

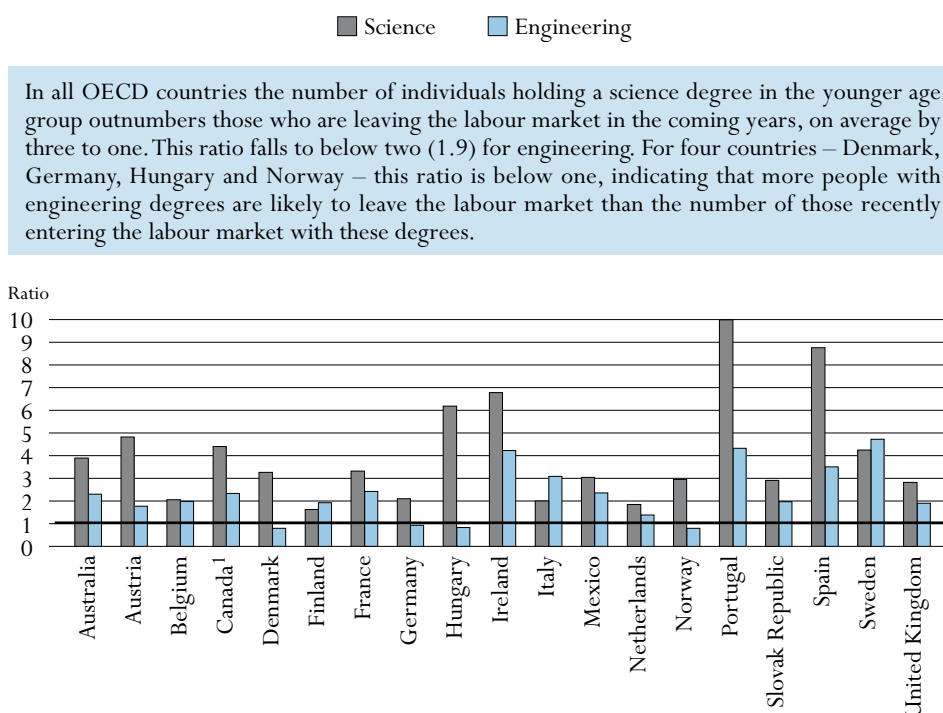
TO WHAT LEVEL HAVE ADULTS STUDIED?

This indicator profiles the educational attainment of the adult population, as captured through formal educational qualifications. As such it provides a proxy for the knowledge and skills available to national economies and societies. Data on attainment by fields of education and by age groups are also used in this indicator both to examine the distribution of skills in the population and to have a rough measure of what skills have recently entered the labour market and of what skills will be leaving the labour market in the coming years. It also looks at the effects of tertiary education expansion and asks whether this leads to the overqualified crowding out the lesser qualified.

Key results

Chart A1.1. Picture of generational difference in science and in engineering (2004)

This chart depicts the ratio of 25-to-34-year-olds with an ISCED 5A level of education and 30-to-39-year-olds with an ISCED 6 level of education to 55-to-64-year-olds with ISCED 5A and 6 levels of education in science and engineering (2004).




In all OECD countries the number of individuals holding a science degree in the younger age group outnumbers those who are leaving the labour market in the coming years, on average by three to one. This ratio falls to below two (1.9) for engineering. For four countries – Denmark, Germany, Hungary and Norway – this ratio is below one, indicating that more people with engineering degrees are likely to leave the labour market than the number of those recently entering the labour market with these degrees.

1. Year of reference 2001.

Note: The numerator includes population aged 25 to 34 with an ISCED 5A level of education and aged 30 to 39 with an ISCED 6 level of education. The denominator includes population aged 55 to 64 with ISCED 5A and 6 levels of education.

Source: OECD, Table A1.5. See Annex 3 for notes (www.oecd.org/edu/eqg2007).

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Other highlights of this indicator

- The proportion of individuals who have completed upper secondary education has been growing in almost all OECD countries, becoming the norm of youth cohorts. As of 2005, in 22 OECD countries, the proportion of 25-to-34-year-olds who have completed upper secondary education ranges from 73 to 97%. This increase has been particularly rapid in countries such as Korea and Ireland, and so countries with traditionally low levels of education are catching up to countries that have traditionally had higher levels of education.
- Social sciences, business and law are the major educational fields in most countries. They constitute 29% of the overall ISCED 5A and 6 levels of educational attainment in the population among the OECD countries. This may be due to these subjects' popularity among younger individuals. On average, there are three and one-half times as many individuals with degrees in these subjects among 25-to-34-year-olds with an ISCED 5A level of education and 30-to-39-year-olds with an ISCED 6 level of education than there are 55-to-64-year-olds with ISCED 5A and 6 levels of education in these subjects.
- The ratio of younger to older age groups with education as a field of study (ISCED 5A and 6 levels of education) is close to 1 among the OECD countries. For Denmark, Germany, Netherlands, Sweden and United Kingdom, this ratio is below 1, which might signal a potential problem of finding replacements as the older generation retires in the coming years.
- Data shows that increasing levels of tertiary education have not had a negative effect on employment. On the contrary, in the countries where tertiary education expanded most rapidly, a small rise in the relative risk of unemployment in the late 1990s was followed by a fall in the early 2000s. Nor has growth in tertiary attainment generally caused a slump in graduate pay, although on average it has not risen faster than pay generally.

Policy context

A well-educated and well-trained population is essential 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 needed to participate effectively in society and in the economy. Education also contributes to an expansion of scientific and cultural knowledge. 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. It must be noted, however, that comparing different countries’ educational attainment levels presupposes that the amount of skills and knowledge imparted at each level of education are similar in each country.

The skill composition of the human capital stock varies substantially between different countries depending on industry structure and the general level of economic development. The mix of skills as well as changes in this skill structure between different age groups is important to understand to have an idea of the current and future supply of skills in the labour market. One way to track the supply of skills in different subject areas is to examine replacement ratios in different educational fields of those who recently entered the labour market with those leaving the labour market in the coming years. In gauging potential effects of these changes in the composition of skills in the labour market, the overall volume of individuals within a certain field, the current and future industry composition, and to what extent lifelong learning provides an alternative to accumulate specific skills must all be considered.

In addition, it is also important to examine the effects of tertiary education expansion. In many OECD countries, tertiary attainment grew massively between the late 1970s and the late 1990s, although the increase was smaller between the early and the late 1990s. But does the effect of increasing the supply of well-educated labour match the creation of an equivalent number of highly skilled jobs or do some of the extra graduates end up doing jobs that do not require graduate skills, thus crowding out less highly qualified workers from the labour market? And do rising tertiary education levels among citizens reduce the earnings of those with tertiary education?

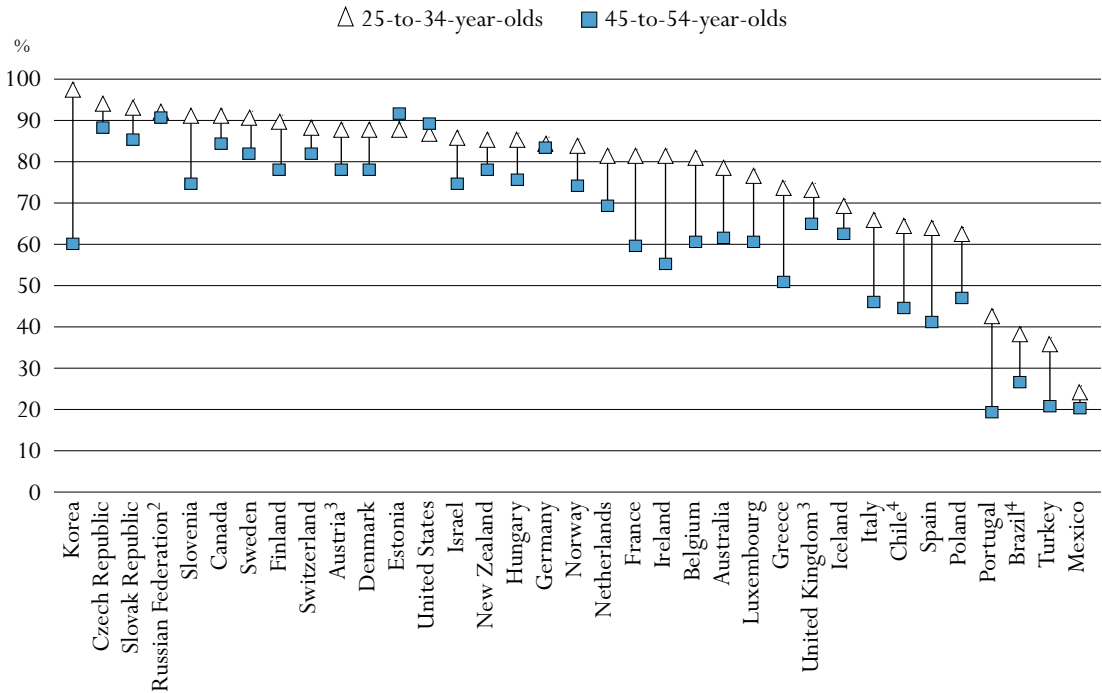
Evidence and explanations

Attainment levels in OECD countries

On average, across OECD countries, less than one-third of adults (29%) have obtained only primary or lower secondary levels of education, 41% of the adult population has completed an upper secondary education and one-quarter (26%) have achieved a tertiary level of education (Table A1.1a). However, countries differ widely in the distribution of educational attainment across their populations.

