.1	10.5	10.5
Spain	15.8	14.6	13.7	8.3	11.2	x(5)	7.9	14.6	13.0
Sweden	10.7	12.5	12.2	14.1	13.2	m	x(9)	x(9)	9.1
Switzerland[2]	m	m	m	m	m	m	m	m	m
Turkey	14.9	27.5	a	17.7	17.7	a	47.0	13.6	16.2
United Kingdom[1]	26.6	19.9	17.6	12.5	14.8	m	x(9)	x(9)	18.3
United States	15.5	15.5	15.5	15.6	15.5	a	x(9)	x(9)	17.1
Country mean	***14.8***	***16.6***	***14.4***	***13.1***	***13.6***	***11.1***	***14.4***	***16.4***	***15.4***
PARTNER COUNTRIES									
Argentina[3]	25.2	19.9	23.5	17.8	21.0	a	28.4	11.0	13.3
Brazil[3]	18.6	23.0	18.6	15.8	17.5	a	x(9)	x(9)	14.9
Chile	27.2	33.1	32.9	31.5	32.1	a	m	m	m
China	30.2	20.4	18.5	16.1	17.3	m	m	17.3	m
India	41.2	40.2	35.8	28.5	32.4	40.6	29.5	22.6	22.7
Indonesia	19.5	24.3	18.0	17.3	17.7	a	x(9)	x(9)	16.1
Israel	m	20.3	13.0	14.0	13.6	m	m	m	m
Jamaica	23.5	32.2	x(5)	x(5)	20.2	m	16.5	11.7	14.2
Jordan	21.0	20.0	x(2)	16.0	48.5	a	m	m	m
Malaysia[3]	21.9	19.1	x(5)	x(5)	17.2	27.1	20.6	m	18.5
Paraguay[3]	x(2)	18.9	14.4	18.1	15.6	m	16.4	m	m
Peru[3]	38.1	29.3	x(5)	x(5)	20.3	31.3	20.4	m	m
Philippines	30.0	35.4	45.3	23.2	38.3	64.8	x(9)	22.7	24.9
Russian Federation	7.0	17.1	x(5)	x(5)	11.3	m	m	m	m
Thailand	30.2	19.1	23.4	25.1	24.3	a	29.5	m	34.9
Tunisia	m	a	x(5)	x(5)	21.7	m	x(9)	x(9)	m
Uruguay[3]	28.2	20.8	11.3	20.6	14.1	a	x(9)	x(9)	8.3
Zimbabwe	m	39.4	x(5)	x(5)	39.2	m	m	m	m

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. Includes only general programmes in lower and upper secondary education.
2. Public institutions only.
3. Year of reference 2001.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

Table D2.3. Teaching staff and non-teaching staff employed in educational institutions (2002)
Teaching staff and non-teaching staff in primary and secondary schools per 1 000 students, calculations based on full-time equivalents

OECD COUNTRIES	Instructional personnel			Management/Quality Control/ Administration			
	Classroom teachers, academic staff and other teachers	Teacher aides and teaching/research assistants	Professional support for students	School and higher-level management	School and higher-level administrative personnel	Maintenance and operations personnel	TOTAL teaching and non-teaching staff
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Australia	m	m	m	m	m	m	m
Austria	88.7	m	m	5.4	m	m	m
Belgium	93.4	m	m	m	m	m	m
Belgium (Fl.)	88.3	a	7.3	m	m	m	m
Canada	m	m	m	m	m	m	m
Czech Republic	66.4	0.2	5.7	7.1	18.9	16.5	114.8
Denmark	m	m	m	m	m	m	m
Finland	69.6	5.2	2.7	2.4	7.2	14.9	102.1
France	70.1	m	24.4	7.3	4.0	13.9	119.7
Germany	62.0	m	m	m	m	m	m
Greece	94.6	m	m	m	m	m	m
Hungary	87.6	m	x(1 or 5)	x(1 or 5)	5.4	35.3	128.3
Iceland[1]	89.7	n	9.7	8.1	4.4	24.2	136.0
Ireland[2]	59.5	m	m	1.9	m	m	m
Italy	96.8	3.7	6.3	1.8	11.6	24.7	144.8
Japan	59.0	m	5.1	5.3	4.8	6.4	80.6
Korea	42.4	m	0.8	2.6	2.3	4.4	52.5
Luxembourg	97.9	a	m	m	m	m	m
Mexico	36.2	0.3	1.1	3.4	8.6	4.1	53.7
Netherlands	60.6	m	m	m	m	m	m
New Zealand	56.0	m	m	16.0	1.3	m	m
Norway	92.3	m	m	10.2	m	m	m
Poland	74.8	a	m	m	m	m	m
Portugal	105.1	m	m	m	m	m	m
Slovak Republic	66.0	m	m	6.5	m	m	m
Spain[2]	79.6	m	m	m	m	m	m
Sweden	77.9	1.2	m	4.8	m	m	m
Switzerland	m	m	m	m	m	m	m
Turkey	40.5	m	m	m	m	m	m
United Kingdom	49.7	m	m	m	m	m	m
United States	64.6	13.4	4.6	3.7	10.9	26.3	123.5
Country mean	***72.9***	***4.0***	***6.8***	***5.8***	***7.2***	***17.1***	***105.6***

Note: x indicates that data are included in another column. The column reference is shown in brackets after "x", *e.g.* x(2) means that data are included in column 2.
1. Data on higher-level management and administrative personnel are missing.
2. Includes post-secondary non-tertiary staff.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

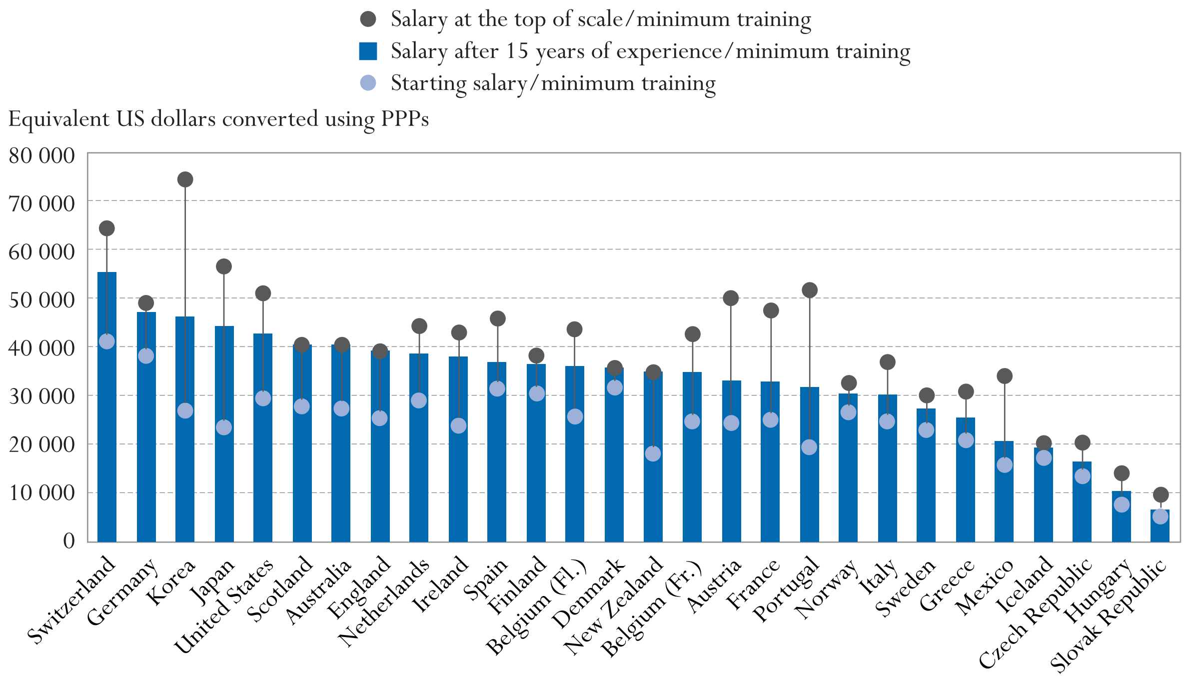
D2

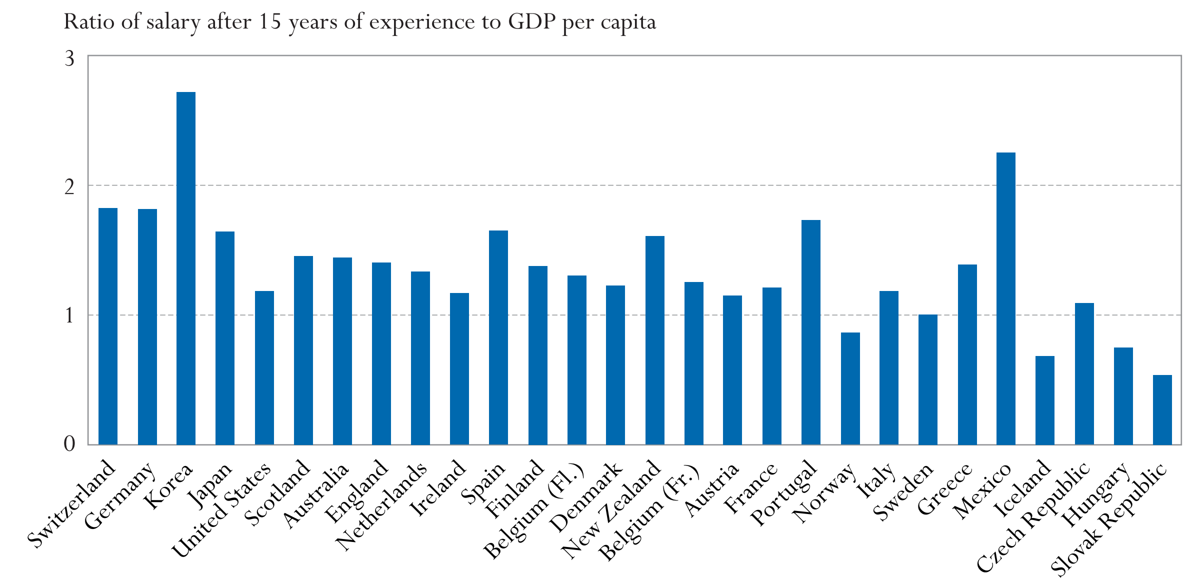
INDICATOR D3: TEACHERS' SALARIES

- The mid-career salaries of lower secondary teachers range from less than US$ 10 000 in the Slovak Republic to US$ 40 000 and more in Australia, Germany, Japan, Korea, Scotland, Switzerland and the United States.
- 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, Turkey and the United States and as high as 82% in 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 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.
- Teachers' salaries have risen in real terms between 1996 and 2002 in virtually all countries, 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.

Chart D3.1. Teachers' salaries in lower secondary education (2002)

Annual statutory teachers' salaries in public institutions in equivalent US dollars converted using PPPs, and ratio of salary after 15 years of experience to GDP per capita





Countries are ranked in descending order of teachers' salaries in lower secondary education after 15 years of experience and minimum training.
Source: OECD. Table D3.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Policy context

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.

Education systems employ a large number of professionals in an increasingly competitive market. Ensuring that there are a sufficient number of skilled teachers is a key concern in all OECD countries. Salaries and working conditions of teachers, including starting salaries and pay scales, and the costs incurred by individuals in becoming teachers, compared to salaries and costs in other high-skill occupations are key factors in determining the supply of qualified teachers. Both affect the career decisions of potential teachers and the types of people who are attracted to the teaching profession.

Teachers' salaries are the largest single cost in providing education, making this compensation a critical consideration for policy makers seeking to maintain the quality of teaching and a balanced education budget. The size of education budgets naturally reflects trade-offs among many interrelated factors, including teachers' salaries, the ratio of students to teaching staff, the instruction time planned for students, and the designated number of teaching hours.

Evidence and explanations

Comparing teachers' salaries

The first part of this indicator compares the starting, mid-career and maximum statutory salaries of teachers with the minimum level of qualifications required for certification in public primary and secondary education. First, teachers' salaries are examined in absolute terms at starting, mid-career and top-of-the-scale salary points, expressed in equivalent US dollars converted using purchasing power parities (PPPs). This provides information on the influence of teaching experience on national salary scales and on the cost of teaching time in different countries. Second, bonus schemes are examined. Third, teachers' salary changes between 1996 and 2002 are compared.

Pay scales are typically based on the simple principles of qualification levels and years of service but in reality, the structure of the teacher compensation system is far more complex. Many countries include regional allowances for teaching in remote regions, or a family allowance as part of the annual gross salary. Entitlements may include reduced rates on public transportation, tax allowances on purchasing cultural goods, and other quasi-pecuniary entitlements that contribute to a teacher's basic income. There are large differences between the taxing and social benefit systems in OECD countries. This makes it important to exercise caution when comparing teachers' salaries.

The annual statutory salaries of lower secondary teachers with 15 years of experience range from below US$ 10 000 in the Slovak Republic to over US$ 50 000 in Switzerland (Table D3.1).

Statutory salaries, as reported in this indicator, refer to scheduled salaries according to official pay scales. These must be distinguished from the actual wage bills incurred by governments and teachers' average salaries, which are also influenced by other factors such as the age structure of the teaching force or the prevalence of part-time work. Indicator B6 shows the total amounts paid in compensation to teachers. Furthermore, since teaching time and teachers' workload can vary considerably among countries, these factors should be considered when comparing statutory salaries for teachers in countries (see Indicator D4).

Comparing statutory salaries relative to GDP per capita reveals that…

Among other considerations, countries invest in teaching resources relative to their ability to fund educational expenditure. Comparing statutory salaries to GDP per capita is, therefore, another way of assessing the relative value of teachers' salaries among countries.

…mid-career salaries for teachers in basic education are low in Hungary, Iceland, Norway and the Slovak Republic, but relatively high in Korea and Turkey.

Mid-career salaries for teachers in basic (primary and lower secondary) education relative to GDP per capita are lowest in Hungary (0.75), Iceland (0.68), Norway (0.86) and the Slovak Republic (0.54) and highest in Korea (2.72) and Turkey (1.98). In upper secondary general education, the lowest ratios are found in Hungary (0.92), Iceland (0.99), Norway (0.86) and the Slovak Republic (0.54), and mid-career salaries relative to the GDP are highest in Korea (2.72) and Switzerland (2.08) (Table D3.1).

Some countries make a major investment in human resources despite lower levels of national income.

Some countries, such as the Czech Republic, Hungary and the Slovak Republic have both relatively low GDP per capita and low teachers' salaries. Others (*e.g.,* Korea, Mexico, New Zealand, Portugal and Spain) have a relatively low GDP per capita and teachers' salaries that are comparable to those in countries with much higher GDP. Germany and Switzerland have a high GDP per capita and high teachers' salaries (Chart D3.1 and Table D3.1), whereas Norway has high GDP per capita but below average mid-career salaries.

In most countries, salaries increase with the level of education.

In Australia, England, Greece, Ireland, Japan, Korea, New Zealand, Norway, Portugal, Scotland, the Slovak Republic, Turkey and the United States, upper secondary and primary teachers' salaries are comparable, while in the remaining OECD countries, teachers' salaries increase with the level of education in absolute terms. For example, in Belgium, Iceland, the Netherlands and Switzerland, the mid-career salary of an upper secondary teacher is at least 30% higher than that of a primary school teacher (Table D3.1).

The average statutory salary per teaching hour after 15 years of experience is US$ 38 in primary, US$ 47 in lower secondary, and US$ 54 in upper secondary general education.

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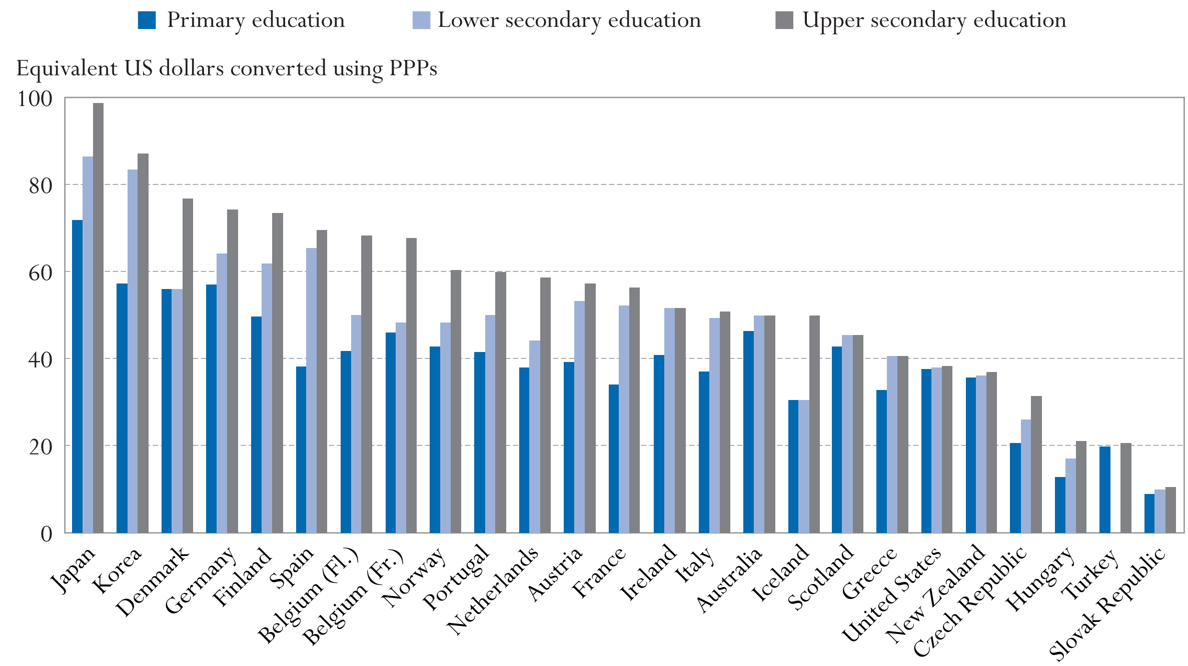
An alternative measure of salaries and the cost of teaching time is the statutory salary for a full-time classroom teacher relative to the number of hours per year that teacher is required to spend teaching students (Indicator D4). Although this measure does not adjust salaries for the amount of time that teachers spend in various teaching-related activities, it can nonetheless provide a rough estimate of the cost of the actual time teachers spend in the classroom. The average statutory salary per teaching hour after 15 years of experience is US$ 38 in primary, US$ 47 in lower secondary, and US$ 54 in upper secondary general education. In primary education, the Czech Republic, Hungary, Mexico, the Slovak Republic and Turkey have relatively low salary costs per teaching hour (around US$ 20 or less). By contrast, costs are relatively high in Denmark, Germany, Japan and Korea (approaching US$ 60 or more). There is even more variation in salary cost per teaching hour in general upper secondary schools, ranging from US$ 21 or less in Hungary, the Slovak Republic and Turkey to more than US$ 80 in Japan and Korea (Table D3.1 and Chart D3.2).

Chart D3.2. Salary per hour of net teaching time, by level of education (2002)

Annual statutory teachers' salaries after 15 years of experience in public institutions, in equivalent US dollars converted using PPPs divided by net teaching time in hours per year



Countries are ranked in descending order of salary per hour of net teaching time in upper secondary education.
Source: OECD. Table D3.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

An upper secondary teacher's salary per contact hour is, on average, 40% higher than that of a primary teacher.

Even in countries where statutory salaries are the same in primary and secondary education, salaries per teaching hour are usually higher in upper secondary education than in primary education, since in most countries, secondary teachers are required to teach fewer hours than primary teachers, as is evident from Indicator D4. On average among countries, upper secondary teachers' salary per teaching hour exceeds that of primary teachers by around 40%. In Australia, New Zealand, Scotland, Turkey and the United States, this difference is only 10% or less, whereas it is around 60% or more in the Flemish Community of Belgium, France, Hungary and Iceland and as high as 82% in Spain, where the difference between teaching time at primary and upper secondary level is greatest (Table D3.1).

Teaching experience and qualifications influence teachers' salary scales in many OECD countries.

Comparing gross teachers' salaries across countries at the point of entry into the teaching profession, after 15 years of experience, and at the top of the salary scale, provides information on the extent to which teaching experience influences salary scales within countries. The difference between statutory starting salaries and subsequent increases is an indication of the financial return to experience. On average, among OECD countries, statutory salaries for primary, lower and upper secondary general teachers with 15 years of experience are 37, 38 and 41% higher than starting salaries.

Salaries at the top of the scale are on average around 70% higher than starting salaries for both primary and secondary education. However, this percentage

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varies significantly among countries. Top of the scale salaries in lower secondary education are more than double the starting salaries in Austria, France, Japan, Korea, Mexico and Portugal, whereas in Denmark, Finland, Germany, Iceland, Norway and Turkey, they are no more than 30% higher (Table D3.1).

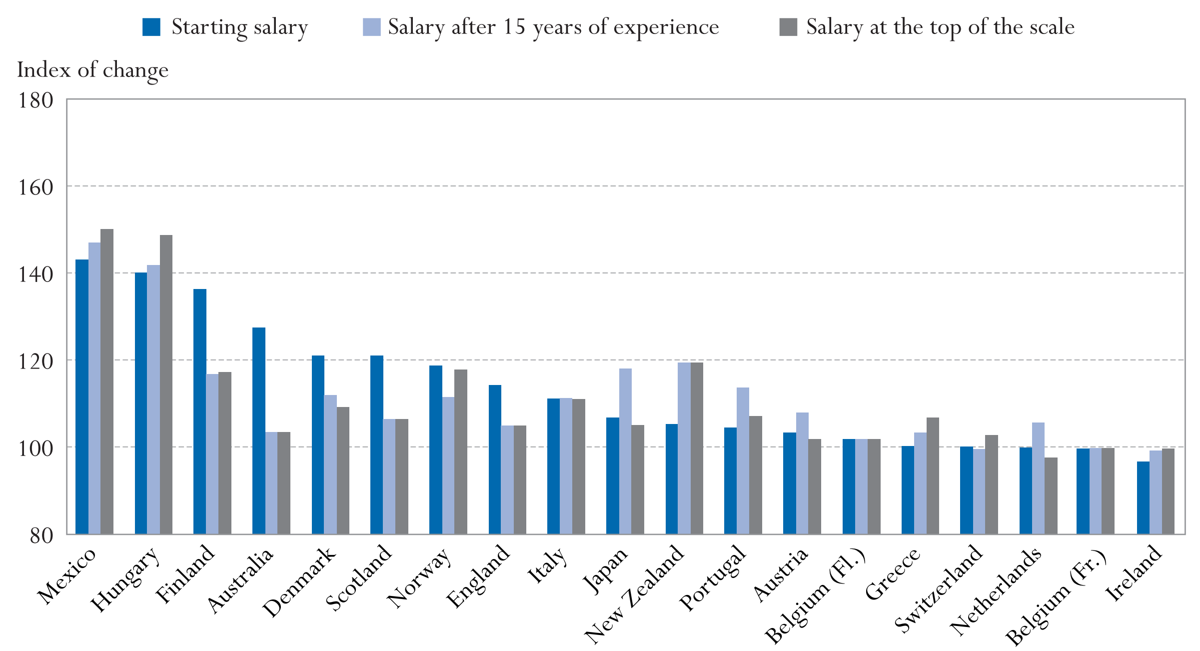
The ratio of starting to top-of-the-scale salaries tends to be correlated with the number of years it takes to progress through the scale. In lower secondary education, teachers in Australia, Denmark, England, New Zealand and Scotland reach the highest step on the salary scale within 7 to 9 years. In Belgium, Finland, Germany, Ireland, Norway, Portugal, the Slovak Republic and Switzerland the curve flattens after 20 to 28 years. In Austria, the Czech Republic, France, Greece, Hungary, Italy, Japan, Korea and Spain, teachers reach the top of the salary scale after more than 30 years of service (Table D3.1)

Between 1996 and 2002 teachers' salaries have risen in real terms in most but not all countries.

Comparing the index of change between 1996 and 2002 in teachers' salaries, it is evident that they have grown in real terms in virtually all countries and at both primary and secondary levels. The strongest increases across all levels have taken place in Hungary and Mexico where increases have been more than 40%, though salaries in both countries remain below the OECD average and in the case of Hungary, low when benchmarked against GDP per capita. In some countries, however, salaries have fallen in real terms between 1996 and 2002, most notably at the primary and upper secondary levels in Spain (Table D3.3 and Chart D3.3).

Chart D3.3. Change in teachers' salaries in lower secondary education, by point on the salary scale (1996 and 2002)

Index of change between 1996 and 2002 (1996 = 100, 2002 price levels using GDP deflators)



Countries are ranked in descending order of index of change between 1996 and 2002 in teachers' starting salaries.
Source: OECD. Table D3.3. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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The trend in salaries has also varied between salaries at different points in the salary scale, indicating the different teacher demand and supply challenges facing countries. For instance, starting salaries have risen faster than mid-career or top-of-the-scale salaries in Australia, Denmark, England, Finland and Scotland, indicating a desire to attract new teachers into the profession in these countries. By contrast, mid-career and top-of-the-scale salaries have risen relatively quickly in Japan and Portugal, where the policy focus is more on teacher retention than recruitment. Mid-career and top of the scale salaries have also risen faster than starting salaries in New Zealand but with a relatively short salary scale (7 years to reach the top of the scale), teacher recruitment is in fact the key focus there.

Benchmarking teachers' salaries in Ireland

Irish teachers' salaries, along with all others in the public sector, were subject to a benchmarking process, which was completed in 2002. The benchmarking process involved a detailed examination of jobs, pay and conditions of service of public servants and compared these with jobs of equal size in the private sector. A total award of 13% increase was recommended for teachers as a result of this process. The government agreed to pay one quarter of the recommended increase effective 1st December 2001.

