Chapter

B

Financial and Human Resources Invested In Education

Classification of educational expenditure

Educational expenditure in this chapter are classified through three dimensions:

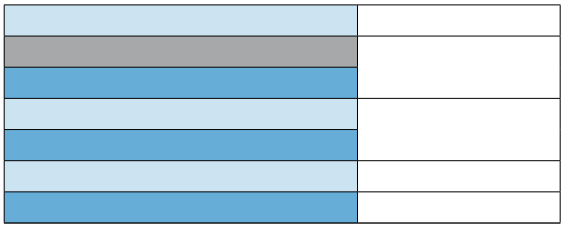
- The first dimension – represented by the horizontal axis in the diagram below – relates to the location where spending occurs. Spending on schools and universities, education ministries and other agencies directly involved in providing and supporting education is one component of this dimension. Spending on education outside these institutions is another.
- The second dimension – represented by the vertical axis in the diagram below – classifies the goods and services that are purchased. Not all expenditure on educational institutions can be classified as direct educational or instructional expenditure. Educational institutions in many OECD countries offer various ancillary services – such as meals, transports, housing, etc. – in addition to teaching services to support students and their families. At the tertiary level spending on research and development can be significant. Not all spending on educational goods and services occurs within educational institutions. For example, families may purchase textbooks and materials themselves or seek private tutoring for their children.
- The third dimension – represented by the colours in the diagram below – distinguishes among the sources from which funding originates. These include the public sector and international agencies (indicated by the light blue colour), and households and other private entities (indicated by the medium-blue colour). Where private expenditure on education is subsidised by public funds, this is indicated by cells in the dark blue colour.

Public sources of funds | Private sources of funds | Private funds publicly subsidised

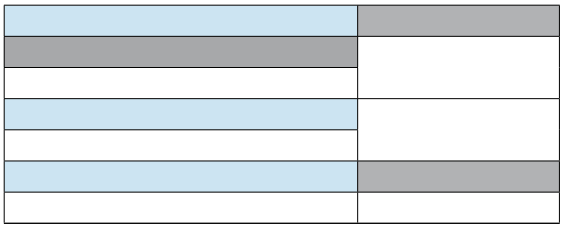
	Spending on educational institutions (*e.g.* schools, universities, educational administration and student welfare services)	**Spending on education outside educational institutions** (*e.g.* private purchases of educational goods and services, including private tutoring)
Spending on educational core services	*e.g.* public spending on instructional services in educational institutions	*e.g.* subsidised private spending on books
	e.g. subsidised private spending on instructional services in educational institutions	*e.g.* private spending on books and other school materials or private tutoring
	e.g. private spending on tuition fees	
Spending on research and development	*e.g.* public spending on university research	
	e.g. funds from private industry for research and development in educational institutions	
Spending on educational services other than instruction	*e.g.* public spending on ancillary services such as meals, transport to schools, or housing on the campus	*e.g.* subsidised private spending on student living costs or reduced prices for transport
	e.g. private spending on fees for ancillary services	*e.g.* private spending on student living costs or transport

Coverage diagrams

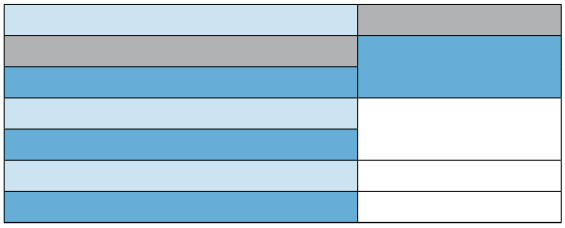
For Indicators B1, B2 and B3



For Indicators B4 and B5



For Indicator B6



INDICATOR B1

HOW MUCH IS SPENT PER STUDENT?

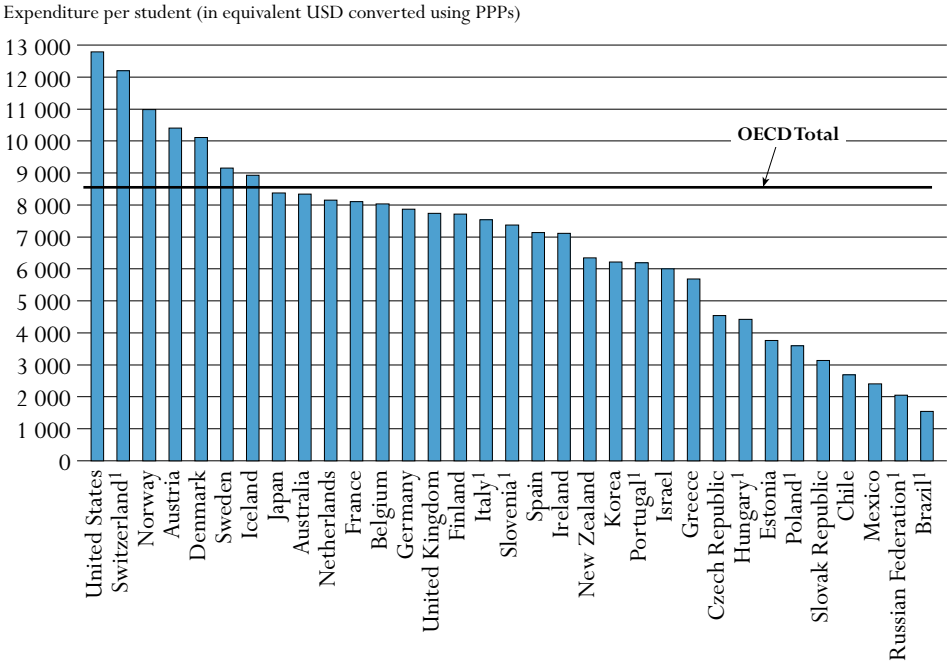
This indicator provides an assessment of the investment in each student. Expenditure on educational institutions per student is largely influenced by teachers' salaries (see Indicators B6 and D3), pension systems, instructional and teaching hours (see Indicators B7, D1 and D4), teaching materials and facilities, the programme orientation provided to pupils/students (see Indicator C1) and the number of students enrolled in the education system (see Indicator C2). Policies to attract new teachers or to reduce average class size or staffing patterns (see Indicator D2) have also contributed to changes in expenditure on educational institutions per student over time.

Key results

Chart B1.1. Annual expenditure on educational institutions per student in primary through tertiary education (2005)

Expenditure on educational institutions per student gives a measure of the unit costs of formal education. The chart shows annual expenditure on educational institutions per student in equivalent USD converted using purchasing power parities, based on full-time equivalents.

OECD countries as a whole spend USD 8 553 per student annually between primary and tertiary education: USD 6 173 per primary student, USD 7 736 per secondary student and USD 15 559 per tertiary student. However, these averages mask a broad range of expenditure across countries. As represented by the simple average of all OECD countries, countries spend nearly twice as much per student at the tertiary level as at the primary level.



1. Public institutions only.

Countries are ranked in descending order of expenditure on educational institutions per student.

Source: OECD. Table B1.1a. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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Other highlights of this indicator

- Excluding R&D activities and ancillary services, expenditure on educational core services in tertiary institutions represents on average USD 7 976 per student and ranges from USD 5 000 or less in Greece, Hungary, Poland, the Slovak Republic and the partner country Estonia to more than USD 10 000 in Canada, Switzerland and the United States.
- OECD countries spend on average USD 87 720 per student over the theoretical duration of primary and secondary studies. The cumulative expenditure for each primary and secondary student ranges from less than USD 40 000 in Mexico and the Slovak Republic and the partner countries Brazil, Chile and the Russian Federation, to USD 100 000 or more in Austria, Denmark, Iceland, Luxembourg, Norway, Switzerland and the United States.
- There is a clear positive relationship between spending on educational institutions per student and GDP per capita at the primary and secondary levels; it is less clear at the tertiary level. However, countries with low levels of expenditure on educational institutions per student may nevertheless have distributions of investment relative to GDP per capita similar to those of countries with high levels of spending per student. For example, at the primary, secondary and post-secondary non-tertiary level of education Korea and Portugal – with expenditure on educational institutions per student and GDP per capita below the OECD average – spend a higher proportion per student relative to GDP per capita than the OECD average.
- Expenditure on educational institutions per tertiary student increased between 2000 and 2005 in around two-thirds of the 30 countries for which data are available, but only Australia, Austria, Denmark, Greece, Iceland, Mexico, Poland, Portugal, Spain, Switzerland and the United Kingdom had a larger increase in expenditure on educational institutions per tertiary student than in GDP per capita.
- Expenditure on educational institutions tends to rise over time in real terms, as teachers' salaries (the main component of costs) rise in line with general earnings. However, rising unit costs that are not paralleled by increasing outcomes raise the spectre of falling productivity levels in education.
- Expenditure on educational institutions per primary, secondary and post-secondary non-tertiary student increased in every country and on average by 35% between 1995 and 2005 during a period of relatively stable student numbers. The pattern is different at the tertiary level where spending per student has fallen in some cases, as expenditure has not kept up with the expansion in student numbers. However, from 2000 to 2005, expenditure on educational institutions per student increased by 11 percentage points on average in OECD countries after remaining stable from 1995 to 2000. This shows governments' efforts to deal with the expansion of tertiary education through massive investment.
- Seven out of the 11 countries in which student enrolments in tertiary education increased by more than 20 percentage points between 2000 and 2005 have increased their expenditure on tertiary educational institutions by at least the same proportion over the period, whereas Hungary, Sweden and the partner countries Brazil and Chile did not.

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Policy context

Effective schools require the right combination of trained and talented personnel, adequate facilities and motivated students who are ready to learn. The demand for quality education, which can translate into higher costs per student, must be balanced against an undue burden on taxpayers.

As a result, the question of whether the resources devoted to education yield adequate returns to the investments made figures prominently in the public debate. Although it is difficult to assess the optimal volume of resources needed to prepare each student for life and work in modern societies, international comparisons of spending on educational institutions per student can provide a starting point for evaluating the effectiveness of different models of educational provision.

Policy makers must also balance the importance of improving the quality of educational services with the desirability of expanding access to educational opportunities, notably at the tertiary level. A comparative review of trends in expenditure on educational institutions per student shows that in many OECD countries the expansion of enrolments, particularly in tertiary education, has not always been accompanied by increased investment.

In addition, decisions on the allocation of funds among the various levels of education are important. For example, some OECD countries emphasise broad access to higher education and some invest in near-universal education for children as young as 3 or 4 years old.

Evidence and explanations

What this indicator covers and what it does not cover

The indicator shows direct public and private expenditure on educational institutions in relation to the number of full-time equivalent students enrolled.

Public subsidies for students' living expenses have been excluded to ensure international comparability of the data. Expenditure data for students in private educational institutions are not available for certain countries, and some other countries do not provide complete data on independent private institutions. Where this is the case, only the expenditure on public and government-dependent private institutions has been taken into account. Note that variations in expenditure on educational institutions per student may reflect not only variations in the material resources provided to students (*e.g.* variations in the ratio of students to teaching staff) but also variations in relative salary and price levels.

At the primary and secondary levels, educational expenditure is dominated by spending on instructional services; at the tertiary level, other services – particularly those related to R&D activities or ancillary services – can account for a significant proportion.

Expenditure on educational institutions per student in equivalent USD

Annual expenditure per student from primary through tertiary education provides a way to assess the investment made in each student. OECD countries as a whole spend on average USD 8 553 per student annually for students enrolled in primary through tertiary education. In 13 out of

33 OECD and partner countries, spending on educational institutions ranges between USD 7 000 and USD 9 000 per student. It ranges from USD 4 000 per student or less in Mexico, Poland and the Slovak Republic, and the partner countries Brazil, Chile, Estonia and the Russian Federation, to more than USD 10 000 per student in Austria, Denmark, Norway, Switzerland and the United States (Table B1.1a). The drivers of expenditure per student vary among countries (for more details see Indicator B7): among the five countries with the highest expenditure on educational institutions per student enrolled in primary through tertiary education, Switzerland is one of the countries with the highest teachers' salaries at the secondary level (see Indicator D3), the United States is one of the countries with the highest level of private expenditure at tertiary level and Austria, Denmark and Norway are among the countries with the lowest student to teaching staff ratios (see Indicator D2).

Even if overall spending per student is similar in some OECD countries, the ways in which resources are allocated among the different levels of education vary widely. OECD countries as a whole spend USD 6 173 per student at the primary level, USD 7 736 at the secondary level and USD 15 559 at the tertiary level. At the tertiary level, the totals are affected by high expenditure in a few large OECD countries, most notably Canada and the United States. Spending on educational institutions per student in a typical OECD country (as represented by the simple mean across all OECD countries) amounts to USD 6 252 at the primary level, USD 7 804 at the secondary level and USD 11 512 at the tertiary level (Table B1.1a and Chart B1.2).

These averages mask a broad range of expenditure on educational institutions per student by OECD and partner countries. At the primary level, expenditure on educational institutions varies by a factor of 10, ranging from USD 1 425 per student in the partner country Brazil to USD 14 079 in Luxembourg. Differences among countries are even greater at the secondary level, where spending on educational institutions per student varies by a factor of 16, from USD 1 186 in the partner country Brazil to USD 18 845 in Luxembourg. Expenditure on educational institutions per tertiary student ranges from USD 3 421 in the partner country the Russian Federation to more than USD 20 000 in Canada, Switzerland and the United States (Table B1.1a and Chart B1.2).

These comparisons are based on purchasing power parities for GDP, not on market exchange rates. They therefore reflect the amount of a national currency required to produce the same basket of goods and services in a given country as that produced by the USD in the United States.

Expenditure on educational core services per student

On average, OECD countries for which data are available spend USD 5 994 on core educational services at primary, secondary and post-secondary non-tertiary levels. This corresponds to 94% of the total expenditure on educational institutions per student at these levels. In 15 out of the 25 OECD and partner countries for which data are available, ancillary services provided by primary, secondary and post-secondary non-tertiary institutions account for less than 5% of the total expenditure per student. The proportion exceeds 10% of the total expenditure in Finland, France, the Slovak Republic, Sweden and the United Kingdom.

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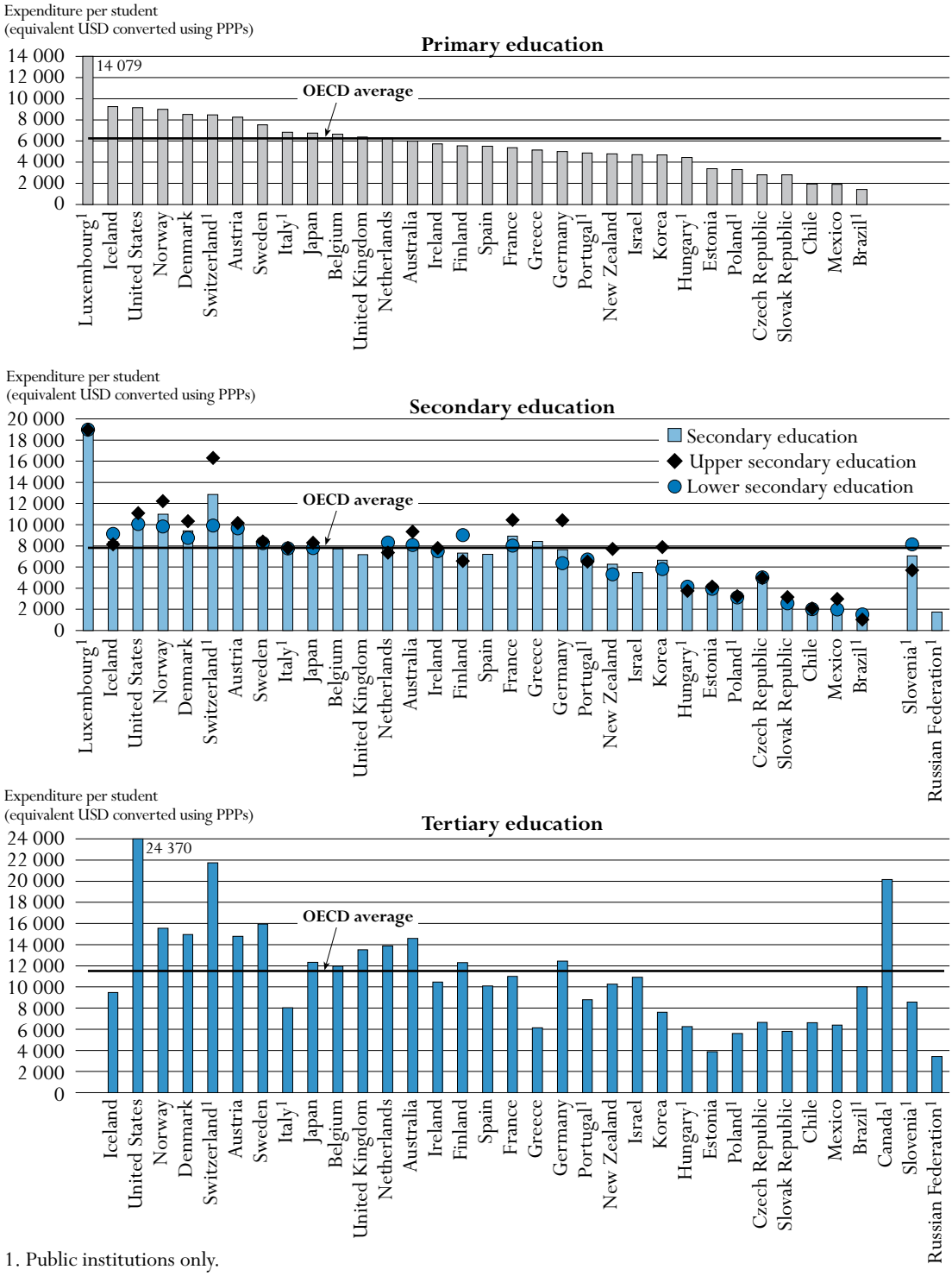
Chart B1.2. Annual expenditure on educational institutions per student for all services, by level of education (2005)

In equivalent USD converted using PPPs, based on full-time equivalents



1. Public institutions only.

Countries are ranked in descending order of expenditure on educational institutions per student in primary education.

Source: OECD. Table B1.1a. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

StatLink http://dx.doi.org/10.1787/401862824252

Greater differences are observed in the proportion of total expenditure on educational institutions per student devoted to core services at the tertiary level partly because R&D expenditure can account for a significant proportion of educational spending. The OECD countries in which most R&D is performed by tertiary education institutions tend to report higher expenditure per student than those in which a large proportion of R&D is performed in other public institutions or by industry. Excluding R&D activities and ancillary services, expenditure on core educational services in tertiary institutions represents, on average, USD 7 976 per student and ranges from USD 5 000 or less in Greece, Hungary, Poland, the Slovak Republic and the partner country Estonia to more than USD 10 000 in Canada, Switzerland and the United States (Table B1.1b).

On average, expenditure on R&D and ancillary services at the tertiary level represents respectively 29 and 4% of all tertiary expenditure on educational institutions per student. In 9 out of 28 OECD and partner countries for which data on tertiary expenditure are available for every service category – Belgium, Finland, Germany, Italy, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom – expenditure on R&D and ancillary services in tertiary institutions represents more than 32% of total tertiary expenditure on educational institutions per student. On a per student basis this can translate into significant amounts: in Australia, Canada, Germany, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom and the United States, expenditure for R&D and ancillary services amounts to more than USD 5 000 per student (Table B1.1b).

Expenditure on educational institutions per student at different levels of education

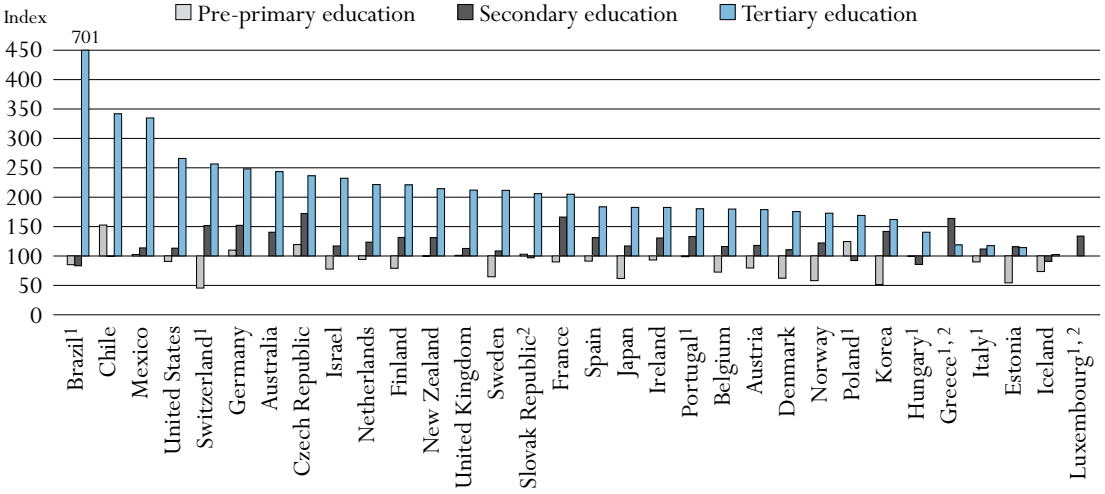
Throughout OECD countries expenditure on educational institutions per student rises sharply from primary to tertiary education. This pattern is largely a reflection of the location and mode of educational provision. Education still essentially takes place in traditional settings with (generally) similar organisation, curriculum, teaching style and management. These shared features tended to result in similar patterns of unit expenditure. During the last decade, however, greater use of private funds at the tertiary level has increased the difference between expenditure at this level and at the other levels of education (see Indicator B3).

Comparisons of the distribution of expenditure at different levels of education indicate the relative emphasis placed on these levels as well as the relative costs of provision. Expenditure on educational institutions per student rises with the level of education in almost all OECD and partner countries, but the relative size of the differentials varies markedly (Chart B1.3). At the secondary level, the expenditure is, on average, 1.2 times that at the primary level but exceeds 1.5 in the Czech Republic, France, Germany, Greece and Switzerland. In Switzerland, this increase is mainly due to changes in teachers' salaries. In the other four countries, it is due to an increase in the number of instructional hours for students and a significant decrease, compared to the OECD average, in the number of teachers' teaching hours between primary and secondary education (see Indicators B7, D1, D3 and D4).

OECD countries spend, on average, 2.2 times as much on educational institutions per student at the tertiary level as at the primary level, but spending patterns vary widely mainly because education policies vary more among countries at the tertiary level (see Indicator B5). For example, Greece, Iceland, Italy and the partner country Estonia spend less than 1.3 times as much on a tertiary student as on a primary pupil, but Mexico and the partner countries Brazil and Chile spend more than 3 times as much (Chart B1.3).

Chart B1.3. Expenditure on educational institutions per student at various levels of education for all services relative to primary education (2005)

Primary education = 100



Notes: A ratio of 300 for tertiary education means that expenditure on educational institutions per tertiary student is three times the expenditure on educational institutions per primary student.
A ratio of 50 for pre-primary education means that expenditure on educational institutions per pre-primary student is half the expenditure on educational institutions per primary student.
1. Public institutions only.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
Countries are ranked in descending order of expenditure on educational institutions per student in tertiary education relative to primary education.
Source: OECD. Table B1.1a. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).
StatLink http://dx.doi.org/10.1787/401862824252

Distribution of expenditure on educational institutions relative to the number of students enrolled

Table B1.2 shows the relationship between the money invested in the education systems of OECD countries and the proportion of students enrolled at each level of education and analyses countries' strategies for allocating their expenditure to the different levels. On average among the 26 OECD countries for which data are available, two-thirds of all expenditure is allocated to primary, secondary and post-secondary non-tertiary education, which accounts for about three-quarters of students. The difference between the two figures equals or exceeds 10 percentage points in Japan, Mexico, the Slovak Republic and the United States and the partner countries Brazil, Chile and Israel (Table B1.2).

Compared to primary, secondary and post-secondary non-tertiary education, the difference between the proportion of money invested and the proportion of students enrolled in tertiary education is greater. On average among the 26 OECD countries for which data are available, 24% of all expenditure is allocated to tertiary education for only 16% of students. The difference between the two ranges from less than 7 percentage points in France, Greece, Hungary, Iceland, Italy, Korea and Portugal and the partner countries Estonia and Slovenia, to more than 13 percentage points in Switzerland and the United States and the partner countries Brazil and Chile (Table B1.2).

Educational expenditure on educational institutions per student over the theoretical duration of primary and secondary education

OECD countries spend on average USD 87 720 per student over the theoretical duration of primary and secondary studies. Although this theoretical duration is quite similar – between 12 and 13 years in 30 out of 36 OECD and partner countries – cumulative expenditure on educational institutions per student varies considerably, ranging from less than USD 40 000 in Mexico and the Slovak Republic, and the partner countries Brazil, Chile and the Russian Federation, to USD 100 000 or more in Austria, Denmark, Iceland, Luxembourg, Norway, Switzerland and the United States (Table B1.3a and Chart B1.4).

Expenditure on educational institutions per student over the average duration of tertiary studies

Both the typical duration and the intensity of tertiary education vary among OECD countries. Therefore, the differences among countries in annual expenditure on educational services per student (as shown in Chart B1.2) do not necessarily reflect the differences in the total cost of educating the typical tertiary student. Today's students can choose from a range of institutions and enrolment options to find the best fit for their degree objectives, abilities and personal interests. Many enrol on a part-time basis while others work while studying or attend more than one institution before graduating. These enrolment patterns can affect the interpretation of expenditure on educational institutions per student.

In particular, comparatively low annual expenditure on educational institutions per student can result in comparatively high overall costs of tertiary education if the typical duration of tertiary studies is long. Chart B1.5 shows the average expenditure per student throughout the course of tertiary studies. The figures account for all students for whom expenditure is incurred, including those who do not finish their studies. Although the calculations are based on a number of simplified assumptions and therefore should be treated with caution (see Annex 3 at *www.oecd.org/edu/eag2008*), there are some striking shifts between annual and aggregate expenditure in the ranking of OECD and partner countries.

For example, annual spending per tertiary student in Japan is about the same as in Germany, at USD 12 326 and USD 12 446, respectively (Table B1.1a). But because of differences in the tertiary degree structure (see Indicator A3), the average duration of tertiary studies is slightly more than one year longer in Germany than in Japan (5.4 and 4.1 years, respectively). As a consequence, the cumulative expenditure for each tertiary student is almost USD 16 000 lower in Japan than in Germany – USD 50 167 compared with USD 66 758 (Chart B1.5 and Table B1.3b).

The total cost of tertiary-type A studies in Switzerland (USD 126 160) is more than twice the cost in the other reporting countries, except Austria, Germany and the Netherlands (Table B1.3b). These differences must, of course, be interpreted in light of differences in national degree structures as well as possible differences among OECD countries in the academic level of the qualifications of students leaving university. While trends are similar in tertiary-type B studies, their total cost tends to be much lower than those of tertiary type-A programmes, largely because of their shorter duration.

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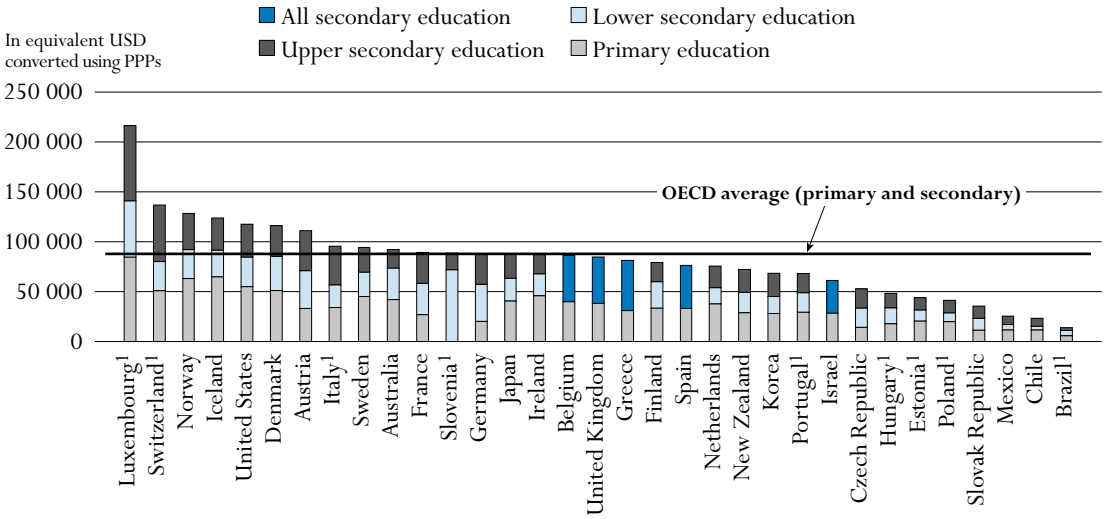
Chart B1.4. Cumulative expenditure on educational institutions per student over the theoretical duration of primary and secondary studies (2005)

Annual expenditure on educational institutions per student multiplied by the theoretical duration of studies, in equivalent USD converted using PPPs



1. Public institutions only.

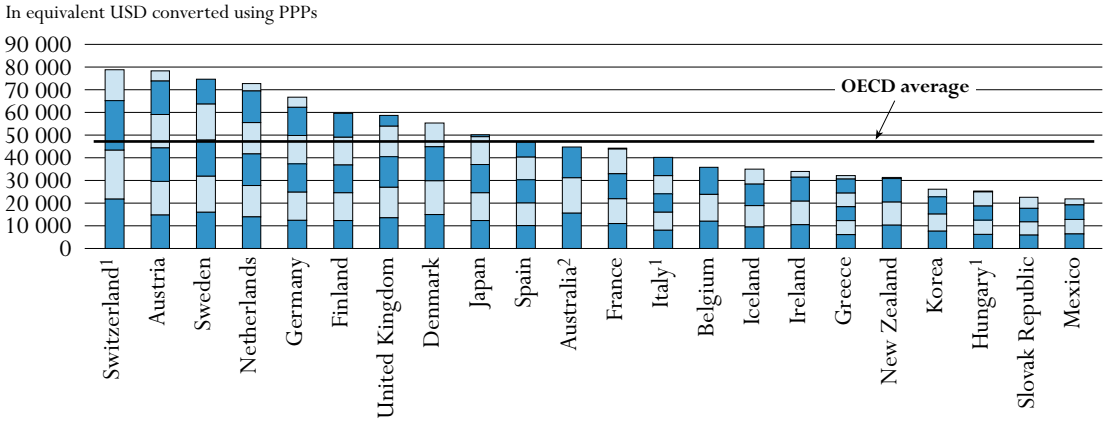
Countries are ranked in descending order of the total expenditure on educational institutions per student over the theoretical duration of primary and secondary studies.