In 22 out of the 29 OECD countries – as well as in the partner economies Estonia, Israel, the Russian Federation and Slovenia – 60% or more of the population aged 25 to 64 years has completed at least upper secondary education (Table A1.2a). Some countries show a different profile, however. For instance, in Mexico, Portugal, Spain and Turkey, more than 50% of the population aged 25 to 64 years has not completed upper secondary education. Overall, a comparison of the levels of educational attainment in younger and older age groups indicates marked progress with regard to the achievement of upper secondary education (Chart A1.2). On average across OECD member countries, the proportion of 25-to-34-year-olds having attained

Chart A1.2. Population that has attained at least upper secondary education¹ (2005)
Percentage, by age group



1. Excluding ISCED 3C short programmes.


2. Year of reference 2003.

3. Including some ISCED 3C short programmes.

4. Year of reference 2004.

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 A1.2a. See Annex 3 for notes (www.oecd.org/edu/eag2007).

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upper secondary education is 13 percentage points higher than that of the 45-to-54-year-old age group. This increase has been particularly dramatic in Belgium, France, Greece, Ireland, Italy, Korea, Portugal and Spain, as well as the partner economy Chile, which have all seen growth of 20 or more percentage points across these age groups.

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 A1.2a). In countries where more than 80% of 25-to-64-year-olds achieve at least upper secondary attainment, the difference in the share of 25-to-34-year-olds who have attained the upper secondary level and the share of 45-to-54-year-olds who have attained this level is, on average, only 6 percentage points. In Germany and in the United States, the proportion of upper secondary attainment is almost the same for the three youngest age groups. For other countries, where there is more room for increase, the average gain in attainment between these age groups is 16 percentage points, including some very different situations: on the one hand, in Mexico the difference in upper secondary attainment between those aged 25 to 34 years and those aged 45 to 54 years is below 4 percentage points, but on the other hand, the difference reaches 37 percentage points in Korea.

Box A1.1. European Human Capital Index

The link between investment in people and economic performance seems intuitive but is difficult to prove empirically and consistently. Measuring human capital comprehensively requires consideration of people's generic and specific skills, formal educational attainment, adult learning and work practices. Quantifiable translations are also difficult: how much learning on the job is needed to substitute for a month of formal adult education? What is more effective in generating human capital: spending to reduce the student-to-teacher ratio for immigrant children or to retrain the unemployed? Measurement is also complicated by the fact that different sorts of human capital investments have various rates of return for stakeholders and widely divergent pay-back periods. If human capital and its impact were more readily quantified, human capital investment might play a larger role in economic decision making. The Lisbon Council, a Brussels-based independent think tank, recently issued a human capital accounting model using time-based measurements to quantify economically relevant human capital. The methodology captures five different types of learning with economic value: learning from parents; compulsory education; tertiary education received; adult informal and non-formal learning; and learning by doing on the job. Further characteristics of the methodology are:

Consistency across type, time and country: The investment in each type of learning is expressed in the same unit, inflation-adjusted purchasing power parity US dollars, so that the economic value of all learning is comparable across time and place.

Allowance for depreciation: Based on empirical evidence of forgetting rates and knowledge obsolescence rates, the model depreciates different human capital investments over different periods of time and at different rates.

Accounting for input costs: The value of the investment in learning is primarily measured by the effective time spent on learning. This investment of time is given a monetary value. For learning from parents, this is the earned income that parents forego when educating their children. For compulsory education, it is the gross cost of teaching. For tertiary education, it is teachers' gross cost plus the earned income that students forego when studying. For adult non- and informal learning it is the learner's opportunity cost of time. The cost of time spent learning by doing is calculated using the gross salary of the employee. This approach draws on the insight that, under certain conditions, the individual's cost of time for human capital creation is equivalent to the individual's income from existing human capital. For example, an adult will only invest time in non-formal education to the extent that this yields a suitable return – a higher salary. If not, the adult would prefer to spend time generating returns from existing human and financial capital.

A first application of the model has resulted in a European Human Capital Index measuring human capital stock, deployment, utilization and evolution in 13 EU countries. However, significant methodological challenges still exist in applying such a model. The OECD is currently initiating discussion with member countries on both methodology and data availability, with a view to possibly replicating such an index across OECD countries.

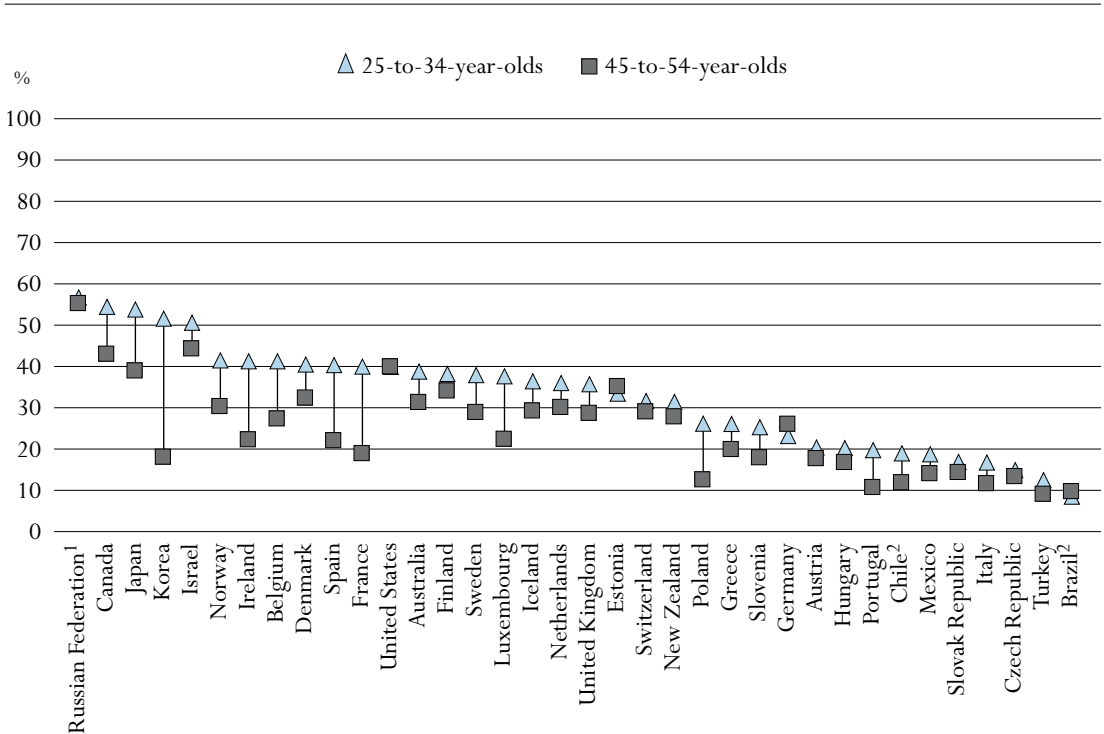
For more information, see www.lisboncouncil.net.