In addition to basic pay scales, many school systems have developed incentive schemes for teachers, which may take the form of financial remuneration and/or a reduction in the number of teaching hours. Together with the starting salary, such incentive schemes affect a person's decision to enter into and stay in the teaching profession. Initial incentives for graduate teachers may include family allowances and bonuses for working in certain locations, higher initial salaries for higher-than-minimum teaching certification or qualifications and additional compensation for those holding educational qualifications in multiple subjects or with certification to teach students with special educational needs.

In addition, incentives and allowances can compensate for permanent or temporary special duties and responsibilities that teachers assume.

Adjustments to base salary may be awarded to teachers in public schools either by the head/school principal, or by government at the local, regional or national level. These adjustments are grouped into three principal categories: criteria based on teaching conditions/responsibilities, criteria related to teachers' qualifications, training and performance and criteria based on demography and other measures.

Collective agreement in Finland

The collective agreement for state and municipal civil servants concerning the pay system in the teaching field determines a minimum level of pay, but the system also makes it possible to agree on better conditions of service at the local level.

Reduction of required teaching hours often replaces additional pay as teacher compensation.

A specific type of bonus is the reduction of required teaching hours. In some countries, this bonus is used to reward experience or long service (*e.g.* in Greece and Iceland), in others, rather than being paid for special duties, teachers are compensated by a reduction of teaching hours for carrying out special tasks or activities (leading a drama club, or acting as teacher supervisor of student teachers, etc.).

Reduction of teaching time in Greece

When a secondary education teacher is appointed in Greece, the teaching time is 21 teaching hours per week. After 6 years of service, the teaching time is reduced to 19 teaching hours per week. After 12 years, the teaching time is 18 teaching hours per week and, finally, after 20 years the teaching time is 16 teaching hours per week. The remaining hours of teachers' working time obligation must be spent within school.

In about half of the OECD countries, schools have at least some responsibility in deciding levels and extent of compensation for special tasks and additional activities undertaken by teachers…

In most countries, allowances are paid to all or most teachers for taking on management responsibilities: teaching more classes or hours than are required under a full-time contract (*e.g.*, acting duties) and involvement in special tasks such as guidance counselling or training student teachers. Although in many countries, there are country-level regulations for payment of allowances for overtime work, management responsibilities, and special tasks and activities, in about half of the OECD countries with comparable data (Australia, Austria, the Czech Republic, Denmark, England, Finland, Greece, Hungary, Iceland, Italy, New Zealand, Portugal, Scotland, the Slovak Republic and Sweden), schools have at least some responsibility in deciding on the levels and extent of compensation for such activities.

Individual pay system in Sweden

In Sweden the fixed pay scheme for teachers was abolished in the mid-1990s as part of an agreement designed to enhance local autonomy and flexibility in the school system. The government committed itself to substantially raise teacher salaries over a five-year period, but on the condition that not all teachers received the same increase. There is accordingly no fixed upper limit and only a minimum basic salary is centrally negotiated, along with the aggregate rise in the teacher salary bill. Salaries are negotiated when a teacher is hired and teacher and employer agree on the salary to be paid upon commencement of the term of employment. Teachers' work roles and performance are considered in the negotiation and linked to the pay. There is now much greater variety in teachers' pay, with those in areas of shortage and with higher demonstrated performance able to negotiate more.

In most countries management positions are filled by local, regional or national authorities depending on the type of school involved. In Austria, for example, the appointee has a statutory right to a reduction of the teaching load (or exemption from teaching obligation) and to an allowance depending on the salary scale, seniority and the size of the school (with a supplement for long-term exercise of the function). Teachers entrusted with more limited administrative or co-ordinating functions are remunerated by a flat-rate compensation or a reduction of teaching load, which are fixed centrally and apply whenever such a function is assigned (normally by the principal). There is a certain pool of extra pay (flat-rate remuneration) for extra duties available for assignment by the principal. For specific projects the Ministry for Education, Science and Culture may grant a reduction of the teaching load.

…but in many countries, there are fixed rates of compensation for management positions and administrative tasks…

In England, from 1 September 2000 additional points on the scale for taking on additional responsibility were replaced by flat-rate allowances for taking on significant specified management responsibilities beyond those common to the majority of classroom teachers. There were separate pay scales for head teachers and deputy heads.

In Portugal, principals receive an increase in salary for the duration of their assignment, while heads of curricular departments, class tutors' co-ordinators and class tutors have their teaching time reduced during the time they hold the position. The school board makes the decision regarding the reduction of teaching time for middle managers.

In Spain, in lower and upper secondary education there should be a Head in each Didactical Department. When there is a teacher with a recognised senior teaching position (catedrático condition), he/she is the Head of the Department. If there are more than one "catedrático", the Department may suggest to the school principal that one of these teachers be the Head, but the school principal always makes the definitive nomination and the high local education authority makes the final decision. If there is not a teacher with the "catedrático condition" in a certain Department, any of the other teachers can become Head of Department (usually teachers rotate in this position). All Department Heads receive a fixed salary supplement during the time they hold that responsibility. The standard duration of each "mandate" as Department Head is four years. In primary education any teacher can be the co-ordinator of the teachers in the cycle, but no salary supplement is awarded for this position (Tables D3.2a, b, c and d and Annex 3 at *www.oecd.org/edu/eag2004*).

Countries have various ways of identifying and rewarding good teaching. Sometimes this is by giving extra pay for successfully completing professional development or for taking on extra duties and sometimes this can be explicitly for outstanding performance as classroom teachers raising pupil attainment (Tables D3.2a, b, c and d).

…while school principals tend to have more authority in awarding additional remuneration for outstanding performance.

Salary enhancements for teaching excellence in the Slovak Republic

Slovak teachers who show extraordinary skills and achieve excellent results in their work, and who are fully qualified with at least 12 years of practical experience, can be classified as so-called "top workers". Their salary is then based on a special salary table. Only about 6% of all teachers are remunerated as "top workers".

In England, extra points on the main scale can be awarded for excellent performance. Experienced teachers are also able to apply for the performance threshold, in which they are assessed against national standards. If successful, they are moved to the "upper pay scale", with the prospect of further pay increases based on performance. In the Czech Republic, Denmark, Hungary, Mexico, New Zealand, Norway, Portugal, the Slovak Republic, Sweden and Turkey, allowances are also paid for outstanding performance. In Mexico bonuses awarded to teachers for outstanding performance are based on evaluations of learning achievement of students in the class or subject. In Portugal, after 15 years of teaching, and after receiving an appraisal of "Good" given by the head teacher, teachers may apply for a special appraisal of their curriculum vitae and receive an increase of two years in their career progression, although this rarely occurs. In Turkey extra salary for teachers with excellent performance is based on evaluations by the Provincial Directorate of Education and the Ministry (Tables D3.2a, b, c and d and Annex 3 at *www.oecd.org/edu/eag2004*). Differences in tax schemes, social benefit systems, allowances and entitlements may enhance basic salaries of all teachers differently in OECD countries.

Performance-base salary in Switzerland

In the St. Gallen and Zurich cantons it is only possible for teachers to move up to the next grade on the pay scale if the teacher is given a positive assessment, based on a process of self-evaluation and external assessment. A broad range of criteria is used and teachers develop portfolios to document their work and achievements.

The use of extra incentives to compensate teachers for working under particularly difficult conditions has generally increased. Monetary incentives such as salary allowances for teaching in difficult areas, transportation assistance for teachers in remote areas or bonuses for working in challenging schools are more in evidence. The criterion "teaching in a disadvantaged, remote or high cost area" is applied in 19 out of 27 countries. This adjustment is more often made by the national, local or regional government than by the head teacher/school principal.

Attracting teachers to remote and rural areas in Australia

To encourage teachers to teach in remote and rural areas in Australia, special incentives and induction programmes are offered in states such as Queensland and New South Wales. These are complemented by pre-service teacher education programmes that provide trainee teachers with exchanges in rural schools so that they gain first-hand experience living and teaching in rural areas.

Definitions and methodologies

Data are from the 2003 OECD-INES Survey on Teachers and the Curriculum and refer to the school year 2001-2002.

Data on statutory teachers' salaries and bonuses (Table D3.1) are derived from the 2003 OECD-INES Survey on Teachers and the Curriculum. Data refer to the school year 2001-2002, and are reported in accordance with formal policies for public institutions.

Statutory salaries (Table D3.1) refer to scheduled salaries according to official pay scales. The salaries reported are gross (total sum of money paid by the employer) less the employer's contribution to social security and pension (according to existing salary scales). Salaries are "before tax" (*i.e.*, before deductions for income taxes).

Gross teachers' salaries were converted using GDP and purchasing power parities (PPPs) exchange rate data from the OECD National Accounts database. The reference date for GDP per capita is the calendar year 2001, while the period of reference for teachers' salaries is 30 June 2001 to 30 June 2002. The reference date for PPPs is 2001-2002. Data are adjusted for inflation with reference to January 2002. For countries with different financial years (*i.e.*, Australia and New Zealand) and countries with slightly different salary periods (*e.g.*, Hungary, Iceland, Norway and Spain) from the general OECD norm, a correction to the deflator is made only if this results in an adjustment of over 1%. Small adjustments have been discounted because even for salaries referring to 2001-2002, the exact period for which they apply will only be slightly different. Reference statistics and reference years for teachers' salaries are provided in Annex 2.

Starting salaries refer to the average scheduled gross salary per year for a full-time teacher with the minimum training necessary to be fully qualified at the beginning of the teaching career.

Salaries after 15 years of experience refer to the scheduled annual salary of a full-time classroom teacher with the minimum training necessary to be fully qualified and with 15 years of experience. The maximum salaries reported refer to the scheduled maximum annual salary (top of the salary scale) of a full-time classroom teacher with the minimum training to be fully qualified for the job.

An adjustment to base salary is defined as any difference in salary between what a particular teacher actually receives for work performed at a school and the amount that he or she would be expected to receive on the basis of level of experience (*i.e.*, number of years in the teaching profession). Adjustments may be temporary or permanent, and they can effectively move a teacher "off-scale", on to a different salary, or to a higher step on the same salary scale.

Table D3.1. Teachers' salaries (2002)

Annual statutory teachers' salaries in public institutions at starting salary, after 15 years of experience and at the top of the scale, by level of education, in equivalent US dollars converted using PPPs

		Primary education				Lower secondary education				Upper secondary general education			
		Starting salary/ minimum training	Salary after 15 years of experience /minimum training	Salary at top of scale /minimum training	Ratio of salary after 15 years of experience to GDP per capita	Starting salary/ minimum training	Salary after 15 years of experience /minimum training	Salary at top of scale /minimum training	Ratio of salary after 15 years of experience to GDP per capita	Starting salary/ minimum training	Salary after 15 years of experience /minimum training	Salary at top of scale /minimum training	Ratio of salary after 15 years of experience to GDP per capita
OECD COUNTRIES	Australia	27 493	40 480	40 480	1.44	27 394	40 479	40 479	1.44	27 394	40 479	40 479	1.44
	Austria	23 511	31 112	46 540	1.08	24 363	33 138	50 071	1.15	24 846	34 444	52 294	1.19
	Belgium (Fl.)	25 731	34 913	41 652	1.26	25 731	36 032	43 927	1.30	31 924	46 076	55 383	1.66
	Belgium (Fr.)	24 319	33 334	40 106	1.20	24 713	34 874	42 717	1.26	30 793	44 854	54 100	1.62
	Czech Republic	13 557	16 453	20 558	1.09	13 557	16 453	20 558	1.09	15 476	18 898	23 452	1.25
	Denmark	31 745	35 809	35 809	1.23	31 745	35 809	35 809	1.23	30 384	43 063	46 096	1.47
	England	25 403	39 350	39 350	1.41	25 403	39 350	39 350	1.41	25 403	39 350	39 350	1.41
	Finland	26 647	31 687	33 558	1.20	30 514	36 552	38 249	1.38	32 136	40 482	42 652	1.53
	France	22 688	30 519	45 031	1.12	25 101	32 933	47 562	1.21	25 563	33 394	48 070	1.23
	Germany	36 934	44 671	47 921	1.72	38 319	47 165	49 239	1.82	41 441	50 805	53 085	1.96
	Greece	20 906	25 563	31 013	1.39	20 906	25 563	31 013	1.39	20 906	25 563	31 013	1.39
	Hungary	7 585	10 412	14 104	0.75	7 585	10 412	14 104	0.75	8 790	12 851	16 797	0.92
	Iceland	17 244	19 377	20 346	0.68	17 244	19 377	20 346	0.68	22 017	27 941	30 551	0.99
	Ireland	22 980	38 066	43 137	1.17	23 767	38 066	43 137	1.17	23 767	38 066	43 137	1.17
	Italy	22 915	27 726	33 575	1.08	24 710	30 220	36 906	1.18	24 710	31 073	38 604	1.22
	Japan	23 493	44 345	56 579	1.65	23 493	44 345	56 579	1.65	23 493	44 372	58 286	1.65
	Korea	26 983	46 400	74 672	2.73	26 852	46 269	74 541	2.72	26 852	46 269	74 541	2.72
	Mexico	12 375	16 324	27 038	1.77	15 862	20 722	34 181	2.25	m	m	m	m
	Netherlands	28 003	35 307	40 406	1.22	29 050	38 697	44 388	1.33	29 326	51 444	58 913	1.77
	New Zealand	18 109	35 034	35 034	1.61	18 109	35 034	35 034	1.61	18 109	35 034	35 034	1.61
	Norway	26 637	30 533	32 695	0.86	26 637	30 533	32 695	0.86	26 637	30 533	32 695	0.86
	Portugal	19 445	31 876	51 829	1.73	19 445	31 876	51 829	1.73	19 445	31 876	51 829	1.73
	Scotland	27 789	40 619	40 619	1.45	27 789	40 619	40 619	1.45	27 789	40 619	40 619	1.45
	Slovak Republic	5 134	6 611	9 786	0.54	5 134	6 611	9 786	0.54	5 134	6 611	9 786	0.54
	Spain	28 161	33 521	41 860	1.50	31 550	36 930	45 957	1.65	32 679	38 067	47 323	1.70
	Sweden	23 059	27 359	30 162	1.01	23 059	27 359	30 162	1.01	24 544	29 315	31 711	1.08
	Switzerland	34 818	46 713	55 304	1.53	41 045	55 431	64 544	1.82	48 704	63 200	74 689	2.08
	Turkey	11 214	12 700	14 283	1.98	a	a	a	a	10 272	11 759	13 342	1.84
	United States	29 513	42 801	52 104	1.18	29 525	42 801	51 170	1.18	29 641	42 918	51 308	1.19
	Country mean	***22 910***	***31 366***	***37 778***	***1.33***	***24 236***	***33 345***	***40 177***	***1.37***	***25 292***	***35 691***	***42 683***	***1.45***
PARTNER COUNTRIES	Argentina[1]	8 398	11 794	11 794	1.00	12 076	17 007	17 007	1.45	12 076	17 007	17 007	1.45
	Brazil[1]	8 191	10 610	m	1.44	9 883	13 322	m	1.81	13 853	16 397	m	2.23
	Chile	11 033	12 857	13 306	1.35	11 033	12 857	13 306	1.35	11 033	13 454	13 926	1.41
	Egypt	891	1 988	2 278	0.57	891	1 988	2 278	0.57	m	m	m	m
	India[1]	12 347	18 247	18 247	6.21	15 027	23 001	23 001	7.82	18 247	26 831	26 831	9.12
	Indonesia	975	1 543	1 543	0.54	975	1 543	1 990	0.54	1 014	1 858	1 990	0.64
	Jamaica	10 955	12 686	12 686	3.43	10 955	12 686	12 686	3.43	10 955	12 686	12 686	3.43
	Jordan	7 976	10 414	868	2.76	7 976	10 414	868	2.76	7 976	10 414	868	2.76
	Malaysia[1]	9 344	14 670	14 670	1.70	13 647	23 315	23 315	2.69	13 647	23 315	23 315	2.69
	Paraguay[1, 2]	9 789	9 789	9 789	1.88	15 269	15 269	15 269	2.93	15 269	15 269	15 269	2.93
	Peru[1, 2]	4 627	4 627	5 530	1.00	4 577	4 577	5 273	0.99	4 577	4 577	5 273	0.99
	Philippines	9 857	10 880	10 880	2.84	9 857	10 880	10 880	2.84	9 857	10 880	10 880	2.84
	Sri Lanka	2 809	3 574	3 319	1.12	2 809	4 085	3 319	1.28	3 574	4 596	3 319	1.44
	Thailand	5 862	14 406	14 406	2.39	5 862	14 406	14 406	2.39	5 862	14 406	14 406	2.39
	Tunisia	12 835	12 974	16 783	2.00	16 330	16 487	21 339	2.55	19 878	20 065	26 167	3.10
	Uruguay[1, 2]	5 397	6 467	a	0.77	5 397	6 467	a	0.77	5 873	6 944	a	0.83

1. Year of reference 2001.
2. Salaries for a position of 20 hours per week. Most teachers hold two positions.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

D3

Table D3.1. *(continued)* **Teachers' salaries (2002)**

Annual statutory teachers' salaries in public institutions at starting salary, after 15 years of experience and at the top of the scale, by level of education, in equivalent US dollars converted using PPPs

		Ratio of salary at the top of scale to starting salary			Years from starting to top salary (lower secondary education)	Salary per hour of net contact (teaching) time after 15 years of experience			Ratio of salary per teaching hour of upper secondary to primary teachers (after 15 years of experience)
		Primary education	Lower secondary education	Upper secondary education, general programmes		Primary education	Lower secondary education	Upper secondary education, general programmes	
OECD COUNTRIES	Australia	1.47	1.48	1.48	9	46	50	50	1.08
	Austria	1.98	2.06	2.10	34	39	53	57	1.46
	Belgium (Fl.)	1.62	1.71	1.73	27	42	50	68	1.63
	Belgium (Fr.)	1.65	1.73	1.76	27	46	48	68	1.46
	Czech Republic	1.52	1.52	1.52	32	21	26	31	1.51
	Denmark	1.13	1.13	1.52	8	56	56	77	1.37
	England	1.55	1.55	1.55	8	m	m	m	m
	Finland	1.26	1.25	1.33	20	46	61	73	1.57
	France	1.98	1.89	1.88	34	34	52	56	1.66
	Germany	1.30	1.28	1.28	28	57	64	74	1.30
	Greece	1.48	1.48	1.48	33	33	41	41	1.24
	Hungary	1.86	1.86	1.91	40	13	17	21	1.65
	Iceland	1.18	1.18	1.39	18	31	31	50	1.63
	Ireland	1.88	1.82	1.82	22	42	52	52	1.25
	Italy	1.47	1.49	1.56	35	37	49	51	1.37
	Japan	2.41	2.41	2.48	31	72	86	99	1.38
	Korea	2.77	2.78	2.78	37	57	83	87	1.52
	Mexico	2.18	2.15	m	14	20	18	m	m
	Netherlands	1.44	1.53	2.01	19	38	44	59	1.55
	New Zealand	1.93	1.93	1.93	7	36	36	37	1.04
	Norway	1.23	1.23	1.23	24	43	48	60	1.41
	Portugal	2.67	2.67	2.67	26	42	50	60	1.44
	Scotland	1.46	1.46	1.46	7	43	45	45	1.06
	Slovak Republic	1.91	1.91	1.91	27	9	10	10	1.17
	Spain	1.49	1.46	1.45	39	38	65	69	1.82
	Sweden[1]	m	m	m	a	a	a	a	a
	Switzerland	1.59	1.57	1.53	25	m	m	m	m
	Turkey	1.27	a	1.30	a	20	a	21	1.04
	United States	1.77	1.73	1.73	m	38	38	38	1.02
	Country mean	***1.69***	***1.71***	***1.73***	***24***	***38***	***47***	***54***	***1.39***

1. Ratio of salary at the top of the scale to starting salary has not been calculated for Sweden because the underlying salaries are estimates derived from actual rather than statutory salaries.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

Table D3.2a. Adjustments to base salary for teachers in public institutions (2002)

Types of criteria to adjust base salary awarded to teachers in public institutions

	Criteria based on teaching conditions/responsibilities						
OECD COUNTRIES	Management responsibilities in addition to teaching duties	Teaching more classes or hours than required by full-time contract	Special tasks (career guidance or counselling)	Teaching in a disadvantaged, remote or high-cost area (location allowance)	Special activities (sports and drama clubs, homework clubs, summer school)	Teaching students with special educational needs (in regular schools)	Teaching courses in a particular field
Australia	■		■	■		■	
Austria	■	■	■		■		
Belgium (Fl.)		■					
Belgium (Fr.)							
Czech Republic	■	■	■			■	
Denmark	■	■	■		■		■
England	■	■		■	■	■	■
Finland	■	■	■	■	■		
France	■		■	■	■	■	
Germany	■	■					
Greece		■	■	■			
Hungary	■	■	■	■	■	■	■
Iceland	■	■	■	■	■	■	■
Ireland	■			■			
Italy		■	■	■	■		
Japan	■	■		■	■	■	
Korea	■	■		■		■	
Mexico	■	■	■	■			■
Netherlands						■	
New Zealand	■		■	■	■	■	■
Norway	■	■	■	■			■
Portugal	■	■	■		■	■	
Scotland	■			■			
Slovak Republic		■		■			
Spain	■			■			
Sweden	■	■	■	■	■	■	■
Switzerland	■	■	■		■	■	
Turkey		■	■		■		
United States	■	■	■	■	■	■	■

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

D3

Table D3.2a. *(continued)* **Adjustments to base salary for teachers in public institutions (2002)**

Types of criteria to adjust base salary awarded to teachers in public institutions

OECD COUNTRIES	Criteria related to teachers' qualifications, training and performance						Criteria based on demography		
	Holding an initial educational qualification higher than the minimum qualification required to enter the teaching profession	Holding a higher than minimum level of teacher certification or training obtained during professional life	Outstanding performance in teaching	Successful completion of professional development activities	Reaching high scores in the qualification examination	Holding an educational qualification in multiple subjects	Family status (married, number of children)	Age (independent of years of teaching experience)	Other
Australia	■								■
Austria							■	■	■
Belgium (Fl.)									■
Belgium (Fr.)									■
Czech Republic			■					■	
Denmark	■	■	■	■		■			
England	■	■	■						
Finland	■								■
France							■		
Germany							■	■	
Greece	■	■					■		
Hungary	■	■	■	■		■		■	■
Iceland	■	■		■				■	■
Ireland	■	■			■				
Italy							■	■	
Japan							■		■
Korea							■		
Mexico	■	■	■	■	■				■
Netherlands									
New Zealand		■	■						■
Norway	■	■	■						
Portugal	■	■	■	■			■		
Scotland	■						■		
Slovak Republic			■						■
Spain				■			■		
Sweden	■	■	■	■	■	■			
Switzerland							■		■
Turkey			■	■			■		■
United States	■	■		■					

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

D3

Table D3.2b. Adjustments to base salary for teachers in public institutions made by head teacher/school principal (2002)

Types of criteria to adjust base salary awarded to teachers in public institutions where head teacher/school principal has the responsibility for making the award

		Criteria based on teaching conditions/responsibilities						
		Management responsibilities in addition to teaching duties	Teaching more classes or hours than required by full-time contract	Special tasks (career guidance or counselling)	Teaching in a disadvantaged, remote or high-cost area (location allowance)	Special activities (sports and drama clubs, homework clubs, summer school)	Teaching students with special educational needs (in regular schools)	Teaching courses in a particular field
OECD COUNTRIES	Australia	■		■			■	
	Austria	■	■	■		■		
	Czech Republic	■					■	
	Denmark	■		■		■		■
	England	■	■		■	■	■	■
	Finland			■		■		
	Greece		■					
	Hungary	■		■		■	■	■
	Iceland	■	■	■		■	■	
	Italy		■	■		■		
	Mexico							
	New Zealand	■		■		■		■
	Portugal	■				■		
	Scotland	■						
	Slovak Republic		■					
	Sweden	■	■	■	■	■	■	■

		Criteria related to teachers' qualifications, training and performance						Criteria based on demography		
		Holding an initial educational qualification higher than the minimum qualification required to enter the teaching profession	Holding a higher than minimum level of teacher certification or training obtained during professional life	Outstanding performance in teaching	Successful completion of professional development activities	Reaching high scores in the qualification examination	Holding an educational qualification in multiple subjects	Family status (married, number of children)	Age (independent of years of teaching experience)	Other
OECD COUNTRIES	Australia									■
	Austria									
	Czech Republic			■					■	
	Denmark	■	■	■	■		■			
	England			■						
	Finland									
	Greece									
	Hungary			■						■
	Iceland									
	Italy									
	Mexico	■			■					■
	New Zealand			■						
	Portugal									
	Scotland									
	Slovak Republic									
	Sweden	■	■	■	■	■	■			

Note: Countries where no decisions on salary adjustments are made by the authority indicated are excluded from the table.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

D3

Table D3.2c. Adjustments to base salary for teachers in public institutions made by the local or regional authority (2002)

Types of criteria to adjust base salary awarded to teachers in public institutions where the local or regional authority has the responsibility for making the award

OECD COUNTRIES	Criteria based on teaching conditions/responsibilities						
	Management responsibilities in addition to teaching duties	Teaching more classes or hours than required by full-time contract	Special tasks (career guidance or counselling)	Teaching in a disadvantaged, remote or high-cost area (location allowance)	Special activities (sports and drama clubs, homework clubs, summer school)	Teaching students with special educational needs (in regular schools)	Teaching courses in a particular field
Australia	■		■	■		■	
Austria	■						
Denmark	■						
Finland	■	■	■	■	■		
France					■		
Germany	■	■					
Iceland	■	■	■	■	■	■	■
Italy				■			
Japan	■	■		■	■	■	
Mexico			■				
Norway	■						■
Portugal							
Scotland	■			■			
Slovak Republic							
Spain	■			■			
Switzerland	■	■	■		■	■	
United States	■	■	■	■	■	■	■