Source: OECD. Table B1.3a. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

StatLink http://dx.doi.org/10.1787/401862824252

Chart B1.5. Cumulative expenditure on educational institutions per student over the average duration of tertiary studies (2005)

Annual expenditure on educational institutions per student multiplied by the average duration of studies, in equivalent USD converted using PPPs



Note: Each segment of the bar represents the annual expenditure on educational institutions per student.The number of segments represents the average number of years a student remains in tertiary education.

1. Public institutions only.

2. Tertiary-type A and advanced research programmes only.

Countries are ranked in descending order of the total expenditure on educational institutions per student over the average duration of tertiary studies.

Source: OECD. Table B1.3b. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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Expenditure on educational institutions per student in relation to GDP per capita

Expenditure on educational institutions per student relative to GDP per capita is a unit spending measure that takes OECD countries' relative wealth into account. Since education is universal at lower levels, spending on educational institutions per student at the lower levels relative to GDP per capita can be interpreted as the resources spent on the school-age population relative to a country's ability to pay. At higher levels of education, this measure is affected by a combination of national income, spending and enrolment rates. At the tertiary level, for example, OECD countries can rank relatively high on this measure if a large proportion of their wealth is spent on educating a relatively small number of students.

Expenditure on educational institutions per student averages 21% of GDP per capita at the primary level, 26% at the secondary level and 40% at the tertiary level (Table B1.4). Countries with low levels of expenditure on educational institutions per student may nevertheless show distributions of investment relative to GDP per capita which are similar to those of countries with a high level of spending per student. For example, Korea and Portugal – countries with expenditure on educational institutions per student at primary, secondary and post-secondary non-tertiary level of education and GDP per capita below the OECD average – spend more per student relative to GDP per capita than the OECD average. Similarly, Canada, Mexico, Switzerland and the United States and the partner country Chile spend more than 50% of GDP per capita on each tertiary student, among the highest proportions after Brazil. Brazil has the highest proportion, spending 108% of GDP per capita on each tertiary student, but tertiary students represent only 3% of the students enrolled in all levels of education combined in Brazil (Tables B1.2 and B1.4).

The relationship between GDP per capita and expenditure on educational institutions per student is a complex one. As one would expect, there is a clear positive relationship between spending on educational institutions per student and GDP per capita at both primary and secondary levels of education; poorer OECD countries tend to spend less per student than richer ones. Although the relationship is generally positive at these levels, there are variations even for countries with similar levels of GDP per capita, especially among those in which it exceeds USD 30 000. Australia and Austria, for example, have similar levels of GDP per capita but spend very different proportions of GDP per capita at the primary and secondary levels. In Australia, the proportions are 18 and 25%, respectively, and are near the OECD average. By contrast, Austria's are 24 and 29%, respectively, and are among the highest (Table B1.4 and Chart B1.6).

There is more variation in spending on educational institutions per student at the tertiary level, and the relationship between countries' relative wealth and their expenditure levels is more variable. Canada, Iceland and Switzerland, for example, have similar levels of GDP per capita but very different levels of spending on tertiary education. The proportion of GDP per capita spent per tertiary student in Canada and Switzerland is 61% and is among the highest among OECD countries, while for Iceland (at 27%) the proportion is significantly below the OECD average (Table B1.4 and Chart B1.6).

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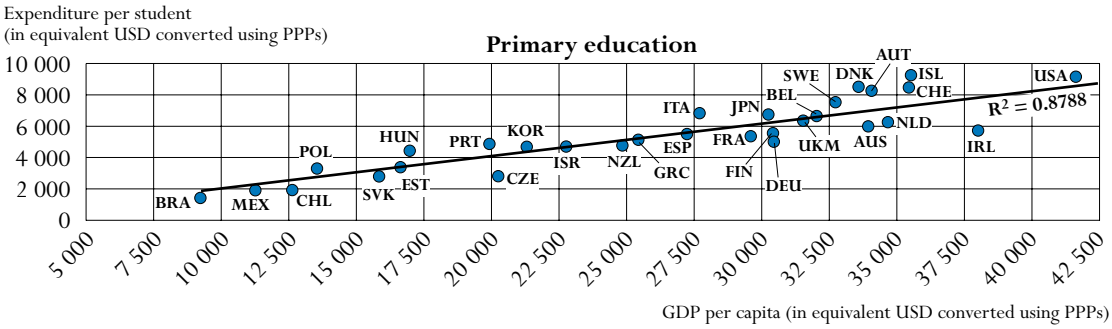
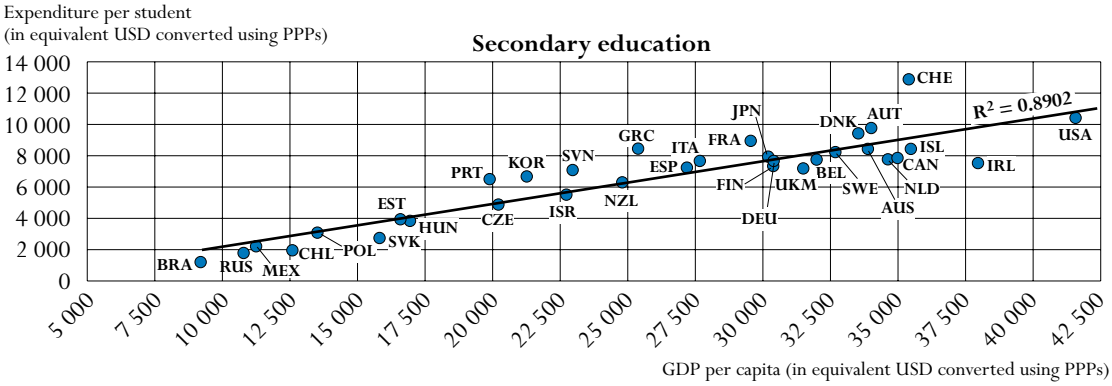
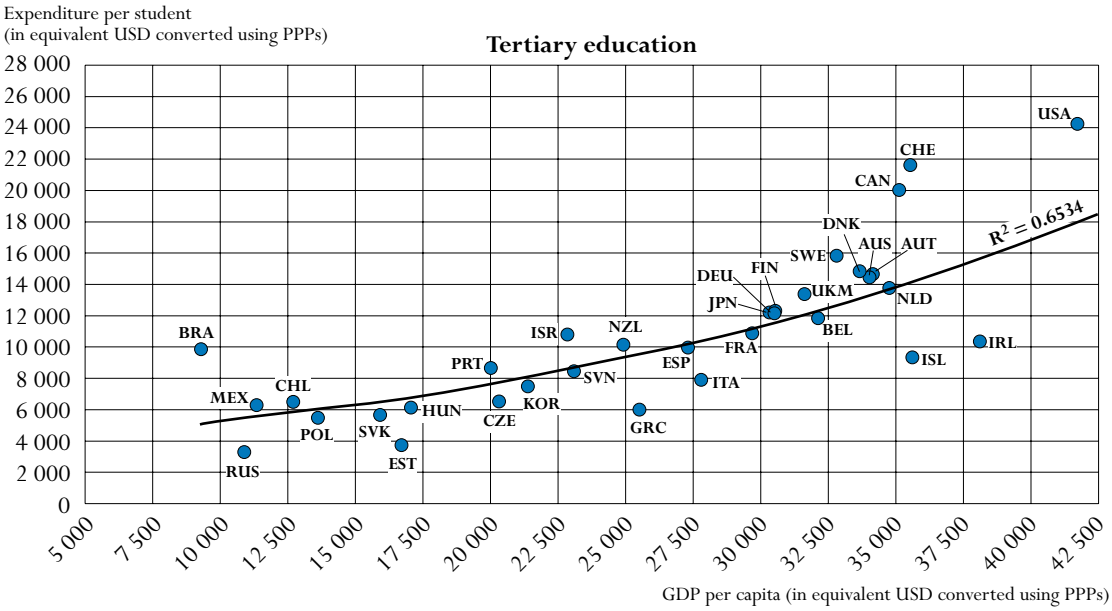
Chart B1.6. Annual expenditure on educational institutions per student relative to GDP per capita (2005)

In equivalent USD converted using PPPs, by level of education







Note: Please refer to the Reader's Guide for the list of country codes used in this chart.
Source: OECD. Tables B1.1a, B1.4 and Annex 2. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

StatLink http://dx.doi.org/10.1787/401862824252

Change in expenditure on educational institutions per student between 1995, 2000 and 2005

Expenditure on educational institutions tends to rise over time in real terms, as teachers' salaries (the main component of costs) rise in line with general earnings. However, rising unit costs that are not accompanied by increasing outcomes raise the spectre of falling productivity levels.

The size of the school-age population influences both enrolment rates and the amount of resources and organisational effort a country must invest in its education system. The larger the size of this population, the greater the potential demand for educational services. Table B1.5 and Chart B1.7 show the effects of changes in enrolments and total expenditure between 1995, 2000 and 2005 in indices and at constant prices.

Expenditure on educational institutions per primary, secondary and post-secondary non-tertiary student increased in every country, on average, by 35% between 1995 and 2005 during a period of relatively stable student numbers at these levels. The increase is quite similar for each five-year period; only the Czech Republic, Italy, Norway and Switzerland showed a decrease between 1995 and 2000, followed by an increase between 2000 and 2005 (Table B1.5).

Between 2000 and 2005, in 20 out of the 31 OECD and partner countries for which data are available, expenditure on educational institutions per primary, secondary and post-secondary non-tertiary student increased by at least 10% and exceeded 30% in the Czech Republic, Hungary, Iceland, Ireland, Korea and the Slovak Republic, and the partner countries Brazil and Estonia. Even with these increases, in 2005, all of these countries except Iceland had a level of expenditure on educational institutions per primary, secondary and post-secondary non-tertiary student below the OECD average. The only countries in which the increase between 2000 and 2005 in expenditure on educational institutions was 5% or less were Austria, Belgium, France, Germany, Italy and the United States, and the partner countries Chile and Israel (Table B1.5 and Chart B1.7).

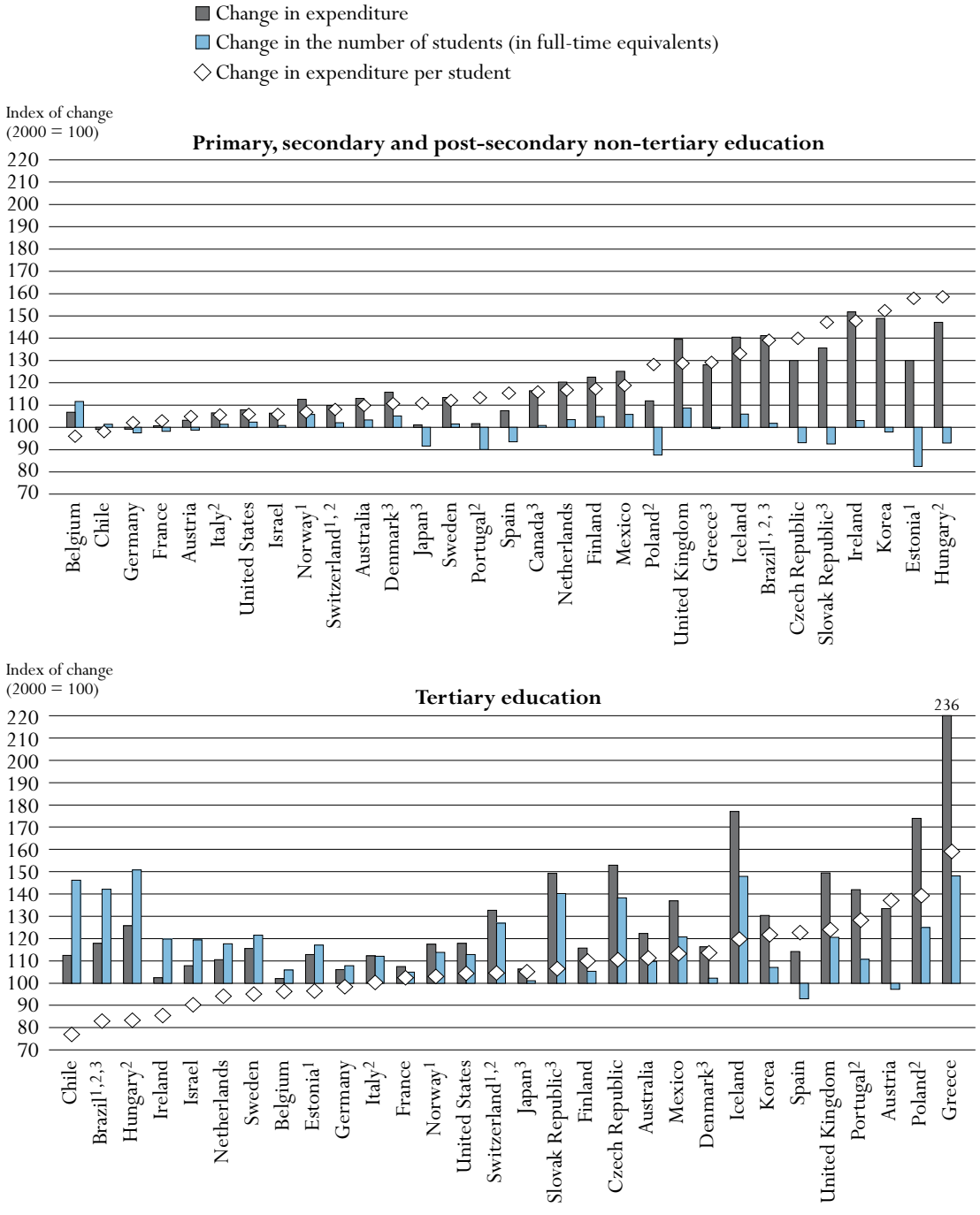
Changes in enrolments do not seem to have been the main factor behind changes in expenditure on educational institutions per primary, secondary and post-secondary non-tertiary student. However, in the Czech Republic, Hungary, Japan, Poland, Portugal, the Slovak Republic and Spain and partner country Estonia, a drop of more than 5% in enrolments coincided with a significant increase in spending on educational institutions per student between 2000 and 2005. In Japan, Poland, Portugal and Spain, the decline in enrolments was concomitant with a slight rise in expenditure on educational institutions in primary, secondary and post-secondary non-tertiary education; in the other countries, it came at the same time as a sharp increase in spending (Table B1.5 and Chart B1.7).

The pattern is different at the tertiary level where spending per student between 1995 and 2005 has fallen in some cases, as expenditure failed to keep up with expanding student numbers. Expenditure on educational institutions per tertiary student remained stable over the period 1995 to 2000 but then increased by 11% on average in OECD countries from 2000 to 2005, as governments invested massively in response to the expansion of tertiary education. Australia, Austria, the Czech Republic, Finland, Mexico, Norway, Poland, the Slovak Republic and the United Kingdom followed this pattern. However, the increase in expenditure per student between 2000 and 2005 did not totally counterbalance the decrease between 1995 and 2000 in the Czech Republic, Norway and the Slovak Republic. Only in Hungary and the partner countries Estonia and Israel was there a decrease in expenditure on educational institutions per tertiary student over the two five-year-periods (Table B1.5).

B1

Chart B1.7. Changes in the number of students and changes in expenditure on educational institutions per student, by level of education (2000, 2005)

Index of change between 2000 and 2005 (2000 = 100, 2005 constant prices)



1. Public expenditure only.
2. Public institutions only.
3. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.

Countries are ranked in ascending order of change in expenditure on educational institutions per student.

Source: OECD. Table B1.5. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

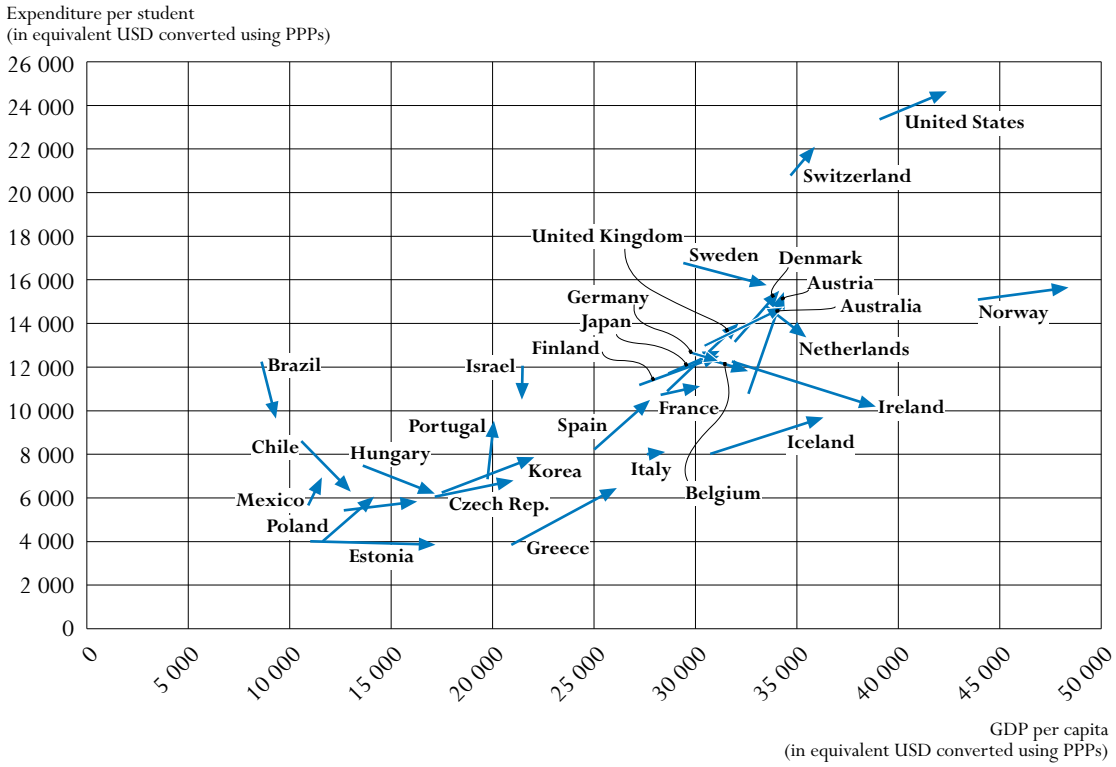
StatLink http://dx.doi.org/10.1787/401862824252

Between 2000 and 2005, out of the 30 OECD and partner countries for which data are available, Belgium, Germany, Hungary, Ireland, the Netherlands, and Sweden and the partner countries Brazil, Chile, Estonia and Israel recorded a decrease in expenditure on tertiary education per student. In all of these countries except Belgium and Germany, this decline was mainly the result of a rapid increase (of 10% or more) in the number of tertiary students (Chart B1.7). Globally, 7 out of the 11 OECD and partner countries in which the number of students enrolled in tertiary education increased by over 20% between 2000 and 2005 (the Czech Republic, Greece, Iceland, Mexico, Poland, the Slovak Republic and Switzerland) increased their expenditure on tertiary education over the period by at least the same proportion. The others – Hungary, Sweden and the partner countries Brazil and Chile – did not. Austria, Denmark and Spain were the only countries in which the number of tertiary students increased by less than 5% between 2000 and 2005, and their changes in expenditure per student between 2000 and 2005 were above the OECD average (Table B1.5 and Chart B1.7).

Change in expenditure on educational institutions per student and GDP per capita between 2000 and 2005

Chart B1.8. Changes between 2000 and 2005 in expenditure on educational institutions per tertiary student compared with GDP per capita

(2005 constant USD and 2005 constant PPPs)



Note: The beginning of the arrow indicates expenditure per student and GDP per capita in 2000. The end of the arrow indicates corresponding values in 2005.

Source: OECD. Tables B1.1a, B1.5 and Annex 2. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

StatLink http://dx.doi.org/10.1787/401862824252

Expenditure on educational institutions per tertiary student increased on average by 11 percentage points in OECD countries between 2000 and 2005 but not faster than GDP per capita in most countries in which expenditure per tertiary student increased. In Chart B1.8 the origin of the arrow represents GDP per capita (horizontal axis) and expenditure on educational institutions per student (vertical axis) in 2000 (at 2005 prices and 2005 purchasing power parities), and the end of each arrow shows the corresponding values for 2005. Expenditure on educational institutions per tertiary student increased in around two-thirds of the 30 countries for which data are available between 2000 and 2005 but only Australia, Austria, Denmark, Greece, Iceland, Mexico, Poland, Portugal, Spain, Switzerland and the United Kingdom had a larger increase in expenditure on educational institutions per tertiary student than in GDP per capita (Tables B1.1, B1.5 and Chart B1.8).

By contrast, in primary, secondary and post-secondary non-tertiary education, expenditure on educational institutions per student between 2000 and 2005 increased by 19% on average and faster than GDP per capita in the 22 countries (out of 31 for which data are available) with an increase in expenditure over this period. It is noteworthy that PISA performance on the reading scale tends to remain flat in the majority of countries over the period from 2000 to 2006, an indication that performance is not necessarily linked to the level of investment and that the increase in resources could be used more efficiently (see Table B1.5, PISA 2006, and Indicator B7 in *Education at a Glance 2007*).

Definitions and methodologies

Data refer to the financial year 2005 and are based on the UOE data collection on education statistics administered by the OECD in 2007 (for details see Annex 3 at *www.oecd.org/edu/eag2008*). Expenditure on educational institutions per student at a particular level of education is calculated by dividing the total expenditure on educational institutions at that level by the corresponding full-time equivalent enrolment. Only educational institutions and programmes for which both enrolment and expenditure data are available are taken into account. Expenditure in national currency is converted into equivalent USD by dividing the national currency figure by the purchasing power parity (PPP) index for GDP. The PPP exchange rate is used because the market exchange rate is affected by many factors (interest rates, trade policies, expectations of economic growth, etc.) that have little to do with current relative domestic purchasing power in different OECD countries (Annex 2 gives further details).

The OECD average is calculated as the simple average over all OECD countries for which data are available. The OECD total reflects the value of the indicator if the OECD region is considered as a whole (see the Reader's Guide for details).

Table B1.5 shows the changes in expenditure on educational institutions per student between the financial years 1995, 2000 and 2005. OECD countries were asked to collect the 1995 and 2000 data according to the definitions and the coverage of UOE 2007 data collection. All expenditure data, as well as the GDP for 1995 and 2000, are adjusted to 2005 prices using the GDP price deflator.

Expenditure on educational institutions per student relative to GDP per capita is calculated by expressing expenditure on educational institutions per student in units of national currency as a percentage of GDP per capita, also in national currency. In cases where the educational

expenditure data and the GDP data pertain to different reference periods, the expenditure data are adjusted to the same reference period as the GDP data, using inflation rates for the OECD country in question (see Annex 2).

Cumulative expenditure over the average duration of tertiary studies (Table B1.3b) is calculated by multiplying current annual expenditure by the typical duration of tertiary studies. The methodology used for the estimation of the typical duration of tertiary studies is described in Annex 3 (*www.oecd.org/edu/eag2008*). For the estimation of the duration of tertiary education, data are based on a special survey carried out in OECD countries in 2005.

The ranking of OECD countries by annual expenditure on educational services per student is affected by differences in how countries define full-time, part-time and full-time equivalent enrolment. Some OECD countries count every participant at the tertiary level as a full-time student while others determine a student's intensity of participation by the credits which he or she obtains for successful completion of specific course units during a specified reference period. OECD countries that can accurately account for part-time enrolment have higher expenditure on educational institutions per full-time equivalent student than OECD countries that cannot differentiate among different modes of student attendance.

Further references

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

StatLink http://dx.doi.org/10.1787/401862824252

- ***Table B1.1c. Annual expenditure on educational institutions per student for core services (2005)***

B1

Table B1.1a.

Annual expenditure on educational institutions per student for all services (2005)

In equivalent USD converted using PPPs for GDP, by level of education, based on full-time equivalents

		Pre-primary education (for children aged 3 and older)	Primary education	Secondary education			Post-secondary non-tertiary education	Tertiary education (including R&D activities)			All tertiary education excluding R&D activities	Primary to tertiary education
				Lower secondary education	Upper secondary education	All secondary education		Tertiary-type B education	Tertiary-type A & advanced research programmes	All tertiary education		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD countries	Australia	m	5 992	7 930	9 223	8 408	7 973	8 569	15 599	14 579	10 199	8 340
	Austria	6 562	8 259	9 505	10 028	9 751	x(4)	11 394	15 028	14 775	10 061	10 407
	Belgium	4 816	6 648	x(5)	x(5)	7 731	x(5)	x(9)	x(9)	11 960	8 046	8 034
	Canada[1, 2]	x(5)	x(5)	x(5)	x(5)	7 837	x(7)	m	20 156	m	m	m
	Czech Republic	3 353	2 812	4 864	4 830	4 847	2 098	3 105	7 019	6 649	5 409	4 545
	Denmark	5 320	8 513	8 606	10 197	9 407	x(4, 9)	x(9)	x(9)	14 959	m	10 108
	Finland	4 395	5 557	8 875	6 441	7 324	x(5)	n	12 285	12 285	7 582	7 711
	France	4 817	5 365	7 881	10 311	8 927	4 488	9 483	11 486	10 995	7 673	8 101
	Germany	5 508	5 014	6 200	10 282	7 636	10 531	6 938	13 351	12 446	7 772	7 872
	Greece	x(2)	5 146	x(5)	x(5)	8 423	7 266	3 417	7 661	6 130	4 928	5 692
	Hungary[2]	4 402	4 438	3 993	3 613	3 806	4 731	4 549	6 328	6 244	4 837	4 423
	Iceland	6 800	9 254	8 985	8 004	8 411	x(4, 9)	x(9)	x(9)	9 474	m	8 931
	Ireland	5 345	5 732	7 352	7 680	7 500	5 811	x(9)	x(9)	10 468	7 386	7 108
	Italy[2]	6 139	6 835	7 599	7 682	7 648	m	7 420	8 032	8 026	5 314	7 540
	Japan	4 174	6 744	7 630	8 164	7 908	x(4, 9)	7 969	13 827	12 326	m	8 378
	Korea	2 426	4 691	5 661	7 765	6 645	a	3 811	9 938	7 606	6 607	6 212
	Luxembourg[2]	x(2)	14 079	18 844	18 845	18 845	m	m	m	m	m	m
	Mexico	1 964	1 913	1 839	2 853	2 180	a	x(9)	x(9)	6 402	5 346	2 405
	Netherlands	5 885	6 266	8 166	7 225	7 741	7 000	n	13 883	13 883	8 719	8 147
	New Zealand	4 778	4 780	5 165	7 586	6 278	6 126	7 740	11 002	10 262	8 864	6 342
	Norway	5 236	9 001	9 687	12 096	10 995	x(5)	x(9)	x(9)	15 552	9 981	10 980
	Poland[2]	4 130	3 312	2 971	3 131	3 055	2 956	x(9)	x(9)	5 593	4 883	3 592
	Portugal[2]	4 808	4 871	6 555	6 381	6 473	m	x(9)	x(9)	8 787	6 785	6 197
	Slovak Republic	2 895	2 806	2 430	3 026	2 716	x(4)	x(4)	5 783	5 783	5 131	3 139
	Spain	5 015	5 502	x(5)	x(5)	7 211	a	9 059	10 301	10 089	7 182	7 134
	Sweden	4 852	7 532	8 091	8 292	8 198	2 691	x(9)	x(9)	15 946	8 281	9 156
	Switzerland[2]	3 853	8 469	9 756	16 166	12 861	9 119	4 163	23 137	21 734	13 041	12 195
	Turkey	m	m	m	m	m	m	m	m	m	m	m
	United Kingdom	6 420	6 361	x(5)	x(5)	7 167	x(5)	x(9)	x(9)	13 506	8 842	7 741
	United States	8 301	9 156	9 899	10 969	10 390	m	x(9)	x(9)	24 370	21 588	12 788
	OECD average	*4 888*	*6 252*	*7 437*	*8 366*	*7 804*	*4 719*	*~*	*~*	*11 512*	*8 102*	*7 527*
	OECD total	*5 254*	*6 173*	*~*	*~*	*7 736*	*~*	*~*	*~*	*15 559*	*13 141*	*8 553*
	EU19 average	*4 980*	*6 055*	*7 462*	*7 864*	*7 600*	*4 757*	*~*	*~*	*10 474*	*6 990*	*7 036*
Partner countries	Brazil[2]	1 215	1 425	1 359	899	1 186	a	x(9)	x(9)	9 994	9 808	1 542
	Chile[3]	2 953	1 936	1 865	1 956	1 924	a	3 922	7 977	6 620	m	2 694
	Estonia	1 833	3 384	3 802	4 033	3 918	4 417	2 883	4 386	3 869	3 867	3 768
	Israel	3 650	4 699	x(5)	x(5)	5 495	4 275	8 232	11 581	10 919	8 476	6 000
	Russian Federation[2]	m	x(5)	x(5)	x(5)	1 754	x(5)	2 274	3 876	3 421	3 155	2 051
	Slovenia[2]	6 364	x(3)	7 994	5 565	7 065	x(4)	x(9)	x(9)	8 573	7 037	7 378

1. Year of reference 2004.
2. Public institutions only (for Canada, in tertiary education only).
3. Year of reference 2006.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

StatLink http://dx.doi.org/10.1787/401862824252

Table B1.1b.