Expansion of tertiary education

Governments pursuing an expansion of tertiary education have often been driven by the belief that an advanced knowledge economy needs more high-level skills and thus requires a much greater proportion of the workforce than previously to be educated beyond the secondary-school level. However, the question remains whether an increasingly well-educated labour supply is being matched by the creation of an equivalent number of highly skilled jobs or whether at least some of the extra graduates end up in jobs that do not require graduate skills, at the expense of less highly qualified workers. Such a crowding out effect may be associated with a relative rise in unemployment among people with low qualifications (as higher-qualified workers take their jobs), but also potentially with a reduction in the pay premium associated with tertiary qualifications (as a rise in graduate supply outstrips any rise in demand for graduate skills).

An estimate of the expanding rate at which successive cohorts entering the labour market have attained tertiary education can be obtained by looking at the highest qualification held by adults of various ages today. Table A1.3 and Chart A1.3 shows the percentage of the population in OECD countries that has attained tertiary education, by ten-year age ranges.

Chart A1.3. Population that has attained at least tertiary education (2005)
Percentage, by age group



1. Year of reference 2003.

2. Year of reference 2004.

Countries are ranked in descending order of the percentage of 25-to-34-year-olds who have attained tertiary education.

Source: OECD, Table A1.3a. See Annex 3 for notes (www.oecd.org/edu/eaq2007).

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When looking at tertiary attainment by five-year age ranges, it becomes clear that there have been large increases in many countries between attainment among cohorts entering the labour market in the late 1970s and the late 1990s. Table A1.6 shows continuing, but overall much smaller, increases between the early and the late 1990s, and divides countries into three groups according to this latter increase.

In general, countries in the first group have seen attainment rise more than other countries during the late 1970s and the late 1990s as a whole, as well as during the later part of this period: on average in these countries, attainment of tertiary qualifications has risen from 23 to 39% over 20 years. An exception is Australia, for which most of the 20-year increase occurred in the 1990s. In Norway and Finland, however, large rises occurred over the period as a whole, but principally between the late 1980s and early 1990s.

A striking observation from Table A1.6 is that the average tertiary attainment rates for the oldest cohort shown, those entering the labour market in the late 1960s, is almost identical for the three groups of countries, at 16% to 17%. Yet in the youngest cohort shown, the average attainment in the top group of countries was 39% and in the lowest only 25%. Thus, the countries that during the 1990s were most vigorously expanding tertiary education had opened up a wide gap in attainment compared with the group with no significant expansion in the 1990s.

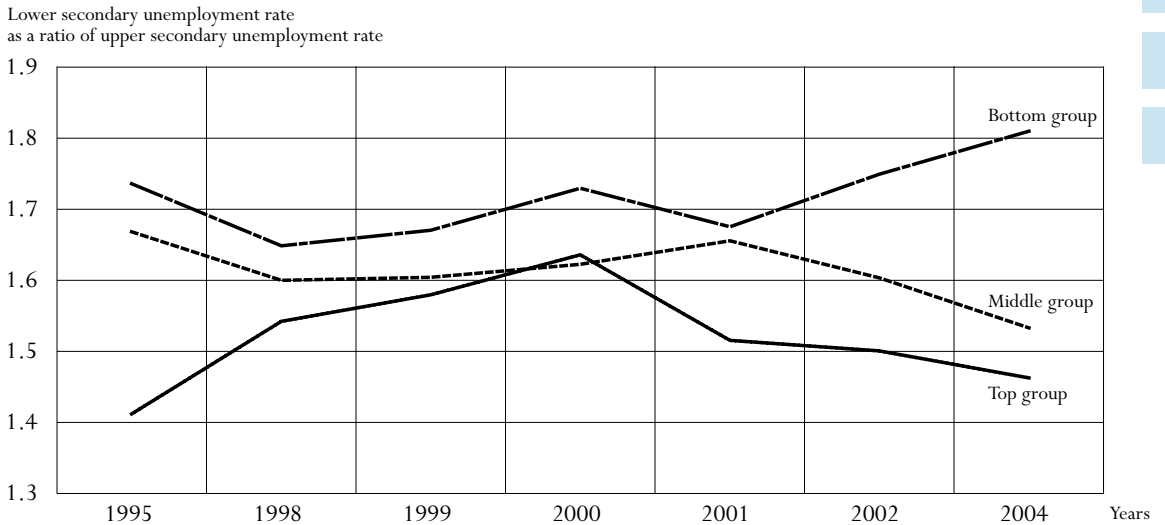
Data show clearly that there are substantial rewards associated with attaining tertiary education, and substantial penalties associated with failing to reach at least upper secondary education. The average earnings premium associated with tertiary compared to upper secondary education is everywhere more than 25% and in some countries more than 100% (Indicator A9). Across OECD countries, the average unemployment rate among those only with lower secondary education is 5 percentage points higher than those whose highest level is upper secondary, and seven points higher than those with tertiary education (Indicator A8).

Another way to look at trends over time is to consider countries not individually but as groups classified according to how quickly tertiary education has been expanding. The following analysis uses averages for the three groups of countries shown in Table A1.6 above. These three groups represent, respectively, countries for which tertiary attainment among people entering the labour market in the 1990s grew quickly, grew slowly and did not grow to any significant extent.

To consider the crowding-out hypothesis, Chart A1.4 looks at trends in relative unemployment rates by educational qualification among countries with fast, slow and negligible rates of tertiary attainment growth in the 1990s.


Chart A1.4 shows that, while unemployment is substantially higher than the average among those with low qualifications, this penalty has not increased in those countries that have expanded tertiary education, as the crowding-out hypothesis would have suggested. On the contrary, in the countries expanding most rapidly, a small rise in the relative risk in the late 1990s was followed by a fall in the early 2000s. However, in those countries that did not expand tertiary education (the bottom group), there has been a rise in the relative risk and failure to complete upper secondary education is in these countries now associated with an 80% greater probability of being unemployed, compared to less than 50% in the top group.

Chart A1.4. Relative unemployment rate of adults with lower secondary attainment between 1995 and 2004



Note: “Top group” refers to the nine countries that increased tertiary education most in the 1990s (on average 5.9%); “Middle group” refers to the eight countries that experienced modest increases in tertiary education in the 1990s (on average 2.4%); “Bottom group” refers to the nine countries that increased their tertiary education least over the 1990s (on average 0.1%).

Source: OECD. *Education at a Glance 2006*, Indicators A1 and A8.

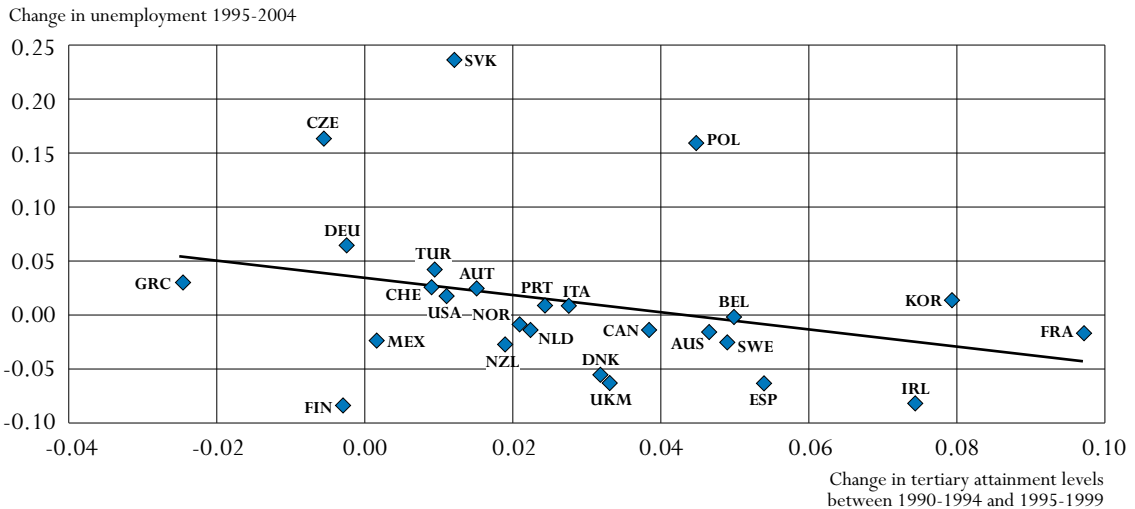
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This finding is reinforced by Chart A1.5, showing that countries expanding higher education attainment more in the late 1990s tended to have a greater decline (or smaller increase) in unemployment among the lower educated between 1995 and 2004 than countries with less tertiary expansion. For example, Ireland, France and Korea had the fastest growth in tertiary attainment and close to zero or negative growth in unemployment, whereas Germany, the Czech Republic and the Slovak Republic had low or no growth in tertiary attainment but substantial growth in unemployment among the lower educated. While there is not a perfect match – Finland had no tertiary expansion but a fall in unemployment, Poland expanded tertiary education but unemployment rose too – the general trend is again the opposite of what one would expect according to the crowding-out hypothesis. Note also that the relationship is stronger when outliers are removed from the figure.