OECD COUNTRIES	Criteria related to teachers' qualifications, training and performance						Criteria based on demography		
	Holding an initial educational qualification higher than the minimum qualification required to enter the teaching profession	Holding a higher than minimum level of teacher certification or training obtained during professional life	Outstanding performance in teaching	Successful completion of professional development activities	Reaching high scores in the qualification examination	Holding an educational qualification in multiple subjects	Family status (married, number of children)	Age (independent of years of teaching experience)	Other
Australia	■								■
Austria									
Denmark									
Finland	■								■
France									
Germany								■	
Iceland	■	■		■				■	■
Italy								■	
Japan							■		■
Mexico	■	■		■					■
Norway		■	■						
Portugal			■						
Scotland	■								
Slovak Republic			■						
Spain				■			■		
Switzerland									■
United States	■	■		■					

Note: Countries where no decisions on salary adjustments are made by the authority indicated are excluded from the table.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

D3

Table D3.2d. Adjustments to base salary for teachers in public institutions made by the national authority (2002)

Types of criteria to adjust base salary awarded to teachers in public institutions where the national authority has the responsibility for making the award

	Criteria based on teaching conditions/responsibilities						
OECD COUNTRIES	Management responsibilities in addition to teaching duties	Teaching more classes or hours than required by full-time contract	Special tasks (career guidance or counselling)	Teaching in a disadvantaged, remote or high-cost area (location allowance)	Special activities (sports and drama clubs, homework clubs, summer school)	Teaching students with special educational needs (in regular schools)	Teaching courses in a particular field
Australia							
Austria	■		■		■		
Belgium (Fl.)		■					
Belgium (Fr.)							
Czech Republic		■	■			■	
Denmark	■	■					
England				■			
Finland	■	■		■			
France	■		■	■		■	
Germany							
Greece			■	■			
Hungary	■	■	■	■		■	
Iceland	■	■	■		■	■	■
Ireland	■						
Italy							
Korea	■	■		■		■	
Mexico	■	■	■	■			■
Netherlands						■	
New Zealand			■	■		■	■
Norway	■	■	■	■			
Portugal	■	■	■			■	
Scotland							
Slovak Republic				■			
Switzerland							
Turkey		■	■		■		

Note: Countries where no decisions on salary adjustments are made by the authority indicated are excluded from the table.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

D3

Table D3.2d. *(continued)* **Adjustments to base salary for teachers in public institutions made by the national authority (2002)**

Types of criteria to adjust base salary awarded to teachers in public institutions where the national authority has the responsibility for making the award

OECD COUNTRIES	Criteria related to teachers' qualifications, training and performance						Criteria based on demography		
	Holding an initial educational qualification higher than the minimum qualification required to enter the teaching profession	Holding a higher than minimum level of teacher certification or training obtained during professional life	Outstanding performance in teaching	Successful completion of professional development activities	Reaching high scores in the qualification examination	Holding an educational qualification in multiple subjects	Family status (married, number of children)	Age (independent of years of teaching experience)	Other
Australia									
Austria							■	■	■
Belgium (Fl.)									■
Belgium (Fr.)									■
Czech Republic									
Denmark									
England	■	■							
Finland	■								■
France							■		
Germany							■	■	
Greece	■	■					■		
Hungary	■	■		■		■		■	■
Iceland	■	■		■				■	■
Ireland	■	■			■				
Italy							■		
Korea							■		
Mexico	■	■	■	■	■				
Netherlands									
New Zealand		■							■
Norway	■	■							
Portugal	■	■		■			■		
Scotland	■								
Slovak Republic									■
Switzerland							■		
Turkey			■	■			■		■

Note: Countries where no decisions on salary adjustments are made by the authority indicated are excluded from the table.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

D3

Table D3.3. Change in teachers' salaries (1996 and 2002)

Index of change[1] between 1996 and 2002 in teachers' salaries at starting salary, after 15 years of experience and at the top of the salary scale, by level of education, converted to 2002 price levels using GDP deflators (1996 = 100)

OECD COUNTRIES	Primary education			Lower secondary education			Upper secondary education, general programmes		
	Starting salary/minimum training	Salary after 15 years of experience/minimum training	Salary at top of scale/minimum training	Starting salary/minimum training	Salary after 15 years of experience/minimum training	Salary at top of scale/minimum training	Starting salary/minimum training	Salary after 15 years of experience/minimum training	Salary at top of scale/minimum training
Australia	128	103	103	127	103	103	127	103	103
Austria	103	106	101	103	108	102	99	103	95
Belgium (Fl.)[2]	104	105	106	102	102	102	102	102	102
Belgium (Fr.)[2]	99	100	102	98	99	99	98	99	100
Czech Republic	m	m	m	m	m	m	m	m	m
Denmark	121	112	109	121	112	109	106	106	108
England	114	105	105	114	105	105	114	105	105
Finland	134	120	124	136	117	117	139	124	124
France	m	m	m	m	m	m	m	m	m
Germany	m	m	m	m	m	m	m	m	m
Greece	104	106	109	100	103	107	100	103	107
Hungary	140	142	149	140	142	149	127	141	147
Iceland	m	m	m	m	m	m	m	m	m
Ireland	98	105	101	97	99	100	97	99	100
Italy	112	112	112	111	111	111	111	111	111
Japan	107	118	105	107	118	105	107	118	105
Korea	m	m	m	m	m	m	m	m	m
Mexico	142	142	143	143	147	150	m	m	m
Netherlands	101	105	98	100	106	98	100	101	97
New Zealand	105	120	120	105	120	120	105	120	120
Norway	119	112	118	119	112	118	110	108	108
Portugal	104	114	107	104	114	107	104	114	107
Scotland	121	106	106	121	106	106	121	106	106
Slovak Republic	m	m	m	m	m	m	m	m	m
Spain	93	95	92	m	m	m	93	93	92
Sweden	m	m	m	m	m	m	m	m	m
Switzerland	100	100	103	100	100	103	99	97	103
Turkey	m	m	m	a	a	a	m	m	m
United States	m	m	m	m	m	m	m	m	m

1. The index is calculated as teacher salary in 2002 in national currency * 100 / teacher salary in 1996 in national currency * GDP deflator 2002 (1996 = 100). See Annex 2 for statistics on GDP deflators and salaries in national currencies in 1996 and 2002.
2. The data for Belgium in 1996 are based on Belgium as a whole.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

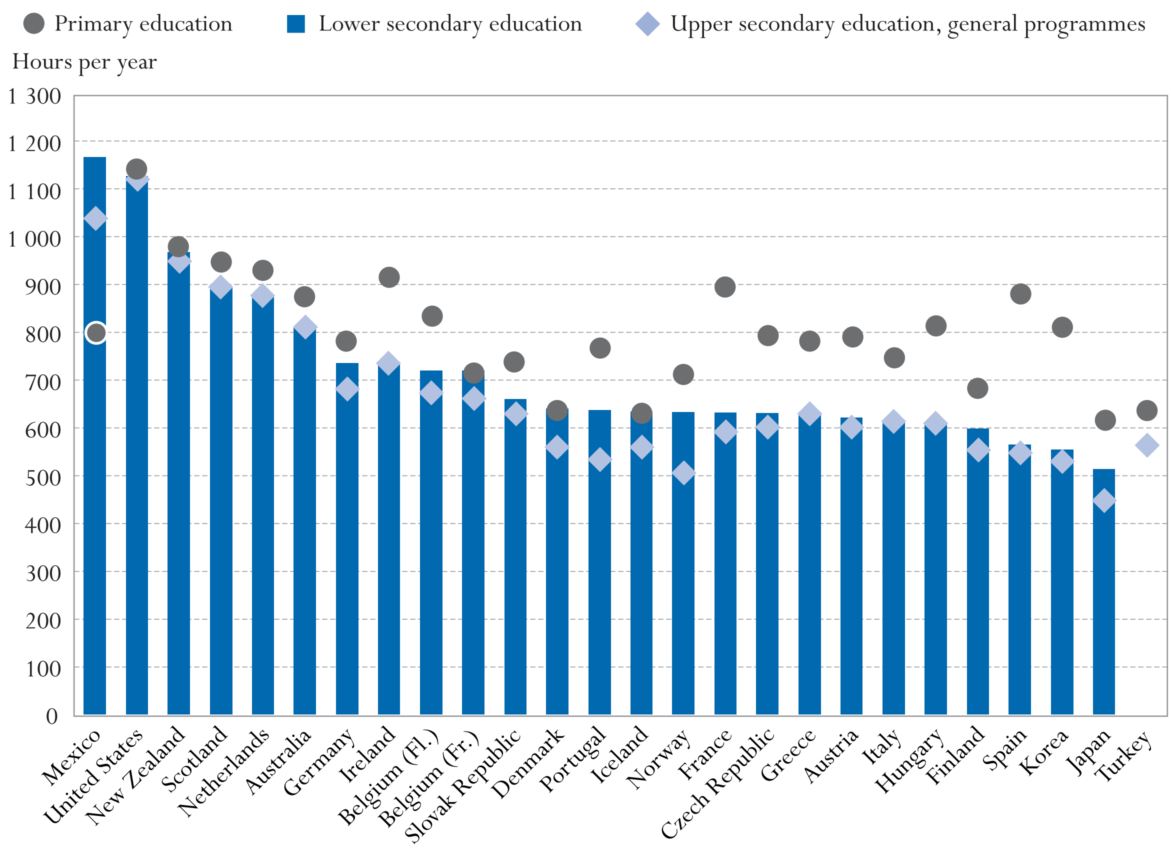
D3

INDICATOR D4: TEACHING TIME AND TEACHERS' WORKING TIME

- The number of teaching hours per year in public primary schools averages 803 hours, but ranges from 617 in Japan to 1 139 hours in the United States.
- The average number of teaching hours in lower secondary education is 717 hours, but ranges from 513 in Japan to 1 167 hours in Mexico.
- The average number of teaching hours in upper secondary education is 674 hours, but ranges from 449 in Japan to 1 121 hours in the United States.
- The percentage of working time that is spent teaching is higher at the primary level than it is at the secondary level. At either level the percentage of working time spent teaching is greater than 50% in only a minority of countries.
- Regulations of teachers' working time vary among countries. In most countries, teachers are formally required to work a specific number of hours; in others, only teaching time in lessons per week is specified.

Chart D4.1. Number of teaching hours per year, by level of education (2002)

Net contact time in hours per year in public institutions



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/eag2004).*

D4

Policy context

This indicator shows the number of hours per year that a full-time teacher is required to spend teaching according to formal policy in his/her country.

In addition to class size and the ratio of students to teaching staff (Indicator D2), students' hours of instruction (Indicator D1) and teachers' salaries (Indicator D3), the amount of time teachers spend teaching influences the financial resources which countries need to invest in education. Teaching hours and the extent of non-teaching duties are also important elements of teachers' working conditions and are related to the attractiveness of the teaching profession.

The proportion of working time spent teaching can be interpreted as a measure of teachers' workload. It provides information on the amount of time available for other activities, such as lesson preparation, correction, in-service training and staff meetings.

Evidence and explanations

Teaching time

In both primary and secondary education, countries vary in the number of teaching hours per year required of the average public school teacher. Primary education teaching hours are usually higher than secondary education.

A public primary school teacher teaches an average of 803 hours per year.

A primary school teacher teaches an average of 803 hours per year, but this varies from 650 hours or less in Denmark, Iceland, Japan and Turkey to 900 hours or more in Ireland, the Netherlands, New Zealand, Scotland and the United States (Chart D4.1 and Table D4.1).

A lower secondary teacher teaches an average of 717 hours per year and an upper secondary teacher teaches an average of 674 hours per year.

In lower secondary education, a teacher teaches an average of 717 hours per year. The teaching load ranges from 600 hours or less in Finland, Japan, Korea and Spain to more than 900 hours in Mexico, New Zealand and the United States (Chart D4.1 and Table D4.1).

An upper secondary teaching load is usually less than that in lower secondary education. A teacher of general subjects has an average statutory load of 674 hours per year among OECD countries. Teaching loads range from less than 500 hours in Japan to more than 900 hours in Mexico, New Zealand and the United States (Chart D4.1 and Table D4.1).

D4

In most countries, a primary-level teacher teaches for more hours than a lower and upper secondary teacher, but the differentials vary widely between countries.

In France and Spain, a primary teacher is required to teach more than 300 hours more than an upper secondary teacher (general programmes). By contrast, in Australia, the French Community of Belgium, Denmark, Germany, Iceland, the Netherlands, New Zealand, Scotland, Turkey and the United States the difference is 100 hours or less. In New Zealand and the United States the difference is even less than 50 hours. Conversely, in Mexico, an upper secondary teacher teaches almost 240 hours more than a primary teacher (Chart D4.1).

In interpreting the differences in teaching hours between countries, it should be noted that net contact time, as used for the purpose of this indicator, does not necessarily correspond to teaching load. Whereas contact time in itself is a substantial component of this, the preparation for classes and necessary follow-up (including correcting students' work) also need to be included in comparisons of teaching load. Other elements of teaching load (like the number of subjects taught, the number of students taught, and the number of years a teacher teaches the same students) should also be taken into account when establishing the average teaching load of teachers within a country. These factors, however, can often only be assessed at the school level.

With the exception of Austria (primary education), the French Community of Belgium (primary education), the Czech Republic (primary education), Hungary (secondary education) and Spain (upper secondary education), teaching time in most OECD countries was about the same in 1996 and 2002. However, in Hungary, teachers in secondary education were required to teach 29% more in 2002 than in 1996, while in the French Community of Belgium net contact time dropped by 16% in primary education (Table D4.2).

With the exception of Austria, the French Community of Belgium, the Czech Republic, Hungary and Spain, teaching time did not change substantially between 1996 and 2002.

Teachers' working time

The regulations of teachers' working time vary widely among countries. While some countries formally regulate contact time only, others establish working hours as well. In some countries, time is allocated for teaching and non-teaching activities within the formally established working time. Within the framework of statutory working time and teaching time, teachers' actual workload may vary widely.

Regulations of teachers' working time vary widely among countries.

In most countries, teachers are formally required to work a specified number of hours per week to earn their full-time salary; this includes teaching and non-teaching time. Within this framework, however, countries vary regarding what they specify in terms of allocating time to teaching and non-teaching activities. Typically, the number of hours for teaching is specified, but some countries also regulate at the national level the time that a teacher has to be present in the school.

In most countries, teachers are formally required to work a specified number of hours…

In Australia, the French Community of Belgium (primary education), England, Greece, Iceland, Ireland, Mexico (primary and lower secondary education), New Zealand, Norway, Portugal, Spain, Sweden, Turkey and the United States, the working time during which teachers are required to be available at school, for both teaching time and non-teaching time, is specified.

…in some, working time at school is also specified while…

Working hours in Austria

The mandatory teaching load is regulated at the federal level by the Act on the Teaching Assignment of Federal Teachers (*Bundeslehrer-Lehrverpflichtungsgesetz*). For teachers at the provincial level, it is regulated in the laws governing their service: the Service Code for Teachers Employed by the Provinces (*Landeslehrer-Dienstrechtgesetz*), which applies an annual working time model.

For teachers at the federal level, the subjects that a teacher teaches count differentially towards the mandatory teaching load of 20 hours per week.

Teachers employed by the provinces at compulsory secondary schools are subject to an annual working time regime, requiring that every teacher works the same number of hours during a school year as a comparable public servant in general administration. The annual standard covers three different areas of activity: classroom teaching load including supervisory duties; preparation and follow-up, including correcting work; and hours spent on other activities.

…in others, just the total statutory working time in hours per year is defined.

In Austria (primary and lower secondary education), the Czech Republic, Denmark, Germany, Hungary, Japan, Korea, Mexico (upper secondary education), the Netherlands, Scotland and the Slovak Republic, the total working time that teachers have to work per year is specified. In addition, in some countries the number of hours to be spent on non-teaching activities is also (partly) specified. However, it is not specified whether the teachers have to spend the non-teaching hours at school or outside school.

Chart D4.2 shows the net teaching time as a percentage of the total statutory working time. The percentage of working time that is spent teaching is higher at the primary level than it is at the secondary level in all countries. In primary education, in 11 out of 16 countries for which data are available, the percentage of teaching time is less than 50% and in secondary education, only in the Netherlands and Scotland is the teaching time percentage higher than 50%.

The BAPO in the Netherlands: Regulation to stimulate the labour market participation of older staff

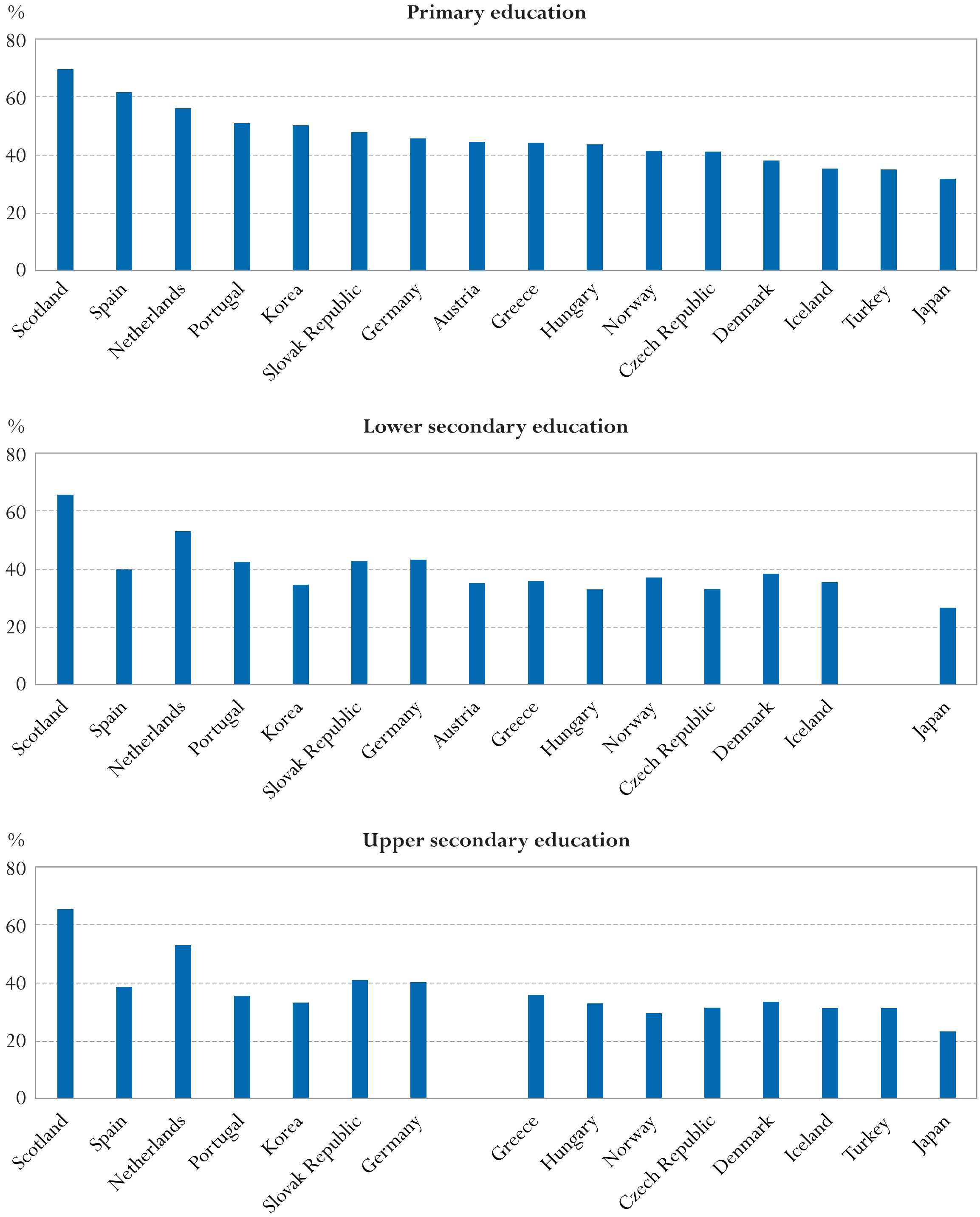
To stimulate older staff to become or to stay active in the teaching profession, the so-called BAPO scheme was introduced in 1994. Under the BAPO scheme, staff aged 52 or over can choose to reduce their total number of working hours, subject to a relatively small reduction in their salary. Staff aged 52-55 can reduce their working hours by 10% with a reduction in their salary of 2.5%. For staff aged 56 or over, a 20% reduction in their working hours is possible, in return for a 5% reduction in their salary. However, since people have the opportunity to save BAPO leave for later, the real percentage may be higher. This "leave saving" scheme may also cause some (financial) problems for schools in later years, when large numbers of older staff take their saved BAPO leave in one block as a form of early retirement.

In 9 out of 27 OECD countries for which data are available there are no formal requirements on non-teaching time.

In Australia, the Flemish Community of Belgium, England, France, Ireland, Italy, Mexico (except for upper secondary education), New Zealand and the United States there are no formal requirements for how much time should be spent on non-teaching duties. However, this does not mean that teachers are totally free in carrying out other tasks. In Austria, provisions concerning teaching time are based on the assumption that the duties of the teacher (including preparing lessons and tests, marking and correcting papers, examinations and administrative tasks) amount to a total working time of 40 hours per week. In the Flemish Community of Belgium, the additional non-teaching hours within the school are set at the school level. There are no regulations regarding lesson preparation, correction of tests and marking students' papers, etc. The government only defines the minimum and maximum number of teaching periods (of 50 minutes each) per week at each level of education.

Chart D4.2. Percentage of teachers' working time spent teaching, by level of education (2002)

Net teaching time as a percentage of total statutory working time



Countries are ranked in descending order of the percentage of teachers' working time spent teaching in primary education.
Source: OECD. Table D4.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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In the Czech Republic, Japan and Korea, teachers' working time is specified only in the general regulations on civil servants' working time.

In the Czech Republic, Japan and Korea, teachers are required to work the same number of hours as civil servants. No further regulations are provided at the national level concerning teaching or non-teaching hours. However, in Korea, teachers are additionally required to work during the school vacation on their own schedule on professional development (Table D4.1).

Teachers' workload in the Slovak Republic

The extent of teaching activities and educational activities of Slovak teaching personnel is stipulated by Government Decree No. 162 dating from 1 April 2002. The weekly working time of the teaching personnel is made up of the basic teaching workload and the time during which they carry out other activities connected with the teaching, in agreement with the Work Order of the school or school facility. The basic weekly load of a regular teacher depends on the type of school and ranges from 15 to 35 hours. A lesson period of teaching and educational activities in theoretical subjects, exercises and practical training lasts 45 minutes. Practical classes in different school institutions or in vocational training, last 60 minutes. Every teaching and educational activity exceeding the basic workload is regarded as extra work.

The STRB (School Teachers' Review Body) in England and Wales

The Government has agreed with the STRB for England and Wales, that it is necessary to reduce teachers' long working hours and also the current reported average term-time working week of 52 hours.

All parties agree that such a limit should not be written into the teachers' contract, because imposing a statutory limit would be "unconvincing on practical grounds and unusual for professional people".

Nonetheless, the Government wants to see progressive reductions in teachers' overall hours over the next four years. It will be promoting this with schools and will look to the STRB to monitor progress using formal survey techniques.

Definitions and methodologies

Teaching time

Data are from the 2003 OECD-INES Survey on Teachers and the Curriculum and refer to the school year 2001-2002.

Teaching time is defined as the number of hours per year that a full-time teacher teaches a group or class of students according to the formal policy in the country. It is calculated as the number of teaching days per annum multiplied by the number of hours a teacher teaches per day (excluding periods of time formally allowed for breaks between lessons or groups of lessons). At the pre-primary and primary levels, short breaks between lessons are included if the classroom teacher is responsible for the class during these breaks.

Working time

Working time refers to the normal working hours of a full-time teacher. According to the formal policy in a given country, working time can refer to:

- only the time directly associated with teaching (and other curricular activities for students such as assignments and tests, but excluding annual examinations);
- or time directly associated with teaching and hours devoted to other activities related to teaching, such as lesson preparation, counselling students, correcting assignments and tests, professional development, meetings with parents, staff meetings and general school tasks.

Working time does not include paid overtime.

Working time in school

Working time in school refers to the working time teachers are supposed to spend at school, including teaching time and non-teaching time.

Number of teaching weeks and days

The number of teaching weeks refers to the number of weeks of instruction excluding holiday weeks. The number of teaching days is the number of teaching weeks multiplied by the number of days a teacher teaches per week less the number of days that the school is closed for festivities.