Annual expenditure per student on core services, ancillary services and R&D (2005)

In equivalent USD converted using PPPs for GDP, by level of education and type of service, based on full-time equivalents

		Primary, secondary and post-secondary non-tertiary education			Tertiary education			
		Educational core services	Ancillary services (transport, meals, housing provided by institutions)	Total	Educational core services	Ancillary services (transport, meals, housing provided by institutions)	R & D	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
OECD countries	**Australia**	6 856	286	**7 142**	9 544	654	4 381	**14 579**
	Austria	9 046	390	**9 436**	9 952	109	4 714	**14 775**
	Belgium	7 021	285	**7 306**	7 725	321	3 915	**11 960**
	Canada[1, 2, 3]	7 398	439	**7 837**	13 463	1 527	5 166	**20 156**
	Czech Republic	3 801	297	**4 098**	5 234	175	1 239	**6 649**
	Denmark[1]	8 997	a	**8 997**	x(7)	a	x(7)	**14 959**
	Finland	5 896	714	**6 610**	7 575	7	4 703	**12 285**
	France	6 492	964	**7 456**	7 015	658	3 323	**10 995**
	Germany	6 878	160	**7 039**	7 158	614	4 674	**12 446**
	Greece[1]	5 355	138	**5 493**	4 459	470	1 202	**6 130**
	Hungary[3]	3 668	359	**4 027**	4 590	247	1 407	**6 244**
	Iceland[1]	x(3)	x(3)	**8 815**	x(7)	x(7)	x(7)	**9 474**
	Ireland	6 269	142	**6 411**	7 386	x(7)	3 082	**10 468**
	Italy[3]	7 111	298	**7 410**	5 011	303	2 712	**8 026**
	Japan[1]	x(3)	x(3)	**7 343**	x(7)	x(7)	x(7)	**12 326**
	Korea	5 133	505	**5 638**	6 574	33	999	**7 606**
	Luxembourg[1, 3]	x(3)	x(3)	**15 930**	m	m	m	m
	Mexico	2 025	m	**2 025**	5 346	m	1 056	**6 402**
	Netherlands	6 972	72	**7 045**	8 717	2	5 164	**13 883**
	New Zealand	x(3)	x(3)	**5 659**	8 864	x(7)	1 397	**10 262**
	Norway	x(3)	x(3)	**9 975**	9 897	84	5 571	**15 552**
	Poland[3]	3 065	99	**3 165**	4 881	1	710	**5 593**
	Portugal[3]	5 606	40	**5 646**	6 785	x(7)	2 002	**8 787**
	Slovak Republic[1]	2 336	404	**2 740**	4 273	858	652	**5 783**
	Spain	6 152	259	**6 411**	7 182	m	2 907	**10 089**
	Sweden	7 067	795	**7 861**	8 281	n	7 666	**15 946**
	Switzerland[3]	x(3)	x(3)	**10 721**	13 041	x(4)	8 694	**21 734**
	Turkey	m	m	m	m	m	m	m
	United Kingdom	5 723	1 105	**6 888**	7 793	1 049	4 665	**13 506**
	United States	9 006	763	**9 769**	18 656	2 932	2 782	**24 370**
	OECD average	***5 994***	***387***	***7 065***	***7 976***	***502***	***3 391***	***11 512***
	EU19 average	***5 970***	***362***	***6 840***	***6 707***	***321***	***3 220***	***10 474***
Partner countries	**Brazil**[1, 3]	x(3)	x(3)	**1 287**	9 808	x(4)	186	**9 994**
	Chile[4]	1 842	88	**1 930**	x(7)	x(7)	x(7)	**6 620**
	Estonia	x(3)	x(3)	**3 736**	3 867	x(4)	2	**3 869**
	Israel	4 875	165	**5 041**	7 252	1 224	2 443	**10 919**
	Russian Federation[3]	x(3)	x(3)	**1 754**	x(7)	x(7)	266	**3 421**
	Slovenia[3]	6 770	295	**7 065**	7 016	21	1 536	**8 573**

1. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
2. Tertiary-type A only and year of reference 2004.
3. Public institutions only (for Canada, in tertiary education only).
4. Year of reference 2006.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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B1

Table B1.2.

Distribution of expenditure (as a percentage) on educational institutions compared to the number of students enrolled at each level of education (2005)

The table shows the distribution of educational expenditure and of students across levels of education. The number of students is adjusted to the financial year. For example, when reading the first and second columns, in the Czech Republic, 10 % of all expenditure on educational institutions is allocated to pre-primary education whereas 13.4 % of pupils/students are enrolled at this level of education.

	Pre-primary education (for children aged 3 and older)		Primary, secondary and post-secondary non-tertiary education		All tertiary education		Not allocated by level		All levels of education	
	Proportion of expenditure on educational institutions	Proportion of students enrolled, based on full-time equivalents	Proportion of expenditure on educational institutions	Proportion of students enrolled, based on full-time equivalents	Proportion of expenditure on educational institutions	Proportion of students enrolled, based on full-time equivalents	Proportion of expenditure on educational institutions	Proportion of students enrolled, based on full-time equivalents	Proportion of expenditure on educational institutions	Proportion of students enrolled, based on full-time equivalents
	(1)		(2)		(3)		(4)		(5)	
OECD countries										
Australia	m	2.9	m	81.3	m	15.6	m	0.2	m	100
Austria	8.9	13.4	67.6	70.8	23.5	15.7	a	a	100	100
Belgium	9.8	15.6	67.7	71.2	20.5	13.2	2.0	n	100	100
Canada	m	m	m	m	m	m	m	m	m	m
Czech Republic	10.0	13.4	65.0	71.4	22.4	15.2	2.6	n	100	100
Denmark[1]	10.8	19.7	60.3	65.3	23.0	15.0	6.0	n	100	100
Finland	6.4	10.7	64.7	72.0	29.0	17.3	n	n	100	100
France	11.3	17.6	66.8	67.4	21.9	15.0	n	n	100	100
Germany	9.9	13.8	66.6	72.9	21.4	13.3	2.1	0.1	100	100
Greece	x(2)	x(2)	66.5	70.2	33.5	29.8	n	n	100	100
Hungary[2]	15.3	16.1	59.8	68.9	20.2	15.0	4.7	n	100	100
Iceland[1]	9.5	13.1	67.4	71.4	15.5	15.2	7.7	n	100	100
Ireland	0.1	0.1	74.7	82.8	25.3	17.2	n	n	100	100
Italy[2]	9.6	11.6	70.0	69.7	20.4	18.7	n	n	100	100
Japan[1]	4.1	8.4	61.7	71.7	27.1	18.8	7.0	1.1	100	100
Korea	1.8	4.7	60.5	67.6	33.5	27.8	4.2	n	100	100
Luxembourg	m	m	m	m	m	m	m	m	m	m
Mexico	10.8	13.2	66.9	79.3	20.1	7.5	2.3	n	100	100
Netherlands	7.3	9.9	67.2	75.6	25.4	14.5	n	n	100	100
New Zealand	4.9	6.6	70.9	79.6	22.4	13.9	1.7	n	100	100
Norway	5.8	11.9	66.7	72.2	22.9	15.9	4.6	n	100	100
Poland[2]	10.6	9.4	64.9	74.7	24.5	16.0	n	n	100	100
Portugal[2]	6.0	7.9	68.2	75.9	22.6	16.2	3.2	n	100	100
Slovak Republic[1]	11.3	12.4	65.4	76.1	20.8	11.5	2.6	a	100	100
Spain	13.1	17.7	62.7	66.1	24.2	16.2	n	n	100	100
Sweden	8.5	14.9	66.0	71.5	25.5	13.6	n	n	100	100
Switzerland[2]	4.0	10.5	68.6	77.5	25.8	12.0	1.6	n	100	100
Turkey	m	m	m	m	m	m	m	m	m	m
United Kingdom	4.8	5.7	73.9	82.2	21.6	12.2	a	a	100	100
United States	5.8	8.7	57.1	72.5	37.1	18.9	n	n	100	100
OECD average	***8.0***	***11.1***	***66.1***	***73.2***	***24.2***	***16.0***	***2.0***	***n***	***100***	***100***
Partner countries										
Brazil[1, 2]	8.4	10.5	74.2	86.9	17.4	2.6	n	n	100	100
Chile[3]	7.9	7.2	55.2	77.6	36.9	15.1	n	n	100	100
Estonia	7.2	13.9	69.2	65.2	23.0	20.9	0.6	n	100	m
Israel	10.4	17.3	55.9	67.6	23.6	13.2	10.1	1.9	100	100
Russian Federation[2]	13.9	m	49.8	m	21.1	m	15.2	m	100	m
Slovenia[2]	9.6	11.0	68.6	70.5	21.8	18.5	n	n	100	100

1. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
2. Public institutions only.
3. Year of reference 2006.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

StatLink http://dx.doi.org/10.1787/401862824252

Table B1.3a.

Cumulative expenditure on educational institutions per student for all services over the theoretical duration of primary and secondary studies (2005)

In equivalent USD converted using PPPs for GDP, by level of education

		Average theoretical duration of primary and secondary studies (in years)				Cumulative expenditure per student over the theoretical duration of primary and secondary studies (in USD)				
		Primary education	Lower secondary education	Upper secondary education	Total primary and secondary education	Primary education	Lower secondary education	Upper secondary education	All secondary education	Total primary and secondary education
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	**Australia**	7.0	4.0	2.0	**13.0**	41 946	31 721	18 446	50 168	**92 113**
	Austria	4.0	4.0	4.0	**12.0**	33 034	38 019	40 114	78 132	**111 167**
	Belgium	6.0	2.0	4.0	**12.0**	39 889	x(8)	x(8)	46 385	**86 275**
	Canada[1]	6.0	3.0	3.0	**12.0**	x(9)	x(9)	x(9)	x(9)	**94 040**
	Czech Republic	5.0	4.0	4.0	**13.0**	14 058	19 456	19 320	38 776	**52 834**
	Denmark	6.0	4.0	3.0	**13.0**	51 080	34 426	30 590	65 016	**116 096**
	Finland	6.0	3.0	3.0	**12.0**	33 343	26 625	19 324	45 949	**79 292**
	France	5.0	4.0	3.0	**12.0**	26 824	31 522	30 933	62 456	**89 280**
	Germany	4.0	6.0	3.0	**13.0**	20 055	37 199	30 845	68 045	**88 100**
	Greece	6.0	3.0	3.0	**12.0**	30 874	x(8)	x(8)	50 536	**81 410**
	Hungary[2]	4.0	4.0	4.0	**12.0**	17 752	15 973	14 453	30 425	**48 177**
	Iceland	7.0	3.0	4.0	**14.0**	64 778	26 955	32 016	58 972	**123 750**
	Ireland	8.0	3.0	2.5	**13.5**	45 859	22 057	19 200	41 258	**87 116**
	Italy[2]	5.0	3.0	5.0	**13.0**	34 175	22 796	38 408	61 203	**95 378**
	Japan	6.0	3.0	3.0	**12.0**	40 463	22 890	24 492	47 382	**87 845**
	Korea	6.0	3.0	3.0	**12.0**	28 143	16 984	23 296	40 280	**68 424**
	Luxembourg[2]	6.0	3.0	4.0	**13.0**	84 475	56 533	75 381	131 914	**216 389**
	Mexico	6.0	3.0	3.0	**12.0**	11 476	5 517	8 558	14 075	**25 551**
	Netherlands	6.0	2.0	3.0	**11.0**	37 599	16 331	21 674	38 005	**75 604**
	New Zealand	6.0	4.0	3.0	**13.0**	28 682	20 661	22 759	43 420	**72 102**
	Norway	7.0	3.0	3.0	**13.0**	63 006	29 062	36 289	65 351	**128 357**
	Poland[2]	6.0	3.0	4.0	**13.0**	19 871	8 912	12 522	21 434	**41 305**
	Portugal[2]	6.0	3.0	3.0	**12.0**	29 226	19 665	19 143	38 809	**68 034**
	Slovak Republic	4.0	5.0	4.0	**13.0**	11 224	12 150	12 103	24 253	**35 477**
	Spain	6.0	4.0	2.0	**12.0**	33 015	x(8)	x(8)	43 268	**76 282**
	Sweden	6.0	3.0	3.0	**12.0**	45 194	24 274	24 877	49 151	**94 345**
	Switzerland[2]	6.0	3.0	3.5	**12.5**	50 814	29 269	56 582	85 851	**136 664**
	Turkey[2]	8.0	a	3.0	**11.0**	m	a	m	m	m
	United Kingdom	6.0	3.0	3.5	**12.5**	38 165	x(8)	x(8)	46 585	**84 750**
	United States	6.0	3.0	3.0	**12.0**	54 936	29 696	32 907	62 603	**117 538**
	OECD average	***5.9***	***3.3***	***3.3***	***12.4***	***36 112***	**~**	**~**	***51 374***	***87 720***
Partner countries	**Brazil**[2]	4.0	4.0	3.0	**11.0**	5 701	5 436	2 697	8 133	**13 834**
	Chile[3]	6.0	2.0	4.0	**12.0**	11 614	3 730	7 825	11 555	**23 169**
	Estonia	6.0	3.0	3.0	**12.0**	20 303	11 406	12 098	23 504	**43 807**
	Israel	6.0	3.0	3.0	**12.0**	28 193	x(8)	x(8)	32 972	**61 165**
	Russian Federation[2]	4.0	5.0	2.0	**11.0**	x(9)	x(9)	x(9)	x(9)	**19 296**
	Slovenia[2]	6.0	3.0	3.0	**12.0**	x(6)	71 947	16 695	88 642	**88 642**

1. Year of reference 2004.
2. Public institutions only.
3. Year of reference 2006.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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Table B1.3b.

Cumulative expenditure on educational institutions per student for all services over the average duration of tertiary studies (2005)

In equivalent USD converted using PPPS for GDP, by type of programme

		Average duration of tertiary studies (in years)			Cumulative expenditure per student over the average duration of tertiary studies (in USD)		
	Method[1]	Tertiary-type B education	Tertiary-type A and advanced research programmes	All tertiary education	Tertiary-type B education	Tertiary-type A and advanced research programmes	All tertiary education
		(1)	(2)	(3)	(4)	(5)	(6)
OECD countries							
Australia	CM	m	2.87	m	m	44 768	m
Austria	CM	2.78	5.60	5.30	31 677	84 156	78 308
Belgium	CM	2.41	3.67	2.99	x(6)	x(6)	35 761
Canada		m	m	m	m	m	m
Czech Republic		m	m	m	m	m	m
Denmark	AF	2.10	3.84	3.70	x(6)	x(6)	55 348
Finland	CM	a	4.85	4.85	a	59 582	59 582
France[2]	CM	3.00	4.74	4.02	28 448	54 444	44 202
Germany	CM	2.37	6.57	5.36	16 450	87 688	66 758
Greece	CM	5.00	5.26	5.25	17 084	40 299	32 185
Hungary[3]	CM	2.00	4.05	4.05	9 098	25 627	25 289
Iceland	CM	x(3)	x(3)	3.69	x(6)	x(6)	34 960
Ireland	CM	2.21	4.02	3.24	x(6)	x(6)	33 916
Italy[3]	AF	m	5.14	5.01	m	41 285	40 212
Japan	CM	2.11	4.51	4.07	16 815	62 359	50 167
Korea	CM	2.07	4.22	3.43	7 889	41 938	26 089
Luxembourg		m	m	m	m	m	m
Mexico	AF	x(3)	3.42	3.42	x(6)	x(6)	21 896
Netherlands	CM	a	5.24	5.24	a	72 746	72 746
New Zealand	CM	1.87	3.68	3.05	14 475	40 489	31 298
Norway	CM	m	m	m	m	m	m
Poland[3]	CM	m	3.68	m	m	m	m
Portugal		m	m	m	m	m	m
Slovak Republic	AF	2.47	3.90	3.82	m	22 555	22 555
Spain	CM	2.15	5.54	4.66	19 478	57 069	47 015
Sweden	CM	2.26	4.93	4.68	x(6)	x(6)	74 629
Switzerland[3]	CM	2.19	5.45	3.62	9 103	126 160	78 771
Turkey	CM	2.73	2.37	2.65	x(6)	x(6)	m
United Kingdom[2]	CM	3.52	5.86	4.34	x(6)	x(6)	58 654
United States		m	m	m	m	m	m
OECD average		***2.28***	***4.50***	***4.11***	**~**	**~**	***47 159***

1. Either the Chain Method (CM) or an Approximation Formula (AF) was used to estimate the duration of tertiary studies.
2. Average duration of tertiary studies is estimated based on national data.
3. Public institutions only.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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Table B1.4.

Annual expenditure on educational institutions per student for all services relative to GDP per capita (2005)

By level of education, based on full-time equivalents

		Pre-primary education (for children aged 3 and older)	Primary education	Secondary education			Post-secondary non-tertiary education	Tertiary education (including R&D activities)			All tertiary education excluding R&D activities	Primary to tertiary education
				Lower secondary education	Upper secondary education	All secondary education		Tertiary-type B education	Tertiary-type A & advanced research programmes	All tertiary education		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OECD countries	**Australia**	m	18	23	27	25	23	25	46	43	30	25
	Austria	19	24	28	29	29	x(4)	33	44	43	29	31
	Belgium	15	21	x(5)	x(5)	24	x(5)	x(9)	x(9)	37	25	25
	Canada[1, 2]	x(5)	x(5)	x(5)	x(5)	24	x(7)	m	61	m	m	m
	Czech Republic	17	14	24	24	24	10	15	35	33	27	22
	Denmark	16	25	26	30	28	x(4, 9)	x(9)	x(9)	44	m	30
	Finland	14	18	29	21	24	x(5)	n	40	40	25	25
	France	16	18	27	35	30	15	32	39	37	26	27
	Germany	18	16	20	34	25	35	23	44	41	25	26
	Greece	x(2)	20	x(5)	x(5)	33	29	13	30	24	19	22
	Hungary[2]	26	26	23	21	22	28	27	37	37	28	26
	Iceland	19	26	25	23	24	x(4, 9)	x(9)	x(9)	27	m	25
	Ireland	14	15	19	20	20	15	x(9)	x(9)	28	19	19
	Italy[2]	22	25	27	28	28	m	27	29	29	19	27
	Japan	14	22	25	27	26	x(4, 9)	26	46	41	m	28
	Korea	11	22	27	36	31	a	18	42	36	31	29
	Luxembourg[2]	x(2)	20	27	27	27	x(5)	m	m	m	m	m
	Mexico	17	17	16	25	19	a	x(9)	x(9)	57	47	21
	Netherlands	17	18	24	21	22	20	n	40	40	25	23
	New Zealand	19	19	21	30	25	25	31	44	41	36	25
	Norway	11	19	20	25	23	x(5)	x(9)	x(9)	33	21	23
	Poland[2]	30	24	22	23	23	22	28	42	41	36	26
	Portugal[2]	24	24	33	32	32	m	x(9)	x(9)	44	34	31
	Slovak Republic	18	18	15	19	17	x(4)	x(4)	36	36	32	20
	Spain	18	20	x(5)	x(5)	26	a	33	38	37	26	26
	Sweden	15	23	25	25	25	8	x(9)	x(9)	49	25	28
	Switzerland[2]	11	24	27	46	36	26	12	65	61	37	34
	Turkey	m	m	m	m	m	m	m	m	m	m	m
	United Kingdom	20	20	x(5)	x(5)	23	x(5)	x(9)	x(9)	43	28	25
	United States	20	22	24	26	25	m	x(9)	x(9)	58	52	31
	OECD average	***18***	***21***	***24***	***27***	***26***	***17***	***22***	***42***	***40***	***29***	***26***
	EU19 average	***18***	***20***	***24***	***27***	***25***	***15***	***22***	***41***	***38***	***29***	***25***
Partner countries	**Brazil**[2]	13	15	15	10	13	a	x(9)	x(9)	108	106	17
	Chile[3]	23	15	15	15	15	a	31	63	52	m	21
	Estonia	11	20	23	24	24	27	17	26	23	23	23
	Israel	16	21	x(5)	x(5)	24	19	36	51	48	m	26
	Russian Federation[2]	m	x(5)	x(5)	x(5)	16	x(5)	21	36	32	m	19
	Slovenia[2]	28	x(3)	35	24	31	x(4)	x(9)	x(9)	37	31	32

1. Year of reference 2004.
2. Public institutions only (for Canada, in tertiary education only).
3. Year of reference 2006.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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Table B1.5.

Change in expenditure on educational institutions for all services per student relative to different factors, by level of education (1995, 2000, 2005)

Index of change between 1995, 2000 and 2005 (GDP deflator 2000=100, constant prices)

		Primary, secondary and post-secondary non-tertiary education						Tertiary education					
		Change in expenditure (2000=100)		Change in the number of students (2000=100)		Change in expenditure per student (2000=100)		Change in expenditure (2000=100)		Change in the number of students (2000=100)		Change in expenditure per student (2000=100)	
		1995	2005	1995	2005	1995	2005	1995	2005	1995	2005	1995	2005
OECD countries	Australia	74	113	94	103	**79**	**109**	91	122	83	110	**110**	**111**
	Austria	94	103	m	99	m	**104**	98	133	91	97	**108**	**137**
	Belgium	m	107	m	112	m	**96**	m	102	m	106	m	**96**
	Canada[1, 2, 3]	106	116	m	101	m	**115**	75	117	m	m	m	m
	Czech Republic	116	130	107	93	**109**	**139**	101	153	64	138	**159**	**111**
	Denmark[1]	84	116	96	105	**87**	**110**	91	116	96	102	**95**	**114**
	Finland	89	123	93	105	**96**	**117**	90	116	89	105	**101**	**110**
	France	90	101	m	98	m	**103**	91	107	m	105	m	**102**
	Germany	94	99	97	98	**97**	**102**	95	106	104	108	**91**	**98**
	Greece[1]	64	128	107	99	**60**	**129**	66	236	68	148	**97**	**159**
	Hungary[3]	100	147	105	93	**95**	**158**	74	126	58	151	**128**	**83**
	Iceland	m	140	99	106	m	**133**	m	177	79	148	m	**120**
	Ireland	83	152	105	103	**79**	**147**	57	102	86	120	**66**	**85**
	Italy[3]	103	107	102	101	**101**	**105**	79	112	101	112	**79**	**100**
	Japan[1]	98	101	113	92	**86**	**110**	88	106	99	101	**88**	**105**
	Korea	m	149	107	98	m	**152**	m	130	68	107	m	**122**
	Luxembourg	m	m	m	m	m	m	m	m	m	m	m	m
	Mexico	81	125	93	106	**87**	**118**	77	137	77	121	**101**	**113**
	Netherlands	84	120	98	103	**86**	**116**	94	111	99	118	**95**	**94**
	New Zealand[4]	71	108	m	m	m	m	105	118	m	m	m	m
	Norway[4]	94	113	89	106	**107**	**106**	107	117	100	114	**106**	**103**
	Poland[3]	70	112	110	88	**64**	**128**	59	174	55	125	**107**	**139**
	Portugal[3]	76	102	105	90	**72**	**113**	73	142	77	111	**96**	**128**
	Slovak Republic[1]	96	136	105	93	**91**	**147**	81	149	72	140	**112**	**106**
	Spain	99	108	119	94	**84**	**115**	72	114	100	93	**72**	**123**
	Sweden	81	113	86	102	**94**	**112**	81	116	83	121	**98**	**95**
	Switzerland[3, 4]	101	110	95	102	**107**	**108**	74	133	95	127	**78**	**105**
	Turkey	m	m	m	m	m	m	m	m	m	m	m	m
	United Kingdom	87	140	87	109	**100**	**129**	98	149	89	118	**110**	**126**
	United States	80	108	95	102	**83**	**105**	70	118	92	113	**77**	**104**
	OECD average	*89*	*119*	*100*	*100*	*89*	*119*	*83*	*130*	*84*	*118*	*99*	*111*
	EU19 average	*89*	*119*	*101*	*99*	*88*	*120*	*82*	*131*	*83*	*118*	*101*	*111*
Partner countries	Brazil[1, 3, 4]	82	141	85	102	**96**	**139**	78	118	79	142	**98**	**83**
	Chile[5]	54	99	88	101	**62**	**98**	61	112	76	146	**80**	**77**
	Estonia[4]	77	130	96	83	**79**	**158**	68	113	60	117	**113**	**96**
	Israel	86	106	85	101	**100**	**105**	77	108	74	119	**105**	**90**
	Russian Federation	m	154	m	m	m	m	m	228	m	m	m	m
	Slovenia	m	m	m	m	m	m	m	m	m	m	m	m

1. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
2. Year of reference 2004 instead of 2005.
3. Public institutions only (for Canada, in tertiary education only).
4. Public expenditure only.
5. Year of reference 2006 instead of 2005.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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INDICATOR B2

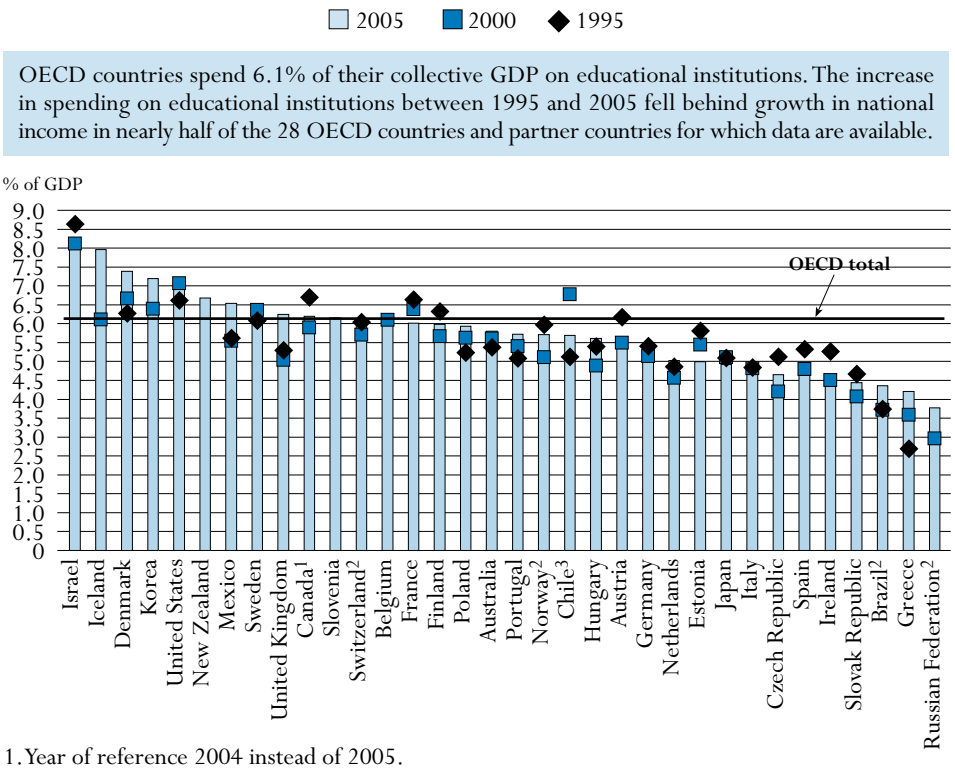
WHAT PROPORTION OF NATIONAL WEALTH IS SPENT ON EDUCATION?

Expenditure on educational institutions as a percentage of GDP shows how a country prioritises education in relation to its overall allocation of resources. Tuition fees and investment in education from private entities other than households (see Indicator B5) have a strong impact on differences in the overall amount of financial resources that OECD countries devote to their education systems, especially at the tertiary level.

