## INDICATOR A3

## HOW MANY STUDENTS FINISH TERTIARY EDUCATION?

This indicator first shows the current tertiary graduate output of educational systems, i.e. the percentage of the population in the typical age cohort for tertiary education that follows and successfully completes tertiary programmes, as well as the distribution of tertiary graduates across fields of education. The indicator then examines the number of science graduates in relation to employed persons. It also considers whether gender differences concerning motivation in mathematics at the age of 15 may affect tertiary graduation rates. Finally, the indicator shows survival rates at the tertiary level, i.e. the proportion of new entrants into the specified level of education who successfully complete a first qualification.

Tertiary education covers a wide range of programmes, but overall serves as an indicator of the rate at which countries produce advanced knowledge. A traditional university degree is associated with completion of "type A" tertiary courses; "type B" generally refers to shorter and often vocationally oriented courses. The indicator also sheds light on the internal efficiency of tertiary educational systems.

## Key results

Chart A3.1. Tertiary-type A graduation rates (1995, 2000, 2005)
The chart shows the number of students completing tertiary-type A programmes for the first time, in 1995, 2000 and 2005, as a percentage of the relevant group.


On average across the 24 OECD countries with comparable data, $36 \%$ of students have completed tertiary-type A level education. The proportion of the population cohort completing their tertiarytype A qualifications has increased by 12 percentage points over the past decade. Graduation rates have doubled or more during the past ten years in Austria, Finland, Portugal, the Slovak Republic and Switzerland, but have been stable in the United States, which - along with New Zealand had the highest rate in 1995.

[^0]- Tertiary-type A graduation rates figures range from around $20 \%$ or less in Austria, Germany and Turkey and the partner economy Slovenia, to more than $40 \%$ in Australia, Denmark, Finland, Iceland, Italy, the Netherlands, New Zealand, Norway and Poland.
- Tertiary-type A graduation rates tend to be higher in countries where the programmes provided are mainly of shorter duration.
- The graduation rate is $9 \%$ at the tertiary-type B level and $1.3 \%$ for programmes leading to advanced research qualifications.
- The survival rates in tertiary education represent the proportion of those who enter a tertiary-type A or a tertiary-type B programme, who go on to graduate from either a tertiary-type A or a tertiary-type B programme. On average across 19 OECD countries for which data are available, some $30 \%$ of tertiary students fail to successfully complete a programme equivalent to this level of education. Survival rates differ widely among OECD countries. In Greece and New Zealand, less than $60 \%$ of those who have entered tertiary programmes will graduate from either a tertiary-type A or a tertiary-type B programme in contrast to their counterparts in Flemish community of Belgium, France, Ireland and Japan where the survival rates is at or above $76 \%$.

Policy context
Upper secondary graduation is becoming the norm in most countries today and in addition the majority of students are graduating from upper secondary programmes designed to provide access to tertiary education, which is leading to increased enrolment in tertiary programmes (see Indicators A2 and C2). Countries with high graduation rates at the tertiary level are also the ones most likely to be developing or maintaining a highly skilled labour force.

Moreover, specific skills and knowledge in science are of particular interest as they increasingly represent a principal source of innovation and growth in knowledge-based economies. Differences among countries in the output of tertiary graduates by field of education are likely to be influenced by the relative rewards in the labour market for different fields, as well as the degree to which the market drives field selection in a particular country.

Tertiary level drop out 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 relatively broad 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 programmes take longer than the number of years for which students can justify being outside the labour market.

## Evidence and explanations

Tertiary graduation rates show the rate at which each country's education system produces advanced knowledge. But 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.

## Graduation rates at the tertiary level

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

Tertiary-type A programmes are largely theoretically based and are 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 programmes are organised.The institutional framework may be universities or other institutions. The duration of programmes leading to a first tertiary-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 education, and the Licence in France) to five years or more (e.g. the Diplom in Germany).

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 everywhere.

In some systems, degrees that are comparable internationally to a Master's degree 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.

To allow for comparisons that are independent of differences in national degree structures, tertiary-type A degrees are subdivided in accordance with their total theoretical durations of studies. Specifically, the OECD classification divides degrees into those of medium (three to less than five years), long (five to six years) and very long (more than six years) duration. 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 programmes. Those individuals who already hold a first degree are netted out.

## Tertiary-type A graduation rates

On average across the 24 OECD countries with comparable data, $36 \%$ of persons at the typical age of graduation completed tertiary-type A education in 2005. This figure ranged from around $20 \%$ or less in Austria, Germany, Turkey and in the partner economy Slovenia to more than $40 \%$ in Australia, Denmark, Finland, Iceland, Italy, the Netherlands, New Zealand, Norway and Poland (Table A3.1).