Table D4.1. The organisation of teachers' working time (2002)

Number of teaching weeks, teaching days, net teaching hours and teacher working time over the school year

		Number of weeks of instruction			Number of days of instruction			Net teaching time in hours			Working time required at school in hours			Total statutory working time in hours		
		Primary education	Lower secondary education	Upper secondary education, general programmes	Primary education	Lower secondary education	Upper secondary education, general programmes	Primary education	Lower secondary education	Upper secondary education, general programmes	Primary education	Lower secondary education	Upper secondary education, general programmes	Primary education	Lower secondary education	Upper secondary education, general programmes
OECD COUNTRIES	Australia	40	40	40	197	197	197	875	811	811	1 240	1 261	1 261	a	a	a
	Austria	38	38	38	184	184	184	792	621	602	a	a	a	1 776	1 776	a
	Belgium (Fl.)	37	37	37	179	180	180	836	720	675	a	a	a	a	a	a
	Belgium (Fr.)	37	37	37	162	180	180	717	720	661	962	m	m	m	m	m
	Czech Republic	39	39	39	191	191	191	793	630	602	a	a	a	1 920	1 920	1 920
	Denmark	42	42	42	200	200	200	640	640	560	m	m	m	1 680	1 680	1 680
	England	38	38	38	190	190	190	m	m	m	1 265	1 265	1 265	m	m	m
	Finland	38	38	38	190	190	190	684	599	556	a	a	a	m	m	m
	France	35	35	35	m	m	m	897	631	593	a	a	a	a	a	a
	Germany	40	40	40	189	189	189	782	735	684	a	a	a	1 708	1 708	1 708
	Greece	40	38	38	195	185	185	780	629	629	1 500	1 425	1 425	1 762	1 762	1 762
	Hungary	37	37	37	185	185	185	814	611	611	a	a	a	1 864	1 864	1 864
	Iceland	35	35	36	170	170	175	634	634	560	1 650	1 650	1 720	1 800	1 800	1 800
	Ireland	37	33	33	183	167	167	915	735	735	915	735	735	a	a	a
	Italy	34	34	34	m	m	m	748	612	612	a	a	a	a	a	a
	Japan	35	35	35	193	193	193	617	513	449	a	a	a	1 940	1 940	1 940
	Korea	37	37	37	220	220	220	811	554	531	a	a	a	1 613	1 613	1 613
	Mexico	42	42	36	200	200	174	800	1 167	1 037	800	1167	a	a	a	971
	Netherlands	40	40	40	195	195	195	930	876	876	a	a	a	1 659	1 659	1 659
	New Zealand	39	39	38	197	194	190	985	968	950	985	968	950	a	a	a
	Norway	38	38	38	190	190	190	713	633	505	903	823	695	1 718	1 718	1 718
	Portugal	36	36	33	174	174	160	767	637	533	870	766	640	1 505	1 505	1 505
	Scotland	38	38	38	190	190	190	950	893	893	a	a	a	1 365	1 365	1 365
	Slovak Republic	39	39	39	191	191	191	739	659	630	a	a	a	1 544	1 544	1 544
	Spain	37	36	35	176	171	166	880	564	548	1 140	1 140	1 140	1 425	1 425	1 425
	Sweden	a	a	a	a	a	a	a	a	a	1 360	1 360	1 360	1 767	1 767	1 767
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	38	a	38	180	a	180	639	a	567	870	a	756	1 824	a	1 824
	United States	36	36	36	180	180	180	1 139	1 127	1 121	1 353	1 371	1 371	a	a	a
PARTNER COUNTRIES	Argentina[1]	38	38	38	180	180	180	810	900	900	m	m	m	m	m	m
	Brazil[1]	40	40	40	200	200	200	800	800	800	m	m	m	m	m	m
	Chile	40	40	40	192	192	192	864	864	864	m	m	m	m	m	m
	Egypt	36	36	36	187	187	187	748	748	748	m	m	m	m	m	m
	India	52	52	52	225	225	225	1 013	1 125	1 125	m	m	m	m	m	m
	Indonesia	44	44	44	252	252	252	1 260	738	738	m	m	m	m	m	m
	Jordan	36	36	36	162	162	162	810	810	810	m	m	m	m	m	m
	Malaysia[1]	41	41	41	193	193	193	762	778	778	m	m	m	m	m	m
	Paraguay[1]	38	38	38	183	183	183	732	814	915	m	m	m	m	m	m
	Peru[1]	36	36	36	172	172	172	774	619	619	m	m	m	m	m	m
	Philippines	40	40	40	196	196	196	1 176	1 176	980	m	m	m	m	m	m
	Russian Federation	45	45	45	215	215	215	860	774	774	m	m	m	m	m	m
	Sri Lanka	40	40	40	200	200	200	960	1 200	1 200	m	m	m	m	m	m
	Thailand	40	40	40	181	181	181	760	652	652	m	m	m	m	m	m
	Tunisia	32	30	30	147	137	137	735	548	548	m	m	m	m	m	m
	Uruguay[1]	37	36	36	165	160	160	720	480	480	m	m	m	m	m	m
	Zimbabwe	37	37	37	180	180	180	954	954	954	m	m	m	m	m	m

1. Year of reference 2001.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table D4.2. Number of teaching hours per year (1996, 2002)

Net contact time in hours per year in public institutions by level of education, and index of change from 1996 to 2002

	Primary education			Lower secondary education			Upper secondary education, general programmes		
	2002	1996	Index of change 1996-2002 (1996 = 100)	2002	1996	Index of change 1996-2002 (1996 = 100)	2002	1996	Index of change 1996-2002 (1996 = 100)
OECD COUNTRIES									
Australia	875	m	m	811	m	m	811	m	m
Austria	792	684	116	621	658	94	602	623	97
Belgium (Fl.)	836	841	99	720	724	99	675	679	99
Belgium (Fr.)	717	858	84	720	734	98	661	677	98
Czech Republic	793	635	125	630	607	104	602	580	104
Denmark	640	640	100	640	640	100	560	560	100
England	m	780	m	m	720	m	m	m	m
Finland	684	m	m	599	m	m	556	m	m
France	897	900	100	631	647	98	593	m	m
Germany	782	772	101	735	715	103	684	671	102
Greece	780	780	100	629	629	100	629	629	100
Hungary	814	m	m	611	473	129	611	473	129
Iceland	634	m	m	634	m	m	560	m	m
Ireland	915	915	100	735	735	100	735	735	100
Italy	748	748	100	612	612	100	612	612	100
Japan	617	m	m	513	m	m	449	m	m
Korea	811	m	m	554	m	m	531	m	m
Mexico	800	800	100	1 167	1 182	99	1 037	m	m
Netherlands	930	930	100	876	867	101	876	867	101
New Zealand	985	985	100	968	968	100	950	950	100
Norway	713	713	100	633	633	100	505	505	100
Portugal	767	783	98	637	644	99	533	574	93
Scotland	950	975	97	893	m	m	893	917	97
Slovak Republic	739	m	m	659	m	m	630	m	m
Spain	880	900	98	564	a	m	548	630	87
Sweden	a	624	m	a	576	m	a	528	m
Switzerland	m	871	m	m	850	m	m	669	m
Turkey	639	m	m	a	a	a	567	m	m
United States	1 139	m	m	1 127	m	m	1 121	m	m
Country mean	***803***	***807***		***717***	***716***		***674***	***660***	

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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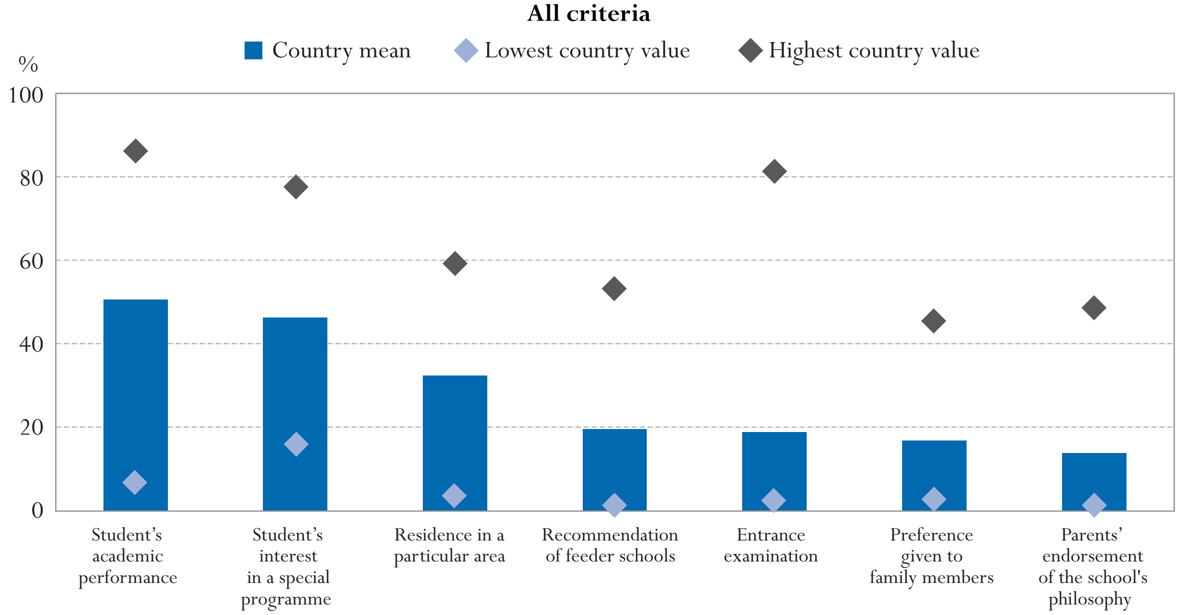
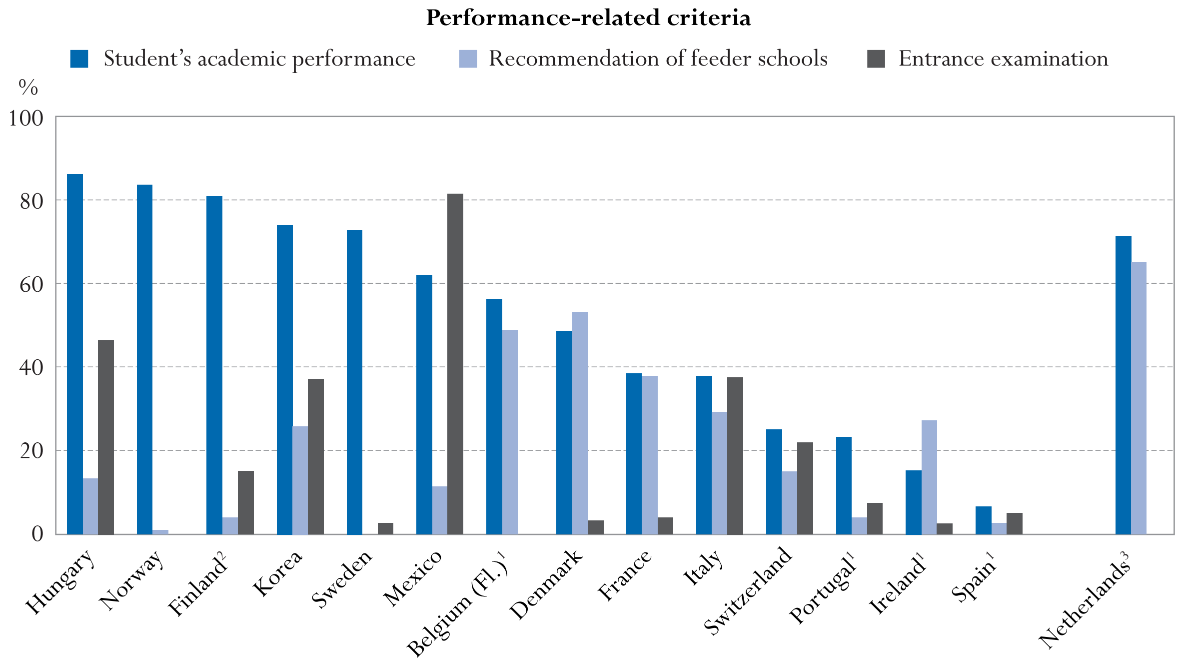
INDICATOR D5: STUDENT ADMISSION, PLACEMENT AND GROUPING POLICIES IN UPPER SECONDARY SCHOOLS

- Students' academic performance is the most commonly used criterion for admitting students to upper secondary schools, though there is wide variation among countries. More than 80% of students in Finland, Hungary and Norway attend schools where students' academic performance is always used as a criterion for admission, whereas in Spain the percentage is less than 10%.
- The other most commonly used factors in admission policies are students' need for and interest in the programme and their residence in a particular area.
- For grouping students, the most commonly used criterion is the student's choice of specific subject or programme; on average some 73% of students attend schools where this criterion is always used. By contrast, in Mexico, almost half the students attend schools where this is never the practice. Grouping students to ensure that classes contain a mixture of abilities is the next most common policy, followed by grouping students by similar age.
- Schools in the Flemish Community of Belgium, Hungary, Ireland and Italy are, on average, more selective both in admitting and in grouping students than the international average. By contrast, in Spain and Sweden, schools appear to be less selective in their admission policies than the international average and they also tend to use selective grouping policies less frequently.

Chart D5.1. Student admission and placement policies in upper secondary education (2001)

Percentage of upper secondary students attending schools where principals reported that various factors are always considered when students are admitted or placed in the school





1. The issue of "admission policy" relates more to lower secondary education than to upper secondary education. In most cases, students are admitted to the school at the start of lower secondary education.
2. In Finland, some general upper secondary schools have enhanced science, music, language, culture, art or sports curricula. Similarly, some vocational secondary schools have enrichment curricula, *i.e.*, on natural resources and environmental issues. Students apply to be enrolled in these schools usually because parents endorse the school's programme.
3. Country did not meet international sampling requirements. The reported data are unweighted.

Countries are ranked in descending order of the percentage of upper secondary students attending schools where principals reported always using student's academic performance as an admission criterion.

Source: OECD. Table D5.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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Policy context

OECD's International Survey of Upper Secondary Schools (ISUSS) asked school principals about the student admission and placement policies in their schools.

Admission and placement policies explicitly set the framework for selection of students for academic programmes and for streaming of students according to their specific career goals and educational needs. In countries where socio-economic segregation is firmly entrenched through residential segregation, or significant differences exist among programmes and schools at the upper secondary level, admission and grouping policies have high stakes for parents and students. Effective schools are more successful in attracting motivated students and in retaining good teachers; conversely, a "brain drain" of students and staff risks causing the deterioration of other schools, unless equity-oriented policies limit the selectivity of schools, or provisions are made to give an equitable education for all.

Once admitted to school, students become members of a community of peers and adults. The way in which students are grouped within this community has an impact on the learning environment. There are large variations across countries in how students are grouped and cross-national comparisons often neglect these differences as an unknown context factor.

In 2001, the OECD International Survey of Upper Secondary Schools (ISUSS) asked school principals how they consider the student admission and placement policies in their schools. (For a description of the survey see Annex 3 on *www.oecd.org/edu/eag2004*.)

In all countries participating in the International Survey of Upper Secondary Schools, students are streamed in various types of programmes. Individual schools may specialise in one programme type, or provide a wide range of programmes. They prepare and qualify students for entry to either higher education or the labour market, and sometimes for both.

From this starting point of diverse provision, upper secondary schools typically have more autonomy in selecting and grouping students than primary and lower secondary schools. The degree to which they do so varies across countries; the survey explored the extent of student differentiation in each country.

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Evidence and explanations

Student admission policies in upper secondary schools

Countries' school and programme structures determine when students first have to choose between programmes leading to different destinations, or when they first have the opportunity to choose a school that takes them through the programmes that fit their educational goals. In countries where lower secondary programmes are typically taught in "comprehensive" institutions that are separated from differentiated upper secondary institutions, the first important choice among schools is made at the upper secondary level. This is the case in Denmark, France, Finland, Korea, Norway, Sweden and Switzerland. However, in countries where lower secondary and upper secondary level programmes are typically organised in the same school, students sometimes select schools – or are selected for different schools – earlier, after completing primary education. This is the case in the Flemish Community of Belgium, Ireland, Portugal and Spain. In Hungary, students typically change school after completing lower secondary education, but it is possible to apply for admission to long secondary programmes comprising the whole or part of the lower secondary programme and the upper secondary programme in a single structure. Similar schools – mainly private schools – exist in France, Mexico, Switzerland and Finland as well.

At the upper secondary level, schools in most countries have a relatively high degree of autonomy in deciding whether they accept applicants and how they match students' needs and qualification requirements with programme and course offerings. Yet, there are constraints as well. Admission policies can depend on how schools are financed and whether the number of applicants is within or beyond the capacity of the school. Country regulations concerning academic freedom of choice and universal access influence school admission policies as well.

Prior academic performance and programme interest are the most common placement criteria…

Chart D5.1 shows the percentage of students whose school principals report that each of seven stated criteria is always considered. The results show a wide variation across countries. In Finland, Hungary, Korea, Norway and Sweden at least 70% of all students attend schools where their previous academic performance is always one of the factors considered for admission. On the other hand, in Ireland, Portugal, Spain and Switzerland, this is not normally an admission factor. In the first three of these countries, students are generally already enrolled in the school when they reach the upper secondary level, so admission is at a younger age, when performance typically is less important relative to other criteria.

Even though academic performance is the single most common admission criterion, it is not usually assessed through an entrance examination. In Mexico, 81% of students attend an upper secondary school that always selects students with such an exam. In Denmark, Hungary, Italy, Korea and Switzerland about half of the students go to schools that use this method at least sometimes. In contrast, entrance examinations are hardly ever organised in the Flemish Community of Belgium, France, Ireland, Norway, Portugal and Spain though in some cases this is because students are already enrolled in the school when they reach upper secondary level (Chart D5.1 and Table D5.1).

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Student interest in a specific programme is considered when there is a choice among school programmes or streams. In the Flemish Community of Belgium, Denmark, France, Hungary and Italy, around two thirds or more of students attend schools that always consider their request to attend because of a programme interest. On the other hand fewer than one in five students do so in Finland and Korea (Table D5.1).

…but residence can sometimes be the primary criterion…

When local educational authorities have the responsibility to provide places for all applicants within a defined residential area, schools are required to accept all students from a particular area and can accept other students only if they have surplus space. This is typically the case in small townships where schools predominantly serve local students, but in some countries, large urban school systems also have regulations regarding admission policies, which may include the delineation of school districts. This system can promote the integration of students in socially heterogeneous areas. It can also lead to the aggravation of inequities in educational opportunities if residential areas are socially segregated or the school system is selective in other ways.

The degree to which this factor is important varies considerably – even though one-third of students on average attend schools where it is always a criterion, half go to schools where it is never relevant. In France, Portugal and Spain residence is a key admission factor, with more than 50% of students in each country attending schools where it is always a criterion, compared to only a minority where academic performance is always taken into account. In France, however, students' own interest in a programme is relevant more frequently than residence. On the other hand, in the Flemish Community of Belgium and Finland, residence plays almost no part in student admission criteria at upper secondary level (Table D5.1).

…and other factors such as recommendation of feeder schools or parental endorsement of a school's religious or educational philosophy commonly play a role in some countries.

While residence, performance and student preference are the dominant admission criteria, some schools take other factors into account. Although the recommendation of feeder schools is not greatly used on average among countries, around 50% of upper secondary students in the Flemish Community of Belgium and Denmark attend schools where the school principal reports that this criterion is always used in admitting students; the figure is less than 5% in Finland, Norway, Portugal and Spain. In Sweden, there is no practice of recommendations from feeder schools. Otherwise, two-thirds of students in the Flemish Community of Belgium and nearly half in Hungary and Ireland have principals who at least sometimes consider whether parents endorse the school's philosophy when they admit students. In other countries this practice is more rare, and in some cases not even tolerated. In Sweden, for example, the law forbids schools to give preference to students for such reasons (Chart D5.1 and Table D5.1).

Selection by student performance can be summed up in an international index.

Each country has its own distinctive array of placement and admission criteria. A key dimension of admission – selection of students according to performance – can be summed up in an international index. This combines principals' feedback on admission by academic performance, entrance examinations and feeder school recommendations, producing an "index of performance-related admission policies". A positive index value for a country indicates that the admission policies are on average more selective than is the case on average across the countries surveyed, while a negative value indicates the countries' policies are less selective than average. The distribution of schools in each country on this index is reported in Table D5.2.

The results show that countries vary widely in the extent to which students' performance is considered in admission to upper secondary programmes. In Denmark, Hungary and Mexico, the principals of the great majority of students appear to give more consideration to the entry performance of students than the international average based on this index. By contrast, in Ireland, Portugal, Spain and Sweden, fewer than 25% of students attend schools where this is the case, though the combined provision of lower and upper secondary education in the same school could in some cases be the explanation for this. The variation among schools in entry performance requirements is largest in Italy: while half of the students go to schools that are less selective from the point of view of academic performance than the international average, at least one quarter of all upper secondary students attends schools that are highly selective.

Grouping students in upper secondary schools

In some countries, at the upper secondary level, no permanent student classes exist, *i.e.*, students attend courses in different subjects with different groups. In other systems, students are grouped by the level of courses they take rather than by age or year (grade), and they may attend courses with students of a wide age range. There are also systems where it is customary to have "administrative classes", *i.e.*, stable student groups, which are taught together in all or most subjects and stay together for the period of the entire programme (*e.g.*, the Flemish Community of Belgium, Hungary). Beside systemic differences, many variations exist at the school level. At the upper secondary level, students usually have elective subjects for which they may be recruited from several administrative classes within their grade. Conversely, the same subjects may be offered at different course levels which may induce schools to ignore grade level in grouping students.

In the International Survey of Upper Secondary Schools, principals were asked how they group students.

The pattern of response to the question on which criteria are used in grouping students is summarised in Table D5.3. The most common reported grouping criterion was students' choices of programme or subject: 73% of students attend schools where their choices are "always" used for grouping. The percentage in individual countries is shown in Chart D5.2.

Overlaying these factors is the issue of how students are grouped by age. Here there is a mixture of practice, with somewhat more students (48%) attending schools which "never" group students of similar ages, but 40% going to schools that "always" do.

Two other factors – teacher expertise and parental requests – are only rarely used as grouping criteria.

Choice of a specific course or subject is the most frequent basis for grouping students in upper secondary education.

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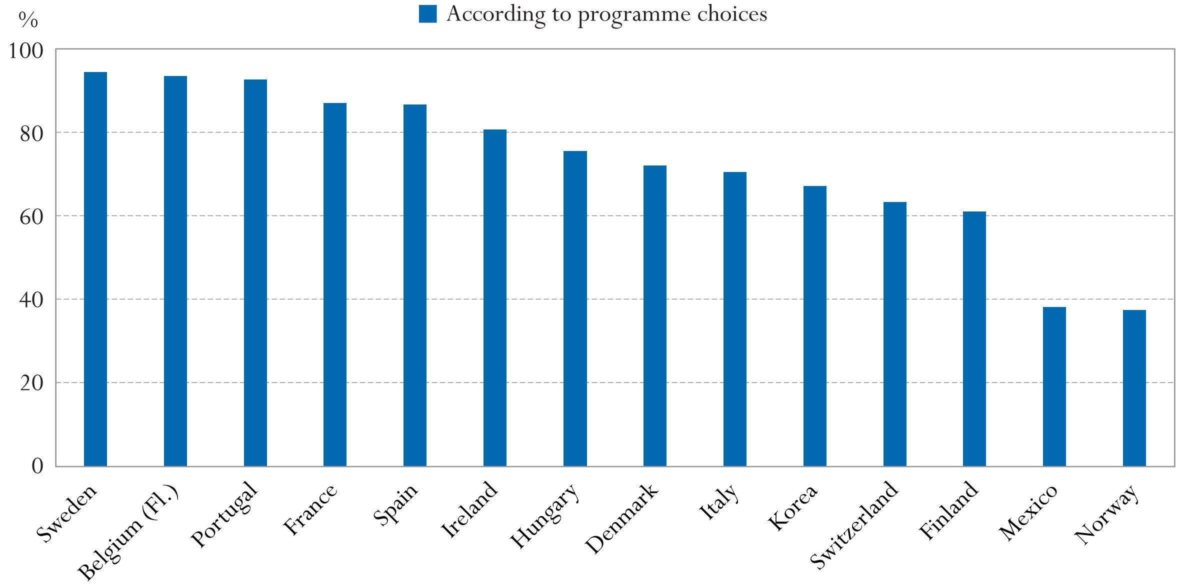
As shown in Chart D5.2 and Table D5.3, choice of programme or subject is the most frequent basis for grouping students. In the Flemish Community of Belgium, France, Portugal and Sweden, this is overwhelmingly the most important factor, used at virtually all schools. However, in Mexico, only one-third of students attend schools where choice of programme or subject is always used as the basis for specific student grouping and half of the students attend schools where students are never grouped by choice of programme or subject. In Norway, grouping on the basis of student programme/subject choice occurs for some subjects after the first year and in technical-type schools.

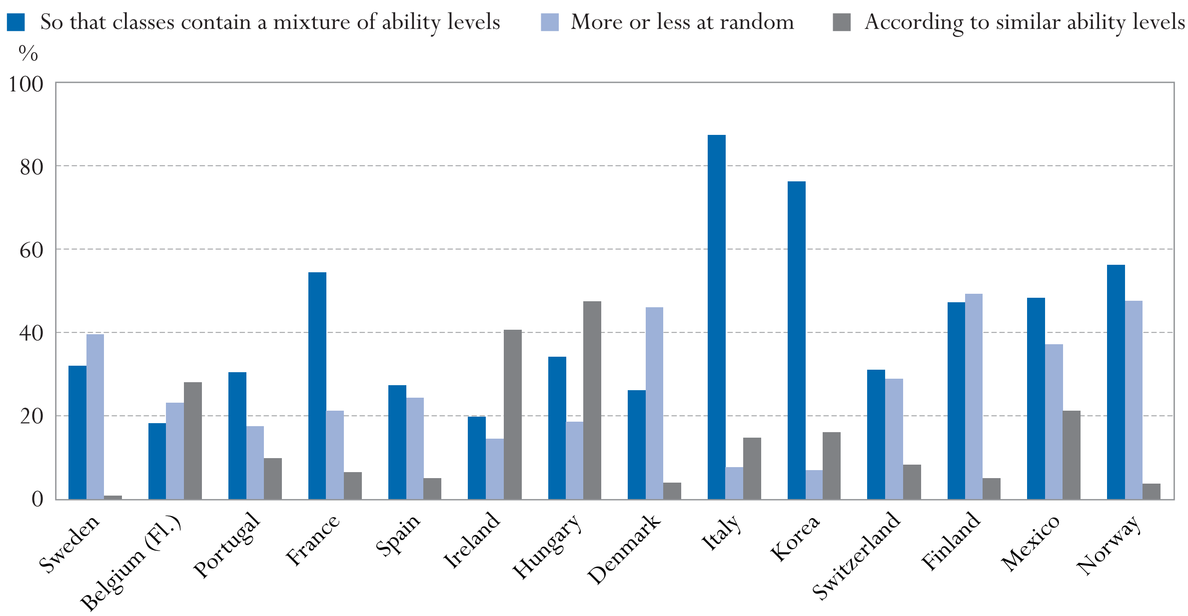
In a minority of schools, ability grouping reinforces student selection.