Key results

Chart B2.1. Expenditure on educational institutions as a percentage of GDP for all levels of education (1995, 2000, 2005)

This chart measures educational investment through the share of national income that each country devoted to spending on educational institutions in 1995, 2000 and 2005. It captures both direct and indirect expenditure on educational institutions from both public and private sources of funds.



1. Year of reference 2004 instead of 2005.
2. Public expenditure only (for Switzerland, in tertiary education only).
3. Year of reference 2006 instead of 2005.

Countries are ranked in descending order of total expenditure from both public and private sources on educational institutions in 2005.

Source: OECD. Table B2.1. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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Other highlights of this indicator

- About 60% of expenditure on educational institutions, or 3.7% of the combined GDP in the OECD area, is devoted to primary, secondary and post-secondary non-tertiary education. Compared to their GDP, Iceland spends nearly twice as much as Greece.
- Tertiary education accounts for nearly one-third of the combined OECD expenditure on educational institutions (2.0% of the combined GDP). In Canada and the United States expenditure at this level reaches up to 40% of expenditure on educational institutions.
- Canada, Korea and the United States spend between 2.4 and 2.9% of their GDP on tertiary institutions. Korea, the United States, and the partner country Chile (1.8%) show the highest proportions of private expenditure at the tertiary level. Relative to GDP, the United States spends over three times more on tertiary education than Italy and the Slovak Republic and nearly four times more than the partner countries Brazil and the Russian Federation.
- More people are completing upper secondary and tertiary education than ever before, and in many countries the expansion has been accompanied by massive financial investments. For all levels of education combined, public and private investment in education increased in all countries by at least 8% between 1995 and 2005 in real terms and increased on average by 42% in OECD countries. In two-thirds of these countries, the increase is larger for tertiary education than for primary to post-secondary non-tertiary levels combined.
- On average in OECD countries, expenditure for all levels of education combined increased relatively more than GDP between 1995 and 2005. The increase in expenditure on educational institutions as a proportion of GDP exceeded 0.8 percentage points over this decade in Denmark, Greece, Mexico and the United Kingdom.
- Increases in expenditure on educational institutions and in GDP did not however occur at the same pace during this period. On average, expenditure for all levels of education grew slightly less than GDP between 1995 and 2000 (17 and 20%, respectively), and significantly more than GDP between 2000 and 2005 (21 and 14%, respectively). Expenditure on educational institutions for all levels of education as a percentage of GDP increased in both of these 5-year periods in 7 of the 28 OECD and partner countries with comparable data.
- At primary, secondary and post-secondary non tertiary levels, expenditure in most countries increased less than GDP between 1995 and 2000 but more than GDP between 2000 and 2005. On average, however, expenditure as a percentage of GDP did not vary over the ten-year period.
- At the tertiary level, over the 1995-2005 period, expenditure increased at the same pace as GDP or faster. The increase was more pronounced from 2000 in nearly two-thirds of the 28 OECD countries with comparable data. Only Belgium, Ireland and the partner country Chile saw GDP grow faster than expenditure on educational institutions at this level from 2000 to 2005.

B2

Policy context

This indicator provides a measure of the relative proportion of a nation's wealth that is invested in educational institutions. Expenditure on educational institutions is an investment that can help foster economic growth, enhance productivity, contribute to personal and social development, and reduce social inequality. Relative to GDP, expenditure on educational institutions shows the priority a country gives to education in terms of its overall resource allocation. The proportion of total financial resources devoted to education is a choice made by each OECD country. This is an aggregate choice, made by government, enterprises, and individual students and their families, and is partially driven by the size of the country's school-age population and enrolment in education. If the social and private returns to investment in education are sufficiently large, there is an incentive to expand enrolment and increase total investment.

The indicator also includes a comparative review of changes in educational investment over time. In deciding how much is allocated to education, governments must assess demands for increased spending in areas such as teachers' salaries and educational facilities. This indicator can provide a point of reference, as it shows how the volume of educational spending, relative to national wealth and in absolute terms, has evolved over time in various OECD countries.

Evidence and explanations

What this indicator does and does not cover

This indicator covers expenditure on schools, universities and other public and private institutions involved in delivering or supporting educational services. Expenditure on institutions is not limited to expenditure on instructional services but also includes public and private expenditure on ancillary services for students and families (such as housing and transport services), when these services are provided by educational institutions. Spending on research and development can be significant in tertiary education and is included in this indicator, to the extent that the research is performed by educational institutions.

Not all spending on educational goods and services occurs within educational institutions. For example, families may purchase textbooks and materials commercially or seek private tutoring for their children outside educational institutions. At the tertiary level, students' living costs and foregone earnings can also account for a significant proportion of the costs of education. All expenditure outside educational institutions is excluded from this indicator, even if it is publicly subsidised. Public subsidies for educational expenditure outside institutions are discussed in Indicators B4 and B5.

Overall investment relative to GDP

All OECD countries invest a substantial proportion of national resources in education. Taking into account both public and private sources of funds, OECD countries as a whole spend 6.1% of their collective GDP on educational institutions at the pre-primary, primary, secondary and tertiary levels. Given the current tight constraints on public budgets, such a large spending item is subject to close scrutiny by governments looking for ways to reduce or limit the growth of expenditure.

The highest spending on educational institutions is in Denmark, Iceland, Korea and the United States, and the partner country Israel, with at least 7% of GDP accounted for by public and private spending on educational institutions, followed by Mexico and New Zealand with more than 6.5%. Seven out of 28 OECD countries for which data are available as well as three out of six partner countries spend less than 5% of GDP on educational institutions; in Greece and in the partner country the Russian Federation, the figure is 4.2 and 3.8%, respectively (Table B2.1).

Expenditure on educational institutions by level of education

Differences in spending on educational institutions are most striking at the pre-primary level. It ranges from less than 0.2% of GDP in Australia, Ireland and Korea to 0.8% or more in Denmark, Hungary and Iceland, and the partner country Israel (Table B2.2). Differences at the pre-primary level can be explained mainly by participation rates among younger children (see Indicator C2), but are also sometimes a result of the extent to which private early childhood education is covered by this indicator. In Ireland, for example, the majority of early childhood education is delivered in private institutions that are not yet covered by the Irish data. Moreover, high-quality early childhood education and care are provided not only by the educational institutions covered by this indicator but often also in more informal settings. Inferences on access to and quality of early childhood education and care should therefore be made with caution.

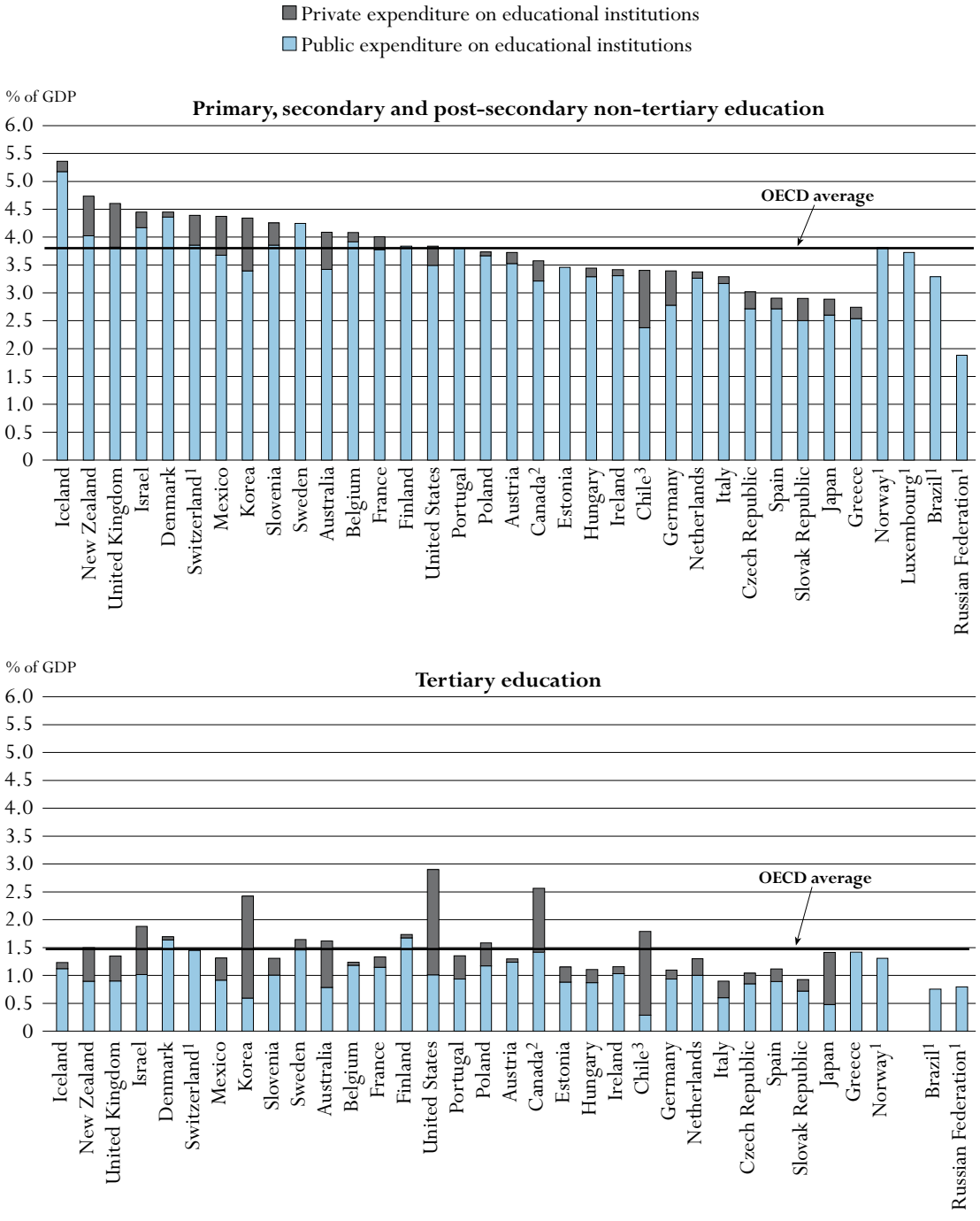
On average, among OECD countries, 60% of expenditure on educational institutions goes to primary, secondary and post-secondary non-tertiary education. Because enrolment in primary and lower secondary education is almost universal in OECD countries, and participation rates in upper secondary education are high (see Indicators C1 and C2), these levels account for the bulk of expenditure on educational institutions: 3.7% of the combined OECD GDP. At the same time, significantly higher spending on educational institutions per student at the upper secondary and tertiary levels causes the overall investment in these levels to be higher than enrolment numbers alone would suggest.

Nearly one-third of combined OECD expenditure on educational institutions is accounted for by tertiary education. At this level, the pathways available to students, the duration of programmes and the organisation of teaching vary greatly among OECD countries, resulting in significant differences in the expenditure allocated to tertiary education. On the one hand, Canada, Korea and the United States spend between 2.4 and 2.9% of their GDP on tertiary institutions. Except for Canada, these countries and the partner country Chile are also those with the highest proportion of private expenditure on tertiary education. Denmark and Finland as well as the partner countries Chile and Israel, also show high levels of spending, with 1.7% or more of GDP going to tertiary institutions. On the other hand, the proportion of GDP spent on tertiary institutions in Belgium, France, Iceland, Mexico, Portugal, Switzerland and the United Kingdom is below the OECD average; these countries are among the OECD countries in which the proportion of GDP spent on primary, secondary and post-secondary non-tertiary education is above the OECD average (Chart B2.2). In Switzerland, a moderate proportion of GDP spent on tertiary institutions translates to one of the highest levels of spending per tertiary student, owing to comparatively low tertiary enrolment rates and high GDP (Tables B2.1 and B1.1a).

B2

Chart B2.2. Expenditure on educational institutions as a percentage of GDP (2005)

From public and private sources, by level of education, source of funds and year



1. Public expenditure only (for Switzerland, in tertiary education only).
2. Year of reference 2004.
3. Year of reference 2006.

Countries are ranked in descending order of expenditure from both public and private sources on educational institutions in primary, secondary and post-secondary non-tertiary education.

Source: OECD. Table B2.4. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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Changes in overall educational spending between 1995, 2000 and 2005

More people are completing upper secondary and tertiary education than ever before (see Indicator A1), and in many countries, this has been accompanied by massive financial investment. For all levels of education combined, public and private investment in education increased in all countries by at least 8% between 1995 and 2005 in real terms and increased on average by 42% in OECD countries. Australia, Denmark, Finland, the Netherlands, New Zealand, Portugal, the Slovak Republic, Sweden and the United States increased expenditure on educational institutions by 30 to 50% while Greece, Hungary, Ireland, Mexico, Poland and the United Kingdom, and the partner countries Brazil, Chile and Estonia, increased spending by more than 50% (Table B2.3).

The differences are partly related to the variation of the school-age population, but a sound interpretation should also take account of the trends in national income. For example, in Ireland, spending on all levels of education combined increased by more than 80% between 1995 and 2005, but GDP more than doubled (Table B2.3). On average in the 28 countries for which data are available for 1995 and 2005, expenditure for all levels of education combined increased relatively more than GDP did. The increase in expenditure on educational institutions as a proportion of GDP exceeded 0.8 percentage points over the period in Denmark (6.2% to 7.4%), Greece (2.6% to 4.2%), Mexico (5.6% to 6.5%) and the United Kingdom (5.2% to 6.2%). However, the increase in spending on educational institutions tended to lag behind the growth in national income in more than one-third of the 28 OECD and partner countries for which data are available. The most notable differences are in Austria, Canada, France, Ireland and Spain, and in partner country Estonia where the proportion of GDP spent on educational institutions decreased by 0.5 percentage point or more between 1995 and 2005 (Table B2.1), mainly as a result of the decrease in expenditure on educational institutions as a percentage of GDP at the primary, secondary and post-secondary non-tertiary levels.

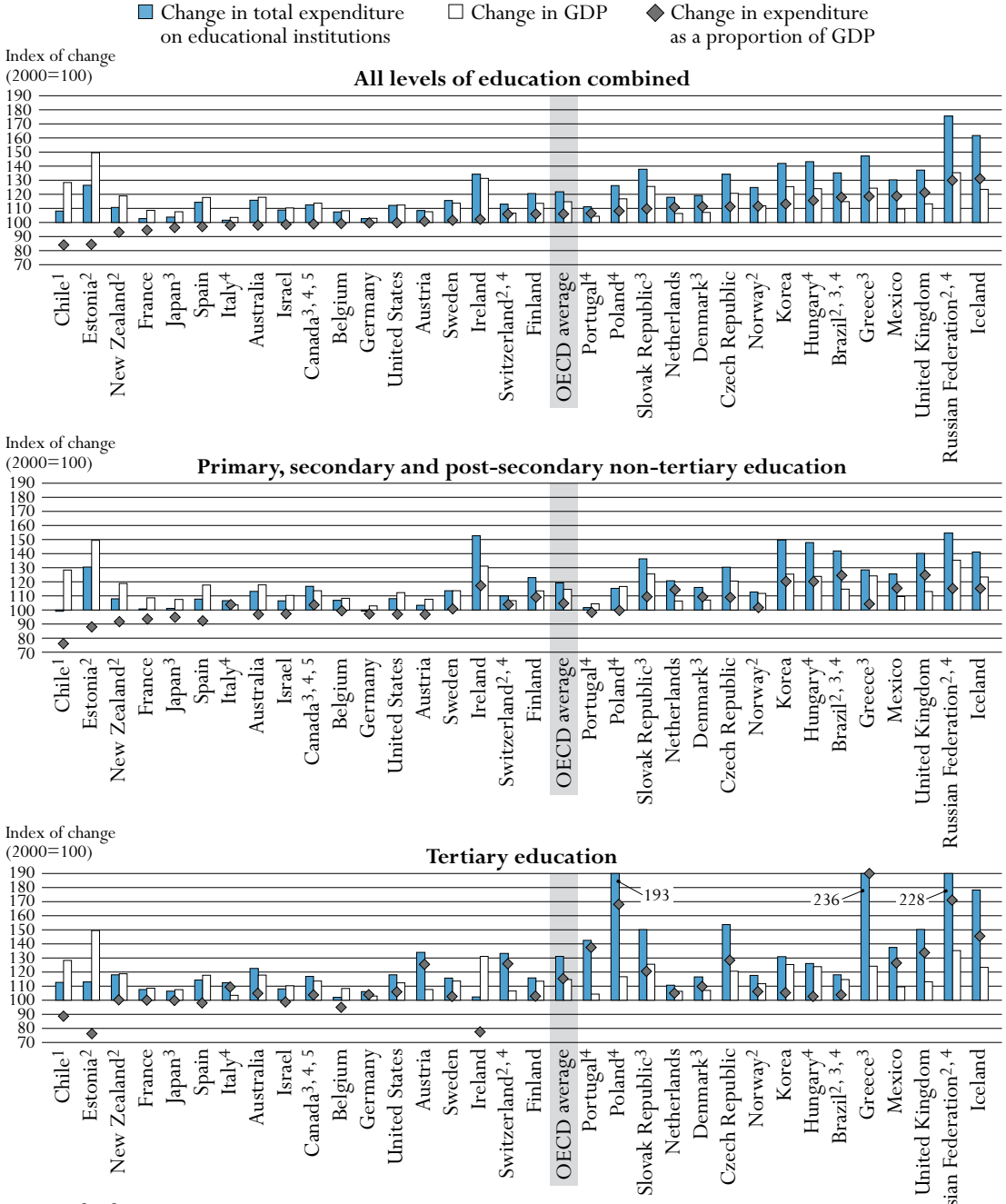
From 1995 to 2005 on average, expenditure on educational institutions for all levels of education increased similarly during the two five-year periods. However, slower growth for 2000 to 2005 is particularly marked in New Zealand, Portugal and the United States and in the partner country Chile. The reverse pattern is true for the Czech Republic, Hungary, Norway, the Slovak Republic and the United Kingdom (Table B2.3 and Chart B2.3). When comparing changes in expenditure on educational institutions to changes in GDP, a clearer picture emerges: expenditure for all levels of education grew on average slightly less than GDP between 1995 and 2000 (by 17 and 20%, respectively), and significantly more than GDP between 2000 and 2005 (by 21 and 14%, respectively). In 14 out of 28 OECD and partner countries for which data are available, expenditure for all levels of education as a percentage of GDP decreased between 1995 and 2000 and then increased from 2000 to 2005. Nevertheless, expenditure on educational institutions for all levels of education as a percentage of GDP increased in both of these 5-year periods in 7 of the 28 OECD and partner countries with comparable data (all of them among the countries with the largest increases in expenditure over the period).

In two-thirds of the 28 OECD and partner countries for which data are available, expenditure on educational institutions for tertiary education between 1995 and 2005 increased proportionately more than for primary, secondary and post-secondary non-tertiary education. This is certainly associated to some extent with the significant increase in tertiary students compared to the relative stability in the number of students at lower levels (Table B1.5). In Canada, the Czech Republic,

B2

Chart B2.3. Changes in expenditure on educational institutions and changes in GDP (2000, 2005)

(2000 = 100, 2005 constant prices)



1. Year of reference 2006.
2. Public expenditure only.
3. Some levels of education are included with others.
4. Public institutions only.
5. Year of reference 2004.

Countries are ranked in ascending order of change between 2000 and 2005 in expenditure on educational institutions as a percentage of GDP for all levels of education combined.

Source: OECD. Table B2.3 and Annex 2. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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Greece, Italy, Poland, Portugal, the Slovak Republic, Spain, Switzerland and the United States, increases in spending on tertiary education surpassed increases at the primary, secondary and post-secondary non-tertiary levels by 30 percentage points or more. Ireland, Sweden and the partner countries Chile and Estonia invested additional resources in similar proportions in primary, secondary and post-secondary non-tertiary and tertiary education combined. Conversely, Australia, Denmark, Finland, the Netherlands, New Zealand, Norway, and the United Kingdom and the partner country Brazil invested most of the increases (in relative terms) in primary, secondary and post-secondary non-tertiary education (Table B2.3).

Between 1995 and 2005, spending on the various levels of education evolved quite differently. From primary to post-secondary non-tertiary education, expenditure on educational institutions as a proportion of GDP decreased in half of the countries for which data are available (15 out of 28 OECD and partner countries), but the pattern is different in the two five-year periods. In most countries, expenditure increased less than GDP between 1995 and 2000 but more than the GDP between 2000 and 2005. However, the increase from 2000 did not necessarily compensate for the preceding decrease. The opposite pattern (increase to 2000 followed by a decrease from 2000) is observed in the partner country Chile and to a lesser extent in Poland, Sweden and the United States. The main exceptions to these patterns are Austria, France, Germany, Japan, and Spain where expenditure on educational institutions from primary to post-secondary non-tertiary education (as a proportion of GDP) significantly decreased in both periods and Australia, Denmark and Greece where they significantly increased in both (Tables B2.1, B2.3 and Chart B2.3).

In tertiary education, expenditure on educational institutions as a proportion of GDP decreased from 1995 to 2005 only in Finland, France, Ireland, the Netherlands and Norway. On average, expenditure on educational institutions increased at the same pace as GDP (by 20%) during the period 1995 to 2000 and significantly more than GDP from 2000 to 2005 (by 32 and 14%, respectively). Only in Belgium, Ireland and the partner country Chile did GDP grow faster than expenditure on educational institutions at the tertiary level from 2000 to 2005. The increase in expenditure was more pronounced from 2000 in nearly two-thirds of the 28 OECD and partner countries with comparable data. However, in nine of these countries, expenditure at the tertiary level increased less than GDP before 2000 and more than GPD after 2000 (Tables B2.1, B2.3 and Chart B2.3).

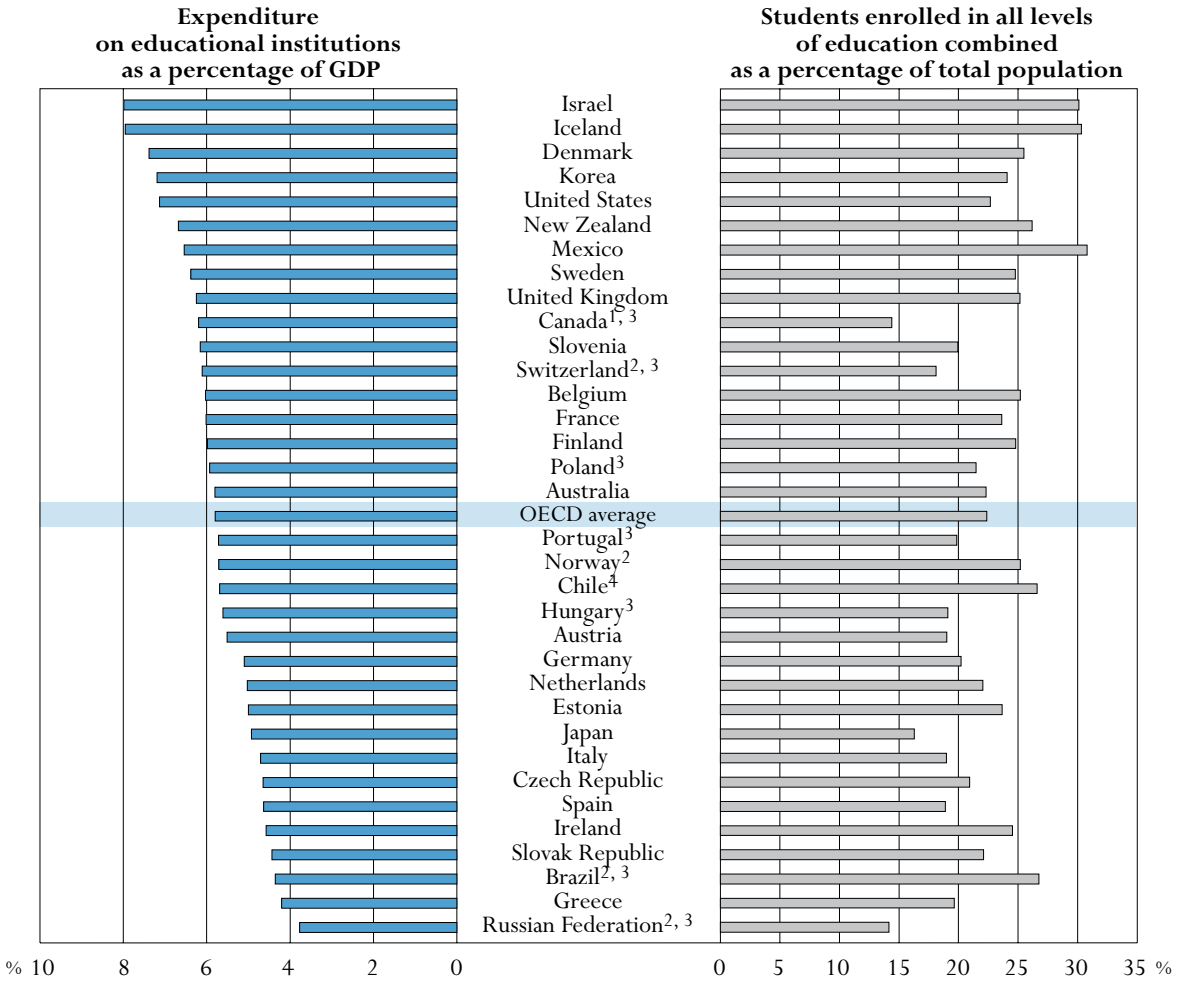
Relationship between national expenditure on educational institutions and demographic patterns

National resources devoted to education depend on a number of interrelated factors of supply and demand, such as the demographic structure of the population, enrolment rates, income per capita, national levels of teachers' salaries, and the organisation and delivery of instruction. For example, OECD countries with high spending levels may enrol larger numbers of students, while countries with low spending levels may either limit access to higher levels of education or deliver educational services in a particularly efficient manner. The distribution of enrolments among sectors and fields of study may also differ, as may the duration of studies and the scale and organisation of related educational research. Finally, large differences in GDP among OECD countries mean that similar percentages of GDP spent on educational institutions can result in very different absolute amounts per student (see Indicator B1).

B2

Chart B2.4. Expenditure on educational institutions as a percentage of GDP and total enrolment in education as a percentage of total population (2005)

For all levels of education combined, based on full-time equivalents



1. Year of reference 2004.
2. Public expenditure only (for Switzerland, in tertiary education only).
3. Public institutions only.
4. Year of reference 2006.

Countries are ranked in descending order of total expenditure on educational institutions as a percentage of GDP.

Source: OECD. Table B2.1 and Annex 2. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

StatLink http://dx.doi.org/10.1787/401864037554

The size of a country's school-age population shapes the potential demand for initial education and training: the larger this population, the greater the potential demand for educational services. Among OECD countries with comparable national income, a country in which this population is relatively large will have to spend a higher percentage of its GDP on educational institutions so that the individuals concerned have the opportunity to receive the same quantity of education as individuals in other OECD countries, based on the assumption of comparable costs for teachers and facilities. Conversely, but based on the same assumption, if this population is relatively small, the country will be required to spend less of its wealth on educational institutions in order to achieve similar results.

Comparing expenditure on educational institutions as a percentage of GDP with the proportion of the population enrolled in education shows in general that seven of the ten countries with over 25% of their population enrolled in formal education (Belgium, Denmark, Iceland, Mexico, New Zealand and the United Kingdom and the partner country Israel) are also those with expenditure on educational institutions as a percentage of GDP above the OECD average (Chart B2.4). In contrast, Austria, Canada, Greece, Hungary, Italy, Japan, Portugal, Spain and Switzerland, and the partner country the Russian Federation, have the lowest proportions of the population (less than 20%) enrolled in formal education, and except for Canada and Switzerland, they also have expenditure on educational institutions below the OECD average. Some of these countries also have the lowest shares of GDP devoted to education among OECD and partner countries.

Nevertheless, the proportion of the school-age population does not alone determine the level of expenditure. Countries with similar proportions of the population in education may spend different shares of their GDP, according to the priority they give to education or the ways in which education expenditure are distributed among levels of education. For example, the proportion of the population enrolled in education is quite similar in Mexico and the partner country Israel (30.8 and 30.1%, respectively), but Mexico spends 1.5 percentage points less of its GDP on educational institutions than Israel (6.5 and 8.0%, respectively). However, countries spending similar proportion of their GDP on educational institutions do not necessarily have the same proportion of their population enrolled in education. For example, Portugal and Norway spend 5.7% of their GDP on educational institutions, but students represent about 20% of the population in Portugal and 25% in Norway. These differences may reflect expenditure per student (Table B1.1a).

Expenditure on educational institutions by source of funding

Increased expenditure on educational institutions in response to growth in enrolments implies a heavier financial burden for society as a whole, but it does not fall entirely on public funding. On average, of the 6.1% of the combined OECD area GDP devoted to education, more than three-quarters comes from public sources (Table B2.4). The majority of funding is from public sources in all countries and is nearly the sole source of funding in Norway. However, there are greater differences among countries in the breakdown of educational expenditure by source of funding and by level of education (see Indicator B3).