The data provide thus no evidence that the lesser qualified are crowded out from the labour market and much to point to the opposite: that the least educated individuals benefits in terms of better employment opportunities when more people go into higher education. It may be that the expansion of the high end of educational ladder is, apart from generating growth, also providing more equitable employment opportunities. Last but not least, an analysis of trends in the absolute level of unemployment for upper-secondary educated adults suggests that changes in the level of unemployment during the period 1995 to 2004 are unrelated to changes in tertiary attainment levels.

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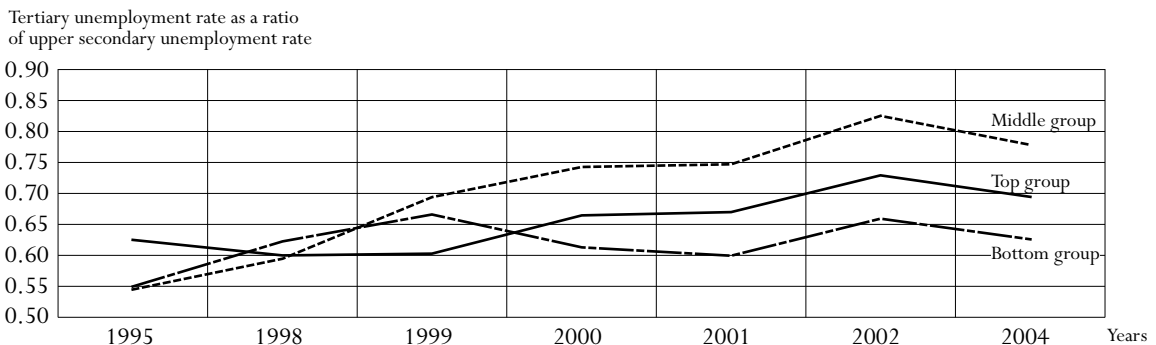
Chart A1.5. Changes in tertiary education and changes in unemployment for lower secondary educated adults: late 1990s and early 2000s
Percentage point change within the periods



Source: OECD, *Education at a Glance 2006*, Indicators A1 and A8.
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In the case of unemployment and tertiary education, the picture is less clear-cut. Chart A1.6 shows that the extent to which a tertiary degree protects against unemployment risk has deteriorated slightly in the countries with the fastest rates of tertiary expansion, from 37% to 31% less than the risk among those with only upper secondary education. However, the same rate of deterioration has also occurred among countries with the lowest expansion rates, and a faster deterioration occurred among the countries that expanded slowly in the 1990s.

Chart A1.6. Relative unemployment rate of adults with tertiary level attainment between 1995 and 2004



Note: “Top group” refers to the nine countries that increased tertiary education most in the 1990s (on average 5.9%); “Middle group” refers to the eight countries that experienced modest increases in tertiary education in the 1990s (on average 2.4%); “Bottom group” refers to the nine countries that increased their tertiary education least over the 1990s (on average 0.1%).

Source: OECD, *Education at a Glance 2006*, Indicators A1 and A8.
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Graduates in the first group of countries, where on average 38% of adults in their late 20s and early 30s have tertiary education, face relative unemployment rates only slightly less favourable than the lower group where 25% are graduates, and more favourable than the middle group where 28% are graduates. There is thus no obvious link between a rising or a high number of graduates and relatively poor or deteriorating unemployment risks for those holding degrees. Overall Chart A1.6 also indicates that upper secondary educated individuals have strengthened their labour market position relative to tertiary educated individuals as their unemployment rates relatively speaking have moved in a positive directions over the period, suggesting once more that higher educated on the whole have not displaced lower educated from the labour market.

An important question is whether rising tertiary education levels among citizens lead to an inflation of the labour-market value of qualifications. Indicator A9 shows that this hypothesis is improbable. Among the countries in which the tertiary attainment grew by 5 percentage points or more between 35-to-44-year-olds and 25-to-34-year-olds, Spain is the only country in which the rapid expansion in tertiary attainment was associated with a significant decline in the wage premium that tertiary attainment attracts, during the period 1997 to 2004. In contrast, countries with fast growing relative earnings returns to tertiary qualifications have been Germany (20 percentage points), Hungary (38 percentage points), Ireland (17 percentage points) and Switzerland (12 percentage points). While improvements in supply have not generally caused a slump in graduate pay, the data show that on average it does not rise faster than pay generally.

When more individuals enter higher education it is obvious to ask whether this will affect the earnings of both those with upper secondary education and tertiary education. In particular, will the intake of more students with lower school performance likely influence the earnings received by those with tertiary education if the higher educational system is not able provide enough support for those with poorer school backgrounds? This question would require an analysis of earnings distributions within each educational group but as such this potential estimation problem will be balanced out in relative earnings as the skills (school performance) in all likelihood declines consistently among those with upper secondary education leaving the impact on relative earnings fairly constant stable when moving more people into higher education.

Variation in attainment levels by fields of study

As shown above, tertiary attainment levels have risen among younger age groups and sharply so in many countries. However, this increase in tertiary attainment is not evenly spread among different fields of education. As depicted in Chart A1.1 there is large variation between countries in the extent to which younger individuals have chosen science or engineering fields in comparison to the older age group. In these key educational fields, there is also substantial variation within countries where supply levels within science have risen more relative to engineering in all OECD countries except in Finland, Italy, and Sweden.

In the case of Denmark, Hungary, and Norway, some of the increases in supply levels in science relative to engineering can be explained by the fact that science is a relative small educational field with few individuals holding a degree from this course of study in the working age population. Table A1.4 shows the distribution of adults at ISCED 5A and 6 levels by fields of education. Social

sciences, business, and law form the main educational field in most countries, with the exception of Ireland where science is the main field and Hungary as well as Norway, where education is the main field, Finland, and the Slovak Republic where engineering make up the main field, and Denmark where health and welfare has been the main course of study for adults.

Among the countries in Table A1.4, social sciences, business, and law make up 29% of the population with ISCED 5A and 6 levels of education. For education this figure is 15%, engineering 14%, art and humanities 13%, and science as a field constitutes 11% of those with ISCED 5A and 6 levels of education. The predominance of social sciences, business, and law is largely driven by increases in these fields of education in recent years. The ratios in Table A1.5 provide an indication of these shifts by comparing the number of 25-to-34-year-olds with an ISCED 5A level of education and 30-to-39-year-olds with an ISCED 6 level of education to the number of 55-to-64-year-olds with ISCED 5A and 6 levels of education, for each field of education. Social sciences, business and law has attracted a substantial amount of young individuals with three and half times as many young adults with degrees in this field as in the older age group. This change reflects increases in attainment levels in general, but it is also a reflection of the fact that many younger individuals have been attracted to this field of study. More than four times as many young individuals have attained a degree in social sciences, business and law compared with the older age group in France, Ireland, Italy, Portugal and Spain.

Education is the field of study where supply has, on average, not increased when comparing younger and older age groups. This largely reflects the relatively stable conditions in which most countries' education systems find themselves. However, for Denmark, Germany, Netherlands, Sweden and United Kingdom the replacement ratio is below 1, which could signal a potential problem for these countries when the older generation retires in coming years. In France, the low level of this ratio reflects changes within the professional training of teachers at the primary level.

Definitions and methodologies

Data on population and educational attainment are taken from OECD and EUROSTAT databases, which are compiled from National Labour Force Surveys. See Annex 3 (www.oecd.org/edu/eq2007) for national sources.

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 (www.oecd.org/edu/eq2007) for a description of ISCED-97 education programmes and attainment levels and their mappings for each country.