On average in OECD countries, the tertiary-type A graduation rate has known a significant increase of 12 percentage points over the ten last year. In virtually every country for which comparable data are available, tertiary-type A graduation rates increased between 1995 and 2005, often quite substantially. One of the most significant increase in type A graduation rates was reported in Italy where the rate doubled to $41 \%$ between 2000 and 2005, though this was largely a result of structural change. Reform in the Italian tertiary system in 2002 allowed university students who had originally enrolled on programmes with a long duration to attain a degree after three years of study (Chart A3.1 and Table A3.2).

Similarly, in Switzerland, the increase in tertiary-type A graduation rates is largely due to reforms in the system which not only shortened the duration of the first degree but also created new universities focusing on applied sciences.

Over the period 1995 to 2005, tertiary graduation rates evolved quite differently in OECD countries and partner economies. Increase was more marked between 1995 and 2000 than from 2000 to 2005, for some countries (such as New Zealand and Norway). The reverse was observed in the Czech Republic, Greece, Japan and Switzerland, where the increase in graduation rate has occurred mainly in the last five years (Table A3.2).

## Tertiary-type A: the shorter the programme, the higher the participation and graduation rates

The duration of tertiary studies tends to be longer in EU countries than in other OECD countries. More than two thirds of all OECD students graduate from programmes with a duration of three to less than five years, whereas the proportion is less than $60 \%$ in EU countries (Table A3.1).

It is evident that, overall, tertiary-type A graduation rates tend to be higher in countries where the programmes provided are mainly of a shorter duration. For example, in Austria, the Czech Republic, Germany and the Slovak Republic, the majority of students complete programmes of at least five years' duration and the tertiary-type A graduation rates are at or below $30 \%$. In contrast, tertiary-type A graduation rates are around $40 \%$ or more in Australia, New Zealand and the United Kingdom, where programmes of three to less than five years are the norm (more than $90 \%$ of graduates following programmes with durations of three to less than five years). Poland provides a notable exception to this trend: despite typically providing long tertiary-type A programmes, its tertiary-type A graduation rate is over $40 \%$.

Chart A3.2. Tertiary-type A graduation rates, by duration of programme (2005)
Percentage of tertiary-type A graduates to the population at the typical age of graduation


1. Net graduation rate is calculated by summing the graduation rates by single year of age in 2005.
2. Year of reference 2004.

Countries are ranked in descending order of tertiary-type A graduation rates.
Source: OECD. Table A3.1. See Annex 3 for notes (www.oecd.org/edu/eag2007).


## Tertiary-type B graduation rates

Tertiary-type B programmes are classified at the same level of competencies as tertiary-type A programmes, but are more occupationally oriented and usually lead to direct labour market access. The programmes are typically of shorter duration than type A programmes - usually two to three years - and generally are not intended to lead to university-level degrees. Graduation rates for tertiary-type B programmes averaged some $9 \%$ of an age cohort amongst the 22 OECD countries with comparable data (Table A3.1). In fact, graduation from tertiary-type B programmes is a sizeable feature of the tertiary system in only a few OECD countries, most notably in Ireland, Japan and New Zealand and in the partner economy Slovenia, where over 20\% of the age cohort obtained tertiary-type B qualifications in 2005.

Chart A3.3. Tertiary-type B graduation rates (1995, 2000, 2005) Percentage of tertiary-type B graduates to the population at the typical age of graduation


1. Net graduation rate is calculated by summing the graduation rates by single year of age in 2005.
2. Year of reference 2004.

Countries are ranked in descending order of the graduation rates for tertiary-type B education in 2005. Source: OECD. Table A3.2. See Annex 3 for notes (www.oecd.org/edu/eag2007).
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Trends in the provision of and graduation from tertiary-type B programmes are variable among countries even though the OECD average has been stable during the past ten years (Chart A3.3). For instance, in Spain, a sharp rise in type B graduation rates between 1995 and 2005 is attributable to the development of new advanced level, specific vocational training programmes. In contrast, type B programmes in Finland are being phased out and the proportion of the age cohort graduating from these programmes has consequently fallen rapidly over the same period.

## Advanced research qualification rates

Across the 27 OECD countries with comparable data, an average of $1.3 \%$ of the population obtained an advanced research qualification (such as a Ph.D.) in 2005. The percentages range from $0.1 \%$ in Mexico and in the partner economy Chile to more than $2 \%$ in Germany, Portugal, Sweden and Switzerland (Table A3.1).