Definitions and methodologies

Data refer to the financial year 2005 and are based on the UOE data collection on education statistics administered by the OECD in 2007 (for details see Annex 3 at *www.oecd.org/edu/eag2008*). Expenditure on educational institutions, as covered by this indicator, includes expenditure on both instructional and non-instructional educational institutions. Instructional educational institutions are educational institutions which directly provide instructional programmes (*i.e.* teaching) to individuals directly in an organised group setting or through distance education. Business enterprises or other institutions providing short-term courses of training or instruction to individuals on a one-to-one basis are not included. Non-instructional educational institutions provide administrative, advisory or professional services to other educational institutions but do not enrol students themselves. Examples include national, state and provincial ministries or departments of education; other bodies that administer education at various levels of government

or analogous bodies in the private sector; and organisations that provide education-related services as vocational or psychological counselling, placement, testing, financial aid to students, curriculum development, educational research, building operations and maintenance services, transport of students, and student meals and housing.

This definition of institutions ensures that expenditure on services, which are provided in some OECD countries by schools and universities and in others by agencies other than schools, are covered on a comparable basis.

The distinction by source of funds is based on the initial source of funds and does not reflect subsequent public-to-private or private-to-public transfers. For this reason, subsidies to households and other entities, such as subsidies for tuition fees and other payments to educational institutions, are included in public expenditure in this indicator. Payments from households and other private entities to educational institutions include tuition and other fees, net of offsetting public subsidies. A detailed discussion of public subsidies can be found in Indicator B5.

The OECD average is calculated as the simple average of all OECD countries for which data are available. The OECD total reflects the value of the indicator if the OECD region is considered as a whole (see the Reader's Guide for details).

Tables B2.1 and B2.3 show expenditure on educational institutions for the financial years 1995, 2000 and 2005. The data on expenditure for 1995 were obtained by a special survey in 2002 and updated in 2007; expenditure for 1995 was adjusted to reflect the methods and definitions used in the 2007 UOE data collection.

Data for 1995 and 2000 are expressed in 2005 price levels. Charts B2.1 and B2.3 and Tables B2.1 and B2.3 present an index of change in expenditure on institutions and GDP between 1995, 2000 and 2005. All expenditure, as well as the 1995 and 2000 GDP, is adjusted to 2005 prices using the GDP deflator.

For comparisons over time, the OECD average accounts only for those OECD countries for which data are available for all reported reference years.

Table B2.1.

Expenditure on educational institutions as a percentage of GDP, by level of education (1995, 2000, 2005)

From public and private sources, by year

		2005			2000			1995		
		Primary, secondary and post-secondary non-tertiary education	Tertiary education	Total all levels of education	Primary, secondary and post-secondary non-tertiary education	Tertiary education	Total all levels of education	Primary, secondary and post-secondary non-tertiary education	Tertiary education	Total all levels of education
OECD countries	Australia	4.1	1.6	**5.8**	4.0	1.5	**5.6**	3.6	1.6	**5.3**
	Austria	3.7	1.3	**5.5**	3.9	1.0	**5.5**	4.2	1.2	**6.1**
	Belgium	4.1	1.2	**6.0**	4.1	1.3	**6.1**	m	m	m
	Canada[1, 2]	3.6	2.6	**6.2**	3.3	2.3	**5.9**	4.3	2.1	**6.7**
	Czech Republic	3.0	1.0	**4.6**	2.8	0.8	**4.2**	3.5	0.9	**5.1**
	Denmark[2]	4.5	1.7	**7.4**	4.1	1.6	**6.6**	4.0	1.6	**6.2**
	Finland	3.9	1.7	**6.0**	3.6	1.7	**5.6**	4.0	1.9	**6.3**
	France	4.0	1.3	**6.0**	4.3	1.3	**6.4**	4.5	1.4	**6.6**
	Germany	3.4	1.1	**5.1**	3.5	1.1	**5.1**	3.7	1.1	**5.4**
	Greece[2]	2.7	1.5	**4.2**	2.7	0.8	**3.6**	2.0	0.6	**2.6**
	Hungary	3.4	1.1	**5.6**	2.9	1.1	**4.9**	3.5	1.0	**5.3**
	Iceland[2]	5.4	1.2	**8.0**	4.7	0.9	**6.1**	m	m	m
	Ireland	3.4	1.2	**4.6**	2.9	1.5	**4.5**	3.8	1.3	**5.2**
	Italy	3.3	0.9	**4.7**	3.2	0.9	**4.8**	3.6	0.7	**4.8**
	Japan[2]	2.9	1.4	**4.9**	3.1	1.4	**5.1**	3.1	1.3	**5.0**
	Korea	4.3	2.4	**7.2**	3.6	2.3	**6.4**	m	m	m
	Luxembourg[2, 3]	3.7	m	m	m	m	m	m	m	m
	Mexico	4.4	1.3	**6.5**	3.8	1.0	**5.5**	4.0	1.1	**5.6**
	Netherlands	3.4	1.3	**5.0**	3.0	1.2	**4.5**	3.0	1.4	**4.8**
	New Zealand	4.7	1.5	**6.7**	m	m	m	m	m	m
	Norway[3]	3.8	1.3	**5.7**	3.8	1.2	**5.1**	4.3	1.6	**5.9**
	Poland	3.7	1.6	**5.9**	3.9	1.1	**5.6**	3.6	0.8	**5.2**
	Portugal	3.8	1.4	**5.7**	3.9	1.0	**5.4**	3.6	0.9	**5.0**
	Slovak Republic[2]	2.9	0.9	**4.4**	2.7	0.8	**4.0**	3.0	0.7	**4.6**
	Spain	2.9	1.1	**4.6**	3.2	1.1	**4.8**	3.8	1.0	**5.3**
	Sweden	4.2	1.6	**6.4**	4.3	1.6	**6.3**	4.1	1.5	**6.0**
	Switzerland[3]	4.4	1.4	**6.1**	4.2	1.1	**5.7**	4.6	0.9	**6.0**
	Turkey	m	m	m	2.4	1.0	**3.4**	1.7	0.7	**2.3**
	United Kingdom	4.6	1.3	**6.2**	3.6	1.0	**5.0**	3.7	1.1	**5.2**
	United States	3.8	2.9	**7.1**	3.9	2.7	**7.0**	3.8	2.3	**6.6**
	OECD average	***3.8***	***1.5***	***5.8***	~	~	~	~	~	~
	OECD total	***3.7***	***2.0***	***6.1***	~	~	~	~	~	~
	EU19 average	***3.6***	***1.3***	***5.5***	~	~	~	~	~	~
	OECD mean for countries with 1995, 2000 and 2005 data (24 countries)	***3.7***	***1.4***	***5.6***	***3.5***	***1.3***	***5.3***	***3.7***	***1.3***	***5.5***
Partner countries	Brazil[3]	3.2	0.8	**4.4**	2.6	0.7	**3.7**	2.6	0.7	**3.7**
	Chile[4]	3.4	1.8	**5.7**	4.4	2.0	**6.7**	3.2	1.7	**5.1**
	Estonia	3.5	1.1	**5.0**	3.9	1.0	**5.4**	4.2	1.0	**5.8**
	Israel	4.5	1.9	**8.0**	4.6	1.9	**8.1**	5.0	1.9	**8.6**
	Russian Federation[3]	1.9	0.8	**3.8**	1.7	0.5	**2.9**	m	m	m
	Slovenia	4.3	1.3	**6.2**	m	m	m	m	m	m

1. Year of reference 2004 instead of 2005.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Public expenditure only (for Switzerland, in tertiary education only).
4. Year of reference 2006 instead of 2005.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

StatLink http://dx.doi.org/10.1787/401864037554

B2

Table B2.2.

Expenditure on educational institutions as a percentage of GDP, by level of education (2005)

From public and private sources[1]

		Pre-primary education (for children aged 3 and older)	Primary, secondary and post-secondary non-tertiary education				Tertiary education			All levels of education combined (including undistributed programmes)
			All primary, secondary and post-secondary non-tertiary education	Primary and lower secondary education	Upper secondary education	Post-secondary non-tertiary education	All tertiary education	Tertiary-type B education	Tertiary-type A education and advanced research programmes	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	Australia	0.1	4.1	3.1	0.9	0.1	1.6	0.1	1.5	**5.8**
	Austria	0.5	3.7	2.4	1.3	n	1.3	0.1	1.2	**5.5**
	Belgium[2]	0.6	4.1	1.5	2.6	x(4)	1.2	x(6)	x(6)	**6.0**
	Canada[3]	x(2)	3.6	x(2)	x(2)	x(6, 7)	2.6	1.0	1.6	**6.2**
	Czech Republic	0.5	3.0	1.8	1.1	0.1	1.0	n	1.0	**4.6**
	Denmark	0.8	4.5	3.1	1.4	x(4, 6)	1.7	x(6)	x(6)	**7.4**
	Finland	0.4	3.9	2.4	1.4	x(4)	1.7	n	1.7	**6.0**
	France	0.7	4.0	2.6	1.4	n	1.3	0.3	1.1	**6.0**
	Germany	0.5	3.4	2.0	1.2	0.2	1.1	0.1	1.0	**5.1**
	Greece[2]	x(3)	2.7	1.2	1.4	0.1	1.5	0.3	1.2	**4.2**
	Hungary	0.8	3.4	2.2	1.1	0.2	1.1	n	1.1	**5.6**
	Iceland	0.8	5.4	3.9	x(2)	x(2)	1.2	x(6)	x(6)	**8.0**
	Ireland	n	3.4	2.5	0.7	0.2	1.2	x(6)	x(6)	**4.6**
	Italy	0.5	3.3	2.0	1.3	0.1	0.9	n	0.9	**4.7**
	Japan	0.2	2.9	2.0	0.9	x(4, 6)	1.4	0.3	1.2	**4.9**
	Korea	0.1	4.3	3.0	1.4	a	2.4	0.5	2.0	**7.2**
	Luxembourg[4]	x(2)	3.7	2.8	0.9	m	m	m	m	m
	Mexico	0.7	4.4	3.5	0.9	a	1.3	x(6)	x(6)	**6.5**
	Netherlands	0.4	3.4	2.5	0.8	n	1.3	n	1.3	**5.0**
	New Zealand	0.3	4.7	2.9	1.6	0.2	1.5	0.3	1.2	**6.7**
	Norway[4]	0.3	3.8	2.6	1.2	x(4)	1.3	x(6)	x(6)	**5.7**
	Poland	0.6	3.7	2.6	1.1	n	1.6	n	1.6	**5.9**
	Portugal	0.4	3.8	2.8	1.0	m	1.4	x(6)	x(6)	**5.7**
	Slovak Republic	0.5	2.9	1.8	1.1	x(4)	0.9	x(4)	0.9	**4.4**
	Spain	0.6	2.9	x(2)	x(2)	a	1.1	x(6)	x(6)	**4.6**
	Sweden	0.5	4.2	2.9	1.3	n	1.6	x(6)	x(6)	**6.4**
	Switzerland[4]	0.2	4.4	2.7	1.6	0.1	1.4	n	1.4	**6.1**
	Turkey	m	m	m	m	a	m	m	m	m
	United Kingdom[2]	0.3	4.6	2.5	1.4	0.8	1.3	x(6)	x(6)	**6.2**
	United States	0.4	3.8	2.9	1.0	m	2.9	x(6)	x(6)	**7.1**
	OECD average	*0.4*	*3.8*	*2.5*	*1.2*	*0.1*	*1.5*	*0.2*	*1.3*	*5.8*
	OECD total	*0.4*	*3.7*	*2.6*	*1.1*	*0.1*	*2.0*	*0.3*	*1.3*	*6.1*
	EU19 average	*0.5*	*3.6*	*2.3*	*1.3*	*0.1*	*1.3*	*0.1*	*1.2*	*5.5*
Partner countries	Brazil[4]	0.4	3.2	2.7	0.5	a	0.8	x(6)	x(6)	**4.4**
	Chile[5]	0.5	3.4	2.2	1.2	a	1.8	0.4	1.4	**5.7**
	Estonia	0.4	3.5	2.2	1.1	0.2	1.1	0.3	0.9	**5.0**
	Israel	0.9	4.5	2.4	2.1	n	1.9	0.4	1.5	**8.0**
	Russian Federation[4]	0.5	1.9	x(2)	x(2)	x(2)	0.8	0.2	0.6	**3.8**
	Slovenia	0.6	4.3	2.9	1.3	x(4)	1.3	x(6)	x(6)	**6.2**

1. Including international sources.
2. Column 3 only refers to primary education and column 4 refers to all secondary education.
3. Year of reference 2004.
4. Public expenditure only (for Switzerland, in tertiary education only).
5. Year of reference 2006.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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B2

Table B2.3.

Change in expenditure on educational institutions and in GDP (1995, 2000, 2005)

Index of change between 1995, 2000 and 2005 in expenditure on educational institutions from public and private sources and in GDP, by level of education (GDP deflator and GDP (2000=100), constant prices)

		All levels of education			Primary, secondary and post-secondary non-tertiary education			Tertiary education			Gross Domestic Product		
		1995	2000	2005	1995	2000	2005	1995	2000	2005	1995	2000	2005
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD countries	Australia	79	100	115	74	100	113	91	100	122	83	100	118
	Austria	97	100	108	94	100	103	98	100	133	87	100	107
	Belgium	m	100	107	m	100	107	m	100	102	88	100	108
	Canada[1, 2, 3]	92	100	112	106	100	116	75	100	117	82	100	113
	Czech Republic	113	100	134	116	100	130	101	100	153	93	100	120
	Denmark[2]	81	100	119	84	100	116	91	100	116	87	100	107
	Finland	88	100	120	89	100	123	90	100	116	79	100	113
	France	90	100	103	90	100	101	91	100	107	87	100	108
	Germany	95	100	103	94	100	99	95	100	106	91	100	103
	Greece[2]	63	100	146	64	100	128	66	100	236	84	100	124
	Hungary[3]	90	100	142	100	100	147	74	100	126	82	100	124
	Iceland	m	100	161	m	100	140	m	100	177	79	100	123
	Ireland	74	100	134	83	100	152	57	100	102	64	100	131
	Italy[3]	91	100	102	103	100	107	79	100	112	91	100	104
	Japan[2]	94	100	104	98	100	101	88	100	106	96	100	107
	Korea	m	100	141	m	100	149	m	100	130	81	100	125
	Luxembourg	m	100	m	m	100	m	m	100	m	74	100	120
	Mexico	77	100	130	81	100	125	77	100	137	77	100	109
	Netherlands	87	100	117	84	100	120	94	100	111	82	100	106
	New Zealand[4]	75	100	110	71	100	108	105	100	118	88	100	118
	Norway[4]	97	100	124	94	100	113	107	100	117	83	100	112
	Poland[3]	80	100	126	74	100	115	89	100	193	77	100	116
	Portugal[3]	77	100	111	76	100	102	73	100	142	82	100	104
	Slovak Republic[2]	96	100	137	96	100	136	81	100	149	84	100	125
	Spain	91	100	114	99	100	108	72	100	114	82	100	117
	Sweden	81	100	115	81	100	113	81	100	116	85	100	113
	Switzerland[3, 4]	95	100	113	101	100	110	74	100	133	90	100	106
	Turkey[4]	57	100	m	58	100	m	56	100	m	82	100	124
	United Kingdom	89	100	137	87	100	140	98	100	149	85	100	113
	United States	76	100	112	80	100	108	70	100	118	82	100	112
	OECD average	*86*	*100*	*121*	*88*	*100*	*119*	*83*	*100*	*131*	*84*	*100*	*114*
	EU19 average	*87*	*100*	*121*	*89*	*100*	*119*	*84*	*100*	*132*	*83*	*100*	*114*
Partner countries	Brazil[2, 3, 4]	83	100	135	82	100	141	78	100	118	91	100	114
	Chile[5]	56	100	108	54	100	99	61	100	112	82	100	128
	Estonia[4]	76	100	126	77	100	130	68	100	113	76	100	149
	Israel	84	100	109	86	100	106	77	100	108	80	100	110
	Russian Federation[3, 4]	m	100	174	m	100	154	m	100	228	92	100	135
	Slovenia	m	m	m	m	m	m	m	m	m	81	100	118

1. Year of reference 2004 instead of 2005.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Public institutions only (for Canada, in tertiary education only).
4. Public expenditure only.
5. Year of reference 2006 instead of 2005.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

StatLink http://dx.doi.org/10.1787/401864037554

B2

Table B2.4.

Expenditure on educational institutions as a percentage of GDP, by source of funds and level of education (2005)

From public and private sources of funds

		Primary, secondary and post-secondary non-tertiary education			Tertiary education			Total all levels of education		
		Public[1]	Private[2]	Total	Public[1]	Private[2]	Total	Public[1]	Private[2]	Total
OECD countries	**Australia**	3.4	0.7	**4.1**	0.8	0.8	**1.6**	4.3	1.5	**5.8**
	Austria	3.5	0.2	**3.7**	1.2	0.1	**1.3**	5.2	0.4	**5.5**
	Belgium	3.9	0.2	**4.1**	1.2	0.1	**1.2**	5.8	0.2	**6.0**
	Canada[3, 4]	3.2	0.4	**3.6**	1.4	1.1	**2.6**	4.7	1.5	**6.2**
	Czech Republic	2.7	0.3	**3.0**	0.8	0.2	**1.0**	4.1	0.6	**4.6**
	Denmark[4]	4.4	0.1	**4.5**	1.6	0.1	**1.7**	6.8	0.6	**7.4**
	Finland	3.8	n	**3.9**	1.7	0.1	**1.7**	5.9	0.1	**6.0**
	France	3.8	0.2	**4.0**	1.1	0.2	**1.3**	5.6	0.5	**6.0**
	Germany	2.8	0.6	**3.4**	0.9	0.2	**1.1**	4.2	0.9	**5.1**
	Greece[4]	2.5	0.2	**2.7**	1.4	n	**1.5**	4.0	0.3	**4.2**
	Hungary	3.3	0.2	**3.4**	0.9	0.2	**1.1**	5.1	0.5	**5.6**
	Iceland[4]	5.2	0.2	**5.4**	1.1	0.1	**1.2**	7.2	0.7	**8.0**
	Ireland	3.3	0.1	**3.4**	1.0	0.1	**1.2**	4.3	0.3	**4.6**
	Italy	3.2	0.1	**3.3**	0.6	0.3	**0.9**	4.3	0.4	**4.7**
	Japan[4]	2.6	0.3	**2.9**	0.5	0.9	**1.4**	3.4	1.5	**4.9**
	Korea	3.4	0.9	**4.3**	0.6	1.8	**2.4**	4.3	2.9	**7.2**
	Luxembourg[4]	3.7	m	m	m	m	m	m	m	m
	Mexico	3.7	0.7	**4.4**	0.9	0.4	**1.3**	5.3	1.2	**6.5**
	Netherlands	3.3	0.1	**3.4**	1.0	0.3	**1.3**	4.6	0.4	**5.0**
	New Zealand	4.0	0.7	**4.7**	0.9	0.6	**1.5**	5.2	1.4	**6.7**
	Norway	3.8	m	m	1.3	m	m	5.7	m	m
	Poland	3.7	0.1	**3.7**	1.2	0.4	**1.6**	5.4	0.6	**5.9**
	Portugal	3.8	n	**3.8**	0.9	0.4	**1.4**	5.3	0.4	**5.7**
	Slovak Republic[4]	2.5	0.4	**2.9**	0.7	0.2	**0.9**	3.7	0.7	**4.4**
	Spain	2.7	0.2	**2.9**	0.9	0.2	**1.1**	4.1	0.5	**4.6**
	Sweden	4.2	n	**4.2**	1.5	0.2	**1.6**	6.2	0.2	**6.4**
	Switzerland	3.9	0.5	**4.4**	1.4	m	m	5.6	m	m
	Turkey	m	m	m	m	m	m	m	m	m
	United Kingdom	3.8	0.8	**4.6**	0.9	0.4	**1.3**	5.0	1.2	**6.2**
	United States	3.5	0.3	**3.8**	1.0	1.9	**2.9**	4.8	2.3	**7.1**
	OECD average	***3.5***	***0.3***	***3.8***	***1.1***	***0.4***	***1.5***	***5.0***	***0.8***	***5.8***
	OECD total	***3.3***	***0.4***	***3.7***	***0.9***	***1.0***	***2.0***	***4.6***	***1.5***	***6.1***
	EU19 average	***3.4***	***0.2***	***3.6***	***1.1***	***0.2***	***1.3***	***5.0***	***0.5***	***5.5***
Partner countries	**Brazil**	3.3	m	m	0.8	m	m	4.4	m	m
	Chile[5]	2.4	1.0	**3.4**	0.3	1.5	**1.8**	3.0	2.7	**5.7**
	Estonia	3.5	n	**3.5**	0.9	0.3	**1.1**	4.7	0.3	**5.0**
	Israel	4.2	0.3	**4.5**	1.0	0.9	**1.9**	6.2	1.8	**8.0**
	Russian Federation	1.9	m	m	0.8	m	m	3.8	m	m
	Slovenia	3.9	0.4	**4.3**	1.0	0.3	**1.3**	5.3	0.8	**6.2**

1. Including public subsidies to households attributable for educational institutions, as well as including direct expenditure on educational institutions from international sources.
2. Net of public subsidies attributable for educational institutions.
3. Year of reference 2004.
4. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
5. Year of reference 2006.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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INDICATOR B3

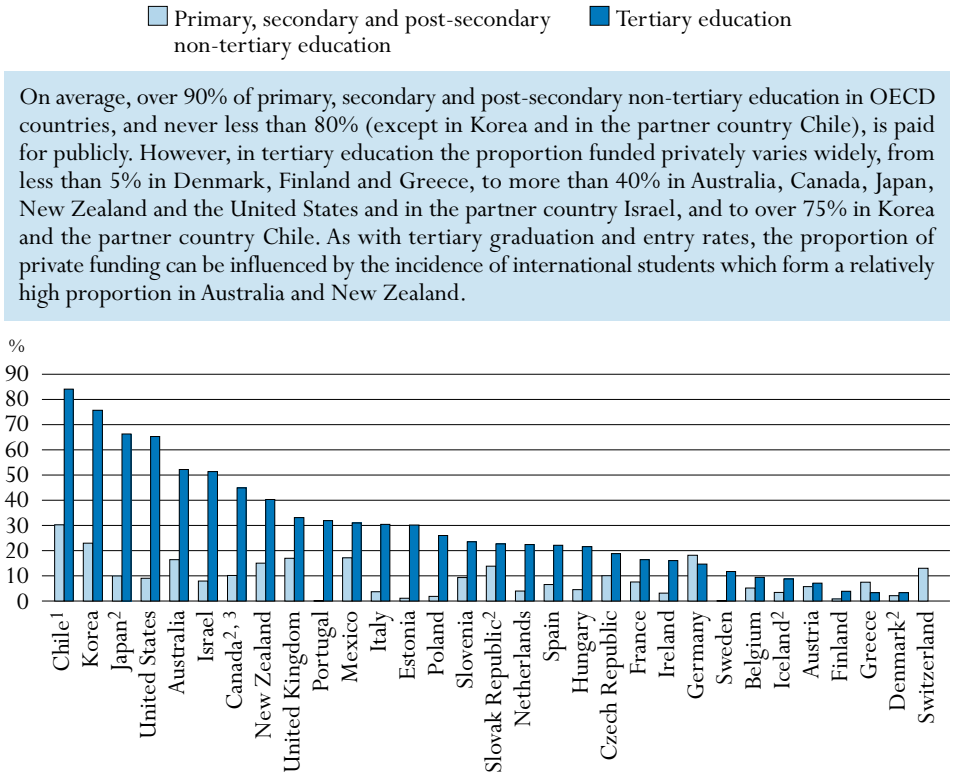
HOW MUCH PUBLIC AND PRIVATE INVESTMENT IS THERE IN EDUCATION?

This indicator examines the proportion of public and private funding allocated to educational institutions for each level of education. It also breaks down private funding between household expenditure and expenditure from private entities other than households. It sheds some light on the widely debated issue of how the financing of educational institutions should be shared between public entities and private ones, particularly those at the tertiary level.

Key results

Chart B3.1. Share of private expenditure on educational institutions (2005)

The chart shows private spending on educational institutions as a percentage of total spending on educational institutions. This includes all money transferred to educational institutions through private sources, including public funding via subsidies to households, private fees for educational services or other private spending (e.g. on accommodation) that passes through the institution.



On average, over 90% of primary, secondary and post-secondary non-tertiary education in OECD countries, and never less than 80% (except in Korea and in the partner country Chile), is paid for publicly. However, in tertiary education the proportion funded privately varies widely, from less than 5% in Denmark, Finland and Greece, to more than 40% in Australia, Canada, Japan, New Zealand and the United States and in the partner country Israel, and to over 75% in Korea and the partner country Chile. As with tertiary graduation and entry rates, the proportion of private funding can be influenced by the incidence of international students which form a relatively high proportion in Australia and New Zealand.

1. Year of reference 2006.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Year of reference 2004 .

Countries are ranked in descending order of the share of private expenditure on educational institutions for tertiary education.

Source: OECD. Tables B3.2a and B3.2b. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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Other highlights of this indicator

- In all countries for which comparable data are available, for all levels of education combined, public funding on educational institutions increased between 1995 and 2005. However, private spending increased even more in nearly three-quarters of these countries. Nevertheless, in 2005, 86% of expenditure, on average, for all levels of education combined, was still from public sources.
- The share of tertiary spending on educational institutions from private sources rose substantially in some countries between 1995 and 2005, but this was not the case for other levels of education.
- On average among the 18 OECD countries for which trend data are available, the share of public funding in tertiary institutions decreased slightly from 79% in 1995 to 77% in 2000 and to 73% in 2005. This trend is mainly influenced by non-European countries in which tuition fees are generally higher and enterprises participate more actively by providing grants to finance tertiary institutions.
- The increase in private investment has not displaced but complemented public financing. However, in eight out of the 11 OECD countries with the largest increase in public expenditure on tertiary education between 2000 and 2005, tertiary institutions charge low or no tuition fees. The exceptions are Korea, the United Kingdom and the United States.
- Compared to other levels of education, tertiary institutions and to a lesser extent pre-primary institutions obtain the largest proportions of funds from private sources, at 27 and 20%, respectively.
- In tertiary education, households account for most private expenditure in most countries for which data are available. Exceptions are Canada, Greece, Hungary, the Slovak Republic and Sweden where private expenditure from entities other than households is more significant.

Policy context

Cost-sharing between participants in the education system and society as a whole is an issue under discussion in many OECD countries. It is especially relevant for pre-primary and tertiary education, for which full or nearly full public funding is less common.

As new client groups participate in a wider range of educational programmes and choose among more opportunities from increasing numbers of providers, governments are forging new partnerships to mobilise the necessary resources to pay for education and to share costs and benefits more equitably.

As a result, public funding more often provides only a part (albeit a very large part) of investment in education, and the role of private sources has become more important. Some stakeholders are concerned that this balance should not become so tilted as to discourage potential students. Thus, changes in a country's public/private funding shares can provide important information on changing patterns and levels of participation within its educational system.

Evidence and explanations

What this indicator does and does not cover

Governments can spend public funds directly on educational institutions or use them to provide subsidies to private entities for the purpose of education. When reporting on the public and private proportions of educational expenditure, it is therefore important to distinguish between the initial sources of funds and the final direct purchasers of educational goods and services.

Initial public spending includes both direct public expenditure on educational institutions and transfers to the private sector. To gauge the level of public expenditure, it is necessary to add together the components showing direct public expenditure on educational institutions and public subsidies for education. Initial private spending includes tuition fees and other student or household payments to educational institutions, less the portion of such payments offset by public subsidies.

The final public and private proportions are the percentages of educational funds spent directly by public and private purchasers of educational services. Final public spending includes direct public purchases of educational resources and payments to educational institutions and other private entities. Final private spending includes tuition fees and other private payments to educational institutions.

Not all spending on instructional goods and services occurs within educational institutions. For example, families may purchase textbooks and materials commercially or seek private tutoring for their children outside educational institutions. At the tertiary level, students' living costs and foregone earnings can also account for a significant proportion of the costs of education. All such expenditure outside educational institutions, even if publicly subsidised, is excluded from this indicator. Public subsidies for educational expenditure outside institutions are discussed in Indicators B4 and B5.

Public and private expenditure on educational institutions at all levels of education

Educational institutions are still mainly publicly funded, although there is a substantial and growing degree of private funding at the tertiary level. On average in OECD countries, 86% of all funds for educational institutions come directly from public sources. In addition, 0.8% is channelled to institutions via public subsidies to households (Table B3.1).

In all OECD countries for which comparable data are available, private funding on educational institutions represents around 14% of all funds on average. This proportion varies widely among countries and only ten OECD countries and two partner countries report a share of private funding above the OECD average. Nevertheless, in Australia and Canada, as well as in the partner country Israel, private funds constitute around one-quarter of all educational expenditure. They exceed 30% in Japan, Korea and the United States and the partner country Chile (Table B3.1).

In all countries for which comparable data are available, for all levels of education combined, public funding increased between 2000 and 2005. However, private spending increased even more in nearly three-quarters of these countries. As a result, the decrease in the share of public funding on educational institutions was more than 5 percentage points in Mexico, Portugal, the Slovak Republic and the United Kingdom. This decrease is mainly due to a significant increase in tuition fees charged by tertiary educational institutions over the period 2000-2005. It is noteworthy that decreases in the share of public expenditure in total expenditure on educational institutions and, consequently increases in the share of private expenditure, have not generally gone hand in hand with cuts (in real terms) in public expenditure on educational institutions (Table B3.1). In fact, many OECD countries with the highest growth in private spending have also shown the highest increase in public funding of education. This indicates that an increase in private spending tends not to replace public investment but to complement it.