Grouping by similar ability levels is sometimes used as a "hidden" selection policy, reinforcing the more visible effect of ability-based admissions. It is often argued that grouping students by ability level helps both poor and bright

Chart D5.2. Criteria for grouping students in upper secondary education (2001)

Percentage of upper secondary students attending schools where principals reported that various criteria are always used when students are grouped in classes





Countries are ranked in descending order of the percentage of students attending schools where principals reported that students are grouped in classes according to their programme choices.
Source: OECD. Table D5.3. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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students to progress in suitable learning environments. Recent research shows, however, that students in both the "low ability groups" and in the "high ability groups" can lose.

The survey results show that overall, only 15% of students on average attend schools where ability grouping is a standard policy, whereas more than 50% attend schools where they are never grouped by ability. Nearly half of the students in Hungary and Ireland attend schools where grouping students according to similar ability levels is regular practice. By contrast, less than 10% of students attend schools in Denmark, Finland, France, Norway, Spain, Sweden and Switzerland where this is the case. In many schools, a policy to the opposite effect is employed; students are grouped so that classes contain a mixture of ability levels. On average, this policy is reported by the principals of 42% of students across countries and of more than 75% in Italy and Korea.

Upper secondary students are typically grouped into classes of similar ages in Hungary and Sweden, while they are rarely grouped by age in Denmark, Finland, France and Korea.

Student age seems to count less at this level in grouping students than in primary and lower secondary education. However, in Hungary and Sweden, year cohorts are still taught together. By contrast, in Denmark, Finland, France and Korea, two-thirds of students or more attend schools where principals report that they never consider student age as a grouping criterion at this level. Systemic differences in the organisation of upper secondary education may account for this variety of responses. But even apparent similarities can hide fundamental policy differences. For example, automatic student promotion results in students of similar ages being taught together. However, strict selection and streaming practices can produce the same effect: students progress with their age cohort, drop out, or are transferred to another programme type designed for the same age cohort with different destinations and interests, as is the case in Hungary.

A selection-related index summarises different countries' grouping policies.

An index of selective grouping policies was developed from the criteria shown in Table D5.3, together with the question on parents' and guardians' requests. It was assumed that random grouping and grouping to achieve a mixture of ability levels are less likely to reinforce performance differences (and therefore, they were assigned a negative score in the index) and ability grouping and grouping according to parental requests are more likely to reinforce performance differences (and therefore, they were assigned a positive value). The index was standardised on an international scale. Table D5.4 shows the mean index of selective grouping policies by countries (a positive value means more selective grouping policies compared to the average for the other countries surveyed) and differences between schools within countries.

In Finland, Korea and Norway, more than 75% of students and in Denmark, France, Italy, Mexico, Spain, Sweden and Switzerland more than half of upper secondary students attend schools where grouping criteria appear less selective than the international average. By contrast, in the Flemish Community of Belgium, Hungary and Portugal, the majority of students go to schools where grouping within schools is more likely to reinforce performance differences among students. In Ireland, the high index value is explained by the fact that students decide on the subjects and levels of examinations they intend to sit for, and they are grouped in their courses accordingly. In this examination-driven context, ability grouping does not have the same meaning as in school systems where course structure is determined by pre-defined curricula.

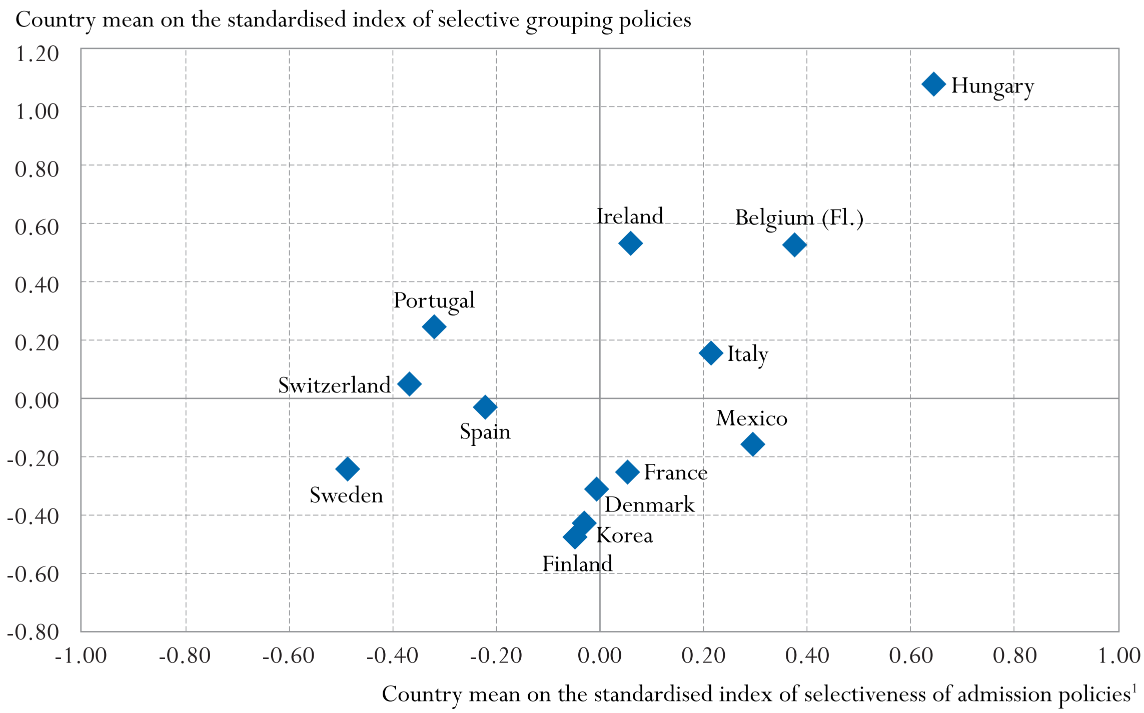
In Spain and Sweden selective admission and grouping policies are less frequent than in other countries.

How are selective admission and grouping policies related to each other? Chart D5.3 compares the selectiveness of each type of policy. On the horizontal axis, an index of selectiveness combines scores on the index of performance-related selection policies with an index of selection policies related to parental endorsement.[1] The vertical axis shows the index of selective grouping policies within the school.

This graph shows that in the Flemish Community of Belgium, Hungary, Ireland and Italy schools are, on average, more selective both in admitting and in grouping students than the international average. By contrast, in Spain and Sweden, schools appear to be less selective in their admission policies than the international average and they also tend to use selective grouping policies less frequently. These two aspects of selectivity do not, however, necessarily go together. It could be, for example, that academically highly selective schools have less need than more "comprehensive" schools to divide by ability within

Chart D5.3. Performance-related admission policies and selective grouping policies (2001)

Country means on the standardised indices of selective grouping policies and of the selectiveness of admission policies



Example: A country located in top right-hand quarter has both admission and grouping policies that are more selective than average.

Note: Only countries providing internationally comparable data are included in the international indices.

1. The values correspond to the average of the standardised index of admission policies related to performance and the standardised index of admission policies related to parental endorsement. Positive values indicate that policies are more selective than on average across the countries surveyed.

Source: OECD. Tables D5.2 and D5.4. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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classes. France and Mexico are somewhat more selective by average on admission but less so on grouping. In Portugal the reverse is true. However, these are the only three of the 13 countries where selectivity in admission and in grouping shows opposite tendencies.

But measuring selectivity is not easy, and the consequences of policies for equity are not straightforward.

This preliminary attempt to classify the selectivity of school systems needs to be read with caution. One limitation is that the purpose for which a particular policy can be used can vary. For example, depending on the social and the pedagogical context, ability grouping can be used to provide additional help or a more adequate learning environment for academically disadvantaged students, or alternatively for segregating the socially disadvantaged.

More generally, the relationship between the separation of students at upper secondary level and the overall equity of education systems and their outcomes is far from straightforward. This is partly because issues of equity start to interact with issues of "steering" at this educational stage. As students with different talents and other characteristics move towards different futures, the most equitable form of education is not necessarily to keep them all at the same school or in the same class. Nevertheless, there is still the potential for separation to create an inequitable distribution of opportunities.

Definitions and methodologies

Data on student admission and grouping policies derive from the OECD's International Survey of Upper Secondary Schools (ISUSS) in 2001.

Data in this indicator are drawn from the responses of school principals to the OECD's International Survey of Upper Secondary Schools (ISUSS), a study of mainstream upper secondary education implemented in 4 400 schools in 15 countries during the school year 2001/2002. For more detail see Annex 3 at *www.oecd.org/edu/eag2004.*

Student admission policies include the following criteria: residence in a particular area, students' academic performance, entrance examinations, recommendation of feeder schools, parents' endorsement of the school's philosophy, whether the student requires or is interested in a special programme, preference given to family members of current or former students.

Selective grouping policies are defined by the type of students' grouping. Students are grouped or assigned to classes: more or less at random, according to similar ability levels, so that classes contain a mixture of ability levels, according to the special expertise of teachers, composed of students of similar ages, according to their choice of programme or subject, according to parents' requests.

The *index of performance-related admission policies* is calculated by summing the school principal's responses to the question of how often they considered the following criteria when admitting or placing students to upper secondary programmes: student's academic performance, entrance examinations and recommendation of feeder schools. The response alternative "always" or "often" was assigned a code of 2, "sometimes" was assigned a code of 1 and "never" was assigned a code of 0.

The *index of selective grouping policies within schools* is calculated by summing the school principal's responses to the question of how often upper secondary students were grouped in the school more or less at a random, according to similar ability levels, so that classes contain a mixture of ability levels and according to the requests of parents/guardians. In calculating the overall index, the "integrative" methods (*i.e.*, random grouping and grouping into classes that contain a mixture of ability levels) were considered with a negative sign. The response alternative "always" or "often" was assigned a code of 2, "sometimes" was assigned a code of 1 and "never" was assigned a code of 0. Thus a high score on this index means a strong tendency to stream students by ability or socio-cultural background. A low score means an integrative approach to grouping students.

Note

1. The latter is based on the degree to which schools use parental endorsement of the school's philosophy and preference given to family members. The index of selectiveness of admissions is an average of the indices of performance-related selection policy and of selection related to parental endorsement.

Table D5.1. Student admission and placement policies in upper secondary education, as reported by school principals (2001)

Percentage of upper secondary students attending schools where the principal reported that various factors are always, sometimes or never considered when students are admitted or placed in upper secondary programmes in the school

		Residence in a particular area			Student's academic performance			Entrance examination			Recommendation of feeder schools		
		Never	Sometimes	Always	Never	Sometimes	Always	Never	Sometimes	Always	Never	Sometimes	Always
OECD COUNTRIES	Belgium (Fl.)[1]	92	5	3	16	28	56	94	6	n	14	37	49
	Denmark	55	18	26	19	32	48	33	63	3	19	28	53
	Finland[2]	80	15	4	9	10	81	62	22	15	64	32	4
	France	27	17	57	23	38	38	89	7	4	21	41	38
	Hungary	67	10	23	7	7	86	45	8	46	58	29	13
	Ireland[1]	76	11	14	56	28	15	93	5	2	42	30	27
	Italy	56	18	26	51	11	38	53	10	38	48	23	29
	Korea	34	13	53	17	10	74	55	8	37	63	11	26
	Mexico	65	19	16	22	16	62	11	7	81	66	23	11
	Norway	31	20	50	5	11	83	92	8	n	64	35	1
	Portugal[1]	20	21	59	43	34	23	92	0	8	66	30	4
	Spain[1]	32	9	59	78	15	7	76	19	5	81	16	3
	Sweden	51	18	31	9	18	73	67	31	3	100	n	n
	Switzerland	47	19	33	58	17	25	29	50	22	60	25	15
	Country mean	***52***	***15***	***32***	***30***	***20***	***51***	***64***	***17***	***19***	***55***	***26***	***20***
	Netherlands[3]	100	n	n	11	18	71	87	13	n	6	29	65

		Parents' endorsement of the school's philosophy			Whether the student requires or is interested in a special programme			Preference given to family members of current or former students		
		Never	Sometimes	Always	Never	Sometimes	Always	Never	Sometimes	Always
OECD COUNTRIES	Belgium (Fl.)[1]	34	18	48	5	30	65	78	16	6
	Denmark	95	5	n	15	22	63	81	12	7
	Finland[2]	70	8	22	33	52	16	98	1	n
	France	84	7	9	7	27	67	59	30	11
	Hungary	55	11	34	10	12	77	41	32	28
	Ireland[1]	52	27	21	29	39	32	44	20	36
	Italy	72	11	18	16	15	68	46	29	25
	Korea	84	10	6	60	22	18	87	9	4
	Mexico	74	9	17	51	23	26	77	17	6
	Norway[4]	98	2	n	28	45	26	100	a	a
	Portugal[1]	81	13	5	12	34	54	55	30	15
	Spain[1]	79	9	13	39	26	35	33	21	46
	Sweden	100	a	a	16	26	58	100	a	a
	Switzerland	96	3	2	27	31	42	92	6	2
	Country mean	***77***	***9***	***14***	***25***	***29***	***46***	***71***	***19***	***17***
	Netherlands[3]	64	24	13	14	18	68	100	n	n

1. The issue of "admission policy" relates more to lower secondary education than to upper secondary education. In most cases, students are admitted to the school at the start of lower secondary education.
2. In Finland, some general upper secondary schools have enhanced science, music, language, culture, art or sports curricula. Similarly, some vocational secondary schools have enrichment curricula *e.g.,* on natural resources and environmental issues. Students apply to be enrolled in these schools usually because parents endorse the school's programme.
3. Country did not meet international sampling requirements. The reported data are unweighted.
4. Figures are imputed for Norway as the question was not asked in this way in the Norwegian survey.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table D5.2. Indices of admission and placement policies related to student's performance (2001)

Country means and standard deviations on the international standard index and index values at different percentiles of the upper secondary student population

		Standardised index of performance-related admission policies (student's academic performance, entrance examination and recommendation of feeder schools)							
					Percentiles				
	Mean	Standard deviation	Standard error	10th	25th	Median	75th	90th
OECD COUNTRIES	Belgium (Fl.)[1]	0.25	0.78	(0.05)	-0.86	-0.24	0.38	1.00	1.00
	Denmark	0.57	0.97	(0.08)	-0.86	-0.24	1.00	1.62	1.62
	Finland[2]	0.16	0.78	(0.05)	-0.86	-0.24	0.38	0.38	1.00
	France	0.04	0.90	(0.05)	-1.48	-0.24	0.38	1.00	1.00
	Hungary	0.58	0.90	(0.05)	-0.24	-0.24	1.00	1.00	1.62
	Ireland[1]	-0.54	0.84	(0.06)	-1.48	-1.48	-0.86	-0.24	0.38
	Italy	0.07	1.40	(0.07)	-1.48	-1.48	-0.24	1.62	2.24
	Korea	0.32	0.99	(0.06)	-0.86	-0.24	-0.24	1.00	1.62
	Mexico	0.68	0.92	(0.05)	-0.24	-0.24	1.00	1.00	1.62
	Norway	-0.10	0.52	(0.04)	-0.86	-0.24	-0.24	0.38	0.38
	Portugal[1]	-0.66	0.86	(0.06)	-1.48	-1.48	-0.86	-0.24	0.38
	Spain[1]	-0.99	0.67	(0.04)	-1.48	-1.48	-1.48	-0.86	-0.24
	Sweden	-0.25	0.55	(0.04)	-0.86	-0.24	-0.24	-0.24	0.38
	Switzerland	-0.16	0.97	(0.04)	-1.48	-0.86	-0.24	0.38	1.00
	Country mean	***0.00***	***0.86***	***(0.05)***	***-1.03***	***-0.64***	***-0.02***	***0.56***	***1.00***

Note: Only countries providing internationally comparable data are included in the international indices.

1. The issue of "admission policy" relates more to lower secondary education than to upper secondary education. In most cases, students are admitted to the school at the start of lower secondary education.

2. In Finland, some general upper secondary schools have enhanced science, music, language, culture, art or sports curricula. Similarly, some vocational secondary schools have enrichment curricula *e.g.,* on natural resources and environmental issues. Students apply to be enrolled in these schools usually because parents endorse the school's programme.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table D5.3. Frequency of using various criteria in grouping students in upper secondary schools, as reported by school principals (2001)

Percentage of upper secondary students attending schools where the principal reported that different grouping policies are always, sometimes or never used

Students are grouped or assigned to classes…

OECD COUNTRIES	more or less at random			according to similar ability levels			so that classes contain a mixture of ability levels			according to the special expertise of teachers		
	Never	Sometimes	Always	Never	Sometimes	Always	Never	Sometimes	Always	Never	Sometimes	Always
Belgium (Fl.)	54	23	23	41	31	28	49	32	18	85	13	2
Denmark	31	23	46	72	24	4	50	24	26	83	15	2
Finland	26	25	49	58	37	5	41	11	47	74	23	4
France	50	28	21	68	26	7	24	22	54	54	19	27
Hungary	64	18	19	26	26	48	41	25	34	81	10	9
Ireland	49	37	15	9	50	41	25	55	20	61	28	11
Italy	83	10	8	70	15	15	8	4	87	86	12	1
Korea	75	18	7	58	26	16	12	12	76	78	13	9
Mexico	44	19	37	50	29	21	30	21	48	75	20	5
Norway	25	27	48	56	40	4	21	23	56	76	21	3
Portugal	67	16	18	74	16	10	45	25	31	70	15	15
Spain	57	19	24	79	16	5	52	21	27	97	3	n
Sweden	41	19	40	85	14	1	48	20	32	70	25	5
Switzerland	48	23	29	44	48	8	40	29	31	73	10	16
Country mean	***51***	***22***	***27***	***56***	***28***	***15***	***35***	***23***	***42***	***76***	***16***	***8***
Netherlands[1]	100	n	n	100	n	n	100	n	n	100	n	n

Students are grouped or assigned to classes…

OECD COUNTRIES	composed of students of similar ages			according to their choice of programme or subject			according to parents' requests		
	Never	Sometimes	Always	Never	Sometimes	Always	Never	Sometimes	Always
Belgium (Fl.)	50	8	42	4	3	93	47	49	4
Denmark	65	29	6	13	15	72	67	32	1
Finland	67	16	16	12	27	61	81	18	1
France	73	7	20	3	10	87	73	25	2
Hungary	4	2	94	11	14	75	19	39	42
Ireland	57	10	33	7	13	80	63	33	4
Italy	38	10	52	19	10	70	14	68	18
Korea	77	4	19	15	18	67	88	10	2
Mexico	51	20	29	48	14	38	73	22	5
Norway	39	7	55	27	36	37	83	17	n
Portugal	31	38	31	5	3	93	48	45	7
Spain	58	10	32	7	7	86	75	20	5
Sweden	n	n	100	n	6	94	60	37	3
Switzerland	60	9	30	10	27	63	70	26	4
Country mean	***48***	***12***	***40***	***13***	***14***	***73***	***62***	***31***	***7***
Netherlands[1]	100	n	n	1	n	99	100	n	n

1. Country did not meet international sampling requirements. The reported data are unweighted.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table D5.4. Index of selective grouping policies within schools, as reported by school principals (2001)

Country means and standard deviations on the international standard index and index values at different percentiles of the upper secondary student population

		Mean	Standard deviation	Standart error	Percentiles				
					10th	25th	Median	75th	90th
OECD COUNTRIES	Belgium (Fl.)	0.52	0.97	(0.06)	-0.68	-0.08	0.52	1.13	1.73
	Denmark	-0.25	0.87	(0.07)	-1.28	-0.68	-0.08	0.52	1.13
	Finland	-0.47	0.86	(0.05)	-1.89	-1.28	-0.68	-0.08	0.52
	France	-0.32	0.81	(0.04)	-1.28	-0.68	-0.08	0.52	0.52
	Hungary	1.07	1.12	(0.06)	-0.68	-0.08	1.13	1.73	2.33
	Ireland	0.53	0.97	(0.06)	-0.68	-0.08	0.52	1.13	1.73
	Italy	0.15	0.76	(0.04)	-0.68	-0.08	-0.08	0.52	1.13
	Korea	-0.43	0.84	(0.05)	-1.89	-0.68	-0.68	-0.08	0.52
	Mexico	-0.16	0.95	(0.05)	-1.28	-0.68	-0.08	0.52	1.13
	Norway	-0.65	0.72	(0.05)	-1.89	-1.28	-0.68	-0.08	0.52
	Portugal	0.24	0.87	(0.06)	-0.68	-0.08	0.52	0.52	1.13
	Spain	-0.03	0.89	(0.05)	-1.28	-0.68	-0.08	0.52	1.13
	Sweden	-0.25	0.86	(0.06)	-1.28	-0.68	-0.08	0.52	1.13
	Switzerland	0.05	0.93	(0.04)	-1.28	-0.68	-0.08	0.52	1.13
	Country mean	***0.00***	***0.89***	***(0.05)***	***-1.20***	***-0.55***	***0.01***	***0.57***	***1.13***

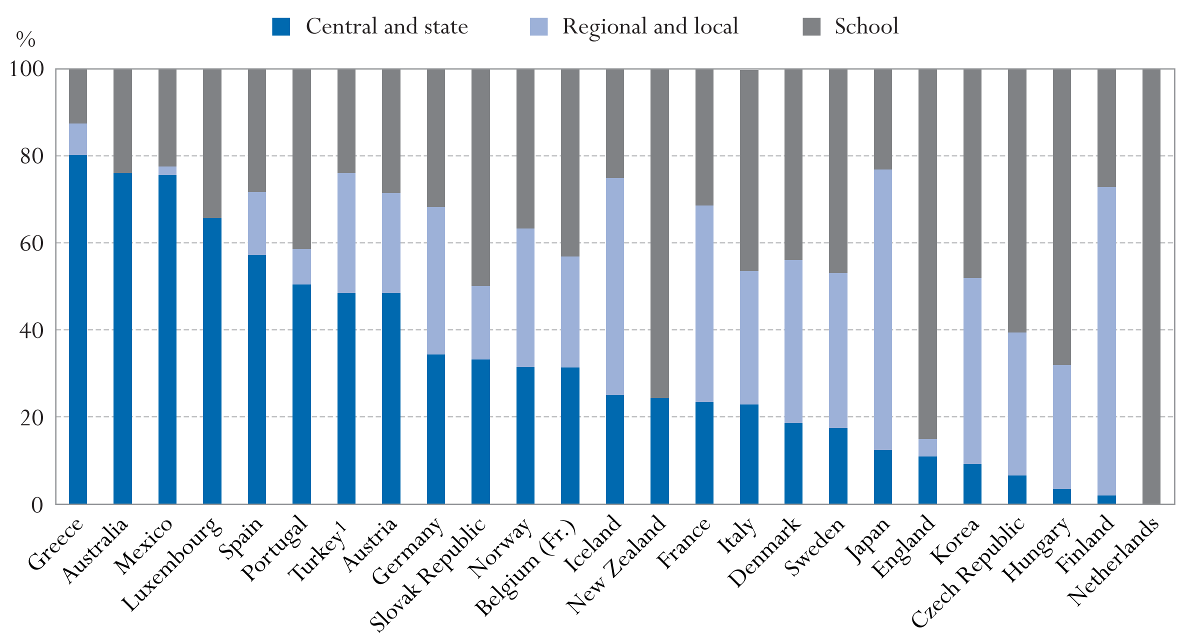
Note: Only countries providing internationally comparable data are included in the international index.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

D5

INDICATOR D6: DECISION MAKING IN EDUCATION SYSTEMS

- Overall, decisions are most highly centralised (taken at the central and/or state level of government) in Australia, Austria, Greece, Luxembourg, Mexico, Portugal, Spain and Turkey, with central government particularly dominant in Greece (88% of decisions taken by the central administration) and Luxembourg (66%).
- Decisions are more often taken at the school level in the Czech Republic, England, Hungary, New Zealand and the Slovak Republic and in particular in the Netherlands where all decisions are taken at the school level.
- Decisions on the organisation of instruction are predominantly taken by schools in all OECD countries, while decisions on planning and structures are mostly the domain of more centralised tiers of government. The picture is more mixed for decisions on personnel management and allocation and use of resources.
- Just less than half of decisions taken by schools are taken in full autonomy, about the same proportion as those taken within a framework set by a higher authority. Decisions taken by schools in consultation with others are relatively rare. Schools are less likely to make autonomous decisions related to planning and structures than related to other domains.
- Between 1998 and 2003, decision making in most countries became more decentralised, most notably in the Czech Republic, Korea and Turkey. The opposite trend was evident in the French Community of Belgium and Greece.

Chart D6.1. Percentage of decisions relating to public sector lower secondary education, taken at each level of government (2003)



Example: In Greece, 80% of decisions are taken at the highest level of government (central and state), 7% at regional and local levels and 13% at the school level.
1. Data refer to primary education.
Countries are ranked in descending order of the percentage of decisions taken at central and state levels of government.
Source: OECD. Table D6.1. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

D6

Policy context

This indicator shows where decisions are made in the education system at the lower secondary level, by domain and mode of decision making.

An important factor in educational policy is the division of responsibilities among national, regional and local authorities, as well as schools. Placing more decision-making authority at lower levels of the educational system has been a key aim in educational restructuring and systemic reform in many countries since the early 1980s. Yet, simultaneously, there have been frequent examples of strengthening the influence of the central authorities in some areas. For example, a freeing of "process" and financial regulations may be accompanied by an increase in the control of output from the centre, and by national curriculum frameworks.

It also provides insight into the relative importance of administrative levels in education systems.

There are many motives for changes in patterns of centralisation and they vary from country to country. The most common goals are increased efficiency and improved financial control, reduction of bureaucracy, increased responsiveness to local communities, creative management of human resources, improved potential for innovation and creation of conditions that provide more incentives for improving the quality of schooling. Among the more controversial policy-related themes are a heightened interest in measures of accountability and equity. These last two themes sometimes provide the background for measures that are more "centralised", such as national assessment programmes and centrally established frameworks.