Successful completion of upper secondary education means the achievement of upper secondary programmes type A, B or C of a similar length; completion of type C programmes (labour market destination) of significantly shorter duration is not classified as upper secondary attainment.

The data for Tables A1.4 and A1.5 originate from a special data collection by the Supply of Skills working group of INES Network B. Data on the distribution by fields of education among the population with tertiary-type 5A/6 levels of education was collected in most cases from Eurostat labour force survey or national labour force surveys.

Further references

For further information on tertiary expansion, see the OECD Education Working Paper “Effects of Tertiary Expansion: Crowding-out effects and labour market matches for the higher educated” (forthcoming on line at www.oecd.org/edu/workingpapers).

The following additional material relevant to this indicator is available on line at:

StatLink  <http://dx.doi.org/10.1787/068015451617>

- *Educational attainment: adult population, by gender (2005)*
Table A1.1b: Males
Table A1.1c: Females
- *Population that has attained at least upper secondary education, by gender (2005)*
Table A1.2b: Males
Table A1.2c: Females
- *Population that has attained tertiary education, by gender (2005)*
Table A1.3b: Males
Table A1.3c: Females
- *Attainment of tertiary education, by age (2004)*
Table A1.6

Table A1.1a.
Educational attainment: adult population (2005)
 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	
			ISCED 3C Short	ISCED 3C Long/3B	ISCED 3A		Type B	Type A	Advanced research programmes		
			(3)	(4)	(5)		(7)	(8)	(9)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
OECD countries	Australia	9	26	a	a	31	3	9	23	x(8)	100
	Austria	x(2)	19	a	48	6	9	9	9	x(8)	100
	Belgium	15	18	a	9	24	2	17	13	n	100
	Canada	5	10	a	x(5)	27	12	23	23	x(8)	100
	Czech Republic	n	10	a	43	34	a	x(8)	13	x(8)	100
	Denmark	1	16	2	44	4	n	8	26	n	100
	Finland	11	10	a	a	44	n	17	17	1	100
	France	14	19	a	31	11	n	10	14	1	100
	Germany	3	14	a	49	3	6	10	14	1	100
	Greece	29	11	3	3	26	7	7	14	n	100
	Hungary	2	22	a	30	28	2	n	17	n	99
	Iceland	3	28	7	21	9	3	5	26	x(8)	100
	Ireland	17	18	n	a	25	11	11	18	n	99
	Italy	17	32	1	7	29	1	1	12	n	100
	Japan	x(5)	x(5)	x(5)	x(5)	60	a	18	22	x(8)	100
	Korea	12	13	a	x(5)	44	a	9	23	x(8)	100
	Luxembourg	19	9	6	18	18	4	10	16	1	100
	Mexico	50	29	a	6	x(2)	a	1	14	x(8)	100
	Netherlands	8	21	x(4)	15	23	3	2	28	1	100
	New Zealand	x(2)	21	a	22	19	11	7	20	x(8)	100
Norway	n	22	a	30	11	4	2	30	1	100	
Poland	x(2)	15	34	a	31	4	x(8)	17	x(8)	100	
Portugal	59	15	x(5)	x(5)	13	1	x(8)	12	1	100	
Slovak Republic	1	14	x(4)	35	37	x(5)	1	13	n	100	
Spain	24	27	a	7	13	n	8	19	1	100	
Sweden	7	10	a	x(5)	48	6	9	21	x(8)	100	
Switzerland	3	10	4	45	6	3	10	17	2	100	
Turkey	63	10	a	7	10	a	x(8)	10	x(8)	100	
United Kingdom	n	14	19	21	16	a	9	15	6	100	
United States	5	8	x(5)	x(5)	49	x(5)	9	28	1	100	
	Attained lower secondary level of education or below		Attained upper secondary level of education				Attained tertiary level of education				
OECD average	29		41				26				
EU19 average	29		44				24				
Partner economies	Brazil ¹	57	14	x(5)	x(5)	22	a	x(8)	8	x(8)	100
	Chile ¹	24	26	x(5)	x(5)	37	a	3	10	x(8)	100
	Estonia	1	10	a	7	42	7	11	22	1	100
	Israel	x(2)	21	a	x(5)	33	a	16	29	1	100
	Russian Federation ²	3	8	x(5)	x(5)	34	x(5)	34	21	x(8)	100
	Slovenia	2	17	a	28	32	a	10	9	1	100

1. Year of reference 2004.

2. Year of reference 2003.

Source: OECD. See Annex 3 for notes (www.oecd.org/edu/eag2007).

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.


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Table A1.2a.
Population that has attained at least upper secondary education¹ (2005)
Percentage, by age group

	Age group				
	25-64	25-34	35-44	45-54	55-64
OECD countries					
Australia	65	79	66	61	50
Austria ²	81	87	84	78	70
Belgium	66	81	72	60	48
Canada	85	91	88	84	75
Czech Republic	90	94	93	88	83
Denmark	81	87	83	78	75
Finland	79	89	87	78	61
France	66	81	71	60	51
Germany	83	84	85	84	79
Greece	57	74	65	51	32
Hungary	76	85	81	76	61
Iceland	63	69	67	63	49
Ireland	65	81	70	55	40
Italy	50	66	54	46	30
Korea	76	97	88	60	35
Luxembourg	66	77	68	60	55
Mexico	21	24	23	20	12
Netherlands	72	81	76	69	59
New Zealand	79	85	82	78	66
Norway	77	83	78	74	73
Poland	51	62	50	47	43
Portugal	26	43	26	19	13
Slovak Republic	86	93	92	85	68
Spain	49	64	54	41	26
Sweden	84	91	90	82	72
Switzerland	83	88	85	82	77
Turkey	27	36	25	21	15
United Kingdom ²	67	73	67	65	60
United States	88	87	88	89	86
<i>OECD average</i>	<i>68</i>	<i>77</i>	<i>71</i>	<i>64</i>	<i>54</i>
<i>EU19 average</i>	<i>68</i>	<i>79</i>	<i>72</i>	<i>64</i>	<i>54</i>
Partner economies					
Brazil ³	30	38	32	27	11
Chile ³	50	64	52	44	32
Estonia	89	87	95	92	80
Israel	79	86	82	75	69
Russian Federation ⁴	89	92	95	90	72
Slovenia	80	91	84	75	69

1. Excluding ISCED 3C short programmes.

2. Including some ISCED 3C short programmes.

3. Year of reference 2004.

4. Year of reference 2003.

Source: OECD. See Annex 3 for notes (www.oecd.org/edu/eag2007).


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Table A1.3a.
Population that has attained tertiary education (2005)