However, the share of private expenditure on educational institutions and how this varies among countries depends on the level of education.

Public and private expenditure on educational institutions in pre-primary, primary, secondary and post-secondary non-tertiary education

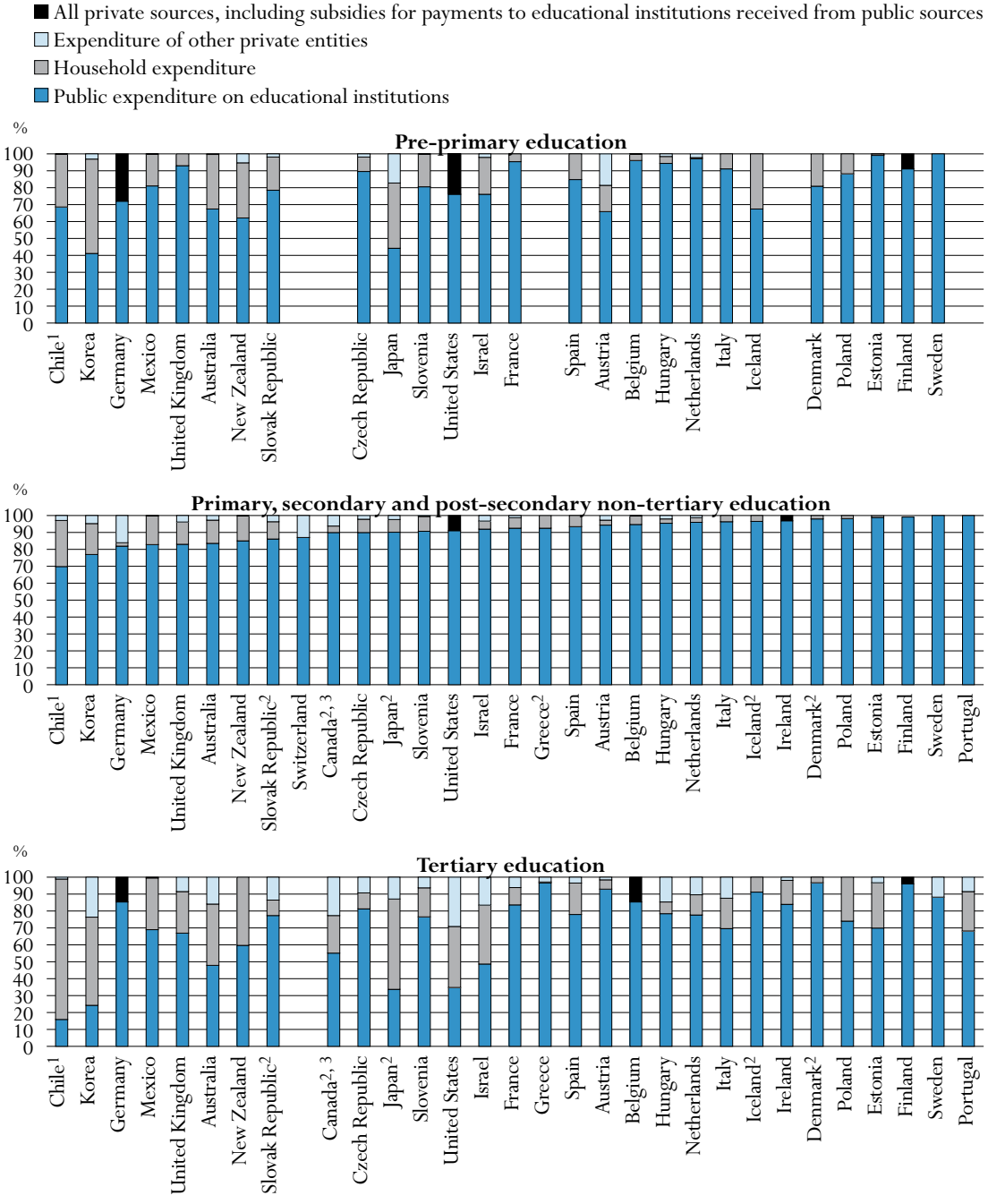
Investment in early childhood education is essential for building a strong foundation for lifelong learning and for ensuring equitable access to learning opportunities later in school. In pre-primary education, the private share of total payments to educational institutions is on average 20%, which is higher than the percentage for all levels of education combined. However, this proportion varies widely among countries, ranging from 5% or less in Belgium, France, the Netherlands and Sweden and the partner country Estonia, to well over 25% in Australia, Austria, Germany, Iceland and New Zealand and the partner country Chile, to over 55% in Japan and Korea. Other than in Austria and the Netherlands, the majority of private funding is covered by households (Table B3.2a).

Public funding dominates the primary, secondary and post-secondary non-tertiary levels of education in OECD and partner countries. Among OECD countries it reaches 92% on average.

B3

Chart B3.2. Distribution of public and private expenditure on educational institutions (2005)

By level of education



1. Year of reference 2006.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Year of reference 2004.

Countries are ranked in ascending order of the proportion of public expenditure on educational institutions in primary, secondary and post-secondary non-tertiary education.

Source: OECD. Tables B3.2a and B3.2b. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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Nevertheless, private funding exceeds 10% in Australia, Canada, the Czech Republic, Germany, Korea, Mexico, New Zealand, the Slovak Republic, Switzerland and the United Kingdom, and the partner country Chile (Table B3.2a and Chart B3.2). The importance of public funding may reflect the fact that primary, secondary and post-secondary non-tertiary education are usually perceived as a public good with mainly public returns. At these levels in most countries, the largest share of private expenditure is household expenditure and goes mainly towards tuition. In Germany and Switzerland, however, most private expenditure is accounted for by contributions from the business sector to the dual system of apprenticeship at the upper secondary and post-secondary non-tertiary levels.

Between 2000 and 2005, 14 out of the 28 OECD and partner countries for which comparable data are available showed a small decrease in the share of public funding at primary, secondary and post-secondary non-tertiary levels. Among these countries, the increase in the private share is 2 percentage points or more in Canada (7.6 to 10.1%), Korea (19.2 to 23.0%), Mexico (13.9 to 17.1%), the Slovak Republic (2.4 to 13.8%), Switzerland (10.8 to 13.0%) and the United Kingdom (11.3 to 17.0%), as well as in the partner country Israel (5.9 to 8.0%). Funding shifts in the opposite direction, towards public funding, are evident in the other 14 countries; however, the share of public funding increased by 2 percentage points or more only in Hungary (from 92.7 to 95.5%) and Poland (95.4 to 98.2%) (Chart B3.3 and Table B3.2a).

In spite of such differences in the share of public funding at primary, secondary and post-secondary non-tertiary levels between 2000 and 2005, public expenditure on educational institutions increased in all countries with comparable data. Contrary to the general picture for all levels of education combined, the increase in public expenditure is accompanied by a decrease in private expenditure in Hungary, Iceland, Japan, the Netherlands, Poland, Sweden and the partner country Chile. However, the share of private expenditure on educational institutions represents less than 5% in 2005 in all countries of this group except Japan and the partner country Chile.

Public and private expenditure on educational institutions in tertiary institutions

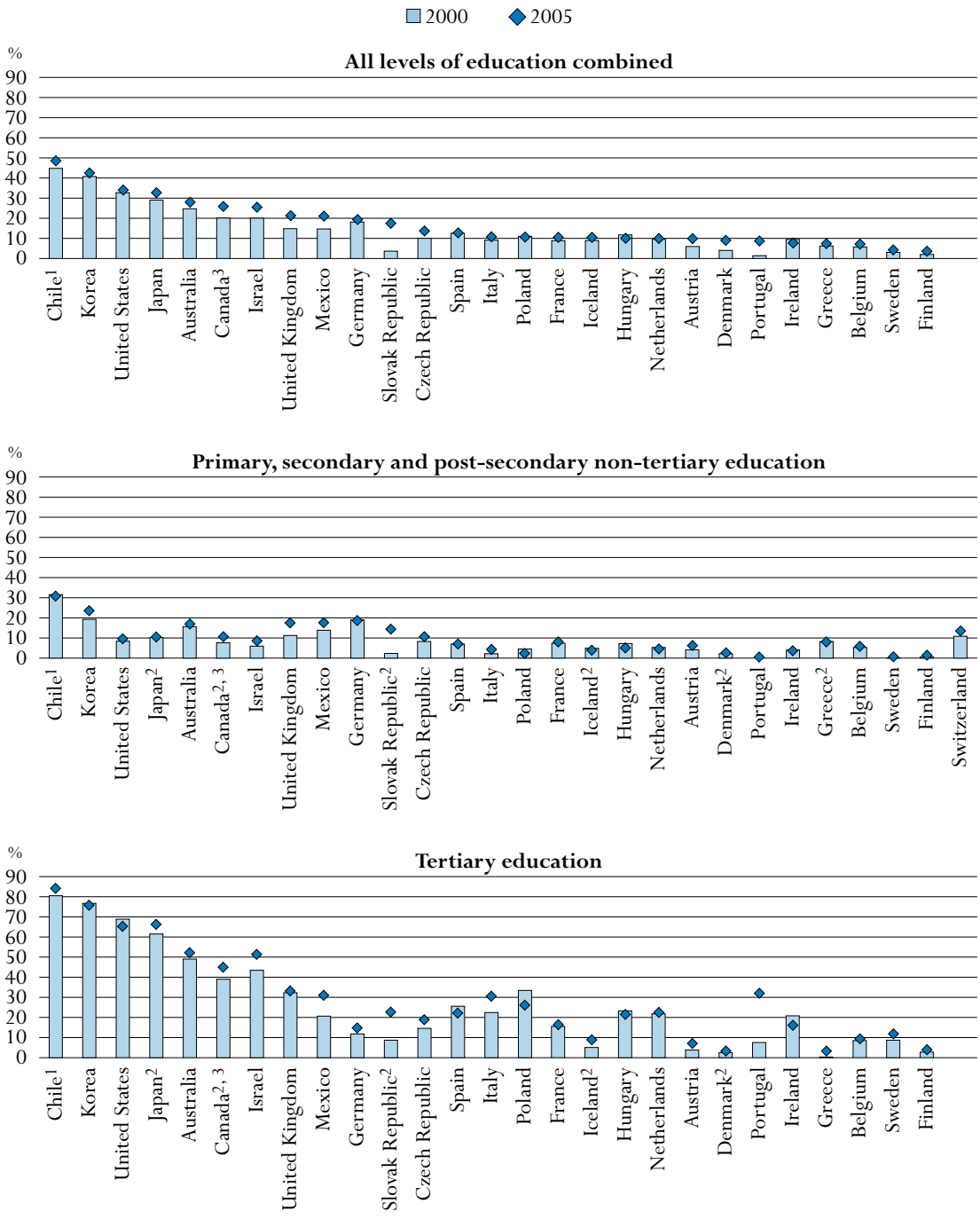
At the tertiary level, high private returns in the form of better employment and income opportunities (see Indicator A9) suggest that a greater contribution by individuals and other private entities to the costs of tertiary education may be justified, provided, of course, that governments can ensure that funding is accessible to students irrespective of their economic background (see Indicator B5). In all OECD and partner countries except Germany and Greece, the private proportion of educational expenditure is far higher at the tertiary level than at the primary, secondary and post-secondary non-tertiary levels. It represents on average 27% of total expenditure on educational institutions at this level (Tables B3.2a and B3.2b).

The proportion of expenditure on tertiary institutions covered by individuals, businesses and other private sources, including subsidised private payments, ranges from less than 5% in Denmark, Finland and Greece, to more than 40% in Australia, Canada, Japan, New Zealand and the United States and the partner country Israel and to over 75% in Korea and the partner country Chile (Chart B3.2 and Table B3.2b). In Korea, around 80% of tertiary students are enrolled in private universities, where more than 70% of budgets derive from tuition fees. The contribution of private entities other than households to the financing of educational institutions is on average higher for tertiary education than for other levels of education.

B3

Chart B3.3. Share of private expenditure on educational institutions (2000, 2005)

Percentage



1. Year of reference 2006 instead of 2005.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Year of reference 2004 instead of 2005.

Countries are ranked in descending order of the share of private expenditure on educational institutions in 2005 for all levels of education.

Source: OECD. Tables B3.1, B3.2a and B3.2b. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

StatLink http://dx.doi.org/10.1787/402017824643

In one-third of OECD and partner countries – Australia, Canada, Hungary, Italy, Japan, Korea, the Netherlands, the Slovak Republic, Sweden and the United States, and the partner country Israel – the proportion of expenditure on tertiary institutions covered by private entities other than households represents 10% or more.

In many OECD countries, the growth in tertiary participation (see Indicator C2) represents a response to strong demand, both individual and social. In 2005, the share of public funding at the tertiary level represented 73% on average in OECD countries. On average among the 18 OECD countries for which trend data are available, the share of public funding in tertiary institutions decreased slightly from 79% in 1995 to 77% in 2000 and to 73% in 2005. This trend is mainly affected by non-European countries in which tuition fees are generally higher and enterprises participate more actively, mainly by providing grants to finance tertiary institutions (Table B3.3 and Indicator B5).

In more than one-half of the OECD and partner countries with comparable data for 1995 and 2005, the private share increased by 3 percentage points or more. This increase exceeds 9 percentage points in Australia, Italy, Portugal, the Slovak Republic and the United Kingdom, as well as the partner countries Chile and Israel. Only the Czech Republic and Ireland – and to a lesser extent Spain – show a significant decrease in the private share allocated to tertiary educational institutions (Table B3.3 and Chart B3.3). In Australia, the main reason for the increase in the private share of spending on tertiary institutions between 1995 and 2005 was changes to the Higher Education Contribution Scheme/Higher Education Loan Programme (HECS/HELP) that took place in 1997, while the main reason for the decrease in Ireland is the abolition of tuition fees in tertiary first degree programmes which has been gradually implemented during the last decade (for more details see Indicator B5 and Annex 3).

Rises in private expenditure on educational institutions have generally gone hand in hand with rises (in real terms) in public expenditure on educational institutions at the tertiary level, as they have for all levels of education combined. Public investment in tertiary education has increased in all OECD and partner countries for which 2000 to 2005 data are available, regardless of changes in private spending (Table B3.1). Notably, in eight out of the 11 OECD countries – Austria, the Czech Republic, Greece, Hungary, Iceland, Poland, the Slovak Republic and Switzerland – with the highest increases in public expenditure on tertiary education, tertiary institutions charge low or no tuition fees and tertiary attainment is relatively low. By contrast, in Korea, the United Kingdom and in the United States where public spending has also increased significantly, there is a high reliance on private funding of tertiary education (see Table B3.3 and Indicator B5).

Definitions and methodologies

Data refer to the financial year 2005 and are based on the UOE data collection on education statistics administered by the OECD in 2007 (for details see Annex 3 at *www.oecd.org/edu/eag2008*).

The public and private proportions of expenditure on educational institutions are the percentages of total spending originating in, or generated by, the public and private sectors. Private spending includes all direct expenditure on educational institutions, whether partially covered by public subsidies or not. Public subsidies attributable to households, included in private spending, are shown separately.

A portion of the budgets of educational institutions is related to ancillary services offered to students, including student welfare services (student meals, housing and transport). Part of the cost of these services is covered by fees collected from students and is included in the indicator.

Other private entities include private businesses and non-profit organisations, including religious organisations, charitable organisations and business and labour associations. Expenditure by private companies on the work-based element of school and work-based training of apprentices and students is also taken into account.

The data on expenditure for 1995 and 2000 were obtained by a special survey updated in 2007 in which expenditure for 1995 and 2000 were adjusted to the methods and definitions used in the current UOE data collection.

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Table B3.1.

Relative proportions of public and private expenditure on educational institutions for all levels of education (2000, 2005)

Distribution of public and private sources of funds for educational institutions after transfers from public sources, by year

		2005					2000		Index of change between 2000 and 2005 in expenditure on educational institutions	
			Private sources							
		Public sources	Household expenditure	Expenditure of other private entities	All private sources[1]	Private: of which, subsidised	Public sources	All private sources[1]	Public sources	All private sources[1]
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	**Australia**	**73.4**	20.2	6.4	**26.6**	0.2	75.3	24.7	113	124
	Austria	**91.4**	4.7	3.9	**8.6**	2.2	94.0	6.0	105	156
	Belgium	**94.2**	4.9	1.0	**5.8**	1.8	94.3	5.7	107	109
	Canada[2]	**75.5**	11.5	13.0	**24.5**	0.3	79.9	20.1	106	137
	Czech Republic	**87.6**	8.6	3.8	**12.4**	m	89.9	10.1	130	165
	Denmark	**92.3**	4.1	3.6	**7.7**	m	96.0	4.0	114	228
	Finland	**97.8**	x(4)	x(4)	**2.2**	n	98.0	2.0	120	131
	France	**90.8**	6.9	2.2	**9.2**	1.6	91.2	8.8	102	107
	Germany	**82.0**	x(4)	x(4)	**18.0**	m	81.9	18.1	103	102
	Greece	**94.0**	5.0	1.0	**6.0**	m	93.8	6.2	147	142
	Hungary	**91.3**	3.6	5.1	**8.7**	n	88.3	11.7	147	105
	Iceland	**90.9**	9.1	m	**9.1**	m	91.1	8.9	160	165
	Ireland	**93.7**	5.9	0.5	**6.3**	m	90.5	9.5	139	90
	Italy	**90.5**	7.0	2.4	**9.5**	0.9	90.9	9.1	101	105
	Japan	**68.6**	22.0	9.3	**31.4**	m	71.0	29.0	100	112
	Korea	**58.9**	29.6	11.6	**41.1**	1.2	59.2	40.8	140	142
	Luxembourg	m	m	m	m	m	m	m	m	m
	Mexico	**80.3**	19.5	0.2	**19.7**	1.0	85.3	14.7	122	174
	Netherlands	**91.4**	4.9	3.7	**8.6**	0.8	90.4	9.6	119	106
	New Zealand	**78.4**	21.2	0.4	**21.6**	m	m	m	110	m
	Norway	m	m	m	m	m	95.0	5.0	124	m
	Poland	**90.7**	9.3	m	**9.3**	m	89.0	11.0	126	104
	Portugal	**92.6**	5.4	2.0	**7.4**	m	98.6	1.4	103	567
	Slovak Republic	**83.9**	10.8	5.4	**16.1**	0.2	96.4	3.6	119	609
	Spain	**88.6**	10.6	0.8	**11.4**	0.4	87.4	12.6	116	104
	Sweden	**97.0**	0.1	2.9	**3.0**	n	97.0	3.0	115	113
	Switzerland	m	m	m	m	m	92.1	7.9	113	135
	Turkey	m	m	m	m	m	98.6	1.4	m	m
	United Kingdom	**80.0**	15.3	4.7	**20.0**	1.6	85.2	14.8	128	184
	United States	**67.3**	20.8	11.9	**32.7**	m	67.3	32.7	112	112
	OECD average	***85.5***	~	~	***14.5***	***0.8***	~	~	***119***	***166***
	EU19 average	***90.5***	~	~	***9.5***	***0.9***	~	~	***119***	***179***
Partner countries	**Brazil**	m	m	m	m	m	m	m	135	m
	Chile[3]	**52.8**	45.1	2.1	**47.2**	1.5	55.2	44.8	103	114
	Estonia	**92.4**	6.8	0.8	**7.6**	1.3	m	m	126	m
	Israel	**75.9**	17.0	7.1	**24.1**	2.1	80.0	20.0	103	131
	Russian Federation	m	m	m	m	a	m	m	174	m
	Slovenia	**86.8**	11.6	1.7	**13.2**	0.6	m	m	m	m

1. Including subsidies attributable to payments to educational institutions received from public sources.
2. Year of reference 2004 instead of 2005.
3. Year of reference 2006 instead of 2005.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

StatLink http://dx.doi.org/10.1787/402017824643

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Table B3.2a.

Relative proportions of public and private expenditure on educational institutions, as a percentage, by level of education (2000, 2005)

Distribution of public and private sources of funds for educational institutions after transfers from public sources, by year

	Pre-primary education (for children aged 3 and older)					Primary, secondary and post-secondary non-tertiary education								
	2005					2005					2000		Index of change between 2000 and 2005 in expenditure on educational institutions	
		Private sources					Private sources							
	Public sources	Household expenditure	Expenditure of other private entities	All private sources[1]	Private: of which, subsidised	Public sources	Household expenditure	Expenditure of other private entities	All private sources[1]	Private: of which, subsidised	Public sources	All private sources[1]	Public sources	All private sources[1]
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD countries														
Australia	**67.5**	32.2	0.3	**32.5**	n	**83.6**	13.6	2.8	**16.4**	n	84.4	15.6	112	118
Austria	**65.9**	15.5	18.6	**34.1**	15.6	**94.3**	3.0	2.7	**5.7**	0.3	95.8	4.2	102	141
Belgium	**96.1**	3.6	0.2	**3.9**	0.3	**94.7**	5.1	0.1	**5.3**	1.2	94.7	5.3	107	106
Canada[2, 3]	**x(6)**	x(7)	x(8)	**x(9)**	x(6)	**89.9**	3.9	6.2	**10.1**	x(6)	92.4	7.6	113	155
Czech Republic	**89.6**	8.5	1.9	**10.4**	m	**89.9**	7.8	2.2	**10.1**	m	91.7	8.3	128	158
Denmark[3]	**80.8**	19.2	n	**19.2**	m	**97.9**	2.1	m	**2.1**	m	97.8	2.2	116	112
Finland	**91.1**	x(4)	x(4)	**8.9**	n	**99.2**	x(9)	x(9)	**0.8**	n	99.3	0.7	122	154
France	**95.5**	4.5	n	**4.5**	n	**92.5**	6.2	1.3	**7.5**	1.7	92.6	7.4	101	103
Germany	**72.1**	x(4)	x(4)	**27.9**	a	**81.8**	2.1	16.1	**18.2**	m	81.0	19.0	100	95
Greece	**x(6)**	x(7)	x(8)	**x(9)**	m	**92.5**	7.5	n	**7.5**	m	91.7	8.3	129	116
Hungary	**94.3**	4.1	1.6	**5.7**	n	**95.5**	2.5	2.0	**4.5**	n	92.7	7.3	151	91
Iceland[3]	**67.4**	32.6	m	**32.6**	n	**96.6**	3.4	m	**3.4**	n	95.1	4.9	143	97
Ireland	m	m	m	m	m	**96.8**	x(9)	x(9)	**3.2**	m	96.0	4.0	153	120
Italy	**91.1**	8.9	n	**8.9**	0.2	**96.3**	3.7	n	**3.7**	n	97.8	2.2	105	180
Japan[3]	**44.3**	38.4	17.3	**55.7**	m	**90.1**	7.6	2.3	**9.9**	m	89.8	10.2	101	98
Korea	**41.1**	55.8	3.1	**58.9**	13.9	**77.0**	18.2	4.7	**23.0**	1.1	80.8	19.2	142	178
Luxembourg	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Mexico	**81.1**	18.8	0.1	**18.9**	0.2	**82.9**	17.0	0.1	**17.1**	1.2	86.1	13.9	120	154
Netherlands	**97.1**	0.6	2.3	**2.9**	a	**96.0**	2.7	1.3	**4.0**	0.7	94.6	5.4	122	90
New Zealand	**62.1**	32.5	5.4	**37.9**	m	**84.9**	14.9	0.2	**15.1**	m	m	m	108	m
Norway	**87.2**	12.8	m	**12.8**	n	m	m	m	m	m	99.0	1.0	113	m
Poland	**88.3**	11.7	m	**11.7**	n	**98.2**	1.8	m	**1.8**	m	95.4	4.6	115	45
Portugal	m	m	m	m	m	**99.9**	0.1	m	**0.1**	m	99.9	0.1	102	100
Slovak Republic[3]	**78.6**	19.5	1.9	**21.4**	0.2	**86.2**	10.2	3.6	**13.8**	0.1	97.6	2.4	119	785
Spain	**84.9**	15.1	m	**15.1**	n	**93.5**	6.5	m	**6.5**	n	93.0	7.0	108	100
Sweden	**100.0**	n	n	n	n	**99.9**	0.1	a	**0.1**	a	99.9	0.1	113	94
Switzerland	m	m	m	m	m	**87.0**	n	13.0	**13.0**	0.8	89.2	10.8	110	135
Turkey	m	m	m	m	m	m	m	m	m	m	m	m	m	m
United Kingdom	**92.9**	7.1	n	**7.1**	n	**83.0**	13.1	3.9	**17.0**	2.0	88.7	11.3	131	210
United States	**76.2**	x(4)	x(4)	**23.8**	a	**91.0**	x(9)	x(9)	**9.0**	m	91.6	8.4	107	116
OECD average	*80.2*	~	~	*19.8*	*1.6*	*91.5*	~	~	*8.5*	*0.6*	~	~	*118*	*148*
EU19 average	*87.9*	~	~	*12.1*	*2.5*	*93.8*	~	~	*6.2*	*0.5*	~	~	*119*	*161*
Partner countries														
Brazil	m	m	m	m	m	m	m	m	m	m	m	m	141	m
Chile[4]	**68.6**	31.3	0.1	**31.4**	m	**69.8**	27.3	3.0	**30.2**	m	68.4	31.6	101	95
Estonia	**99.4**	0.6	0.0	**0.6**	n	**98.9**	1.0	0.1	**1.1**	m	m	m	130	m
Israel	**76.2**	21.8	2.0	**23.8**	n	**92.0**	4.6	3.4	**8.0**	1.3	94.1	5.9	104	143
Russian Federation	m	m	m	m	a	m	m	m	m	a	m	m	154	m
Slovenia	**80.6**	19.3	0.1	**19.4**	n	**90.7**	8.8	0.5	**9.3**	0.9	m	m	m	m

1. Including subsidies attributable to payments to educational institutions received from public sources.
To calculate private funds net of subsidies, subtract public subsidies (columns 5,10) from private funds (columns 4,9).
To calculate total public funds, including public subsidies, add public subsidies (columns 5,10) to direct public funds (columns 1,6).
2. Year of reference 2004 instead of 2005.
3. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
4. Year of reference 2006 instead of 2005.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).
Please refer to the Reader's Guide for information concerning the symbols replacing missing data.
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B3

Table B3.2b.

Relative proportions of public and private expenditure on educational institutions, as a percentage, for tertiary education (2000, 2005)

Distribution of public and private sources of funds for educational institutions after transfers from public sources, by year

		2005					2000		Index of change between 2000 and 2005 in expenditure on educational institutions	
			Private sources							
		Public sources	Household expenditure	Expenditure of other private entities	All private sources[1]	Private: of which, subsidised	Public sources	All private sources[1]	Public sources	All private sources[1]
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	Australia	**47.8**	36.3	15.9	**52.2**	0.7	51.0	49.0	115	130
	Austria	**92.9**	5.5	1.6	**7.1**	2.3	96.3	3.7	129	255
	Belgium	**90.6**	5.0	4.4	**9.4**	4.6	91.5	8.5	101	113
	Canada[2, 3]	**55.1**	22.3	22.6	**44.9**	0.8	61.0	39.0	105	134
	Czech Republic	**81.2**	9.4	9.4	**18.8**	m	85.4	14.6	147	199
	Denmark[3]	**96.7**	3.3	n	**3.3**	n	97.6	2.4	115	161
	Finland	**96.1**	x(4)	x(4)	**3.9**	n	97.2	2.8	114	162
	France	**83.6**	10.3	6.1	**16.4**	2.3	84.4	15.6	106	113
	Germany	**85.3**	x(4)	x(4)	**14.7**	m	88.2	11.8	102	131
	Greece	**96.7**	0.4	2.9	**3.3**	m	99.7	0.3	228	2911
	Hungary	**78.5**	6.9	14.6	**21.5**	n	76.7	23.3	129	116
	Iceland[3]	**91.2**	8.8	m	**8.8**	m	94.9	5.1	170	307
	Ireland	**84.0**	14.1	1.9	**16.0**	4.8	79.2	20.8	109	79
	Italy	**69.6**	18.0	12.5	**30.4**	4.6	77.5	22.5	100	151
	Japan[3]	**33.7**	53.4	12.9	**66.3**	m	38.5	61.5	93	115
	Korea	**24.3**	52.1	23.6	**75.7**	0.3	23.3	76.7	136	129
	Luxembourg	m	m	m	m	m	m	m	m	m
	Mexico	**69.0**	30.6	0.5	**31.0**	0.9	79.4	20.6	119	206
	Netherlands	**77.6**	12.0	10.4	**22.4**	1.2	78.2	21.8	110	114
	New Zealand	**59.7**	40.3	m	**40.3**	m	m	m	118	m
	Norway	m	m	m	m	m	96.3	3.7	117	m
	Poland	**74.0**	26.0	m	**26.0**	m	66.6	33.4	193	135
	Portugal	**68.1**	23.4	8.5	**31.9**	m	92.5	7.5	101	582
	Slovak Republic[3]	**77.3**	9.1	13.6	**22.7**	0.4	91.2	8.8	127	387
	Spain	**77.9**	18.7	3.4	**22.1**	1.8	74.4	25.6	119	99
	Sweden	**88.2**	n	11.8	**11.8**	a	91.3	8.7	111	155
	Switzerland	m	m	m	m	m	m	m	133	m
	Turkey	m	m	m	m	m	95.4	4.6	m	m
	United Kingdom	**66.9**	24.6	8.4	**33.1**	n	67.7	32.3	148	153
	United States	**34.7**	36.1	29.2	**65.3**	m	31.1	68.9	132	111
	OECD average	**73.1**	~	~	**26.9**	**1.4**	**78**	**22**	**126**	**286**
	EU19 average	**82.5**	~	~	**17.5**	**1.3**	**85**	**15**	**127**	**334**
Partner countries	Brazil	m	m	m	m	m	m	m	118	m
	Chile[4]	**15.9**	83.0	1.1	**84.1**	3.9	19.5	80.5	92	117
	Estonia	**69.9**	26.9	3.3	**30.1**	6.0	m	m	113	m
	Israel	**48.7**	34.9	16.5	**51.3**	5.3	56.5	43.5	93	127
	Russian Federation	m	m	m	m	m	m	m	228	m
	Slovenia	**76.5**	17.2	6.2	**23.5**	n	m	m	m	m

1. Including subsidies attributable to payments to educational institutions received from public sources.
To calculate private funds net of subsidies, subtract public subsidies (column 5) from private funds (column 4).
To calculate total public funds, including public subsidies, add public subsidies (column 5) to direct public funds (column 1).
2. Year of reference 2004 instead of 2005.
3. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
4. Year of reference 2006 instead of 2005.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

StatLink http://dx.doi.org/10.1787/402017824643

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Table B3.3.