## Graduations by field of education

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

In 23 of the 29 countries providing data, the largest concentration of tertiary-type $A$ and advanced research qualifications awarded is in the combined fields of social sciences, business, law and services (Table A3.3). On average in OECD countries, more than one-third of tertiary-type A graduations is a degree in social sciences, business, law or services. The percentage of tertiarytype A qualifications awarded in social sciences, business, law and services ranges from less than $30 \%$ in Denmark, Finland, Korea, Norway, Sweden and Turkey, to more than $50 \%$ in Hungary and Poland and in the partner economy the Russian Federation. The largest concentration of tertiary-type A and advanced research qualifications awarded is in the field of humanities, art and education in Ireland and Turkey; in the fields of engineering, manufacturing and construction in Korea; and in the fields of health and welfare in Denmark, Norway and Sweden.

An average of $25 \%$ 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 $16 \%$ in Hungary, Poland and in the partner economy Brazil, to more than 30\% in Finland, Germany, Greece and the Slovak Republic, and nearly $40 \%$ in Korea. Similarly popular on average in OECD countries are the fields of humanities, arts and education, from which $25 \%$ of tertiary-type A and advanced research students graduate.

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 humanities, arts and education. 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.

The picture is similar for tertiary-type B education, where programmes are more occupationally oriented: the fields of social sciences, business, law and services have the largest concentration of graduates ( $38 \%$ ), followed by science-related fields $(23 \%)$, and the fields of humanities, arts and education (23\%) (Table A3.3).

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.

## Science graduates among those in employment

Examining the number of science graduates per 10000025 -to-34-year-olds in employment provides another way of gauging the recent output of high-level skills from different education
systems. The number of science graduates (all tertiary levels) per 100000 employed persons ranges from below 700 in Hungary to above 2200 in Australia, Finland, France, Ireland, Korea, New Zealand and the United Kingdom (Table A3.4).

The variation of the number of females science graduates for tertiary-type A education and advanced research programmes per 10000025 -to- 34 -year-olds in employment is largely lower than that of males. The number ranges from below 500 in Austria, Hungary, Japan, the Netherlands and Switzerland to above 1500 in Australia, Finland, France, Korea and New Zealand. The OECD average is 970 female science graduates per 10000025 -to- 34 -year-olds in employment compared to approximately 1560 for males (Table A3.4).

This indicator does not, however, provide information on the number of graduates actually employed in scientific fields or, more generally, the number of those using their degree-related skills and knowledge at work.

## Chart A3.4. Number of tertiary science graduates per 100000 employed 25-to-34-year-olds (2005)



[^1]
## Impact of gender differences in motivation in mathematics on graduation rates

Beyond a general interest in mathematics, how do 15 -year-olds assess the relevance of mathematics to their own lives and what role does such external motivation play with regard to their mathematics performance? The OECD's Programme for International Student Assessment (PISA) provides an index of the instrumental motivation of 15 -year-olds that is based on students' responses to questions describing to what extent they were encouraged to learn by external rewards such as good job prospects. Specifically, students were asked to what extent they agreed with the following statements: "Making an effort in mathematics is worth it because it will help me in the work that I want to do later", "Learning mathematics is worthwhile for me because it will improve my career prospects", "Mathematics is an important subject for me because I need it for what I want to study later on", and "I will learn many things in mathematics that will help me get a job". The lower the index is, the lower the instrumental motivation of students can be considered to be. The index varies greatly among OECD countries and ranges from less than minus 0.25 in Austria, Belgium, Japan, Korea, Luxembourg and the Netherlands to more than 0.30 in Denmark, Iceland and Mexico and in the partner economy Brazil (Table A3.5). Although the results of PISA 2003 show that the relationship between performance and instrumental motivation is much weaker than with intrinsic motivation (i.e. interest in and enjoyment of mathematics), instrumental or extrinsic motivation has been found to be an important predictor for course selection, career choice and performance (Eccles, 1994).

## Chart A3.5. Gender difference in instrumental motivation and tertiary-type graduates in mathematics

Percentage of tertiary-type A qualifications awarded
to females in mathematics and computing ${ }^{1}$ (2005)


[^2]Difference by gender in terms of instrumental motivation can have an influence on the choice to pursue study in the fields of mathematics and computing. Table A3.5 shows that in all the 28 OECD countries for which data are available, the proportion of females graduating from tertiary-type A programmes in mathematics and computing is lower than for all the fields of education. In Belgium, Denmark, Iceland, the Netherlands, Norway and the Slovak Republic, and in the partner economies Brazil and Slovenia, the difference between the proportion of females graduating in mathematics and computing and the proportion of females graduating in all fields is of 35 percentage points or more.