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					Total Tertiary				
	25-64	25-34	35-44	45-54	55-64	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)	(11)	(12)	(13)	(14)	(15)
OECD countries															
Australia	9	9	9	9	8	23	29	23	21	16	32	38	32	31	24
Austria	9	8	9	10	8	9	12	10	8	6	18	20	19	17	14
Belgium	17	21	19	15	13	14	19	14	12	9	31	41	33	27	22
Canada	23	26	25	22	18	23	28	25	21	19	46	54	50	43	36
Czech Republic	x(11)	x(12)	x(13)	x(14)	x(15)	13	14	14	13	11	13	14	14	13	11
Denmark	8	9	8	6	7	26	31	27	26	21	34	40	35	32	27
Finland	17	11	22	19	14	18	27	19	15	13	35	38	41	34	27
France	10	17	10	7	5	15	22	14	11	11	25	39	25	18	16
Germany	10	7	11	10	10	15	15	16	15	13	25	22	26	26	23
Greece	7	8	8	6	3	15	17	17	14	8	21	25	26	19	12
Hungary	0	1	0	0	0	17	19	17	16	15	17	20	17	16	15
Iceland	5	3	5	6	3	26	33	29	22	17	31	36	34	29	21
Ireland	11	14	11	8	6	18	26	19	14	11	29	41	30	22	17
Italy	1	1	1	0	0	12	15	12	11	8	12	16	13	11	8
Japan	18	25	21	15	8	22	28	25	23	13	40	53	47	38	22
Korea	9	19	8	3	1	23	32	27	15	9	32	51	36	18	10
Luxembourg	10	13	10	7	8	17	24	17	15	11	27	37	27	22	19
Mexico	1	1	1	1	1	14	17	14	13	7	15	18	16	14	8
Netherlands	2	2	2	2	2	28	34	28	28	23	30	35	30	30	24
New Zealand	7	5	6	10	10	20	26	22	17	11	27	31	28	27	21
Norway	2	2	2	3	2	30	39	33	26	22	33	41	35	30	24
Poland	x(11)	x(12)	x(13)	x(14)	x(15)	17	26	16	12	13	17	26	16	12	13
Portugal	x(11)	x(12)	x(13)	x(14)	x(15)	13	19	13	10	7	13	19	13	10	7
Slovak Republic	1	1	1	1	1	13	15	12	13	10	14	16	13	14	11
Spain	8	13	10	5	3	20	27	20	17	11	28	40	30	22	14
Sweden	9	9	8	11	8	21	28	20	18	17	30	37	28	28	25
Switzerland	10	9	12	10	8	19	22	20	19	14	29	31	32	29	22
Turkey	x(11)	x(12)	x(13)	x(14)	x(15)	10	12	8	9	7	10	12	8	9	7
United Kingdom	9	8	10	9	7	21	27	20	19	16	30	35	30	28	24
United States	9	9	10	10	8	30	30	30	30	28	39	39	40	39	37
OECD average	8	10	9	8	6	19	24	19	17	13	26	32	27	24	19
EU19 average	8	9	9	7	6	17	22	17	15	12	24	30	25	21	17
Partner economies															
Brazil ¹	x(11)	x(12)	x(13)	x(14)	x(15)	x(11)	x(12)	x(13)	x(14)	x(15)	8	8	9	9	4
Chile ¹	3	4	3	2	1	10	14	9	9	8	13	18	13	11	9
Estonia	11	9	12	13	10	22	24	23	22	19	33	33	36	35	29
Israel	16	15	16	17	16	30	35	28	27	26	46	50	44	44	43
Russian Federation ²	34	35	37	34	26	21	22	22	20	19	55	56	59	55	45
Slovenia	10	9	10	9	10	11	15	11	8	7	20	25	21	17	16

1. Year of reference 2004.

2. Year of reference 2003.

 Source: OECD. See Annex 3 for notes (www.oecd.org/edu/eag2007).

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.


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Table A1.4.
Fields of education (2004)

Distribution by fields of education for the 20-to-64-year-old population with ISCED 5A and 6 levels of educational attainment (percentage)

OECD countries	Education	Arts and Humanities	Social sciences, business and law	Science	Engineering	Agriculture	Health and welfare	Services	Other fields	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	15	11	32	11	10	1	17	2	1	100
Austria	10	15	34	9	15	2	13	2	0	100
Belgium	4	15	30	13	19	2	12	2	3	100
Canada ¹	16	12	34	12	11	2	12	2	0	100
Czech Republic	m	m	m	m	m	m	m	m	m	m
Denmark	16	11	19	4	13	1	34	1	0	100
Finland	12	12	22	7	27	4	12	4	0	100
France	9	19	35	15	10	1	7	3	1	100
Germany	22	9	22	8	22	2	12	2	0	100
Greece	m	m	m	m	m	m	m	m	m	m
Hungary	27	5	23	4	21	6	9	5	0	100
Iceland	13	13	32	8	13	c	16	5	0	100
Ireland	12	13	22	23	11	2	10	3	5	100
Italy	4	19	33	12	14	2	15	1	0	100
Japan	m	m	m	m	m	m	m	m	m	m
Korea	m	m	m	m	m	m	m	m	m	m
Luxembourg	2	17	36	12	19	c	10	c	3	100
Mexico	5	17	31	11	13	3	11	7	1	100
Netherlands	20	8	30	6	12	2	17	3	2	100
New Zealand	m	m	m	m	m	m	m	m	m	m
Norway	20	7	18	4	6	1	12	3	29	100
Poland	m	m	m	m	m	m	m	m	m	m
Portugal	16	12	27	13	14	2	12	3	1	100
Slovak Republic	20	6	22	8	26	6	7	4	0	100
Spain	15	11	32	10	12	2	12	4	0	100
Sweden	22	7	24	7	15	1	19	3	1	100
Switzerland	m	m	m	m	m	m	m	m	m	m
Turkey	m	m	m	m	m	m	m	m	m	m
United Kingdom	14	18	28	18	11	1	8	1	0	100
United States	m	m	m	m	m	m	m	m	m	m
OECD average	15	13	29	11	14	2	12	2	1	100

Note: Science includes life sciences, mathematics and statistics, computer science and use.

1. Year of reference 2001. Only ISCED 5A of educational attainment.

Source: OECD, Network B special data collection, Supply of Skills working group.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.


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Table A1.5.

Ratio of 25-to-34-year-olds with ISCED 5A and 30-to-39-year-olds with ISCED 6 levels of education to 55-to-64-year-olds with ISCED 5A and 6 levels of education, by fields of education (2004)


OECD countries	Education	Arts and Humanities	Social sciences, business and law	Science	Engineering	Agriculture	Health and welfare	Services	Other fields	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Australia	1.9	2.2	3.4	3.9	2.3	2.7	1.9	x(10)	2.9	2.6
Austria	1.0	1.8	2.0	4.8	1.8	1.6	1.4	x(10)	0.5	1.9
Belgium	x(10)	3.4	3.9	2.1	2.0	x(10)	2.4	x(10)	2.7	2.6
Canada ¹	1.1	2.1	3.2	4.4	2.3	2.1	1.9	5.3	0.0	2.3
Czech Republic	m	m	m	m	m	m	m	m	m	m
Denmark	0.8	2.3	2.5	3.3	0.8	0.6	1.2	x(10)	0.0	1.4
Finland	1.3	1.3	1.6	1.6	1.9	1.4	3.9	2.0	0.0	1.8
France	0.6	3.0	4.7	3.3	2.4	2.0	1.1	4.9	2.8	2.8
Germany	0.6	1.4	1.8	2.1	0.9	1.0	1.3	1.6	1.1	1.2
Greece	m	m	m	m	m	m	m	m	m	m
Hungary	1.9	2.7	2.4	6.2	0.8	0.9	1.4	1.3	0.0	1.7
Iceland	x(10)	x(10)	x(10)	x(10)	x(10)	x(10)	x(10)	x(10)	x(10)	2.7
Ireland	1.5	3.4	7.3	6.8	4.2	1.6	3.9	11.5	3.0	4.3
Italy	2.1	1.4	4.0	2.0	3.1	4.4	2.1	3.7	0.0	2.5
Japan	m	m	m	m	m	m	m	m	m	m
Korea	m	m	m	m	m	m	m	m	m	m
Luxembourg	x(10)	x(10)	x(10)	x(10)	x(10)	x(10)	x(10)	x(10)	x(10)	2.4
Mexico	x(10)	3.9	2.2	3.0	2.4	2.8	1.4	2.9	6.5	2.7
Netherlands	0.7	1.7	3.2	1.8	1.4	1.9	1.7	1.6	5.7	1.7
New Zealand	m	m	m	m	m	m	m	m	m	m
Norway	1.0	0.9	2.4	3.0	0.8	0.7	1.2	x(10)	9.0	2.2
Poland	m	m	m	m	m	m	m	m	m	m
Portugal	3.9	2.7	7.3	10.0	4.3	10.3	4.9	8.5	0.6	5.3
Slovak Republic	1.5	2.8	3.9	2.9	2.0	1.5	2.4	3.5	0.0	2.3
Spain	2.0	4.0	7.8	8.8	3.5	6.0	3.8	5.2	3.5	4.7
Sweden	0.9	1.9	1.7	4.3	4.7	2.5	1.3	x(10)	1.2	1.7
Switzerland	m	m	m	m	m	m	m	m	m	m
Turkey	m	m	m	m	m	m	m	m	m	m
United Kingdom	0.8	2.5	3.0	2.8	1.9	x(10)	2.8	x(10)	1.6	2.2
United States	m	m	m	m	m	m	m	m	m	m
OECD average	1.0	2.2	3.5	3.0	1.9	2.2	1.9	3.1	4.5	2.3

Note: Science includes life sciences, mathematics and statistics, computer science and use.

1. Year of reference 2001. Only ISCED 5A of educational attainment.

Source: OECD, Network B special data collection, Supply of Skills working group.