Trends in relative proportions of public expenditure[1] on educational institutions and index of change between 1995 and 2005 (2000=100), for tertiary education (1995, 2000, 2001, 2002, 2003, 2004, 2005)

		Share of public expenditure on educational institutions (%)							Index of change between 1995 and 2005 in public expenditure on educational institutions (2000=100, constant prices)						
		1995	2000	2001	2002	2003	2004	2005	1995	2000	2001	2002	2003	2004	2005
OECD countries	Australia	64.8	51.0	51.3	48.7	48.0	47.2	47.8	115	100	103	105	107	111	115
	Austria	96.1	96.3	94.6	91.6	92.7	93.7	92.9	97	100	112	103	109	119	129
	Belgium	m	91.5	89.5	86.1	86.7	90.4	90.6	m	100	99	98	97	99	101
	Canada[2]	56.6	61.0	58.6	56.4	m	55.1	m	69	100	102	98	m	105	m
	Czech Republic	71.5	85.4	85.3	87.5	83.3	84.7	81.2	86	100	108	122	138	145	147
	Denmark[2]	99.4	97.6	97.8	97.9	96.7	96.7	96.7	93	100	117	123	113	120	115
	Finland	97.8	97.2	96.5	96.3	96.4	96.3	96.1	91	100	100	104	108	114	114
	France	85.3	84.4	83.8	83.8	83.8	83.8	83.6	93	100	101	103	104	105	106
	Germany	89.2	88.2	m	m	m	m	85.3	96	100	m	m	m	m	102
	Greece[2]	m	99.7	99.6	99.6	97.9	97.9	96.7	63	100	136	154	194	196	228
	Hungary	80.3	76.7	77.6	78.7	78.5	79.0	78.5	78	100	109	124	140	122	129
	Iceland[2]	m	94.9	95.0	95.6	88.7	90.9	91.2	m	100	105	127	133	153	170
	Ireland	69.7	79.2	84.7	85.8	83.8	82.6	84.0	50	100	100	103	98	102	109
	Italy	82.9	77.5	77.8	78.6	72.1	69.4	69.6	85	100	107	111	100	101	100
	Japan[2]	35.1	38.5	36.3	35.3	36.6	36.6	33.7	80	100	94	94	101	102	93
	Korea	m	23.3	15.9	14.9	23.2	21.0	24.3	m	100	74	68	127	109	136
	Luxembourg	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Mexico	77.4	79.4	70.4	71.0	69.1	68.9	69.0	75	100	84	119	113	113	119
	Netherlands	80.6	78.2	78.2	78.8	78.6	77.6	77.6	97	100	103	105	105	107	110
	New Zealand	m	m	m	62.5	61.5	60.8	59.7	105	100	105	111	116	112	118
	Norway	93.7	96.3	m	96.3	96.7	m	m	107	100	105	117	122	124	117
	Poland	m	66.6	66.9	69.7	69.0	72.9	74.0	89	100	117	148	151	180	193
	Portugal	96.5	92.5	92.3	91.3	91.5	86.0	68.1	76	100	107	99	109	89	101
	Slovak Republic[2]	95.4	91.2	93.3	85.2	86.2	81.3	77.3	85	100	109	111	126	150	127
	Spain	74.4	74.4	75.5	76.3	76.9	75.9	77.9	72	100	107	111	117	119	119
	Sweden	93.6	91.3	91.0	90.0	89.0	88.4	88.2	84	100	102	107	111	113	111
	Switzerland	m	m	m	m	m	m	m	74	100	112	124	131	131	133
	Turkey	96.3	95.4	94.6	90.1	95.2	90.0	m	56	100	95	106	113	106	m
	United Kingdom	80.0	67.7	71.0	72.0	70.2	69.6	66.9	116	100	113	123	122	123	148
	United States	37.4	31.1	38.1	39.5	38.3	35.4	34.7	85	100	110	119	130	131	132
	OECD average	*79.7*	*78.0*	*76.6*	*76.3*	*76.6*	*74.3*	*73.8*	*85*	*100*	*105*	*112*	*120*	*121*	*127*
	OECD average for countries with data available for all reference years	*78.7*	*77.1*	*77.5*	*77.0*	*76.0*	*74.9*	*73.0*	*86*	*100*	*107*	*115*	*121*	*124*	*128*
	EU19 average for countries with data available for all reference years	*86.0*	*85.0*	*85.8*	*85.4*	*84.3*	*83.2*	*81.2*	*84*	*100*	*110*	*117*	*123*	*127*	*132*
Partner countries	Brazil	m	m	m	m	m	m	m	78	100	100	102	109	101	118
	Chile[3]	25.1	19.5	m	19.3	17.0	15.5	15.9	78	100	m	112	102	99	92
	Estonia	m	m	m	m	m	m	m	68	100	m	m	m	114	113
	Israel	59.2	56.5	56.8	53.4	59.3	49.6	48.7	81	100	103	96	107	92	93
	Russian Federation	m	m	m	m	m	m	m	m	100	120	143	171	175	228
	Slovenia	m	m	m	m	m	75.7	76.5	m	100	m	m	m	m	m

1. Excluding international funds in public and total expenditure on educational institutions.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Year of reference 2006 instead of 2005.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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INDICATOR B4

WHAT IS THE TOTAL PUBLIC SPENDING ON EDUCATION?

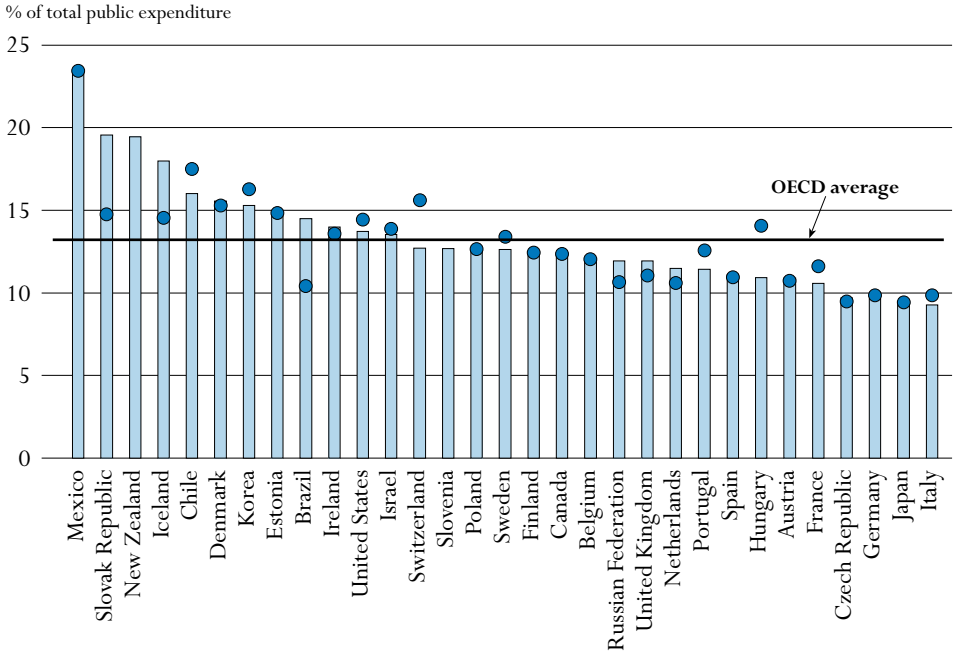
Public expenditure on education as a percentage of total public expenditure indicates the value placed on education relative to other public investments such as health care, social security, defence and security. It provides an important context for the other indicators on expenditure, particularly for Indicator B3 (the public and private shares of educational expenditure) and is the quantification of an important policy lever in its own right.

Key results

Chart B4.1. Total public expenditure on education as a percentage of total public expenditure (2000, 2005)

The chart shows direct public expenditure on educational institutions plus public subsidies to households (including subsidies for living costs) and other private entities, as a percentage of total public expenditure, by year. It must be recalled that public sectors differ in terms of their size and breadth of responsibility from country to country.

On average, OECD countries devote 13.2% of total public expenditure to education, but values for individual countries range from 10% or below in the Czech Republic, Germany, Italy and Japan to more than 23% in Mexico.



Countries are ranked in descending order of total public expenditure on education at all levels of education as a percentage of total public expenditure in 2005.

Source: OECD. Table B4.1. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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Other highlights of this indicator

- Public funding of education is a social priority, even in OECD countries with little public involvement in other areas.
- Between 1995 and 2005, public budgets as a percentage of GDP tended to increase slightly. Education took a growing share of total public expenditure in most countries, and on average it also grew as fast as GDP. In Denmark, the Netherlands, New Zealand, the Slovak Republic and Sweden, and the partner country Brazil, there have been particularly significant shifts in public funding in favour of education.
- The main increase in public expenditure on education relative to total public spending took place from 1995 to 2000, while public expenditure on education and for other public sectors increased in the same proportions from 2000 to 2005.
- In OECD countries, public funding of primary, secondary and post-secondary non-tertiary education is on average about three times that of tertiary education, mainly due to largely universal enrolment rates but also because the private share tends to be greater at the tertiary level. This ratio varies from less than double in Canada, Finland, Greece and Norway to more than five times in Korea and the partner country Chile. The latter figure is indicative of the relatively high proportion of private funds that go to tertiary education in these two countries.
- On average across OECD countries, 85% of public expenditure on education is transferred to public institutions. In two-thirds of OECD countries, as well as in the partner countries Brazil, Estonia and Slovenia, the share of public expenditure on education going to public institutions exceeds 80%. The share of public expenditure transferred to the private sector is larger at the tertiary level than at primary to post-secondary non-tertiary levels and reaches 26% on average among OECD countries for which data are available.

B4

Policy context

If the public benefits from a particular service are greater than the private benefits, markets alone may fail to provide these services adequately and governments may need to become involved. Education is one area where all governments intervene to fund or direct the provision of services. As there is no guarantee that markets will provide equal access to educational opportunities, government funding of educational services ensures that education is not beyond the reach of some members of society.

This indicator focuses on public expenditure on education but also evaluates how public expenditure has changed over time. Since the second half of the 1990s, most OECD countries have made serious efforts to consolidate public budgets. Education has had to compete for public financial support with a wide range of other areas covered by government budgets. To examine this evolution, the indicator evaluates the change in educational expenditure in absolute terms and relative to changes in the size of public budgets.

Evidence and explanations

What this indicator does and does not cover

This indicator shows total public expenditure on education, which includes direct public expenditure on educational institutions as well as public subsidies to households (*e.g.* scholarships and loans to students for tuition fees and student living costs) and to other private entities for education (*e.g.* subsidies to companies or labour organisations that operate apprenticeship programmes). Unlike the preceding indicators, this indicator also includes public subsidies that are not attributable to household payments for educational institutions, such as subsidies for student living costs.

OECD countries differ in the ways in which they use public money for education. Public funds may flow directly to schools or may be channelled to institutions via government programmes or via households; they may also be restricted to the purchase of educational services or be used to support student living costs.

Total public expenditure on all services, excluding education, includes expenditure on debt servicing (*e.g.* interest payments) that is not included in public expenditure on education. The reason for this exclusion is that some countries cannot separate interest payment outlays for education from those for other services. This means that public expenditure on education as a percentage of total public expenditure may be underestimated in countries where interest payments represent a large proportion of total public expenditure on all services.

It is important to examine public investment in education in conjunction with private investment, as shown in Indicator B3 to get a full picture of investment in education.

Overall level of public resources invested in education

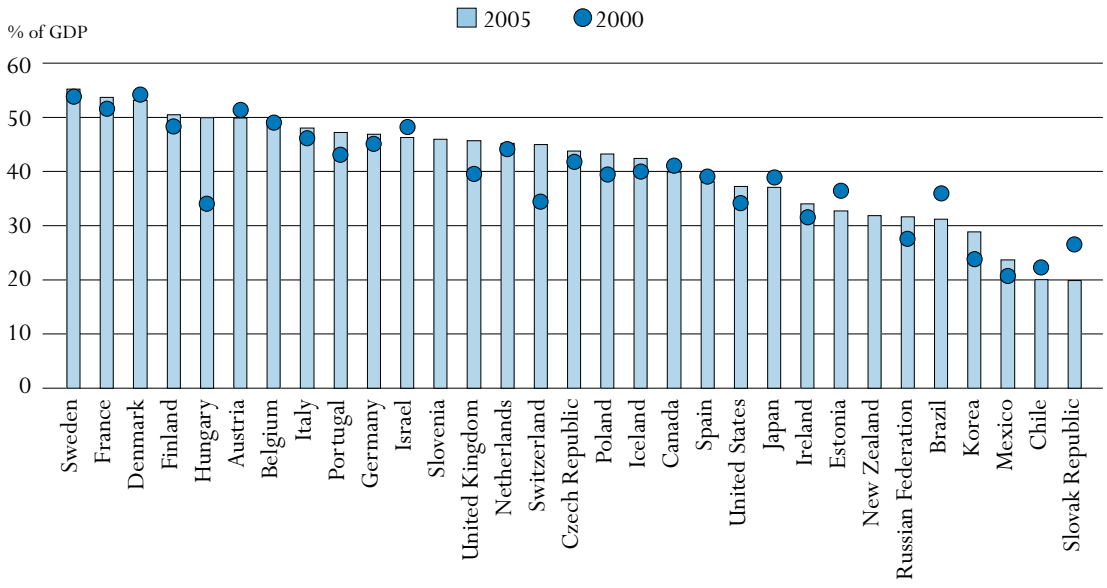
On average, OECD countries devoted 13.2% of total public expenditure to education in 2005. However, the values for individual countries range from 10% or less in the Czech Republic, Germany, Italy and Japan to more than 23% in Mexico (Chart B4.1). As in the case of spending on education in relation to GDP per capita, these values must be interpreted in the light of student demography and enrolment rates.

The public-sector proportion of funding of the different levels of education varies widely among OECD countries. In 2005, OECD countries and partner countries allocated between 5.9% (the Russian Federation) and 16.2% (Mexico) of total public expenditure to primary, secondary and post-secondary non-tertiary education, and between 1.6% (Italy and Japan) and 4.8% (New Zealand) on tertiary education. On average in OECD countries, public funding of primary, secondary and post-secondary non-tertiary education is nearly three times that of tertiary education, mainly owing to enrolment rates (see Indicator C2) and the demographic structure of the population or because the private share in expenditure tends to be higher at the tertiary level. This ratio varies by country from two times in Canada, Finland, Greece and Norway to more than five times in Korea and the partner country Chile. The latter figure is indicative of the relatively high proportion of private funds that goes to tertiary education in Korea and the partner country Chile (Table B4.1).

Public funding of education is a social priority, even in OECD countries with little public involvement in other areas. When public expenditure on education is considered as a proportion of total public spending, the relative sizes of public budgets (as measured by public spending in relation to GDP) must be taken into account.

When the size of public budgets relative to GDP in OECD countries is compared with the proportion of public spending on education, it is evident that even in countries with relatively low rates of public spending, education has a very high priority. For instance, the share of public spending that goes to education in Korea, Mexico, the Slovak Republic and the partner country Chile is among the highest in OECD countries (Chart B4.1), yet total public spending accounts for a relatively small proportion of GDP in these countries (Chart B4.2).

Chart B4.2. Total public expenditure as a percentage of GDP (2000, 2005)



Note: This chart represents public expenditure on all services and not simply public expenditure on education.
Countries are ranked in descending order of total public expenditure as a percentage of GDP in 2005.
Source: OECD. Annex 2. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).
StatLink http://dx.doi.org/10.1787/402021027265

Although the overall pattern is not clear, there is some evidence to suggest that countries with high rates of public spending spend proportionately less on education; only one of the top ten countries for public spending on public services overall – Denmark – is among the top ten public spenders on education (Charts B4.1 and B4.2).

From 1995 to 2005, public expenditure on education typically grew faster than total public spending and as fast as national income: the average proportion of public expenditure on education increased over this period in 16 of the 21 countries with comparable data in both 1995 and 2005; simultaneously in these 21 countries, public expenditure on education as a percentage of GDP increased slightly. However, the main increase in public expenditure on education relative to total public spending took place from 1995 to 2000, while public expenditure on education and on other public sectors increased in the same proportions from 2000 to 2005. Although budget consolidation puts pressure on education along with every other service, the proportion of public budgets spent on education in OECD countries rose from 11.9% in 1995 to 13.2% in 2005. The figures suggest that the greatest relative increases in the share of public expenditure on education during this period took place in Denmark (increasing from 12.2 to 15.5%), the Netherlands (from 8.9 to 11.5%), New Zealand (16.5 to 19.4%), the Slovak Republic (14.1 to 19.5%) and Sweden (10.7 to 12.6%) and in partner country Brazil (11.2 to 14.5%).

Distribution of public expenditure to the public and private sectors

The vast majority of public funds for education – an average of 85% – are directed to public institutions: In two-thirds of OECD countries, as well as in the partner countries Brazil, Estonia and Slovenia, the share of public expenditure on education transferred to public institutions exceeds 80%. However, in a number of countries, considerable public funds are transferred to private institutions or given directly to households to spend in the institution of their choice: more than 20% of public expenditure is distributed (directly or indirectly) to the private sector in Denmark, New Zealand, Norway and the United Kingdom and in the partner countries Chile and Israel. In Belgium, most public funds go to government-dependent institutions that are managed by private bodies but otherwise operate under the aegis of the regular education system (Table B4.2).

On average among OECD countries, nearly 12% of public funding designated for education at the primary, secondary and post-secondary non-tertiary levels is spent in privately managed institutions. Belgium is the only country where the majority of public funding goes to privately managed institutions, though in the partner country Chile, the percentage is also high, at 41%. Public funding transfers to private households and other private entities are generally not a significant feature at primary, secondary and post-secondary non-tertiary levels. On average among OECD countries, these transfers represent 3.7% of public expenditure on education and exceed 10% only in Denmark.

At the tertiary level, the majority of public funds is still generally directed to public institutions, but the share of public expenditure transferred to the private sector is larger than at the primary to post-secondary non-tertiary levels and reaches an average of 26% in countries with available data. There are, however, substantial variations among countries in the share of public expenditure devoted to the private sector. In Belgium and the United Kingdom (where there are no public tertiary institutions), as well as in the partner countries Chile, Estonia and Israel,

public expenditure goes mainly to privately managed institutions. The share of public expenditure indirectly transferred to the private sector (households and other private entities) is larger at the tertiary level as households/students more often receive some public funding at the tertiary level than at other levels. On average, 18% of public funding is transferred to households and other private entities at the tertiary level. This is partly due to financial aid to tertiary students through scholarships, grants and loans (see Indicator B5). The proportion of public expenditure indirectly transferred to the private sector exceeds 30% in Australia, Denmark, New Zealand and Norway and, among partner countries, in Chile.

Definitions and methodologies

The data refer to the financial year 2005 and are based on the UOE data collection on education statistics administered by the OECD in 2007 (for details see Annex 3 at *www.oecd.org/edu/eag2008*). Educational expenditure is expressed as a percentage of a country's total public sector expenditure and as a percentage of GDP. Public expenditure on education includes expenditure on educational institutions and subsidies for students' living costs and for other private expenditure outside institutions. Public expenditure on education includes expenditure by all public entities, including ministries other than ministries of education, local and regional governments and other public agencies.

Total public expenditure, also referred to as total public spending, corresponds to the non-repayable current and capital expenditure of all levels of government: central, regional and local. Current expenditure includes final consumption expenditure, property income paid, subsidies and other current transfers (*e.g.* social security, social assistance, pensions and other welfare benefits). Figures for total public expenditure have been taken from the OECD National Accounts Database (see Annex 2) and use the System of National Accounts 1993.

The glossary at *www.oecd.org/edu/eag2008* gives a definition of public, government-dependent private and independent private institutions.

Further references

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

StatLink http://dx.doi.org/10.1787/402021027265

- ***Table B4.3a. Initial sources of public educational funds and final purchasers of educational resources by level of government for primary, secondary and post-secondary non-tertiary education (2005)***
- ***Table B4.3b. Initial sources of public educational funds and final purchasers of educational resources by level of government for tertiary education (2005)***

B4

Table B4.1.

Total public expenditure on education (1995, 2000, 2005)

Direct public expenditure on educational institutions plus public subsidies to households (which include subsidies for living costs) and other private entities, as a percentage of GDP and as a percentage of total public expenditure, by level of education and year

		Public expenditure[1] on education as a percentage of total public expenditure					Public expenditure[1] on education as a percentage of GDP				
		2005			2000	1995	2005			2000	1995
		Primary, secondary and post-secondary non-tertiary education	Tertiary education	All levels of education combined	All levels of education combined	All levels of education combined	Primary, secondary and post-secondary non-tertiary education	Tertiary education	All levels of education combined	All levels of education combined	All levels of education combined
OECD countries	**Australia**	m	m	m	13.6	13.6	3.5	1.1	4.8	4.7	5.0
	Austria	7.1	3.0	10.9	10.7	10.8	3.6	1.5	5.4	5.5	6.0
	Belgium	8.0	2.6	12.1	12.1	m	4.0	1.3	6.0	5.9	m
	Canada[2, 3]	8.2	4.2	12.3	12.4	12.7	3.3	1.7	4.9	5.1	6.2
	Czech Republic	6.5	2.0	9.7	9.5	8.7	2.8	0.9	4.3	4.0	4.8
	Denmark[3]	9.3	4.5	15.5	15.3	12.2	4.9	2.4	8.3	8.3	7.3
	Finland	7.8	4.0	12.5	12.5	11.0	4.0	2.0	6.3	6.0	6.8
	France	7.1	2.2	10.6	11.6	11.5	3.8	1.2	5.7	6.0	6.3
	Germany	6.2	2.4	9.7	9.9	8.5	2.9	1.1	4.5	4.5	4.6
	Greece[3]	m	m	m	7.3	5.6	2.5	1.4	4.0	3.4	2.6
	Hungary[4]	6.9	2.1	10.9	14.1	12.9	3.4	1.0	5.5	4.8	5.2
	Iceland[3]	12.3	3.4	18.0	13.9	m	5.2	1.5	7.6	5.8	m
	Ireland	10.7	3.3	14.0	13.6	12.2	3.7	1.1	4.8	4.3	5.0
	Italy	6.7	1.6	9.3	9.8	9.0	3.2	0.8	4.4	4.5	4.7
	Japan[3]	7.0	1.6	9.5	9.4	m	2.6	0.6	3.5	3.7	3.6
	Korea	11.8	2.1	15.3	16.3	m	3.4	0.6	4.4	3.9	m
	Luxembourg[3, 4]	9.1	m	m	m	m	3.8	m	m	m	m
	Mexico	16.2	4.1	23.4	23.4	22.2	3.8	1.0	5.5	4.9	4.6
	Netherlands	7.7	3.0	11.5	10.6	8.9	3.5	1.4	5.2	4.7	5.0
	New Zealand	13.5	4.8	19.4	m	16.5	4.3	1.5	6.2	6.8	5.6
	Norway	m	m	m	14.5	15.5	4.1	2.3	7.0	5.9	7.9
	Poland[4]	8.6	2.8	12.6	12.7	11.9	3.7	1.2	5.5	5.0	5.2
	Portugal[4]	8.2	2.1	11.4	12.6	11.7	3.9	1.0	5.4	5.4	5.1
	Slovak Republic[3]	12.9	4.1	19.5	14.7	14.1	2.6	0.8	3.9	3.9	4.6
	Spain	7.2	2.5	11.1	10.9	10.3	2.8	0.9	4.2	4.3	4.6
	Sweden	8.2	3.5	12.6	13.4	10.7	4.5	1.9	7.0	7.2	7.1
	Switzerland[4]	8.7	3.3	12.7	15.6	13.5	3.9	1.5	5.7	5.4	5.7
	Turkey	m	m	m	m	m	m	m	m	m	m
	United Kingdom	8.6	2.7	11.9	11.0	11.4	3.9	1.2	5.4	4.4	5.1
	United States	9.4	3.5	13.7	14.4	m	3.5	1.3	5.1	4.9	m
	OECD average	***9.0***	***3.0***	***13.2***	***12.8***	***11.9***	***3.6***	***1.3***	***5.4***	***5.1***	***5.3***
	EU19 average	***8.2***	***2.8***	***12.1***	***13.0***	***10.7***	***3.6***	***1.3***	***5.3***	***5.1***	***5.3***
Partner countries	**Brazil**[4]	10.6	2.8	14.5	10.4	11.2	3.3	0.9	4.5	3.8	3.9
	Chile[5]	11.9	2.4	16.0	17.5	14.5	2.4	0.5	3.2	3.9	3.0
	Estonia	10.9	2.8	14.9	14.9	13.9	3.6	0.9	4.9	5.4	5.8
	Israel	9.0	2.2	13.5	13.9	13.5	4.2	1.0	6.3	6.7	7.0
	Russian Federation[4]	5.9	2.5	11.9	10.6	m	1.9	0.8	3.8	2.9	m
	Slovenia	8.8	2.8	12.7	m	m	4.1	1.3	5.8	m	m

1. Public expenditure presented in this table includes public subsidies to households for living costs, which are not spent on educational institutions. Thus the figures presented here exceed those on public spending on institutions found in Table B2.1.
2. Year of reference 2004 instead of 2005.
3. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
4. Public institutions only.
5. Year of reference 2006 instead of 2005.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

StatLink http://dx.doi.org/10.1787/402021027265

Table B4.2.