School autonomy can be seen as the focal point of decentralisation policies.

Various motives are attributed to the desire to increase the autonomy of schools, such as enhancing the quality, effectiveness and responsiveness of schooling. As far as equity is concerned, increased autonomy is more controversial. School autonomy is believed to foster responsiveness to local requirements but is also sometimes seen as involving mechanisms for choice that favour already advantaged groups in society. Setting centrally determined frameworks in which individual schools make decisions is a possible counterbalance against complete school autonomy.

This indicator presents results from the data collection on decision making at the lower secondary level of education and provides an update to the previous collection, which took place in 1998. Responses were compiled by a panel of experts in each country, representing different levels of the decision-making process at the lower secondary level. Whilst the questionnaire was largely the same between the 1998 and 2003 collections, the make up of the panel in each country will have changed. There may, therefore be a subjective element in the changes evident when comparing the results from the two surveys.

Evidence and explanations

In 14 out of 25 OECD countries, most types of decisions are taken locally or by the school itself.

In 14 out of 25 countries most types of decisions that bear on lower secondary education are taken locally or by the school itself. The school itself is by far the most important level of decision making in the Czech Republic, England, Hungary and New Zealand, where well over half of decisions are taken at the school level, and particularly in the Netherlands where all decisions are taken at the school level. Decision making at the local level as opposed to the school level is a particular feature of the lower secondary education system in Finland where 70% of decisions are taken at that level, and to a lesser extent in Iceland and Japan where the percentage is around 50%.

Central government remains the primary decision maker in Greece, Luxembourg and Portugal while in other countries the role of central government in decision making is limited.

Central government is dominant in Greece and Luxembourg and to a lesser extent in Portugal and Turkey, where around 50% or more of the decisions are taken by the central authority. By contrast, in Australia, the French Community of Belgium, the Netherlands and Spain, the central government often sets the framework within which decisions are made, but makes no final decisions related to implementation. In the Czech Republic, England, Finland, Germany, Hungary and Korea, government's role is fairly limited.

In federal countries, as well as countries with largely autonomous provinces, there is a tendency towards a greater role for the states or autonomous provinces as the most important centralised decision-making authority. This is particularly true in Australia and Spain where 76% and 57%, respectively, of decisions are taken at the state level.

In some countries such as France, Germany, Norway and Turkey, decision making is more evenly distributed among the central level, the intermediate level and the schools (Table D6.1 and Chart D6.1). In three countries – Australia, Luxembourg and New Zealand – there is only one level of government that makes decisions regarding education beyond those made by schools.

Domains of decision making

Decision-making responsibility in the organisation of instruction, personnel management, planning and structures, and resources can lie with different administrative units.

Because a general assessment of the roles played in the decision-making process includes decisions made in different domains, this aggregate measure can hide differences in the degree of centralisation of different types of decisions. For example, a country may centralise almost all decisions about the curriculum, whereas the schools may have nearly complete control over decisions about teaching methods. The distribution of decisions taken by each administrative level across four domains of decision making (the organisation of instruction, personnel management, planning and structures, and resources – see "Definitions and Methodologies" at the end of the indicator text) is an indicator of "functional decentralisation", taking into account that countries may be decentralised in certain activities and centralised in others.

Schools predominate in taking decisions about the organisation of instruction…

When decisions are differentiated according to domain, the data show that decisions about the organisation of instruction are predominantly taken by schools in all OECD countries reporting data. Thus, decisions such as the choice of teaching methods and textbooks, criteria for grouping students within schools and day-to-day methods of student assessment are largely the responsibility of the school and in the case of England, Hungary, Italy, the Netherlands and New Zealand are solely in schools' hands. Even in the most "centralised" country, Greece, some 50% of decisions in this domain are taken by schools: it is, in fact, the only domain where Greek schools make decisions (Table D6.2).

…while in other domains of decision making patterns are more mixed.

In the three other domains (personnel management, planning and structures and resources), the number of decisions taken by schools is, in general, considerably lower and the patterns are more mixed. On average, schools are least likely to have decision-making responsibility in the area of planning and structures (ranging from decisions to open or close a school, through to programme design and credentialing). In 13 of 25 countries at least 50% of decisions are taken centrally and, in Greece, all such decisions are taken centrally. Even in some countries which tend to be more decentralised, such as Austria, Iceland and Sweden, central government has an important role in decision making on planning and structures of the education system.

In the personnel management domain (including decisions on the hiring and dismissal of staff, and setting salary schedules and conditions of work), more than 50% of decisions are taken centrally in Greece, Luxembourg, Portugal and Turkey, and by the state or provincial government in Australia, Mexico and Spain. Local administrations in Finland and Iceland take most decisions on personnel management, and schools do so in England, Hungary, the Netherlands (100%), New Zealand, the Slovak Republic and Sweden. In Korea, along with the organisation of instruction, personnel management is the only area of decision making for which the central tier of government has some responsibility (Table D6.2).

The allocation and use of resources is the area of decision making in which the local level of government has, on average, the most responsibility, with the local tier having a significant role in around half of the countries. All such decisions are in fact taken at the local level in Finland and Iceland. In Germany, where the *Länder* generally have a relatively high degree of responsibility for decisions, no decisions are taken by that tier of government on the allocation or use of resources. Instead, this is mainly in the hands of the local tier of government (Table D6.2).

Modes of decision making

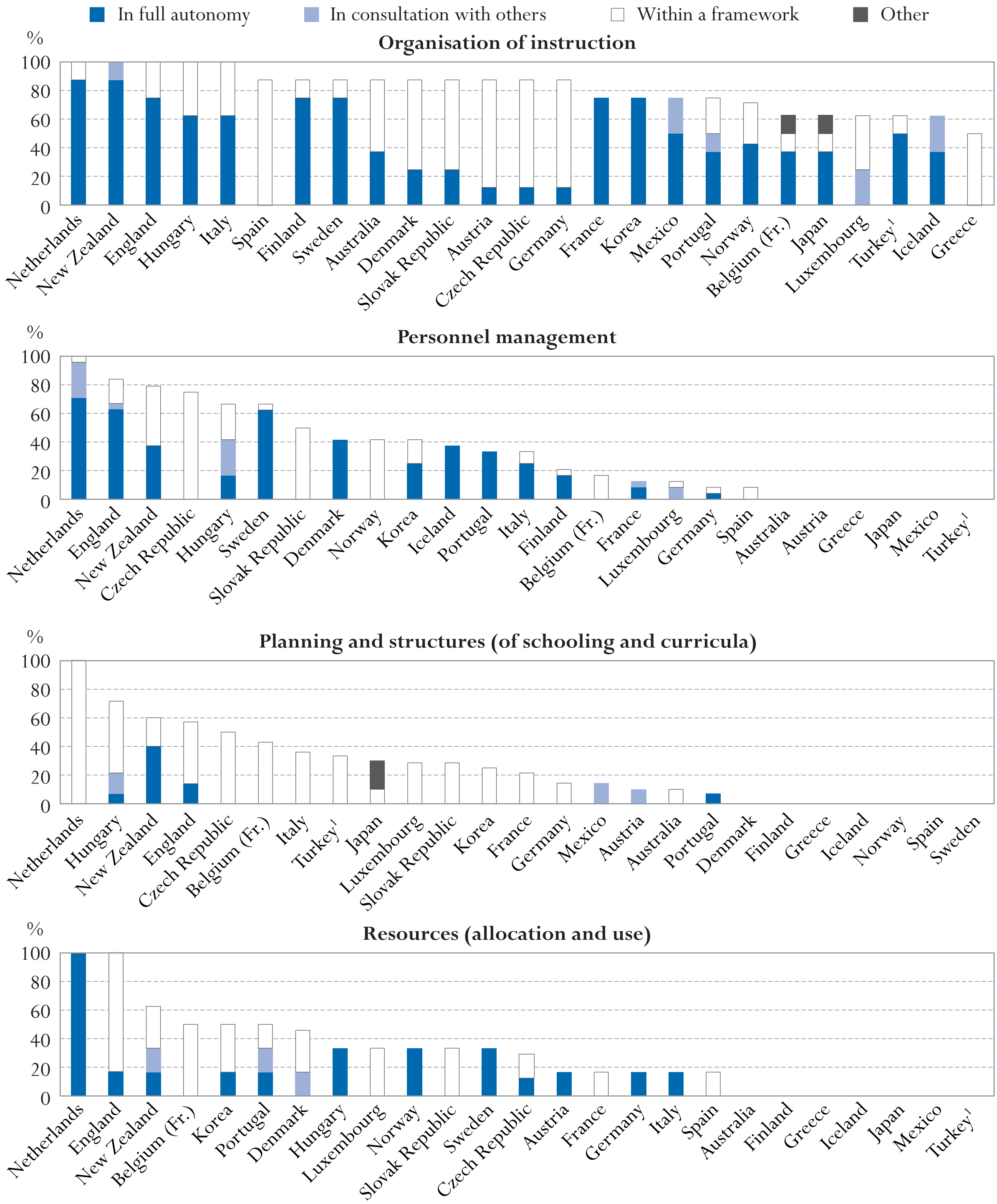
The degree of autonomy that schools have in their decission making is variable

Table D6.3 shows the percentage of decisions taken by the school by mode or degree of autonomy of the decisions taken. On average across countries, most decisions are made – in equal measure – either in autonomy or within a framework set by a higher authority. Decisions taken after consultation with others in the education system or taken under other circumstances are on average relatively rare.

In the three countries where most decision making is in the hands of schools – England (85%), the Netherlands (100%) and New Zealand (75%) – at least 50% of these decisions are taken in full autonomy and between 30 to 50% are taken within a framework set by a higher authority. The remainder are mainly made in consulation with other bodies in the educational system. By contrast, in the Czech Republic and the Slovak Republic, where the proportion of decisions taken by schools is also above average, schools' decisions are predominantly taken within a framework set by a higher authority. Perhaps more predictably, decisions taken by schools in countries which tend to have more centralised decision making are more likely to be subject to a framework. This is the case in the French Community of Belgium, Germany, Greece and Spain.

Within the four broad domains of decision making, decisions taken by schools related to planning and structures are least likely to be taken in full autonomy and are most likely to be taken within a framework (Table D6.4 and Chart D6.2).

Chart D6.2. Percentage of decisions taken by schools in public sector lower secondary education, by mode and domain of decision making (2003)



Example: In the Netherlands, all decisions in each domain are taken at the school level but these decisions can be taken in full autonomy or in consultation with others or within a framework. All decisions on resources are taken in full autonomy whereas all decisions on planning and structures are taken within a framework set by a higher level.
1. Data refer to primary education.
Countries are ranked in descending order of the percentage of decisions taken by schools within each domain.
Source: OECD. Table 6.4. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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This is well illustrated in the Netherlands, for instance, where school-level decisions are largely taken in full autonomy in all areas except in planning and structures (where all decisions are taken within a framework). School decision making in New Zealand, however, differs from this pattern in that two-thirds of school decisions on planning and structures are taken in full autonomy.

For the other domains, school decision making is on average as likely to be taken in full autonomy as it is within a framework set by a higher authority; however, the patterns vary among countries. In France and Korea, for instance, all decisions that schools take on the organisation of instruction are taken in full autonomy, whereas no such decisions are taken autonomously by schools in Greece and Spain.

Although, on average, schools are least likely to take decisions on the allocation and use of resources, they are most likely to be consulted on such decisions taken by others in the education system. In Denmark, Finland and Luxembourg, more than 50% of the decisions on resources are taken in consultation with schools.

Between 1998 and 2003, decision making in most countries has become more decentralised.

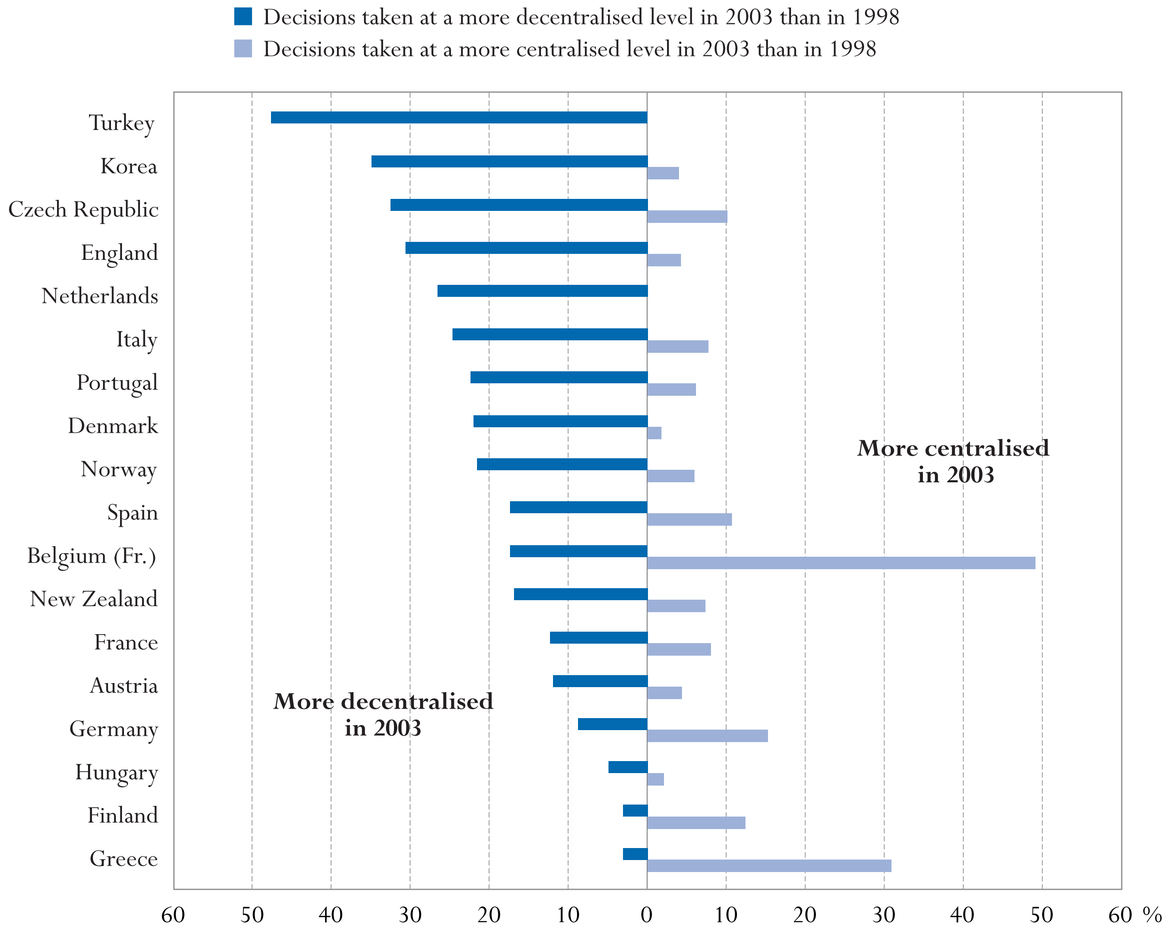
Table D6.6 and Chart D6.3 show that in 14 out of 19 countries decisions are taken at a more decentralised level in 2003 than in 1998. This is most noticeable in the Czech Republic, Korea and Turkey where more than 30% of decisions are taken at a more decentralised level in 2003 than five years earlier. Focussing on the school level, over 20% more decisions are made by schools in England, Korea, the Netherlands and Norway over the same period. But at the same time, in the French Community of Belgium and Greece, there have been shifts towards more centralised decision making. For example in Greece, central government had responsibility for 25% more decisions in 2003 than it did in 1998.

Decentralisation in Denmark

In the most recent years, decentralisation in Denmark has been somewhat impeded by what might be interpreted as a new centralisation, where municipalities or institutions co-operate or are united into larger units with shared leadership. Co-operation among municipalities has been established in several ways and with several degrees of formality. The co-operation and unification are intended to bring economies of scale and quality assurance in relation to increasing challenges and demands from the outside world. These new opportunities for joint operation and common leadership of basic schools, and between different types of schools, are being created through the revision of the Act on the *Folkskole*.

Chart D6.3. Centralisation and decentralisation of the decisions taken relating to public sector, lower secondary education (1998-2003)

Percentage of decisions taken at a more centralised or more decentralised level in 2003 than in 1998



Example: In Austria, around 5% of decisions are taken at a more centralised level in 2003 than in 1998, whilst around 12% of decisions are taken at a more decentralised level. The remainder are taken at the same level in 2003 as in 1998.
Note: Differences in data collection methodology between the two years may cause some distortion in the changes reported but this should not affect the general trends.
Countries are ranked in descending order of the percentage of decisions taken at a more decentralised level in 2003 than in 1998.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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A shifting four-layer administrative organisation in France

The four levels of public authorities (State, Regions, Departments, municipalities) correspond to those of school administration: central administration, academies (under a recteur), departments (under an academic inspector) and schools. The power of these various levels of authority has shifted over the last quarter of a century in line with the process of decentralisation (*i.e.*, the devolution of State responsibilities to regional/local authorities and to schools) and a de-concentration (*i.e.*, the delegation of decision-making powers to a lower power level within State administration). The adoption of a new law in 2003 providing for a further round of decentralisation shows that neither of these processes has reached the final stage of its political dynamics.

In the public sector of education the departments are responsible for colleges and the regions are responsible for lycées and professional lycées, both in terms of their functioning and their premises (investment in building and maintenance); the State has kept control over the content of teaching and the recruitment and career development of teachers and non-teaching staff, as well as administrative and pedagogical supervision. Most decisions concerning staff training and management are at the regional level (academies), with a noteworthy exception concerning the recruitment of teachers and managers.

Main objectives of Greek education policy

Contemporary Greek society within the European Union is characterised by accelerated changes in economy, policy and population. Changes concern public expenditure and administration, increasing diversity of population and the knowledge and information demands of the Greek society. These changes have challenged the education system. Innovations and new technologies have been introduced, along with a modernisation of all levels of education. In order to meet the new requirements, the educational system has undergone a series of changes, such as decentralisation in matters of finance and administration, wider differentiation in educational paths and enhancement of quality of education.

Recruitment, selection and allocation of teachers in Norway

The recruitment, selection and appointment of teachers are responsibilities of local authorities, carried out either by the local school management (upper secondary education) or by local authorities (compulsory education). There is a trend also in compulsory education towards recruiting teachers at the school level. This trend follows the general move towards the decentralisation of authority and decision making. The main challenge for those responsible for recruiting, selecting and allocating teachers is to ensure that the staff at each local school possesses the total sum and combination of competencies needed to meet the requirements of each school.

Definitions and methodologies

This indicator shows the percentage of educational decisions taken at specific levels in public lower secondary education. Decentralisation is concerned with the division of powers between levels of government. This concept embraces two different dimensions: *i)* the locus of decision making, that is, which level has decision-making authority; and *ii)* the mode of decision making, which relates to the degree of autonomy or "shared" decision making.

Data are from the 2003 OECD-INES survey on decision making in education and refer to the school year 2003-2004.

The questionnaire presented six levels of decision making: central governments, state governments, provincial/regional authorities or governments, sub-regional or inter-municipal authorities or governments, local authorities or governments, schools or school boards or committees.

The questionnaire provided information on four domains:

- *Organisation of instruction*: student admissions; student careers; instruction time; choice of textbooks; grouping students; additional support for students; teaching methods; regular day-to-day student assessment.
- *Personnel management*: hiring and dismissal of teaching and non-teaching staff; duties and conditions of service of staff; salary scales of staff; influence over the careers of staff.
- *Planning and structures*: opening or closure of schools; creation or abolition of a grade level; design of programmes of study; selection of programmes of study taught in a particular school; choice of range of subjects taught in a particular school; definition of course content; setting of qualifying examinations for a certificate or diploma; credentialling (examination content, marking and administration).
- *Resources*: allocation and use of resources for teaching staff, non-teaching staff, capital and operating expenditure.

The questionnaire also sought information on how autonomously decisions are taken. The most important factor in determining the mode is "who decides". The following categories are provided: full autonomy, after consultation with bodies located at another level within the education system, independently but within a framework set by a higher authority, other mode.

More detailed information is available on the website: *www.oecd.org/edu/eag2004*.

The indicators were calculated to give equal importance to each of the four domains. Each domain contributes 25% to the results of the indicators. As the number of items is not the same in each domain, each item is weighted by the inverse of the number of items in its domain.

Table D6.1. Percentage of decisions relating to public sector, lower secondary education, taken at each level of government (2003)

OECD COUNTRIES	Central	State	Provincial/ regional	Sub-regional	Local	School	Total
Australia		76				24	100
Austria	27	22			23	29	100
Belgium (Fr.)[1]		32	25			43	100
Czech Republic	7		1		32	60	100
Denmark	19				38	44	100
England	11				4	85	100
Finland	2				71	27	100
France	24		10	35		31	100
Germany	4	30	17		17	32	100
Greece	80		4		3	13	100
Hungary	4				29	68	100
Iceland	25				50	25	100
Italy	23		16		15	46	100
Japan	13		21		44	23	100
Korea	9		34		8	48	100
Luxembourg	66					34	100
Mexico	30	45	2			22	100
Netherlands						100	100
New Zealand	25					75	100
Norway	32				32	37	100
Portugal	50		8			41	100
Slovak Republic	33		2		15	50	100
Spain		57	15			28	100
Sweden	18				36	47	100
Turkey[2]	49		27			24	100

Note: Blanks indicate that the level of government does not have primary responsibility for decisions.

1. For Belgium (Fr.) the level "Provincial/regional" means state level for 61% of the schools, provincial level for 21% and local level for 18%.

2. Data refer to primary education.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

Table D6.2. Percentage of decisions relating to public sector, lower secondary education, taken at each level of government, by domain of decision making (2003)

OECD COUNTRIES	Organisation of instruction							Personnel management						
	Central	State	Provin-cial/ regional	Sub-regional	Local	School	Total	Central	State	Provin-cial/ regional	Sub-regional	Local	School	Total
Australia		13				88	100		100					100
Austria	13					88	100	25	38			38		100
Belgium (Fr.)[1]		13	25			63	100		33	50			17	100
Czech Republic	13					88	100	4		4		17	75	100
Denmark					13	88	100	25				33	42	100
England						100	100	17					83	100
Finland					13	88	100	8				71	21	100
France	13			13		75	100	46		42			13	100
Germany		13				88	100	17	38	38			8	100
Greece	38				13	50	100	100						100
Hungary						100	100					33	67	100
Iceland	25				13	63	100	4				58	38	100
Italy						100	100	42		25			33	100
Japan					38	63	100			54		46		100
Korea	13				13	75	100	25		25		8	42	100
Luxembourg	38					63	100	88					13	100
Mexico	25					75	100	25	67	8				100
Netherlands						100	100						100	100
New Zealand						100	100	21					79	100
Norway	14				14	71	100	29				29	42	100
Portugal	25					75	100	63		4			33	100
Slovak Republic	13					88	100	4				46	50	100
Spain		13				88	100		92				8	100
Sweden					13	88	100					33	67	100
Turkey[2]	25		13			63	100	94		6				100

OECD COUNTRIES	Planning and structures							Resources						
	Central	State	Provin-cial/ regional	Sub-regional	Local	School	Total	Central	State	Provin-cial/ regional	Sub-regional	Local	School	Total
Australia		90				10	100		100					100
Austria	70	20				10	100		29			54	17	100
Belgium (Fr.)[1]		43	14			43	100		38	13			50	100
Czech Republic	10				40	50	100					71	29	100
Denmark	50				50		100					54	46	100
England	29				14	57	100						100	100
Finland					100		100					100		100
France	36			43		21	100				83		17	100
Germany		71			14	14	100			29		54	17	100
Greece	100						100	83		17				100
Hungary	14				14	71	100					67	33	100
Iceland	71				29		100					100		100
Italy	50		14			36	100			25		58	17	100
Japan	50				20	30	100			29		71		100
Korea			75			25	100			38		13	50	100
Luxembourg	71					29	100	67					33	100
Mexico	71	14				14	100		100					100
Netherlands						100	100						100	100
New Zealand	40					60	100	38					63	100
Norway	83				17		100					67	33	100
Portugal	64		29			7	100	50					50	100
Slovak Republic	50		7		14	29	100	67					33	100
Spain		100					100		25	58			17	100
Sweden	70				30		100					67	33	100
Turkey[2]	50		17			33	100	25		75				100

Note: Blanks indicate that the level of government does not have primary responsibility for the decisions in this domain.
1. For Belgium (Fr.) the level "Provincial/regional" means state level for 61% of the schools, provincial level for 21% and local level for 18%.
2. Data refer to primary education.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004)*.