Please refer to the Reader's Guide for information concerning the symbols replacing missing data.

StatLink  <http://dx.doi.org/10.1787/068015451617>

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 an OECD average is presented and for some an OECD total.

The OECD average is calculated as the unweighted mean of the data values of all OECD countries for which data are available or can be estimated. The OECD average 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 OECD average 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 OECD averages. 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 OECD average.

For financial tables using 1995 data, both the OECD average and OECD total are calculated for countries providing both 1995 and 2004 data. This allows comparison of the OECD average and OECD total over time with no distortion due to the exclusion of certain countries in the different years.

For many indicators an EU19 average is also presented. It is calculated as the unweighted mean of the data values of the 19 OECD countries that are members of the European Union for which data are available or can be estimated. These 19 countries are Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Ireland, Luxembourg, the Netherlands, Poland, Portugal, the Slovak Republic, Spain, Sweden and the United Kingdom.

■ **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 available at www.oecd.org/edu/eag2007 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**

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

- a* Data is not applicable because the category does not apply.
- c* There are too few observations to provide reliable estimates (*i.e.* there are fewer than 3% of students for this cell or too few schools for valid inferences). However, these statistics were included in the calculation of cross-country averages.
- m* Data is not available.
- n* Magnitude is either negligible or zero.
- w* Data has been withdrawn at the request of the country concerned.
- 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).
- ~ Average is not comparable with other levels of education.

■ **Further resources**

The website www.oecd.org/edu/eag2007 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 website also provides access to the data underlying the indicators as well as to a comprehensive glossary for technical terms used in this publication.

Any post-production changes to this publication are listed at www.oecd.org/edu/eag2007.

The website 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 at a Glance uses the OECD's StatLinks service. Below each table and chart in *Education at a Glance 2007* is a url which leads to a corresponding Excel workbook containing the underlying data for the indicator. These urls are stable and will remain unchanged over time. In addition, readers of the *Education at a Glance* e-book will be able to click directly on these links and the workbook will open in a separate window.

Codes used for territorial entities

These codes are used in certain charts. Country or territorial entity names are used in the text. Note that in the text the Flemish Community of Belgium is referred to as "Belgium (Fl.," and the French Community of Belgium as "Belgium (Fr.)."

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

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TABLE OF CONTENTS

	Name of the indicator in the 2006 edition
Foreword	3
Editorial	11
Introduction	15
Reader's Guide	19
CHAPTER A THE OUTPUT OF EDUCATIONAL INSTITUTIONS AND THE IMPACT OF LEARNING	23
Indicator A1 To what level have adults studied?	24
Table A1.1.a. Educational attainment: adult population (2005)	36
Table A1.2.a. Population that has attained at least upper secondary education (2005)	37
Table A1.3.a. Population that has attained tertiary education (2005)	38
Table A1.4. Fields of education (2004)	39
Table A1.5. Ratio of 25-to-34-year-olds with ISCED 5A and 30-to-39-year-olds with ISCED 6 levels of education to 55-to-64-year-olds with ISCED 5A and 6 levels of education, by fields of education (2004)	40
Indicator A2 How many students finish secondary education?	42
Table A2.1. Upper secondary graduation rates (2005)	50
Table A2.2. Trends in graduation rates at upper secondary level (1995-2005)	51
Table A2.3. Post-secondary non-tertiary graduation rates (2005)	52
Indicator A3 How many students finish tertiary education?	54
Table A3.1. Graduation rates in tertiary education (2005)	67
Table A3.2. Trends in tertiary graduation rates (1995-2005)	68
Table A3.3. Percentage of tertiary graduates, by field of education (2005)	69
Table A3.4. Science graduates, by gender (2005)	70
Table A3.5. Relationship between motivation in mathematics at 15 years old (PISA 2003) and tertiary-type A graduation rates, by gender	71
Table A3.6. Survival rates in tertiary education (2004)	72
Indicator A4 What are students' expectations for education?	74
Table A4.1.a. Percentage of students expecting to complete different levels of education (2003)	84
Table A4.2.a. Percentage of students expecting to complete ISCED levels 5A or 6, by mathematics performance level (2003)	85
Table A4.3.a. Percentage of students expecting to complete ISCED levels 5A or 6, by gender (2003)	86
Table A4.4. Odds ratios that students expect to complete ISCED levels 5A or 6, by socio-economic status (2003)	87
Table A4.5. Odds ratios that students expect to complete ISCED levels 5A or 6, by immigrant status (2003)	88

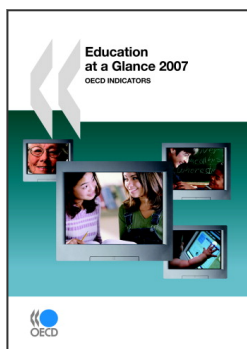
Indicator A5	What are students' attitudes towards mathematics?	90	
Table A5.1.	Means on students' attitudes towards mathematics, approaches to learning, and school-related indices (2003).....	99	
Table A5.2a.	Relationship between students' attitudes towards mathematics and mathematics performance (2003).....	100	
Table A5.2b.	Relationship between students' approaches to learning and mathematics performance (2003).....	101	
Table A5.2c.	Relationship between school-related indices and mathematics performance (2003).....	102	
Indicator A6	What is the impact of immigrant background on student performance?	104	
Table A6.1a.	Differences in mathematics performance, by immigrant status (2003)....	113	
Table A6.2a.	Percentage of native students at each level of proficiency on the mathematics scale (2003).....	113	
Table A6.2b.	Percentage of second-generation students at each level of proficiency on the mathematics scale (2003).....	114	
Table A6.2c.	Percentage of first-generation students at each level of proficiency on the mathematics scale (2003).....	114	
Table A6.3.	Index of instrumental motivation in mathematics and student performance on the mathematics scale (2003).....	115	
Indicator A7	Does the socio-economic status of their parents affect students' participation in higher education?	116	
Indicator A8	How does participation in education affect participation in the labour market?	124	A8
Table A8.1a.	Employment rates and educational attainment, by gender (2005).....	132	
Table A8.2a.	Unemployment rates and educational attainment, by gender (2005)....	134	
Table A8.3a.	Trends in employment rates, by educational attainment (1991-2005)...	136	
Table A8.4a.	Trends in unemployment rates by educational attainment (1991-2005).....	138	
Indicator A9	What are the economic benefits of education?	140	A9
Table A9.1a.	Relative earnings of the population with income from employment (2005 or latest available year).....	156	
Table A9.1b.	Differences in earnings between females and males (2005 or latest available year).....	158	
Table A9.2a.	Trends in relative earnings: adult population (1997-2005).....	159	
Table A9.3.	Trends in differences in earnings between females and males (1997-2005).....	160	
Table A9.4a.	Distribution of the 25-to-64-year-old population by level of earnings and educational attainment (2005 or latest available year).....	162	
Table A9.5.	Private internal rates of return for an individual obtaining an upper secondary or post-secondary non-tertiary education, ISCED 3/4 (2003).....	165	
Table A9.6.	Private internal rates of return for an individual obtaining a university-level degree, ISCED 5/6 (2003).....	165	