Chart A3.5 shows that in the OECD countries where the difference in instrumental motivation between males and females is largest - namely Austria, Germany, Luxembourg, the Netherlands and Switzerland - the share of women graduating from tertiary-type A programmes in mathematics or computing is also below the OECD average and in some of these countries it is significantly below this benchmark. The gender difference in instrumental motivation in mathematics accounts for $35 \%$ of the cross-country variation in the percentage of tertiary mathematics and computing qualifications awarded to women. There is no direct connection between the 15 -year-olds assessed by PISA and the older age cohorts leaving university studies. Nevertheless, to the extent that the motivational patterns revealed by PISA were similar also in the past, this suggests that gender differences in instrumental motivation among students in school may, combined with other influences, be predictive of the future study and career choice of males and females.

## Survival rates at the tertiary level

The overall tertiary survival rates count as "survival" students those who enter a tertiary-type A programme and who graduate with either a tertiary-type A or a type B qualification or those who enter a tertiary-type B programme and who graduate with either a tertiary-type A or a type B qualification. On average across 19 OECD countries for which data are available, some $30 \%$ of tertiary students fail to successfully complete a programme equivalent to this level of education. Survival rates differ widely among OECD countries. In Greece and New Zealand, less than $60 \%$ of those who enter tertiary programme are graduated from either a tertiary-type A or a tertiary-type B programme in contrast to their counterparts in Flemish community of Belgium, France, Ireland and Japan where the survival rates is above $76 \%$ (Chart A3.6).

On average across 23 OECD countries for which data are available, some $29 \%$ of tertiarytype A students fail to successfully complete the programmes they undertake. Survival rates differ widely among OECD countries. In New Zealand and the United States only just over 50\% of those who enter tertiary-type A programme go on to successfully complete their programmes in contrast to their counterparts in Ireland and Korea where the survival rates are $83 \%$ and in Japan where the rate is $91 \%$ (Table A3.6).

Interestingly, entry rates to tertiary-type A programmes for these countries are below the OECD average, whereas in New Zealand, Sweden and the United States - where survival rates are among the lowest in comparison - entry rates are relatively high. Mexico, on the other hand, has one of the lowest entry rates to type-A programmes among OECD countries and a failure rate at the level of the OECD average for these programmes (Tables A3.6 and C2.4).

Chart A3.6. Survival rates in tertiary education ${ }^{1}$ (2004)
Number of graduates divided by the number of new entrants in the typical year of entrance to the specified programme


1. The survival rates in tertiary education represent the proportion of those who enter a tertiary-type A or a tertiarytype B programme, who go on to graduate from either a tertiary-type A or a tertiary-type B programme.
2.Survival rates based on panel data.

Countries are ranked in descending order of tertiary-survival rates.
Source: OECD. Table A3.6. See Annex 3 for notes (www.oecd.org/edu/eag2007).
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Tertiary-type B survival rates are, at $67 \%$, somewhat lower than those for tertiary-type A programmes, and again there is wide country variation. Type B survival rates range from above $80 \%$ in the Flemish Community of Belgium and Japan to below $40 \%$ in Greece. In general, tertiary-type B programmes are of a shorter duration than tertiary-type A programmes. However, interestingly, in the Flemish Community of Belgium, the majority of students graduate from medium length type B programmes (the only tertiary-type B programme option) and the country has the second highest survival rates at the tertiary-type B level, just after Japan, for which the breakdown by the duration of studies is not available (Table A3.6).

Among the 12 OECD countries with comparable data, survival rates from advanced research programmes range from $34 \%$ in Greece to around $90 \%$ in Italy, Japan and Mexico.

## Definitions and methodologies

The data for the academic year 2004-2005 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/eag2007 for a list of programmes included for each country at the tertiary-type A and tertiary-type B levels). Tertiary-type A degrees are also subdivided by their corresponding total theoretical duration of studies, to allow for comparisons that are independent of differences in national degree structures.

In Table A3.1, graduation rates for first tertiary programmes (tertiary-type A, tertiary-type B and advanced research programmes) are calculated as net graduation rates as the sum of agespecific graduation rates. Gross graduation rates are presented for those countries that cannot provide such detailed data. In order to calculate gross graduation rates, countries identify the age at which graduation typically occurs (see Annex 1). The number of graduates, regardless of their age, is 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.

In Table A3.2, data on trends in graduation rate at tertiary level for the years 1995, 2000, 2001, 2002, 2003 and 2004 are based on a special survey carried out in the OECD countries and four of the six partner economies in January 2007.