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Table D6.3. Percentage of decisions taken at the school level in relation to public sector, lower secondary education, by mode of decision making (2003)

OECD COUNTRIES	In full autonomy	After consultation with other bodies in the educational system	Within framework set by a higher authority	Other	Total excluding those where schools are consulted	Decisions taken at other levels in consultation with schools[1]	Total including those where schools are consulted
Australia	9		15		24		24
Austria	7	3	19		29	4	33
Belgium (Fr.)	9		31	3	43		43
Czech Republic	6		54		60		60
Denmark	17	4	23		44	19	63
England	42	1	42		85		85
Finland	23		4		27	17	44
France	21	1	10		31	4	36
Germany	8		23		32	17	48
Greece			13		13	5	18
Hungary	30	10	28		68	1	69
Iceland	19	6			25		25
Italy	26		20		46		46
Japan	9		6	8	23	5	28
Korea	29		19		48		48
Luxembourg		8	26		34	36	70
Mexico	13	10			22		22
Netherlands	65	6	29		100		100
New Zealand	45	7	23		75	10	85
Norway	19		18		37		37
Portugal	24	7	10		41	4	45
Slovak Republic	6		44		50	2	52
Spain			28		28	8	36
Sweden	43		4		47		47
Turkey[2]	13		11		24		24

Note: Blanks indicate that schools are not involved in the mode of decision making indicated.
1. Number of decisions taken at other levels but in consultation with schools as a percentage of all decisions.
2. Data refer to primary education.
Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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Table D6.4. Percentage of decisions taken at the school level in relation to public sector, lower secondary education, by mode and domain of decision making (2003)

OECD COUNTRIES	Organisation of instruction							Personnel management						
	In full autonomy	After consultation with other bodies in the educational system	Within framework set by a higher authority	Other	Total excluding those where schools are consulted	Decisions taken at other levels in consultation with schools	Total including those where schools are consulted	In full autonomy	After consultation with other bodies in the educational system	Within framework set by a higher authority	Other	Total excluding those where schools are consulted	Decisions taken at other levels in consultation with schools	Total including those where schools are consulted
Australia	38		50		88		88							
Austria	13		75		88		88							
Belgium (Fr.)	38		13	13	63		63			17		17		17
Czech Republic	13		75		88		88			75		75		75
Denmark	25		63		88		88	42				42	8	50
England	75		25		100		100	63	4	17		83		83
Finland	75		13		88		88	17		4		21	8	29
France	75				75		75	8	4			13		13
Germany	13		75		88		88	4		4		8	21	29
Greece			50		50	13	63						8	8
Hungary	63		38		100		100	17	25	25		67	4	71
Iceland	38	25			63		63	38				38		38
Italy	63		38		100		100	25		8		33		33
Japan	38		13	13	63		63						21	21
Korea	75				75		75	25		17		42		42
Luxembourg		25	38		63		63		8	4		13	33	46
Mexico	50	25			75		75							
Netherlands	88		13		100		100	71	25	4		100		100
New Zealand	88	13			100		100	38		42		79		79
Norway	43		29		71		71			42		42		42
Portugal	38	13	25		75		75	33				33		33
Slovak Republic	25		63		88		88			50		50	8	58
Spain			88		88		88			8		8		8
Sweden	75		13		88		88	63		4		67		67
Turkey[1]	50		13		63		63							

OECD COUNTRIES	Planning and structures							Resources						
	In full autonomy	After consultation with other bodies in the educational system	Within framework set by a higher authority	Other	Total excluding those where schools are consulted	Decisions taken at other levels in consultation with schools	Total including those where schools are consulted	In full autonomy	After consultation with other bodies in the educational system	Within framework set by a higher authority	Other	Total excluding those where schools are consulted	Decisions taken at other levels in consultation with schools	Total including those where schools are consulted
Australia			10		10		10							
Austria		10			10		10	17				17	17	33
Belgium (Fr.)			43		43		43			50		50		50
Czech Republic			50		50		50	13		17		29		29
Denmark						14	14		17	29		46	54	100
England	14		43		57		57	17		83		100		100
Finland													58	58
France			21		21		21			17		17	17	33
Germany			14		14		14	17				17	46	63
Greece														
Hungary	7	14	50		71		71	33				33		33
Iceland														
Italy			36		36		36	17				17		17
Japan			10	20	30		30							
Korea			25		25		25	17		33		50		50
Luxembourg			29		29	43	71			33		33	67	100
Mexico		14			14		14							
Netherlands			100		100		100	100				100		100
New Zealand	40		20		60	40	100	17	17	29		63		63
Norway								33				33		33
Portugal	7				7	14	21	17	17	17		50		50
Slovak Republic			29		29		29			33		33		33
Spain										17		17	33	50
Sweden								33				33		33
Turkey[1]			33		33		33							

Note: Blanks indicate that schools are not involved in the mode/domain of decision making indicated.

1. Data refer to primary education.

Source: OECD. See Annex 3 for notes *(www.oecd.org/edu/eag2004).*

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Table D6.5. Level of government at which different types of decisions about curriculum are taken in public sector, lower secondary education (2003)

OECD COUNTRIES	Choice of textbooks	Design of programmes	Selection of programmes offered	Range of subjects taught	Definition of course content
Australia	***School*** Framework at state level	***State*** Autonomous	***State*** Autonomous	***School*** Framework at state level	***State*** Autonomous
Austria	***School*** Framework at central level	***Central*** Consultation with state level	***School*** Consultation with state level	***Central*** Consultation with state level	***Central*** Consultation with state level
Belgium (Fr.)	***School*** Other	***State*** Autonomous	***State*** Autonomous	***State*** Autonomous	***State*** Other
Czech Republic	***School*** Autonomous	***School*** Framework at central level	***School*** Framework at central level	***Central*** Consultation with regional level	***School*** Framework at central level
Denmark	***School*** Autonomous	***Central*** Autonomous	***Local*** Framework at central level	***Central*** Autonomous	***Local*** Consultation with school
England	***School*** Autonomous	***School*** Framework at central level	***School*** Framework at central level	***School*** Framework at central level	***School*** Framework at central level
Finland	***School*** Autonomous	***Local*** Framework at central level	***Local*** Framework at central level	***Local*** Framework at central level	***Local*** Framework at central level
France	***School*** Autonomous	***Central*** Autonomous	***Central*** Autonomous	***School*** Framework at regional level	***School*** Framework at central level
Germany	***School*** Framework at state level	***State*** Autonomous	***State*** Autonomous	***State*** Autonomous	***State*** Autonomous
Greece	***Central*** Autonomous	***Central*** Autonomous	***Central*** Autonomous	***Central*** Autonomous	***Central*** Autonomous
Hungary	***School*** Framework at central level	***School*** Framework at central level	***School*** Autonomous	***School*** Framework at central level	***School*** Framework at central level
Iceland	***Central*** Autonomous	***Central*** Autonomous	***Central*** Autonomous	***Central*** Autonomous	***Central*** Autonomous
Italy	***School*** Framework at central level	***Central*** Autonomous	***School*** Framework at central level	***School*** Framework at central level	***School*** Framework at central level
Japan	***Local*** Framework at regional level	***Central*** Autonomous	***Central*** Autonomous	***School*** Framework at central level	***School*** Other
Korea	***School*** Autonomous	***Regional*** Framework at central level	***Regional*** Autonomous	***Regional*** Framework at central level	***School*** Framework at regional level

1. Data refer to primary education.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table D6.5. (*continued*) **Level of government at which different types of decisions about curriculum are taken in public sector, lower secondary education (2003)**

OECD COUNTRIES	Choice of textbooks	Design of programmes	Selection of programmes offered	Range of subjects taught	Definition of course content
Luxembourg	***Central*** Framework at central level	***Central*** Consultation with school	***Central*** Consultation with school	***Central*** Consultation with school	***School*** Framework at central level
Mexico	***Central*** Autonomous	***Central*** Consultation with state level	***Central*** Consultation with state level	***Central*** Autonomous	***Central*** Autonomous
Netherlands	***School*** Autonomous	***School*** Framework at central level	***School*** Framework at central level	***School*** Framework at central level	***School*** Framework at central level
New Zealand	***School*** Autonomous	***School*** Framework at central level	***School*** Autonomous	***School*** Autonomous	***School*** Autonomous
Norway	***School*** Autonomous	***Central*** Autonomous	***Central*** Autonomous	***Central*** Autonomous	***Central*** Autonomous
Portugal	***School*** Autonomous	***Central*** Autonomous	***Central*** Autonomous	***School*** Autonomous	***Central*** Autonomous
Slovak Republic	***School*** Framework at central level	***Central*** Autonomous	***Regional*** Consultation with sub-regional level	***Central*** Other	***School*** Framework at central level
Spain	***School*** Framework at state level	***State*** Framework at central level	***State*** Consultation with regional level	***State*** Framework at central level	***State*** Framework at central level
Sweden	***School*** Autonomous	***Central*** Autonomous	***Local*** Autonomous	***Central*** Autonomous	***Central*** Autonomous
Turkey[1]	***Central*** Autonomous	***Central*** Autonomous	***Central*** Autonomous	***Central*** Autonomous	***Central*** Autonomous

1. Data refer to primary education.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

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Table D6.6. Percentage of decisions taken at each level of government relating to public sector, lower secondary education (1998, 2003)

OECD COUNTRIES	2003							1998						
	Central	State	Provincial/regional	Sub-regional	Local	School	Total	Central	State	Provincial/regional	Sub-regional	Local	School	Total
Australia		76				24	100	m	m	m	m	m	m	m
Austria	27	22			23	29	100	35	18			22	25	100
Belgium (Fr.)[1]		32	25			43	100	m	m	m	m	m	m	m
Czech Republic	7		1		32	60	100	17			21	10	52	100
Denmark	19				38	44	100	26				43	31	100
England	11				4	85	100	20				18	62	100
Finland	2				71	27	100					64	36	100
France	24		10	35		31	100	32		11	27		29	100
Germany	4	30	17		17	32	100	4	28	15		16	37	100
Greece	80		4		3	13	100	56		22			23	100
Hungary	4				29	68	100					35	65	100
Iceland	25				50	25	100	m	m	m	m	m	m	m
Italy	21		16		15	48	100	39		25		3	33	100
Japan	13		21		44	23	100	m	m	m	m	m	m	m
Korea	9		34		8	48	100	37		31		7	25	100
Luxembourg	66					34	100	m	m	m	m	m	m	m
Mexico	30	45	2			22	100	m	m	m	m	m	m	m
Netherlands						100	100	24				3	73	100
New Zealand	25					75	100	34					66	100
Norway	32				32	37	100	35				55	9	100
Portugal	50		8			41	100	69		7			24	100
Slovak Republic	33		2		15	50	100	m	m	m	m	m	m	m
Spain		57	15			28	100	3	46	10			41	100
Sweden	18				36	47	100	m	m	m	m	m	m	m
Turkey[2]	49		27			24	100	94					6	100

OECD COUNTRIES	Difference between 2003 and 1998					
	Central	State	Provincial/regional	Sub-regional	Local	School
Australia	m	m	m	m	m	m
Austria	-9	4			1	4
Belgium (Fr.)[1]	m	m	m	m	m	m
Czech Republic	-10		1	-21	21	9
Denmark	-8				-5	13
England	-8				-15	23
Finland	2				7	-9
France	-9		-1	7		2
Germany		2	2		1	-5
Greece	25		-18		3	-10
Hungary	4				-6	3
Iceland	m	m	m	m	m	m
Italy	-18		-9		11	15
Japan	m	m	m	m	m	m
Korea	-28		3		1	23
Luxembourg	m	m	m	m	m	m
Mexico	m	m	m	m	m	m
Netherlands	-24				-3	27
New Zealand	-10					10
Norway	-4				-24	27
Portugal	-18		1			17
Slovak Republic	m	m	m	m	m	m
Spain	-3	12	5			-13
Sweden	m	m	m	m	m	m
Turkey[2]	-45		27			18

Note: Blanks indicate that the level of government indicated does not have primary responsibility for decisions.
Differences in data collection methodology between the two years may cause some distortion in the changes reported but this should not affect the general trends.
1. For Belgium (Fr.) the level "Provincial/regional" means state level for 61% of the schools, provincial level for 21% and local level for 18%.
2. Data refer to primary education.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2004*).

D6

Annex

1

CHARACTERISTICS OF THE EDUCATIONAL SYSTEMS

The typical graduation age is the age at the end of the last school/academic year of the corresponding level and programme when the degree is obtained. The age is the age that normally corresponds to the age of graduation. (Note that at some levels of education the term "graduation age" may not translate literally and is used here purely as a convention.)

Table X1.1a. Typical graduation ages in upper secondary education

		Programme orientation		Educational/labour market destination			
		General programmes	Pre-vocational or vocational programmes	ISCED 3A programmes	ISCED 3B programmes	ISCED 3C short programmes[1]	ISCED 3C long programmes[1]
OECD COUNTRIES	Australia	m	m	17	m	m	m
	Austria	18	18	18	18	18	a
	Belgium	18	18	18	a	18	18
	Czech Republic	18	18	18	18	17	a
	Denmark	19-20	19-20	19-20	a	a	19-20
	Finland	19	19	19	a	a	a
	France	18-19	17-20	18-19	19-20	17-20	18-21
	Germany	19	19	19	19	a	a
	Greece	17-18	17-18	17-18	a	a	17-18
	Hungary	18-20	16-17	18-20	20-22	16-17	18
	Iceland	19	19	19	18	17	19
	Ireland	17-18	17-18	17-18	a	a	17-18
	Italy	19	19	19	19	17	a
	Japan	18	18	18	18	16	18
	Korea	17-18	17-18	17-18	a	a	17-18
	Luxembourg	19	17-19	17-19	19	n	17-19
	Mexico	18	19	18	a	19	19
	Netherlands	17-18	18-20	17-18	a	18-19	18-20
	New Zealand	m	a	18	17	17	17
	Norway	18-19	18-19	18-19	a	m	16-18
	Poland	19	20	19-20	a	18	a
	Slovak Republic	18	16-18	18	a	17	16
	Spain	17	17	17	a	17	17
	Sweden	19	19	19	19	a	19
	Switzerland	18-20	18-20	18-20	18-20	17-19	17-19
	Turkey	16	16	16	a	a	m
	United States	m	m	m	m	m	m
PARTNER COUNTRIES	Argentina	17	17	17	a	a	a
	Brazil	17	17	17	17	a	17
	Chile	18	18	18	18	a	a
	China	18	18	18	a	17-18	18
	Egypt[2]	17	17	17	17	a	17
	India	18	18	18	a	m	m
	Indonesia	18	18-19	18	18	a	a
	Israel	18	18	18	18	18	18
	Jamaica	17	17	17	17	a	a
	Jordan[2]	18	18	18	a	18	18
	Malaysia[3]	17-19	17	19	a	a	17
	Paraguay[2]	17	17	17	a	a	17
	Peru	17	17	17	17	a	a
	Philippines[2]	16	a	16	a	a	a
	Russian Federation[2]	17	17-18	17	a	m	m
	Thailand	17	17	17	17	a	a
	Tunisia[2]	19	19	19	19	a	19
	Uruguay[2]	17	18	18	18	a	a
	Zimbabwe[2]	19	17	19	a	a	17

1. Duration categories for ISCED 3C-Short: at least one year shorter than ISCED 3A/3B programmes; Long: of similar duration to ISCED 3A or 3B programmes.
2. OECD estimate.
3. OECD estimate for general and pre-vocational/vocational programmes.
Source: OECD.

Annex 1

Table X1.1b. Typical graduation ages in post-secondary non-tertiary education

		Educational/labour market destination		
		ISCED 4A programmes	ISCED 4B programmes	ISCED 4C programmes
OECD COUNTRIES	Austria	19	20	20
	Belgium	19	a	19-21
	Czech Republic	20	a	20
	Denmark	21-22	a	21-22
	Finland	a	a	25-29
	France	18-21	a	19-21
	Germany	22	22	a
	Hungary	20-22	a	19-22
	Iceland	a	a	20
	Ireland	a	a	19
	Italy	a	a	20
	Korea	a	a	a
	Luxembourg	a	a	20-25
	Mexico	a	a	a
	Netherlands	a	a	18-20
	New Zealand	18	18	18
	Norway	20-25	a	20-25
	Poland	a	a	21
	Slovak Republic	20-21	a	a
	Spain	18	18	a
	Sweden	m	m	19-20
	Switzerland	19-21	21-23	a
	Turkey	a	a	a
	United States	a	a	20
PARTNER COUNTRIES	Argentina	a	a	a
	Brazil	a	a	a
	China	a	20	20
	Indonesia	a	a	a
	Jordan[1]	a	a	a
	Malaysia[1]	20	18	19
	Paraguay	a	a	a
	Peru	a	a	m
	Philippines[1]	19	19	17
	Russian Federation	a	a	18
	Thailand[1]	a	a	19
	Tunisia	a	21	a

1. OECD estimate.
Source: OECD.

Annex 1

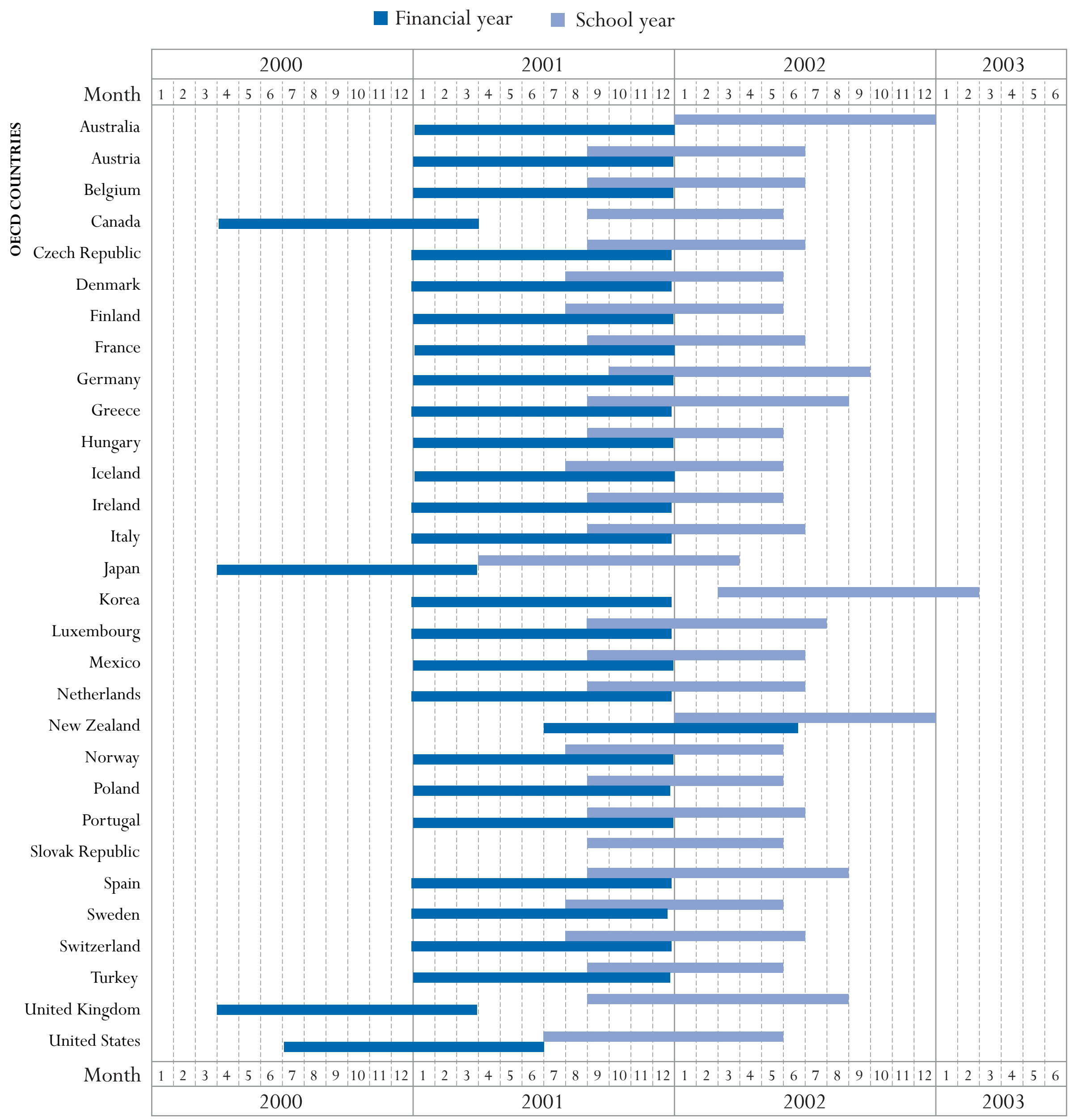
Table X1.1c. Typical graduation ages in tertiary education

OECD COUNTRIES	Tertiary-type B (ISCED 5B)	Tertiary-type A (ISCED 5A)				Advanced research programmes (ISCED 6)
		All programmes	3 to less than 5 years	5 to 6 years	More than 6 years	
Australia	m	a	20-21	22-23	24	25-29
Austria	m	a	22	23	a	25
Belgium	m	a	m	m	m	25-29
Czech Republic	22	a	22	24	a	26
Denmark	21-25	a	22-24	25-26	27-30	30
Finland	21-22	a	25-29	25-29	30-34	29
France	20-21	a	21-22	23-24	25	25-26
Germany	21	a	25	26	a	28
Greece	m	a	m	m	m	24-28
Hungary	m	a	m	m	m	30
Iceland	22-24	a	23	25	27	29
Ireland	20	a	21	23	24	27
Italy	22-23	a	22	23-25	25-27	27-29
Japan	20	a	22	24	a	27
Korea	m	a	m	m	m	26
Mexico	m	a	m	m	m	24-28
Netherlands	m	a	m	m	m	25
New Zealand	20	21	m	m	m	28
Norway	m	a	m	m	m	29
Poland	m	24	m	m	m	m
Slovak Republic	20-21	a	m	m	m	27
Spain	19	20-22	m	m	m	25-27
Sweden	22-23	a	23-25	25-26	a	27-29
Switzerland	23-29	a	23-26	23-26	28	29
Turkey	m	m	m	m	m	28-29
United Kingdom	20	a	21	23	24	24
United States	m	m	m	m	m	28

Note: Where tertiary-type A data are available by duration of programme, the graduation rate for all programmes is the sum of the graduation rates by duration of programme.
Source: OECD.

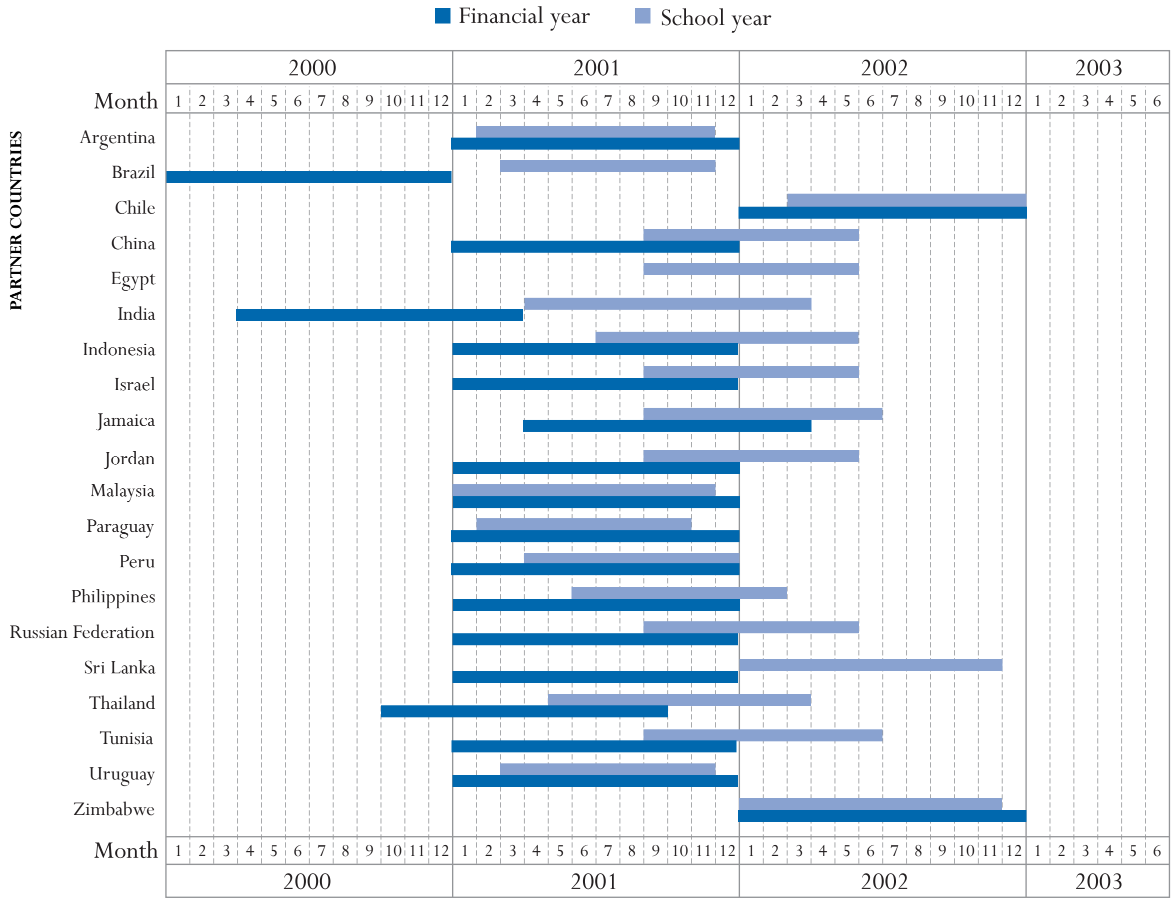
Annex 1

Table X1.2a. School year and financial year used for the calculation of indicators



Source: OECD.

Table X1.2b. School year and financial year used for the calculation of indicators



Source: OECD.