		Name of the indicator in the 2006 edition
Table A9.7.	Public internal rates of return for an individual obtaining an upper secondary or post-secondary non-tertiary education, ISCED 3/4 (2003).....	166
Table A9.8.	Public internal rates of return for an individual obtaining a university-level degree, ISCED 5/6 (2003).....	166
CHAPTER B FINANCIAL AND HUMAN RESOURCES INVESTED IN EDUCATION.....167		
Indicator B1	How much is spent per student?.....	170
Table B1.1a.	Annual expenditure on educational institutions per student for all services (2004).....	186
Table B1.1b.	Annual expenditure per student on core services, ancillary services and R&D (2004).....	187
Table B1.2.	Distribution of expenditure (as a percentage) on educational institutions compared to number of students enrolled at each level of education (2004).....	188
Table B1.3a.	Cumulative expenditure on educational institutions per student for all services over the theoretical duration of primary and secondary studies (2004).....	189
Table B1.3b.	Cumulative expenditure on educational institutions per student for all services over the average duration of tertiary studies (2004).....	190
Table B1.4.	Annual expenditure on educational institutions per student for all services relative to GDP per capita (2004).....	191
Table B1.5.	Change in expenditure on educational institutions for all services per student relative to different factors, by level of education (1995, 2004).....	192
Indicator B2	What proportion of national wealth is spent on education?.....	194
Table B2.1.	Expenditure on educational institutions as a percentage of GDP, by levels of education (1995, 2000, 2004).....	205
Table B2.2.	Expenditure on educational institutions as a percentage of GDP, by level of education (2004).....	206
Table B2.3.	Change in expenditure on educational institutions (1995, 2000, 2001, 2002, 2003, 2004).....	207
Table B2.4.	Expenditure on educational institutions as a percentage of GDP, by source of fund and level of education (2004).....	208
Indicator B3	How much public and private investment is there in education?.....	210
Table B3.1.	Relative proportions of public and private expenditure on educational institutions for all levels of education (1995, 2004).....	219
Table B3.2a.	Relative proportions of public and private expenditure on educational institutions, as a percentage, by level of education (1995, 2004).....	220
Table B3.2b.	Relative proportions of public and private expenditure on educational institutions, as a percentage, for tertiary education (1995, 2004).....	221
Table B3.3.	Trends in relative proportions of public expenditure on educational institutions and index of change between 1995 and 2004 (1995=100, constant prices), for tertiary education (1995, 2000, 2001, 2002, 2003, 2004).....	222

Indicator B4	What is the total public spending on education?	224	B4
Table B4.1.	Total public expenditure on education (1995, 2004).....	230	
Table B4.2.	Distribution of total public expenditure on education (2004).....	231	
Indicator B5	How much do tertiary students pay and what public subsidies do they receive?	232	B5
Table B5.1a.	Estimated annual average tuition fees charged by tertiary-type A educational institutions for national students (academic year 2004-2005).....	244	
Table B5.1b.	Distribution of financial aid to students in tertiary-type A education (academic year 2004-2005).....	246	
Table B5.1c.	Financial support to students through public loans in tertiary-type A education (academic year 2004-2005).....	248	
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 (2004).....	250	
Indicator B6	On what resources and services is education funding spent? ...	252	B6
Table B6.1.	Expenditure on institutions by service category as a percentage of GDP (2004).....	260	
Table B6.2.	Expenditure on educational institutions by resource category and level of education (2004).....	261	
Indicator B7	How efficiently are resources used in education?	262	
Table B7.1.	Estimates of technical efficiency for primary and lower secondary public sector education	268	
CHAPTER C	ACCESS TO EDUCATION, PARTICIPATION AND PROGRESSION	269	
Indicator C1	How prevalent are vocational programmes?	270	
Table C1.1.	Upper secondary enrolment patterns (2005).....	277	
Table C1.2.	Annual expenditure on educational institutions per student for all services, by type of programme (2004).....	278	
Table C1.3.	Performance of 15-year-old students on the PISA mathematics scale by programme orientation (2003).....	279	
Indicator C2	Who participates in education?	280	C1, C2
Table C2.1.	Enrolment rates, by age (2005).....	291	
Table C2.2.	Trends in enrolment rates (1995-2005).....	292	
Table C2.3.	Transition characteristics from age 15 to 20, by level of education (2005).....	293	
Table C2.4.	Entry rates to tertiary education and age distribution of new entrants (2005).....	294	
Table C2.5.	Trends in entry rates at the tertiary level (1995-2005).....	295	
Table C2.6.	Students in tertiary education by type of institution or mode of study (2005).....	296	
Indicator C3	Who studies abroad and where?	298	C3
Table C3.1.	Student mobility and foreign students in tertiary education (2000, 2005).....	317	

		Name of the indicator in the 2006 edition
Table C3.2.	Distribution of international and foreign students in tertiary education, by country of origin (2005).....	318
Table C3.3.	Citizens studying abroad in tertiary education, by country of destination (2005).....	320
Table C3.4.	Distribution of international and foreign students in tertiary education, by level and type of tertiary education (2005).....	322
Table C3.5.	Distribution of international and foreign students in tertiary education, by field of education (2005).....	323
Table C3.6.	Trends in the number of foreign students enrolled outside their country of origin (2000 to 2005).....	324
Table C3.7.	Percentage of tertiary qualifications awarded to international and foreign students, by type of tertiary education (2005).....	325
Indicator C4	How successful are students in moving from education to work?	C4
Table C4.1a.	Expected years in education and not in education for 15-to-29-year-olds (2005).....	335
Table C4.2a.	Percentage of the youth population in education and not in education (2005).....	337
Table C4.3.	Percentage of the cohort population not in education and unemployed (2005).....	339
Table C4.4a.	Trends in the percentage of the youth population in education and not in education (1995-2005).....	341
Indicator C5	Do adults participate in training and education at work?	C5
Table C5.1a.	Participation rate and expected number of hours in non-formal job-related education and training, by level of educational attainment (2003).....	353
Table C5.1b.	Expected number of hours in non-formal job-related education and training by age group and labour force status (2003).....	355
Table C5.1c.	Expected number of hours in non-formal job-related education and training, by level of educational attainment (2003).....	357
 CHAPTER D THE LEARNING ENVIRONMENT AND ORGANISATION OF SCHOOLS		
Indicator D1	How much time do students spend in the classroom?	D1
Table D1.1.	Compulsory and intended instruction time in public institutions (2005).....	369
Table D1.2a.	Instruction time per subject as a percentage of total compulsory instruction time for 9-to-11-year-olds (2005).....	370
Table D1.2b.	Instruction time per subject as a percentage of total compulsory instruction time for 12-to-14-year-olds (2005).....	371
Indicator D2	What is the student-teacher ratio and how big are classes?	D2
Table D2.1.	Average class size, by type of institution and level of education (2005).....	381
Table D2.2.	Ratio of students to teaching staff in educational institutions (2005).....	382
Table D2.3.	Ratio of students to teaching staff, by type of institution (2005).....	383

Indicator D3	How much are teachers paid?	384	D3
Table D3.1.	Teachers' salaries (2005).....	396	
Table D3.2.	Change in teachers' salaries (1996 and 2005).....	398	
Table D3.3a.	Adjustments to base salary for teachers in public institutions (2005).....	399	
Table D3.4.	Contractual arrangements of teachers (2005).....	401	
Indicator D4	How much time do teachers spend teaching?	402	D4
Table D4.1.	Organisation of teachers' working time (2005).....	411	
Indicator D5	How do education systems monitor school performance?	412	
Table D5.1.	Evaluation of public schools at lower secondary education (2005).....	418	
Table D5.2.	Use of information from school evaluation and accountability of public schools (lower secondary education, 2005).....	419	
ANNEX 1	Characteristics of Educational Systems	421	
Table X1.1a.	Typical graduation ages in upper secondary education.....	422	
Table X1.1b.	Typical graduation ages in post-secondary non-tertiary education.....	423	
Table X1.1c.	Typical graduation ages in tertiary education.....	424	
Table X1.2a.	School year and financial year used for the calculation of indicators, OECD countries.....	425	
Table X1.2b.	School year and financial year used for the calculation of indicators, partner economies.....	426	
Table X1.3.	Summary of completion requirements for upper secondary (ISCED 3) programmes.....	427	
ANNEX 2	Reference Statistics	429	
Table X2.1.	Overview of the economic context using basic variables (reference period: calendar year 2004, 2004 current prices).....	430	
Table X2.2.	Basic reference statistics (reference period: calendar year 2004, 2004 current prices).....	431	
Table X2.3.	Basic reference statistics (reference period: calendar year 1995, 1995 current prices).....	432	
Table X2.4.	Annual expenditure on educational institutions per student for all services (2004, USD).....	433	
Table X2.5.	Annual expenditure on educational institutions per student for all services (2004, EUR).....	434	
Table X2.6a.	Reference statistics used in the calculation of teachers' salaries, by level of education (1996, 2005).....	435	
Table X2.6b.	Reference statistics used in the calculation of teachers' salaries (1996, 2005).....	437	
Table X2.6c.	Teachers' salaries (2005).....	438	
Table X2.7.	Tax revenue of main headings as percentage of GDP (2004).....	439	
ANNEX 3	Sources, Methods and Technical Notes	441	
References		443	
Contributors to this Publication		445	
Related OECD Publications		449	



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