InTable A3.3, tertiary graduates who receive their qualification in the reference year are classified by fields of education based on their subject of specialisation. These figures cover graduates from all tertiary degrees reported in Table A3.1. The 25 fields of education used in the UOE data collection instruments follow the revised ISCED classification by field of education. The same classification by field of education is used for all levels of education.

The labour force data used in Table A3.4 are taken from the OECD Labour Force database, compiled from National Labour Force Surveys and the European Labour Force Survey.

The OECD Programme for International Student Assessment (PISA) index of instrumental motivation in mathematics used in the Table A3.5 was derived from 15 year-old students' responses to a series of related questions and has been undertaken by the OECD. The most recent available results come from PISA 2003. A four-point scale with the response categories "strongly agree", "agree", "disagree" and "strongly disagree" was used. All items were inverted for scaling and positive values on this index indicate higher levels of instrumental motivation to learn mathematics. This index was constructed using an item response model (OECD, 2004a).

The survival rate in Table A3.6 is calculated as the ratio of the number of students who graduated from an initial degree during the reference year to the number of new entrants into this degree $n$ years before, with $n$ being the number of years of full-time study required to complete the degree. The calculation of the survival rate is not defined from a cohort analysis except in France, Iceland and Switzerland that provided data based on a cohort survey (see Annex 3 at www.oecd.org/edu/eag2007). This estimation for the other countries assumes constant student flows at the tertiary level, implied by the need for consistency between the graduate cohort in the reference year with the entrant cohort $n$ years before. This assumption may be an oversimplification of the reality in countries (see Annex 3 at www.oecd.org/edu/eag2007).

Dropouts are defined as those students who leave the specified level without graduating from a first qualification at that level. The first qualification refers to any degree, regardless of the duration of study, obtained at the end of a programme which does not have a previous degree at the same level as a pre-requisite.

## Further references

The following additional material relevant to this indicator is available on line at:
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- Table A3.7.Trends in net graduation rates at advanced research qualification rates (1995-2005)
- Table A3.8. Percentage of tertiary qualifications awarded to females, by type of tertiary education and field of education (2005)

Table A3. 1
Graduation rates in tertiary education (2005)
Sum of graduation rates for single year of age by programme destination and duration.


[^3]Table A3.2.
Trends in tertiary graduation rates (1995-2005)
Percentage of tertiary graduates (first-time graduation, tertiary-type 5A and 5B) to the population at the typical age of graduation
(1995, 2000, 2001, 2002, 2003, 2004, 2005)


1. Net graduation rates is calculated in 2005 for Australia, Austria, Denmark, Finland, Germany, Iceland, the Netherlands, New Zealand, Norway,

Portugal, the Slovak Republic, Sweden, Switzerland, Israel and Slovenia.
2. Net graduation rates is calculated in 2005 for Denmark, Finland, Iceland, New Zealand, Norway, Portugal, the Slovak Republic, Sweden and Slovenia.
3. The graduation rate for tertiary-type B programmes includes some graduates who have previously graduated at this level and it therefore represents an overestimate of first-time graduation.
Source: OECD. See Annex 3 for notes (www.oecd.org/edu/eag2007).
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Table A3.3.


Note: Column 1 specifies the level of education, where A equals tertiary-type A and advanced research programmes, and B equals tertiary-type B programmes.

1. Excludes the German-speaking Community of Belgium.
2. Year of reference 2004.

Source: OECD. See Annex 3 for notes (www.oecd.org/edu/eag2007).
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Table A3.4.
Science graduates, by gender (2005)
Per 100000 employed 25-to-34-year-olds