Table X1.3. Summary of completion requirements for upper secondary (ISCED 3) programmes

OECD COUNTRIES	ISCED 3A programmes				ISCED 3B programmes				ISCED 3C programmes			
	Final examination	Series of examinations during programme	Specified number of course hours AND examination	Specified number of course hours only	Final examination	Series of examinations during programme	Specified number of course hours AND examination	Specified number of course hours only	Final examination	Series of examinations during programme	Specified number of course hours AND examination	Specified number of course hours only
Australia[1,2]	N/Y	Y	Y	N	N	Y	N	N	N	Y	N	N
Austria	Y	Y	Y	N	Y	Y	Y	N	N	Y	Y	N
Belgium (Fl.)[3]	Y	Y	N	N	a	a	a	a	Y	Y	N	N
Belgium (Fr.)	Y	Y	N	N	a	a	a	a	Y	Y	N	N
Canada (Quebec)[1]	N	Y	Y	N					N	Y	Y	N
Czech Republic[1]	Y	Y	Y	N	N	Y	Y	N	Y	Y	Y	N
Denmark[1]	Y	Y	Y		a	a	a	a	Y	Y	Y	
Finland	Y/N	Y	Y	N								
France	Y	N	Y	N	a	a	a	a	Y/N	Y	N	
Germany	Y	Y	N	N	Y	Y	N	N	a	a	a	a
Greece[1]	N	Y	N	N					N	Y	N	N
Hungary	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
Iceland[1]	Y/N	Y	N	N	Y	Y	N	N	Y/N	Y	N	N
Ireland[1]	Y	N	N	N	a	a	a	a	Y	Y	Y	N
Italy	Y	N	Y/N	N	Y	Y/N	Y/N	N	Y	N	Y/N	N
Israel[1]	Y/N	Y	Y	N	a	a	a	a	Y/N	Y	Y	
Japan	N	N	Y	N	N	N	Y	N	N	N	Y	N
Korea	N	N	N	Y					N	N	N	Y
Luxembourg	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	N
Mexico	N	Y	Y	N					Y/N	Y	Y	N
Netherlands[1]	Y	Y	Y	N	a	a	a	a	Y	Y	Y	N
New Zealand	Y	N	N	N								
Norway	N	Y	Y	N	a	a	a	a	N	Y	Y	N
Poland	Y/N	N	N	N	a	a	a	a	Y	N	N	N
Portugal	m	m	m	m	m	m	m	m	m	m	m	m
Slovak Republic[1]	Y	N	Y	N					Y	N	Y	N
Spain	N	Y	Y	N					Y/N	Y/N	Y/N	N
Sweden	Y/N	Y/N	N	Y/N								
Switzerland	Y	Y	Y		Y	Y	Y		Y		Y	
Turkey[1]	N	N	Y	N	N	N	Y	N	N	N	Y	N
United Kingdom[1]	N[4]	Y	N	N	a	a	a	a		Y	N	N
United States[1]	20 states Yes; 30 states No	Some states	Some states	Y[5]	a	a	a	a	a	a	a	a

Note: Y = Yes; N = No

1. See Annex 3 for additional notes on completion requirements *(www.oecd.org/edu/eag2004).*
2. Completion requirements for ISCED 3A vary by state and territory. The information provided represents a generalisation of diverse requirements.
3. Covers general education only.
4. There is usually no final examination, though some ISCED 3A programmes can be completed this way.
5. Almost all states specify levels of Carnegie credits (*i.e.,* acquired through completion of a two-semester course in specific subjects, which vary by state).

Source: OECD.

Annex 1

Annex

2

REFERENCE STATISTICS

Table X2.1. Overview of the economic context using basic variables (reference period: calendar year 2001, 2001 current prices)

		Total public expenditure as a percentage of GDP	GDP per capita (in equivalent US dollars converted using PPPs)	GDP deflator (1995 = 100)
OECD COUNTRIES	Australia	34.9	26 685	113.10
	Austria	52.2	28 372	107.08
	Belgium	49.5	27 096	109.03
	Canada	40.3	29 290	109.34
	Czech Republic	46.3	14 861	143.81
	Denmark	55.3	29 223	113.28
	Finland	49.2	26 344	111.37
	France[1]	50.9	26 818	106.85
	Germany	47.0	25 453	104.41
	Greece	m	17 020	132.97
	Hungary	m	13 043	209.13
	Iceland	45.0	28 968	127.71
	Ireland	33.6	29 821	128.46
	Italy	48.3	25 377	117.94
	Japan	34.0	26 636	94.53
	Korea	27.5	15 916	111.79
	Luxembourg	39.1	49 229	116.74
	Mexico	21.1	9 148	244.10
	Netherlands	46.6	28 711	116.77
	New Zealand[2]	m	21 230	112.16
	Norway	m	36 587	133.87
	Poland	m	10 360	180.43
	Portugal	46.2	17 912	123.62
	Slovak Republic	54.1	11 323	139.86
	Spain	39.2	21 347	120.10
	Sweden	57.2	26 902	107.77
	Switzerland	m	30 036	103.47
	Turkey	m	6 046	2 047.46
	United Kingdom	39.7	26 715	117.25
	United States	32.7	35 179	111.61
PARTNER COUNTRIES	Argentina	35.7	11 703	
	Brazil[3]	36.3	7 265	
	Chile[4]	23.7	9 681	
	India	31.7	2 822	
	Indonesia	13.2	2 881	
	Israel	51.8	21 128	
	Jamaica	51.8	3 696	
	Jordan	33.9	3 761	
	Malaysia	39.5	8 674	
	Paraguay	46.6	5 214	
	Peru	12.4	4 602	
	Philippines	23.0	3 831	
	Russian Federation	26.8	7 140	
	Thailand	17.8	6 036	
	Tunisia	37.6	6 404	
	Uruguay	24.6	8 397	
	Zimbabwe[4]	m	4 430	

1. Excluding Over Sea Departments (DOM).
2. New Zealand: GDP per capita, total public expenditure as a percentage of GDP and GDP deflator calculated for the fiscal year.
3. Year of reference 2000.
4. Year of reference 2002.
Source: OECD.
Source for partner countries: World Bank "World Development Indicators" Database.

Table X2.2. Reference statistics used in the calculation of financial indicators (reference period: calendar year 2001, 2001 current prices)[1]

	Gross domestic product (in millions of local currency)	Gross domestic product (adjusted to financial year)[3]	Total public expenditure (in millions of local currency)	Total population in thousands (mid-year estimates)	Purchasing power parity (PPP)
OECD COUNTRIES					
Australia[2]	714 370	692 745	242 019	19 413	1.33725
Austria	212 511		110 841	8 032	0.932571
Belgium	253 800		125 640	10 281	0.911059
Canada	1 091 424	1 067 900	439 645	31 111	1.197749
Czech Republic	2 175 238		1 007 743	10 219	14.323983
Denmark	1 325 512		732 632	5 357	8.467164
Finland	135 228		66 545	5 188	0.989448
France[4]	1 460 806		744 050	59 703	0.912351
Germany	2 073 700		975 465	82 350	0.989346
Greece	131 026		m	10 938	0.703823
Hungary	14 849 623		m	10 188	111.758778
Iceland	743 563		327 192	285	90.04885
Ireland	114 743		38 515	3 853	0.99872
Italy	1 220 147		588 755	57 927	0.830039
Japan[5]	507 455 500	511 896 475	172 726 900	127 291	149.671323
Korea	551 557 522		151 565 446	47 343	731.989038
Luxembourg	21 987		8 604	442	1.011608
Mexico	5 828 591		1 232 647	99 109	6.428364
Netherlands	429 127		200 033	16 043	0.931642
New Zealand[2]	122 241		m	3 912	1.471862
Norway	1 526 601		m	4 513	9.245684
Poland	750 786		m	38 641	1.875379
Portugal	123 054		56 878	10 299	0.66704
Slovak Republic	1 009 839		546 022	5 403	16.505804
Spain	653 289		256 150	40 266	0.760055
Sweden	2 266 387		1 296 116	8 896	9.470012
Switzerland	422 811		m	7 260	1.938927
Turkey	178 412 438 500		m	68 610	430 135.6343
United Kingdom	994 037	961 958	394 616	58 837	0.632409
United States	10 019 700	9 955 300	3 273 700	284 822	1
PARTNER COUNTRIES					
Argentina	268 638		96 018	36 260	0.633052
Brazil[6]	1 086 700		394 350	172 879	0.880890
Chile[7]	44 197 827		10 494 139	15 589	292.850000
India	21 354 446		6 763 044	996 945	7.590000
Indonesia	1 490 974 140		197 030 300	213 537	2 423.683891
Israel	495 390		256 640	6 509	3.602300
Jamaica	358 036		185 437	2 608	37.147777
Jordan	6 260		2 123 258	5 182	0.321175
Malaysia	334 589		132 023	24 013	1.606316
Paraguay	29 586 000		13 790 321	5 633	1 007.180083
Peru	189 532		23 588	26 156	1.574713
Philippines	3 642 820		838 888	78 591	12.099934
Russian Federation	9 040 821		2 419 400	143 954	8.795869
Thailand	5 100 677		910 000	64 889	13.022094
Tunisia	28 759		10 820	9 660	0.464892
Uruguay	248 619		61 044	3 361	8.809891
Zimbabwe[7]	976 895		m	13 165	16.750000

1. Data on GDP, PPPs and total public expenditure in countries in the Euro zone are provided in Euros.
2. GDP calculated for the fiscal year in Australia and GDP and total public expenditure calculated for the fiscal year in New Zealand.
3. For countries where GDP is not reported for the same reference period as data on educational finance, GDP is estimated as: wt-1 (GDPt - 1) + wt (GDPt), where wt and wt-1 are the weights for the respective portions of the two reference periods for GDP which fall within the educational financial year. Adjustments were made in Chapter B for Australia, Canada, Japan, the United Kingdom and the United States.
4. Excluding Over Sea Departments (DOM).
5. Total public expenditure adjusted to financial year.
6. Year of reference 2000.
7. Year of reference 2002.

Source: OECD.

Source for partner countries: World Bank "World Development Indicators" Database.

Table X2.3. Reference statistics used in the calculation of financial indicators (reference period: calendar year 1995, 1995 current prices)[1]

OECD COUNTRIES	Gross domestic product (in millions of local currency)	Gross domestic product (adjusted to financial year)[3]	Gross domestic product (2001 constant prices, base year=1995)	Total public expenditure (in millions of local currency)	Total population in thousands (mid-year 1995 estimates)	Purchasing power parity (PPP)
Australia[2]	502 828	487 088	620 073	184 372	18 072	1.31766
Austria	172 287		198 464	98 676	7 948	0.99802
Belgium	202 174		233 216	106 832	10 137	0.91083
Canada	798 300	768 883	998 170	381 542	29 354	1.18256
Czech Republic	1 381 049		1 512 626	783 678	10 327	10.81133
Denmark	1 009 756		1 169 943	608 853	5 230	8.41666
Finland	95 262		121 419	56 546	5 108	0.98583
France[4]	1 168 124		1 367 115	625 707	58 020	0.98485
Germany	1 801 300		1 986 200	858 030	81 661	1.03058
Greece	79 927		98 466	37 026	10 635	0.59599
Hungary	5 614 042		7 100 585	2 327 299	10 329	60.55234
Iceland	452 139		582 217	186 845	267	75.17
Ireland	52 641		89 320	21 876	3 601	0.80588
Italy	923 052		1 034 549	492 878	57 301	0.80067
Japan[5]	498 872 300	493 620 575	536 800 700	159 540 300	125 570	169.94188
Korea	377 349 800		493 380 314	80 035 900	45 093	730.50462
Luxembourg	13 214		18 835	6 016	410	0.96362
Mexico	1 837 019		2 387 804	380 924	90 164	2.95733
Netherlands	302 233		367 499	170 327	15 460	0.92001
New Zealand[2]	92 679		108 992	36 441	3 707	1.46721
Norway	937 445		1 140 349	457 033	4 358	9.14417
Poland	308 104		399 910	147 561	38 588	1.13714
Portugal	80 827		99 540	36 403	10 027	0.59394
Slovak Republic	568 923		707 348	324 312	5 364	11.8966
Spain	437 787		542 569	192 633	39 223	0.7337
Sweden	1 772 021		2 103 223	1 201 025	8 827	9.7281
Switzerland	363 329		400 972	141 545	7 041	2.01088
Turkey	7 762 456 069		8 713 855 000	m	61 646	2 2334.21004
United Kingdom	719 176	690 789	847 022	317 455	57 958	0.65391
United States	7 338 400	7 252 125	8 977 800	2 516 200	266 327	1

1. Data on GDP, PPPs and total public expenditure in countries in the Euro zone are provided in Euros.
2. GDP calculated for the fiscal year in Australia and GDP and total public expenditure calculated for the fiscal year in New Zealand.
3. For countries where GDP is not reported for the same reference period as data on educational finance, GDP is estimated as: wt-1 (GDPt - 1) + wt (GDPt), where wt and wt-1 are the weights for the respective portions of the two reference periods for GDP which fall within the educational financial year. Adjustments were made in Chapter B for Australia, Canada, Japan, the United Kingdom and the United States.
4. Excluding Over Sea Departments (DOM).
5. Total public expenditure adjusted to financial year.
Source: OECD.

Annex 2

Table X2.4a. Reference statistics used in the calculation of teachers' salaries by level of education (1996, 2002)

OECD COUNTRIES	Teachers' salaries in national currency (1996)[1]								
	Primary education			Lower secondary education			Upper secondary education, general programmes		
	Starting salary/ minimum training	Salary after 15 years of experience/ minimum training	Salary at top of scale/ minimum training	Starting salary/ minimum training	Salary after 15 years of experience/ minimum training	Salary at top of scale/ minimum training	Starting salary/ minimum training	Salary after 15 years of experience/ minimum training	Salary at top of scale/ minimum training
Australia	25 693	46 781	46 781	25 693	46 781	46 781	25 693	46 781	46 781
Austria	19 911	25 522	40 136	20 598	26 791	42 910	21 891	29 334	48 204
Belgium (Fl.)[2]	20 479	27 542	32 721	20 950	29 346	35 781	25 998	37 534	45 119
Belgium (Fr.)[2]	20 479	27 542	32 721	20 950	29 346	35 781	25 998	37 534	45 119
Czech Republic	m	m	m	m	m	m	m	m	m
Denmark	200 000	244 000	250 000	200 000	244 000	250 000	218 000	310 000	325 000
England	12 113	20 423	20 423	12 113	20 423	20 423	12 113	20 423	20 423
Finland	17 660	23 378	24 051	19 846	27 751	28 928	20 519	28 928	30 610
France	m	m	m	m	m	m	m	m	m
Germany	m	m	m	m	m	m	m	m	m
Greece	10 772	12 854	15 148	11 141	13 223	15 518	11 141	13 223	15 518
Hungary	341 289	462 618	597 402	341 289	462 618	597 402	435 279	574 067	717 756
Iceland	m	m	m	m	m	m	m	m	m
Ireland	18 235	28 189	33 362	19 141	29 872	33 679	19 141	29 872	33 679
Italy	14 939	18 030	21 864	16 213	19 796	24 233	16 213	20 412	25 442
Japan	3 462 000	5 917 000	8 475 000	3 462 000	5 917 000	8 475 000	3 462 000	5 917 000	8 733 000
Korea	m	m	m	m	m	m	m	m	m
Mexico	29 105	38 606	63 264	37 092	47 174	76 196	m	m	m
Netherlands	21 772	26 537	32 627	22 925	28 847	35 840	23 120	40 273	47 756
New Zealand	23 000	39 220	39 220	23 000	39 220	39 220	23 000	39 220	39 220
Norway	165 228	201 446	204 211	165 228	201 446	204 211	178 752	207 309	222 078
Portugal	9 970	15 001	25 902	9 970	15 001	25 902	9 970	15 001	25 902
Scotland	12 510	20 796	20 796	12 510	20 796	20 796	12 510	20 796	20 796
Slovak Republic	m	m	m	m	m	m	m	m	m
Spain	18 609	21 823	27 940	18 609	21 823	27 940	21 582	25 327	31 780
Sweden	m	m	m	m	m	m	m	m	m
Switzerland	65 504	87 585	100 847	76 772	104 350	117 629	92 163	121 937	136 001
Turkey	m	m	m	a	a	a	m	m	m
United States	m	m	m	m	m	m	m	m	m

1. Data on salaries for countries now in the Euro zone are shown in Euros.
2. Data on teachers' salaries for 1996 refer to Belgium.
Source: OECD.

Annex 2

Table X2.4a. *(continued)* **Reference statistics used in the calculation of teachers' salaries by level of education (1996, 2002)**[1]

OECD COUNTRIES	Teachers' salaries in national currency (2002)[2]									
	Primary education			Lower secondary education			Upper secondary education, general programmes			
	Starting salary/ minimum training	Salary after 15 years of experience/ minimum training	Salary at top of scale/ minimum training	Starting salary/ minimum training	Salary after 15 years of experience/ minimum training	Salary at top of scale/ minimum training	Starting salary/ minimum training	Salary after 15 years of experience/ minimum training	Salary at top of scale/ minimum training	GDP deflator 2002 (1996 = 100)
Australia	37 555	55 296	55 296	37 420	55 294	55 294	37 420	55 294	55 294	114
Austria	22 002	29 115	43 552	22 799	31 011	46 856	23 251	32 233	48 937	107
Belgium (Fl.)	23 405	31 757	37 887	23 405	32 775	39 956	29 038	41 911	50 376	110
Belgium (Fr.)	22 120	30 321	36 480	22 479	31 721	38 856	28 009	40 799	49 210	110
Czech Republic	197 190	239 300	299 010	197 190	239 300	299 010	225 100	274 870	341 100	136
Denmark	271 829	306 632	306 632	271 829	306 632	306 632	260 177	368 746	394 716	112
England	16 038	24 843	24 843	16 038	24 843	24 843	16 038	24 843	24 843	116
Finland	26 700	31 750	33 625	30 575	36 625	38 325	32 200	40 563	42 738	113
France	20 702	27 848	41 089	22 904	30 050	43 399	23 325	30 471	43 862	108
Germany	36 501	44 148	47 360	37 870	46 613	48 662	40 956	50 210	52 463	105
Greece	14 392	17 598	21 350	14 392	17 598	21 350	14 392	17 598	21 350	129
Hungary	899 196	1 234 212	1 671 960	899 196	1 234 212	1 671 960	1 042 032	1 523 400	1 991 220	188
Iceland	1 598 800	1 796 600	1 886 400	1 598 800	1 796 600	1 886 400	2 041 400	2 590 600	2 832 600	132
Ireland	23 742	39 329	44 568	24 555	39 329	44 568	24 555	39 329	44 568	133
Italy	19 228	23 264	28 173	20 734	25 357	30 967	20 734	26 074	32 392	115
Japan	3 468 000	6 546 000	8 352 000	3 468 000	6 546 000	8 352 000	3 468 000	6 550 000	8 604 000	94
Korea	19 801 250	34 050 300	54 797 100	19 705 250	33 954 300	54 701 100	19 705 250	33 954 300	54 701 100	109
Mexico	80 900	106 715	176 757	103 692	135 464	223 447	m	m	m	195
Netherlands	26 335	33 204	37 999	27 320	36 392	41 744	27 579	48 380	55 404	119
New Zealand	26 520	51 306	51 306	26 520	51 306	51 306	26 520	51 306	51 306	109
Norway	248 900	285 300	305 500	248 900	285 300	305 500	248 900	285 300	305 500	127
Portugal	13 072	21 429	34 843	13 072	21 429	34 843	13 072	21 429	34 843	126
Scotland	17 544	25 644	25 644	17 544	25 644	25 644	17 544	25 644	25 644	116
Slovak Republic	83 420	107 420	159 000	83 420	107 420	159 000	83 420	107 420	159 000	140
Spain	21 031	25 034	31 262	23 562	27 580	34 322	24 405	28 429	35 342	121
Sweden	220 400	261 500	288 300	220 400	261 500	288 300	234 600	280 200	303 100	108
Switzerland	67 035	89 935	106 475	79 022	106 720	124 265	93 769	121 677	143 796	103
Turkey	4 906 753 500	5 557 033 500	6 249 843 500	a	a	a	4 494 831 000	5 145 111 000	5 837 921 000	1 652
United States	29 513	42 801	52 104	29 525	42 801	51 170	29 641	42 918	51 308	111

1. For the computation of teachers' salaries in equivalent US dollars shown in Indicator D3, teachers' salaries are converted from national currencies to US dollars using January 2002 PPPs and adjusted for inflation where necessary.
2. Data on salaries for countries now in the Euro zone are shown in Euros.
Source: OECD.

Annex 2

Table X2.4b. Reference statistics used in the calculation of teachers' salaries (1996, 2002)

		Purchasing power parity (PPP) (2001)[1]	Purchasing power parity (PPP) (2002)[1]	Purchasing power parity (PPP) (January 2002)[1]	Gross domestic product (in millions of local currency, calendar year 2002)[1]	Total population in thousands (calendar year 2002)	GDP per capita (in equivalent US dollars, calendar year 2002)[2]	Reference year for 2002 salary data	Adjustments for inflation (2001)
OECD COUNTRIES	Australia	1.34	1.36	1.35	752 760	19 752	28 068	June 30, 2002	0.99
	Austria	0.93	0.94	0.94	218 333	8 053	28 872	2002	1.00
	Belgium (Fl.)[3]	0.91	0.91	0.91	260 011	10 330	27 716	January 1, 2002	1.00
	Belgium (Fr.)[3]	0.91	0.91	0.91	260 011	10 330	27 716	2001/2002	1.00
	Czech Republic	14.32	14.77	14.54	2 275 609	10 205	15 102	2001/2002	1.00
	Denmark	8.47	8.66	8.56	1 360 710	5 376	29 231	2002	1.00
	England[4]	0.63	0.63	0.63	1 043 945	59 207	27 976	2001/2002	1.00
	Finland	0.99	1.01	1.00	139 716	5 201	26 478	October 1, 2002	1.00
	France	0.91	0.91	0.91	1 520 804	61 230	27 217	2001/2002	1.00
	Germany	0.99	0.99	0.99	2 110 400	82 482	25 917	2001/2002	1.00
	Greece	0.70	0.70	0.70	141 354	10 950	18 439	2001	1.02
	Hungary	111.76	118.63	115.19	16 743 688	10 159	13 894	May 1, 2002	0.97
	Iceland	90.05	95.39	92.72	778 960	288	28 355	January 1, 2002	1.00
	Ireland	1.00	1.01	1.01	129 344	3 909	32 646	2002	0.97
	Italy	0.83	0.85	0.84	1 258 349	58 028	25 568	2002	1.00
	Japan	149.67	145.56	147.62	499 986 500	127 435	26 954	2001/2002	1.00
	Korea	731.99	735.69	733.84	596 381 161	47 640	17 016	2002	1.00
	Mexico	6.43	6.65	6.54	6 151 219	100 443	9 215	2001/2002	1.00
	Netherlands	0.93	0.95	0.94	444 649	16 148	29 009	January 1, 2002	1.00
	New Zealand	1.47	1.46	1.46	126 195	3 976	21 783	2002	1.00
	Norway	9.25	9.44	9.34	1 520 728	4 539	35 482	2002	1.00
	Portugal	0.67	0.68	0.67	129 280	10 374	18 394	2001/2002	1.00
	Scotland[4]	0.63	0.63	0.63	1 043 945	59 207	27 976	2001/2002	1.00
	Slovak Republic	16.51	16.63	16.57	1 096 384	5 379	12 255	2001	1.02
	Spain	0.76	0.77	0.76	696 208	40 546	22 406	2001	1.02
	Sweden	9.47	9.65	9.56	2 342 554	8 925	27 209	2001	1.00
	Switzerland	1.94	1.91	1.93	427 787	7 348	30 455	2002	1.00
	Turkey	430 136	618 281	524 208	276 002 987 851	69 666	6 408	2001	1.20
	United States	1.00	1.00	1.00	10 383 100	287 456	36 121	2001/2002	1.00

1. Data on PPPs and GDP for countries now in the Euro zone are shown in Euros.
2. GDP per capita in national currencies (2002) has been calculated from total population (2002) and total GDP (2002), and has been converted to US dollars using PPPs (2002). These data are available in this table.
3. Data on gross domestic product and total population refer to Belgium.
4. Data on gross domestic product and total population refer to the United Kingdom.
Source: OECD

General notes

Definitions

Gross domestic product (GDP) refers to the producers' value of the gross outputs of resident producers, including distributive trades and transport, less the value of purchasers' intermediate consumption plus import duties. GDP is expressed in local money (in millions). For countries which provide this information for a reference year that is different from the calendar year (such as Australia and New Zealand), adjustments are made by linearly weighting their GDP between two adjacent national reference years to match the calendar year.

The **GDP deflator** is obtained by dividing the GDP expressed at current prices by the GDP expressed at constant prices. This provides an indication of the relative price level in a country. Data are based on the year 1995.

GDP per capita is the gross domestic product (in equivalent US dollars converted using PPPs) divided by the population.

Purchasing power parity exchange rates (PPP) are the currency exchange rates that equalise the purchasing power of different currencies. This means that a given sum of money when converted into different currencies at the PPP rates will buy the same basket of goods and services in all countries. In other words, PPPs are the rates of currency conversion which eliminate the differences in price levels among countries. Thus, when expenditure on GDP for different countries is converted into a common currency by means of PPPs, it is, in effect, expressed at the same set of international prices so that comparisons between countries reflect only differences in the volume of goods and services purchased.

Total public expenditure as used for the calculation of the education indicators, corresponds to the non-repayable current and capital expenditure of all levels of government. Current expenditure includes final consumption expenditure (*e.g.,* compensation of employees, consumption intermediate goods and services, consumption of fixed capital, and military expenditure), property income paid, subsidies, and other current transfers paid (*e.g.,* social security, social assistance, pensions and other welfare benefits). Capital expenditure is spending to acquire and/or improve fixed capital assets, land, intangible assets, government stocks, and non-military, non-financial assets, and spending to finance net capital transfers.

Sources

The 2004 edition of the *National Accounts of OECD Countries: Main Aggregates, Volume I.*

The theoretical framework underpinning national accounts has been provided for many years by the United Nations' publication *A System of National Accounts*, which was released in 1968. An updated version was released in 1993 (commonly referred to as SNA93).

OECD Analytical Data Base, January 2004.

Annex

3

SOURCES, METHODS AND TECHNICAL NOTES

Annex 3 on sources and methods is available in electronic form only. It can be found at *www.oecd.org/edu/eag2004*.

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Many people have contributed to the development of this publication. The following lists the names of the country representatives, researchers and experts who have actively taken part in the preparatory work leading to the publication of this edition of *Education at a Glance – OECD Indicators*. The OECD wishes to thank them all for their valuable efforts.

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