|  | Tertiary-type B |  |  | Tertiary-type $A$ and advanced research programmes |  |  | All tertiary education |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\mathrm{M}+\mathrm{F}$ | Males | Females | $\mathrm{M}+\mathrm{F}$ | Males | Females | $M+F$ | Males | Females |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Australia | 408 | 562 | 214 | 2141 | 2580 | 1589 | 2549 | 3142 | 1803 |
| Austria | 350 | 565 | 98 | 788 | 1051 | 479 | 1139 | 1617 | 577 |
| Belgium ${ }^{1}$ | 479 | 732 | 179 | 816 | 1006 | 591 | 1295 | 1738 | 772 |
| Canada ${ }^{2}$ | m | m | m | 1163 | 1406 | 888 | m | m | m |
| Czech Republic | 77 | 95 | 50 | 928 | 1111 | 647 | 1005 | 1206 | 697 |
| Denmark | 295 | 337 | 246 | 1307 | 1634 | 928 | 1602 | 1970 | 1174 |
| Finland ${ }^{2}$ | n | n | n | 2290 | 2936 | 1506 | 2340 | 2997 | 1540 |
| France | 874 | 1334 | 313 | 2043 | 2465 | 1527 | 2917 | 3799 | 1840 |
| Germany | 257 | 432 | 38 | 1045 | 1341 | 676 | 1302 | 1773 | 713 |
| Greece | 355 | 381 | 318 | 991 | 952 | 1047 | 1346 | 1333 | 1365 |
| Hungary | 75 | 94 | 48 | 620 | 734 | 456 | 695 | 828 | 505 |
| Iceland | 42 | 67 | 13 | 1240 | 1442 | 1009 | 1282 | 1509 | 1022 |
| Ireland | 1233 | 1758 | 596 | 1789 | 2078 | 1440 | 3022 | 3836 | 2036 |
| Italy | n | n | n | 1401 | 1509 | 1249 | 1401 | 1509 | 1249 |
| Japan | 453 | 640 | 183 | 1143 | 1662 | 390 | 1596 | 2302 | 573 |
| Korea | 1942 | 2317 | 1365 | 2072 | 2384 | 1592 | 4014 | 4701 | 2957 |
| Luxembourg | m | m | m | m | m | m | m | m | m |
| Mexico | 116 | 134 | 85 | 868 | 927 | 774 | 984 | 1061 | 859 |
| Netherlands | n | n | n | 948 | 1424 | 410 | 948 | 1424 | 410 |
| New Zealand | 521 | 717 | 287 | 1777 | 2005 | 1504 | 2298 | 2722 | 1791 |
| Norway | 24 | 36 | 10 | 985 | 1380 | 546 | 1009 | 1416 | 556 |
| Poland | a | a | a | 1746 | 1981 | 1445 | 1746 | 1981 | 1445 |
| Portugal | 301 | 404 | 184 | 996 | 1080 | 901 | 1381 | 1568 | 1171 |
| Slovak Republic | 4 | 7 | n | 1515 | 1670 | 1297 | 1520 | 1677 | 1297 |
| Spain | 501 | 712 | 220 | 874 | 982 | 730 | 1375 | 1694 | 950 |
| Sweden | 161 | 237 | 76 | 1495 | 1824 | 1120 | 1656 | 2061 | 1195 |
| Switzerland | 736 | 1242 | 143 | 994 | 1426 | 488 | 1730 | 2668 | 631 |
| Turkey | 506 | 508 | 501 | 556 | 484 | 790 | 1062 | 992 | 1291 |
| United Kingdom | 348 | 474 | 205 | 1935 | 2493 | 1298 | 2283 | 2967 | 1503 |
| United States | 301 | 437 | 132 | 1100 | 1306 | 844 | 1401 | 1742 | 976 |
| OECD average | 384 | 527 | 204 | 1295 | 1561 | 971 | 1675 | 2080 | 1175 |
| EU19 average | 295 | 420 | 143 | 1307 | 1571 | 986 | 1610 | 1999 | 1136 |
| Brazil | m | m | m | m | m | m | m | m | m |
| Chile | m | m | m | m | m | m | m | m | m |
| Estonia | m | m | m | m | m | m | m | m | m |
| Israel | m | m | m | m | m | m | m | m | m |
| Russian Federation | m | m | m | m | m | m | m | m | m |
| Slovenia | m | m | m | m | m | m | m | m | m |

Note: Science fields include life sciences; physical sciences, mathematics and statistics; computing; engineering and engineering trades, manufacturing and processing, architecture and building.

1. Excludes the German-speaking Community of Belgium.
2. Year of reference 2004.

Source: OECD. See Annex 3 for notes (www.oecd.org/edu/eag2007).
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Table A3.5.
Relationship between motivation in mathematics at 15 years old (PISA 2003)
and tertiary-type A graduation rates, by gender Results based on students' self-reports

|  | Index of instrumental motivation in mathematics at 15 years old (2003) |  |  |  | Percentage of tertiarytype 5A/6 qualifications awarded to females in mathematics and computing | Percentage of tertiarytype 5A/6 qualifications awarded to females in sciences ${ }^{3}$ | Percentage of tertiarytype 5A/6 qualifications awarded to females in all fields of education |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | All students | Males | Females | Gender difference $(\mathbf{M}-\mathbf{F})$ |  |  |  |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| Australia | 0.23 | 0.34 | 0.11 | 0.23 | 26 | 34 | 56 |
| Austria | -0.49 | -0.20 | -0.78 | 0.58 | 20 | 30 | 52 |
| Belgium ${ }^{1}$ | -0.32 | -0.17 | -0.49 | 0.32 | 19 | 35 | 54 |
| Canada | 0.23 | 0.30 | 0.17 | 0.13 | 29 | 37 | 59 |
| Czech Republic | 0.01 | 0.12 | -0.10 | 0.22 | 22 | 31 | 54 |
| Denmark | 0.37 | 0.57 | 0.19 | 0.38 | 26 | 34 | 61 |
| Finland ${ }^{2}$ | 0.06 | 0.22 | -0.10 | 0.32 | 42 | 31 | 62 |
| France | -0.08 | 0.11 | -0.25 | 0.36 | 26 | 34 | 55 |
| Germany | -0.04 | 0.18 | -0.26 | 0.44 | 26 | 30 | 49 |
| Greece | -0.05 | 0.09 | -0.18 | 0.27 | 39 | 43 | 62 |
| Hungary | -0.11 | -0.02 | -0.22 | 0.19 | 31 | 35 | 64 |
| Iceland | 0.31 | 0.34 | 0.28 | 0.06 | 24 | 38 | 68 |
| Ireland | 0.10 | 0.25 | -0.06 | 0.31 | 31 | 37 | 59 |
| Italy | -0.15 | -0.04 | -0.26 | 0.21 | 42 | 38 | 59 |
| Japan | -0.66 | -0.49 | -0.81 | 0.32 | $\mathrm{x}(6)$ | 17 | 41 |
| Korea | -0.44 | -0.36 | -0.55 | 0.20 | 40 | 31 | 48 |
| Luxembourg | -0.41 | -0.16 | -0.64 | 0.48 | 12 | m | m |
| Mexico | 0.58 | 0.59 | 0.57 | 0.02 | 39 | 34 | 55 |
| Netherlands | -0.26 | -0.04 | -0.48 | 0.44 | 12 | 24 | 56 |
| New Zealand | 0.29 | 0.37 | 0.21 | 0.16 | 28 | 39 | 61 |
| Norway | 0.15 | 0.27 | 0.03 | 0.24 | 22 | 28 | 62 |
| Poland | 0.04 | 0.06 | 0.02 | 0.04 | 32 | 39 | 66 |
| Portugal | 0.27 | 0.30 | 0.25 | 0.05 | 37 | 44 | 67 |
| Slovak Republic | -0.05 | 0.05 | -0.15 | 0.20 | 20 | 36 | 56 |
| Spain | -0.05 | 0.00 | -0.09 | 0.09 | 28 | 37 | 60 |
| Sweden | 0.02 | 0.17 | -0.13 | 0.30 | 36 | 36 | 64 |
| Switzerland | -0.04 | 0.30 | -0.40 | 0.70 | 13 | 24 | 43 |
| Turkey | 0.23 | 0.20 | 0.26 | -0.06 | 38 | 34 | 46 |
| United Kingdom | m | m | m | m | 26 | 32 | 56 |
| United States | 0.17 | 0.22 | 0.12 | 0.10 | 28 | 35 | 57 |
| OECD average | 0.00 | 0.12 | -0.12 | 0.25 | 28.0 | 33.7 | 57.0 |
| Brazil | 0.48 | 0.52 | 0.44 | 0.07 | 28 | 39 | 63 |
| Chile | m | m | m | m | 26 | 36 | 56 |
| Estonia | m | m | m | m | 36 | 48 | 68 |
| Israel | m | m | m | m | 32 | 36 | 60 |
| Russian Federation | -0.01 | 0.04 | -0.05 | 0.08 | m | m | m |
| Slovenia | m | m | m | m | 23 | 37 | 63 |

[^4]Table A3.6.
Survival rates in tertiary education (2004)
Calculated separately for tertiary-type A and tertiary-type B programmes: Number of graduates from these programmes divided by the number of new entrants to these programmes in the typical year of entrance, by programme destination and duration of programme

1.The survival rates in tertiary education represent the proportion of those who enter a tertiary-type A or a tertiary-type B programme, who go on to graduate from either a tertiary-type A or a tertiary-type B programme.
2. Survival rates in tertiary-type A education represent the proportion of those who enter a tertiary-type A programme, who go on to graduate from a tertiary-type A programme.
3. Survival rates in tertiary-type $B$ education represent the proportion of those who enter a tertiary-type B programme, who go on to graduate from a tertiary-type B programme.
4. Survival rates based on panel data.

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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## 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).
$\sim$ 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 | SWP Spain |
| GRC Greece | CHE Switzerland |
| HUN Hungary | TUR Turkey |
| ISL Iceland | UKM United Kingdom |
| IRL Ireland | USA United States |
| ISR Israel |  |

## References

Bowles, S. and H. Gintis (2000), "Does Schooling Raise Earnings by Making People Smarter?", K. Arrow, S. Bowles and S. Durlauf (eds.), Meritocracy and Economic Inequality, Princeton University Press, Princeton.

Eccles, J.S. (1994), "Understanding women's educational and occupational choices: Applying the Eccles et al. model of achievement-related choices", Psychology of Women Quarterly, Vol. 18, Blackwell Publishing, Oxford.

Kelo, M., U. Teichler and B. Wächter (eds.) (2005), "EURODATA: Student Mobility in European Higher Education", Verlags and Mediengesellschaft, Bonn, 2005.

OECD (2002), Education at a Glance: OECD Indicators - 2002 Edition, OECD, Paris.
OECD (2004a), Learning for Tomorrow'sWorld - First Results from PISA 2003, OECD, Paris.
OECD (2004b), Problem Solving for Tomorrow'sWorld - First Measures of Cross-Curricular Competencies from PISA 2003, OECD, Paris.

OECD (2004c), Internationalisation and Trade in Higher Education: Opportunities and Challenges, OECD, Paris.
OECD (2004d), Education at a Glance: OECD Indicators - 2004 Edition, OECD, Paris.
OECD (2005a), Trends in International Migration - 2004 Edition, OECD, Paris.
OECD (2005b), PISA 2003 Technical Report, OECD, Paris.
OECD (2005c), Education at a Glance: OECD Indicators - 2005 Edition, OECD, Paris.
OECD (2006a), Education at a Glance: OECD Indicators - 2006 Edition, OECD, Paris.
OECD (2006b), Where Immigrant Students Succeed: A Comparative Review of Performance and Engagement in PISA 2003, OECD, Paris.

OECD (2006c), OECD Revenue Statistics 1965-2005, OECD, Paris.
Tremblay, K. (2005) "Academic Mobility and Immigration", Journal of Studies in International Education, Vol. 9, No. 3, Association for Studies in International Education, Thousands Oaks, pp. 1-34.

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From:
Education at a Glance 2007
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## Please cite this chapter as:

OECD (2007), "Indicator A3 How many students finish tertiary education?", in Education at a Glance 2007: OECD Indicators, OECD Publishing, Paris.

DOI: https://doi.org/10.1787/eag-2007-5-en

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[^0]:    1. Net graduation rate is calculated by summing the graduation rates by single year of age in 2005 .
    2. Year of reference 2004.

    Countries are ranked in descending order of the graduation rates for tertiary-type A education in 2005.
    Source: OECD. Table A3.2. See Annex 3 for notes (www.oecd.org/edu/eag2007).
    StatLink जทाlsta http://dx.doi.org/10.1787/068037263103

[^1]:    1. Year of reference 2004.

    Note: Science fields include life sciences; physical sciences; mathematics and statistics; computing; engineering and engineering trades; manufacturing and processing; architecture and building.
    Countries are ranked in descending order of the share of the number of male science graduates in the total number of male and female science graduates in tertiary programmes.
    Source: OECD. Table A3.4. See Annex 3 for notes (www.oecd.org/edu/eag2007).
    StatLink (त्ञाड

[^2]:    1. Percentage of females graduated in mathematics and computing for tertiary-type A and advance research programmes.
    2. The greater the gender difference, the less females are motivated compared to males.

    Source: PISA database 2003 and OECD. Table A3.5. See Annex 3 for notes (www.oecd.org/edu/eag2007).
    

[^3]:    Notes: 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. Gross calculation rate is calculated for Chile, Estonia, Ireland, Italy, Japan, Korea, Mexico, the Netherlands, Poland, the Russian Federation, the United Kingdom and the United States.
    3. Gross graduation rate is calculated for tertiary-type 5B.
    4. Gross graduation rate is calculated for tertiary-type 5A and 5B.
    5. Year of reference 2004.
    6. The graduation rate for tertiary-type B programmes includes some graduates who have previously graduated at this level and it therefore represents an over-estimate of first-time graduation.
    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.
    StatLink (तilाs http://dx.doi.org/10.1787/068037263103
[^4]:    1. Excludes the German-speaking Community of Belgium for columns (5), (6) and (7).
    2. Year of reference 2004.
    3. Sciences include life sciences, physical sciences, mathematics, statistics, computing, engineering, manufacturing, construction and agriculture.

    Source: PISA database 2003 and 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.
    