Distribution of total public expenditure on education (2005)

Public expenditure on education transferred to educational institutions and public transfers to the private sector as a percentage of total public expenditure on education, by level of education

		Primary, secondary and post-secondary non-tertiary education			Tertiary education			All levels of education combined		
		Direct public expenditure on public institutions	Direct public expenditure on private institutions	Indirect public transfers and payments to the private sector	Direct public expenditure on public institutions	Direct public expenditure on private institutions	Indirect public transfers and payments to the private sector	Direct public expenditure on public institutions	Direct public expenditure on private institutions	Indirect public transfers and payments to the private sector
OECD countries	**Australia**	75.5	20.9	3.6	67.7	n	32.3	x	x	10.5
	Austria	98.3	0.6	1.1	75.9	5.3	18.8	90.8	1.8	7.3
	Belgium	44.2	53.2	2.6	36.2	48.6	15.2	43.7	51.2	5.1
	Canada[1, 2]	98.1	1.9	m	84.1	0.4	15.5	93.3	1.4	5.2
	Czech Republic	91.6	3.8	4.6	93.1	1.0	5.9	92.7	2.9	4.3
	Denmark[2]	81.7	6.8	11.5	69.2	a	30.8	78.2	4.3	17.5
	Finland	90.1	6.8	3.1	75.5	7.4	17.1	85.6	7.0	7.4
	France	84.0	12.7	3.3	86.7	5.5	7.9	85.4	10.7	3.9
	Germany	84.5	10.7	4.8	79.8	1.1	19.1	80.5	11.5	7.9
	Greece[2]	99.8	a	0.2	98.6	a	1.4	99.4	a	0.6
	Hungary	85.8	9.6	4.6	78.9	5.4	15.7	86.5	7.5	6.0
	Iceland[2]	96.8	2.0	1.1	69.7	7.2	23.1	91.7	3.1	5.2
	Ireland	90.6	n	9.4	85.2	n	14.8	89.3	n	10.7
	Italy	97.3	1.0	1.7	81.2	1.9	16.8	94.0	1.5	4.5
	Japan[2]	96.3	3.5	0.2	65.0	13.4	21.5	89.8	6.4	3.9
	Korea	82.7	15.5	1.8	75.2	21.9	2.9	80.6	15.2	4.2
	Luxembourg[2]	97.8	m	2.2	m	m	m	m	m	m
	Mexico	94.3	n	5.7	93.6	n	6.4	94.7	n	5.3
	Netherlands	x	x	6.3	x	x	27.7	x	x	11.6
	New Zealand	89.5	3.7	6.8	56.8	1.7	41.5	78.7	5.9	15.4
	Norway	88.6	4.3	7.7	54.7	2.7	42.6	73.8	6.9	19.3
	Poland[3]	x	x	1.8	x	x	1.6	x	x	1.6
	Portugal	92.2	6.4	1.4	89.9	1.2	8.9	91.0	6.3	2.6
	Slovak Republic[2]	90.4	6.6	3.1	85.9	a	14.1	90.6	4.4	5.0
	Spain	84.0	14.4	1.6	90.0	1.8	8.2	85.7	11.3	3.0
	Sweden	86.5	7.7	5.9	68.1	4.8	27.1	81.5	7.3	11.2
	Switzerland[3]	90.4	7.3	2.2	89.6	5.4	5.0	90.3	6.7	3.0
	Turkey	m	m	m	m	m	m	m	m	m
	United Kingdom	75.6	22.0	2.4	a	74.2	25.8	57.8	34.0	8.2
	United States	99.8	0.2	m	68.3	8.2	23.5	91.2	2.7	6.1
	OECD average	***88.4***	***8.5***	***3.7***	***73.8***	***8.4***	***17.6***	***84.7***	***8.4***	***7.0***
	EU19 average	***86.7***	***10.1***	***3.8***	***74.6***	***9.9***	***15.4***	***83.3***	***10.1***	***6.6***
Partner countries	**Brazil**[2, 3]	98.0	n	2.0	87.9	n	12.1	96.2	n	3.8
	Chile[4]	58.6	40.9	0.6	32.4	27.5	40.1	54.9	38.7	6.4
	Estonia	94.7	1.3	4.0	28.6	56.0	15.4	82.4	11.8	5.8
	Israel	73.8	24.8	1.4	5.5	82.9	11.6	64.3	32.6	3.1
	Russian Federation	m	a	m	m	a	m	m	a	m
	Slovenia	94.1	0.6	5.4	76.1	0.2	23.7	90.6	0.5	8.9

1. Year of reference 2004.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Public institutions only.
4. Year of reference 2006.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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INDICATOR B5

HOW MUCH DO TERTIARY STUDENTS PAY AND WHAT PUBLIC SUBSIDIES DO THEY RECEIVE?

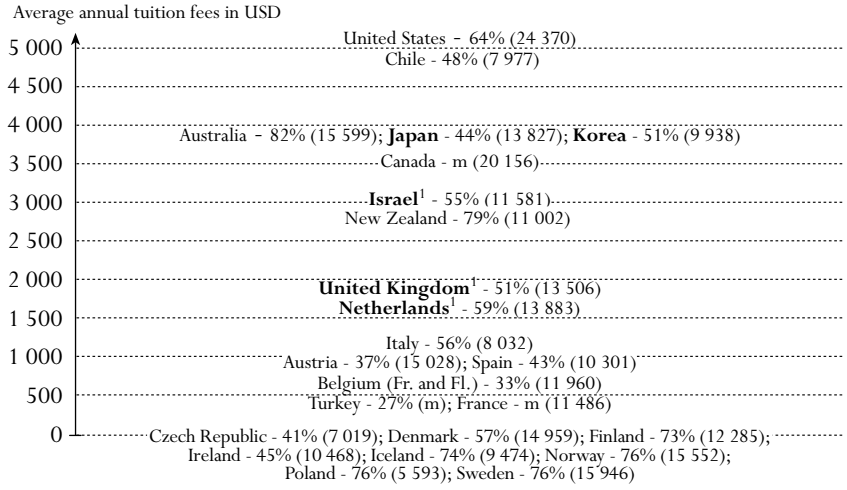
This indicator examines the relationships between annual tuition fees charged by institutions, direct and indirect public spending on educational institutions, and public subsidies to households for student living costs. It looks at whether financial subsidies for households are provided in the form of grants or loans and raises related questions: Are scholarships/grants and loans more appropriate in countries with higher tuition fees charged by institutions? Are loans an effective means for helping to increase the efficiency of financial resources invested in education and shift some of the cost of education to the beneficiaries of educational investment? Are student loans less appropriate than grants in encouraging low-income students to pursue their education?

Key results

Chart B5.1. Average annual tuition fees charged by tertiary-type A public institutions for full-time national students (academic year 2004/05)

This chart shows the annual tuition fees charged in equivalent USD converted using PPPs. Countries in bold indicate that tuition fees refer to public institutions but more than two-thirds of students are enrolled in private institutions. The net entry rate and expenditure per student (in USD) in tertiary-type A programmes are added next to country names.

There are large differences among OECD and partner countries for which data are available in the average tuition fees charged by tertiary-type A public institutions. In eight OECD countries public institutions charge no tuition fees, but in one-third of countries public institutions charge annual tuition fees for national students in excess of USD 1 500. Among the EU19 countries, only the Netherlands and the United Kingdom have annual tuition fees that represent more than USD 1 000 per full-time student; these relate to government-dependent institutions.



Note: This chart does not take into account grants, subsidies or loans that partially or fully offset the student's tuition fees.

1. Public institutions do not exist at this level of education and most students are enrolled in government dependent institutions.

Source: OECD. Tables B1.1a, B5.1a and A2.5. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

StatLink http://dx.doi.org/10.1787/402038326553

Other highlights of this indicator

- Except for Belgium, countries with quite a large difference between the fees charged for the first and last deciles of students – Australia, Canada and the United States and the partner country Chile – are also those with quite high levels of average tuition fees. The difference is partly because tertiary educational institutions in these countries have the right to differentiate the fees charged by field of education.
- In most countries, tuition fees charged by tertiary-type B institutions are lower than those charged by tertiary-type A institutions. In parallel graduates of tertiary-type A education earn substantially more than tertiary-type B graduates in all of these countries.
- When tuition fees are charged, tertiary institutions are responsible for setting tuition fee levels in almost all countries and for determining the level of tuition fees. Only Japan, the Netherlands, Spain and Switzerland have levels of tuition fees set exclusively by educational authorities (at central, regional or local levels) at least for some of their tertiary institutions.
- An average of 18% of public spending on tertiary education is devoted to supporting students, households and other private entities. In Australia, Denmark, the Netherlands, New Zealand, Norway and Sweden and the partner country Chile, public subsidies to households account for some 27% or more of public tertiary education budgets.
- Low annual tuition fees charged by tertiary-type A institutions are not systematically associated with a low proportion of students who benefit from public subsidies. In tertiary-type A education, the tuition fees charged by public institutions for national students are negligible in the Nordic countries and in the Czech Republic and are low in Turkey. And yet more than 55% of the students enrolled in tertiary-type A education in these countries can benefit from scholarships/grants and/or public loans. Moreover, Finland, Norway and Sweden are among the seven countries with the highest entry rate to tertiary-type A education.
- OECD countries in which students are required to pay tuition fees and can benefit from particularly large public subsidies do not show lower levels of access to tertiary-type A education than the OECD average. For example, Australia (82%) and New Zealand (79%) have among the highest entry rates to tertiary-type A education, and the Netherlands (59%) and the United States (64%) are above the OECD average. The United Kingdom (51%) and the partner country Chile (48%) are just below the OECD average (54%), although entry to tertiary-type A education increased by 4 and 6 percentage points, respectively, between 2000 and 2005 in these countries.
- Some studies conclude that loans are useful to support tertiary education study among middle- and upper-income students, but ineffective among lower-income students, while the converse is true for grants. Grants and loans are particularly developed in Australia, the Netherlands, New Zealand, Norway, Sweden, the United Kingdom, the United States and the partner country Chile. Globally, the cost to a government of providing public loans to a significant proportion of students is greater in countries where the average level of tuition fees charged by institutions is higher.

Policy context

Decisions taken by policy makers on the tuition fees charged by educational institutions affect both the cost of tertiary studies to students and the resources available to tertiary institutions. Subsidies to students and their families also act as policy levers which governments can use to encourage participation in education – particularly among students from low-income families – by covering part of the cost of education and related expenses. In this way, governments can seek to address issues of access and equality of opportunity. The success of such subsidies must therefore be judged, at least in part, by examining indicators of participation, retention and completion. Furthermore, public subsidies play an important role in financing educational institutions indirectly.

Channelling funding for institutions through students may also help to increase competition among institutions. Since aid for student living costs can serve as a substitute for work, public subsidies may enhance educational attainment by enabling students to study full-time and to work fewer hours or not at all.

Public subsidies come in many forms: as means-based subsidies, as family allowances for all students, as tax allowances for students or their parents, or as other household transfers. Unconditional subsidies (such as tax reductions or family allowances) may provide less of an incentive for low-income students than means-tested subsidies. However, they may still help reduce financial disparities among households with and without children in education.

Evidence and explanations

What this indicator does and does not cover

This indicator shows average tuition fees charged in public and private institutions at tertiary-type A level. It does not distinguish tuition fees by type of programmes but gives an overview of tuition fees at tertiary-type A level by type of institution and presents the proportions of students who do or do not receive scholarships/grants that fully or partially cover tuition fees. Tuition fees and associated proportions of students should be interpreted with caution as they result from the weighted average of the main tertiary-type A programmes and do not cover all educational institutions.

This indicator also shows the proportion of public spending on tertiary education transferred to students, families and other private entities. Some of these funds are spent indirectly on educational institutions – for example, when subsidies are used to cover tuition fees. Other subsidies for education do not relate to educational institutions, such as subsidies for student living costs.

The indicator distinguishes between scholarships and grants, which are non-repayable subsidies, and loans, which must be repaid. It does not, however, distinguish among different types of grants or loans, such as scholarships, family allowances and subsidies in kind.

Governments can also support students and their families by providing housing allowances, tax reductions and/or tax credits for education. These subsidies are not covered here and thus financial aid to students may be substantially underestimated in some countries.

The indicator reports the full volume of student loans in order to provide information on the level of support received by current students. The gross amount of loans, including scholarships and grants, provides an appropriate measure of financial aid to current participants in education. Interest payments and repayments of principal by borrowers would be taken into account in order to assess the net cost of student loans to public and private lenders. However, such payments are not usually made by current students but by former students. In most countries, moreover, loan repayments do not flow to the education authorities, and thus the money is not available to them to cover other educational expenditures. Nevertheless, some information on repayment systems for these loans is also taken into account, as these can substantially reduce the real costs of loans. OECD indicators take the full amount of scholarships and loans (gross) into account when discussing financial aid to current students.

It is also common for governments to guarantee the repayment of loans to students made by private lenders. In some OECD countries, this indirect form of subsidy is as significant as, or more significant than, direct financial aid to students. However, for reasons of comparability, the indicator only takes into account the amounts relating to public transfers for private loans that are made to private entities (not the total value of loans generated). Some qualitative information is nevertheless presented in some of the tables to give some insight on this type of subsidy.

Some OECD countries also have difficulty quantifying the amount of loans attributable to students. Therefore, data on student loans should be treated with some caution.

Annual tuition fees charged by tertiary-type A institutions for national and foreign students

There are large differences among OECD and partner countries in the average tuition fees charged by tertiary-type A institutions for national students. No tuition fees are charged by public institutions in the five Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) and in the Czech Republic, Ireland and Poland. By contrast, one-third of OECD and partner countries have annual tuition fees for national students charged by public institutions (or government-dependent private institutions) that exceed USD 1 500. In the United States, tuition fees for national students reach more than USD 5 000 in public institutions. Among the EU19 countries, only the Netherlands and the United Kingdom have annual tuition fees that exceed USD 1 100 per full-time national student, and these fees relate to government-dependent private institutions (Table B5.1a and Chart B5.1).

Tuition fees charged in tertiary-type A institutions may vary within each country for national students as a result of choices made by tertiary institutions. In Austria, there is no variation in the amount of tuition fees among national students, but in Belgium (Fr. community), Canada and the United States, and the partner country Chile, the tuition fees charged for the 10% of students with the highest fees (90th) is at least twice the level of tuition fees charged to the 10% students with the lowest fees (10th). The ratio between fees charged for these two deciles is highest in Italy at 4:1. Except for Belgium, countries with quite a large difference between the tuition fees charged for the first and last deciles of students – Australia, Canada and the United States and the partner country Chile – are also those with quite high levels of average tuition fees. The difference is mainly due to the fact that tertiary institutions in these countries have the right to differentiate the fees charged by field of education. On the contrary, in Spain, average tuition fees are moderate (around USD 800) and the fees charged vary by a ratio of less than 1.6 (Table B5.1c).

National policies regarding tuition fees and financial aid to students generally cover all students studying in the country's educational institutions. Even if the focus of this indicator is mainly on national students, countries' policies also have to take international students into account. These may be a country's national students going abroad for their studies or students who enter the country for study reasons. Differentiation between national and non-national students in terms of the fees students pay or the financial help they may receive can have, along with other factors, an impact on the flows of international students, either by attracting students to some countries or by preventing students from studying in other countries (see Indicator C3).

The tuition fees charged by public educational institutions may differ among students enrolled in the same programme. Several countries make a distinction in terms of students' citizenship. In Austria, for example, the average tuition fees charged by public institutions for students who are not citizens of EU or EEA countries are twice the fees charged for citizens of these countries. This kind of differentiation also appears in Australia, Belgium, Canada, the Czech Republic, the Netherlands, New Zealand, Turkey, the United Kingdom and the United States, as well as the partner country Estonia (see Indicator C3), and appeared in Denmark from the 2006/07 academic year. In these countries, the variation in tuition fees based on citizenship is always significant. This type of policy differentiation may check the flows of international students (see Indicator C3) unless these students receive some financial support from their country of citizenship (or from their country of permanent residence as in New Zealand).

Annual tuition fees charged by private institutions

Annual tuition fees charged by private institutions vary considerably across OECD and partner countries as well as within countries themselves. Most OECD and partner countries charge higher tuition fees in private institutions. Finland and Sweden are the only countries with no tuition fees in either public or private institutions. Variation within countries tends to be highest in countries with the largest proportions of students enrolled in independent tertiary-type A private institutions. By contrast, tuition fees charged by public and government-dependent institutions differ less in most countries and are even similar in Austria. The greater autonomy of independent private institutions compared with public and government-dependent institutions partially explains this situation. For example, around three-quarters of students in Korea and Japan are enrolled in independent private institutions and these two countries also show the highest variation in the fees charged by their independent private institutions (see Indicator C2 and Table B5.1a).

Annual tuition fees charged by tertiary-type B institutions for national students

Large differences among OECD and partner countries in the average tuition fees charged by tertiary institutions are also observed in tertiary-type B education. In Nordic countries as well as in the Czech Republic, Ireland and Poland, where no tuition fees are charged in tertiary-type A institutions, there are usually no tuition fees charged in tertiary-type B institutions as well, but their tertiary-type B sector is quite small (with less than 10% of tertiary full-time students). Among other countries in which tertiary-type B institutions enrol a small proportion of full-time students (15% or less), Austria, Denmark and Spain are the only ones in which these institutions do not charge tuition fees or charge negligible fees. Australia presents the particularity of a small proportion of tertiary full-time students enrolled in tertiary-type B education (10%, nearly

all of them in public institutions), but the highest average tuition fees among all OECD and partner countries (about USD 3 730), although they remain lower than those in tertiary-type A education (about USD 3 855) (Tables B5.1a and B5.1b).

In 13 OECD and partner countries, at least 15% of tertiary full-time students are enrolled in type B education. Among the nine of these countries for which data are available on tuition fees, public tertiary-type B institutions charge on average between USD 1 000 and USD 3 154 for national students, except France (maximum of USD 1 420), Ireland (no tuition fees) and Turkey (USD 166). In Japan and Korea, where 26 % and 38 % respectively of full-time tertiary students are enrolled in tertiary-type B institutions, most students are enrolled in private institutions with tuition fees amounting to more than USD 5 000 on average (Table B5.1b). In these nine OECD and partner countries except France, tuition fees charged by tertiary-type B institutions are lower than those charged by tertiary-type A institutions. This is mainly because graduates of tertiary-type A education earn substantially more than tertiary-type B graduates in all of these countries (Tables A9.1, B5.1a and B5.1b).

Decision making on fees charged by tertiary institutions

The tuition fees charged by tertiary institutions vary between type A and type B institutions but also among students in each type of education because of differentiation of the fees charged to students. There is a large degree of within-institution differentiation in countries in which fees are charged. For example, differentiation may be by level of educational programme, *e.g.* post-graduate versus undergraduate (in the United Kingdom, for example), by field of study (in Australia or Spain, for example), according to student status, in Belgium (Fl. community), for example. When tuition fees are charged, tertiary institutions have a say in determining the level of tuition fees in almost all countries (Table B5.1d). Only in Japan, the Netherlands, Spain and Switzerland are tuition fee levels set exclusively by educational authorities (at central, regional or local levels) at least for some of their tertiary institutions. However, in most countries the educational authorities do impose some restrictions. Only Korea, Mexico and the partner countries Chile and the Russian Federation face no restrictions on decisions on the level of tuition fees. Only specific areas have no restriction in Iceland, Japan, Portugal, Switzerland and the United Kingdom.

The restrictions that typically apply to the setting of tuition fees are usually upper limits. Such restrictions are used for example in Australia, Japan, New Zealand, Norway and Poland. However, restrictions may also relate to lower limits, as is the case in Australia for unsubsidised places or in some cases in the Netherlands. Both lower and upper limits may also be fixed, as in Belgium (Fl. community), the Czech Republic, Portugal and Switzerland. New Zealand and the partner country Estonia set a maximum growth rate for tuition fees (Table B5.1d and OECD [2008a]).

Country mechanisms to allocate public funding to institutions

Understanding how tertiary institutions receive public funds is relevant to the analysis of fees charged by institutions and subsidies received by students. The use of both block grants (a large sum granted without strings attached) and targeted funding (money for a particular purpose) in the allocation of public funds to institutions is widespread. Only five countries use line-item

budgeting (use of funds restricted to expenditure items specified in "line-item" budget) instead of block grants: Greece, Korea, Mexico (for institutions created before 1997), Switzerland and the partner country the Russian Federation. The partner country Chile, in addition to block grants and targeted funds, uses a fairly unique mechanism in order to encourage competition for students among institutions (Table B5.1d and OECD [2008a]).

Formula funding has become the most common basis for allocating block grants or line-item budgets to institutions in participating countries. Only in Mexico is a formula not used in allocating block grants and line-item budgets; in the Netherlands, Norway, Poland and the partner countries Chile, Estonia and the Russian Federation, the basis for the allocation is a formula and historical trends. In both New Zealand and Switzerland, the basis for allocating block grants is a formula and negotiations with government authorities.

In the vast majority of countries that use targeted funding, the allocation takes place on a competitive basis. Exceptions exist in Belgium (Fl. community), the Netherlands, Sweden and Switzerland. Only Poland and Australia use formula funding for allocating targeted funds, others use direct negotiations with institutions (*e.g.* some programmes in Portugal).

Many factors enter funding formulas. As may be expected, criteria related to the size of the institution dominate: number of students enrolled (in 12 countries), number of first-year students (8 countries), or number of staff or academic staff (7 countries). In Korea the total area of buildings and facilities is also used as a proxy for size.

The allocation mechanisms are also performance-based. The main criteria relating to output or outcomes are the number of degrees awarded or the number of graduates (Belgium [Fl. community], the Czech Republic, Finland, the Netherlands, Portugal and some regions of Spain), the number of credits accumulated by students (Belgium [Fl. community], Norway, Spain, Sweden and Switzerland), the number of students completing each year of study (Spain), and average study duration (Portugal and Spain). Norway and the partner country Chile use research indicators while Korea uses an assessment of innovation efforts. Japan further uses the results of a quality evaluation by a review panel in the formula to allocate block grants to national universities.

Funding formulas are also based on criteria that relate more to the quality or type of education. For example, the field of study is used in most of the funding formulas. In Japan (the national universities) and Switzerland as well as in the partner country Estonia, an assessment of the extent to which a field of study is considered a priority influences the associated funding. The level of qualifications of academic staff is also used as an extra weight in Greece, Poland, Portugal, Spain and the partner countries Chile and the Russian Federation. A few countries reflect equity objectives in funding formulas, typically through the use of a premium in the funding formula for each student of a given under-represented group (for example in Australia and New Zealand). Also used are weights based on equity objectives (Belgium [Fl. community], Japan) and on the regional role of institutions (Finland, Japan) (Table B5.1d and OECD [2008a]).

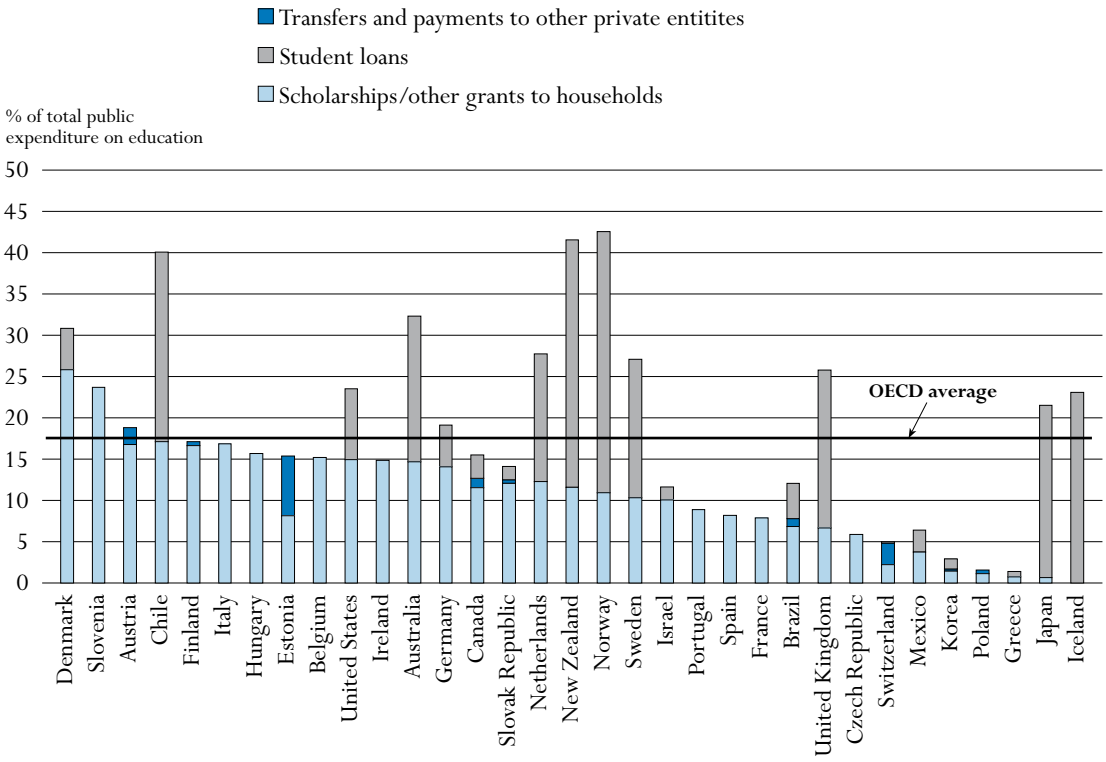
Public subsidies to households and other private entities

OECD countries spend an average of 0.4% of their GDP on public subsidies to households and other private entities for all levels of education combined. The proportion of educational budgets

spent on subsidies to households and private entities is much higher at the tertiary level than at the primary, secondary and post-secondary non-tertiary levels and represents 0.3% of GDP. The subsidies are the largest in relation to GDP at tertiary level in Norway (1.0% of GDP), followed by Denmark (0.7%), New Zealand (0.6%), Sweden (0.5%), Australia (0.4%), and the Netherlands (0.4%) (Table B5.2 and Table B5.3 available on line).

Chart B5.2. Public subsidies for education in tertiary education (2005)

Public subsidies for education to households and other private entities as a percentage of total public expenditure on education, by type of subsidy



Countries are ranked in descending order of the share of scholarships/other grants to households and transfers and payments to other private entitites in total public expenditure on education.

Source: OECD. Table B5.2. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

StatLink http://dx.doi.org/10.1787/402038326553

OECD countries spend, on average, 18% of their public budgets for tertiary education on subsidies to households and other private entities (Chart B5.2). In Australia, Denmark, the Netherlands, New Zealand, Norway and Sweden and the partner country Chile, public subsidies account for 27% or more of public spending on tertiary education. Only Greece, Korea and Poland spend less than 5% of total public spending on tertiary education on subsidies (Table B5.2).

Overall country approaches to funding tertiary education

Countries differ in their approach to funding tertiary education. This section provides a taxonomy of approaches to funding tertiary education in OECD and partner countries along with available data. Countries are grouped according to two dimensions. The first is the extent of cost-sharing, that is, the level of contribution requested from the student and/or his or her family in tertiary-type A education. The second concerns the public subsidies received by students at this level of education.

There is no single model in OECD and partner countries for the financing of tertiary-type A education. Some countries in which tertiary-type A institutions charge similar tuition fees may have differences in the proportion of students benefiting from public subsidies and/or in the average amount of these subsidies (Tables B5.1a, B5.1c, B5.2 and Chart B5.3). Nevertheless, comparing the tuition fees charged by institutions and public subsidies received by students, as well as other factors such as access to tertiary education, level of public expenditure on tertiary education or the level of taxation on income, helps to distinguish four main groups of countries. Tax revenue based on income (OECD, 2006) is highly correlated with the level of public expenditure available for education and can provide some information on the possibility of financing public subsidies to students.

Model 1: Countries with no or low tuition fees but quite generous student support systems

This group includes the Nordic countries (Denmark, Finland, Iceland, Norway, Sweden), the Czech Republic and Turkey. There are no (or low) financial barriers for tertiary studies due to tuition fees and even a high level of student aid. At 58%, the average entry rate to tertiary-type A education for this group is above the OECD average (see Indicator C2). Tuition fees charged by public educational institutions for national students are negligible (Nordic countries and the Czech Republic) or low (Turkey) in tertiary-type A education and more than 55% of students enrolled in tertiary-type A education in this group can benefit from scholarships/grants and/or public loans to finance their studies or living expenses (Tables B5.1a and B5.1c and Chart B5.3).

In the Nordic countries, net entry rates in tertiary-type A education are, on average, 71%, significantly higher than the OECD average. Also in these countries, the level of public expenditure on tertiary education as a percentage of GDP and taxation on income are among the highest among OECD and partner countries. The way tertiary education is paid for expresses a vision of these countries' societies. Public funding of tertiary education is seen as the operational expression of the weight attached to such deeply rooted social values as equality of opportunity and social equity which stand as one of the identifying traits of the Nordic countries. The notion that government should provide its citizens with tertiary education at no charge to the user is a prime feature of these countries' educational culture. In its current mode, the funding of both institutions and students is based on the principle that access to tertiary education is a right, rather than a benefit (OECD [2008a], Chapter 4).

The Czech Republic and Turkey have a different pattern: low access to tertiary-type A education compared to the OECD average – despite increases of 16 and 6 percentage points, respectively, between 2000 and 2005 – combined with low levels (compared to the OECD average) of public

spending and of tax revenue on income as a percentage of GDP compared to the OECD average (see Indicators B4 and A2 and OECD [2006]). In these two countries, more than three-quarters of students enrolled in tertiary-type A programmes benefited from scholarships/grants in the Czech Republic or from a loan in Turkey, but the average amount of these public subsidies is small compared to the Nordic countries and compared to the OECD average. This indicates that these two countries are also close to those included in model 4.

Model 2: Countries with high level of tuition fees and well developed student support systems

A second group includes four Anglophone countries (Australia, New Zealand, the United Kingdom and the United States), one bilingual country (Canada), the Netherlands and the partner country Chile, which have potentially high financial barriers for entry to tertiary-type A education, but also large public subsidies to students. It is noteworthy that the average entry rate to tertiary-type A education for this group of countries is, at 67%, slightly above the OECD average and higher than most countries (except the Nordic countries) with low levels of tuition fees.

Tuition fees charged by tertiary-type A institutions exceed USD 1 500 in all these countries and more than 80% of tertiary-type A students receive public subsidies (in Australia, the Netherlands and the United States, the three countries for which data are available, see Tables B5.1a and B5.1c). Student support systems are well developed and mostly accommodate the needs of the entire student population with a proportion of public subsidies in total public expenditure on tertiary education higher than the OECD average (18%) in six out of the seven countries: Australia (32%), the Netherlands (28%), New Zealand (42%), the United Kingdom (26%) and the United States (24%) and the partner country Chile (40%) and nearly at the average for Canada (Table B5.2). Countries in this group do not have lower access to tertiary-type A education than countries from the other groups. For example, Australia (82%) and New Zealand (79%) have among the highest entry rates to tertiary-type A education, the Netherlands (59%) and the United States (64%) are above the OECD average (55%) in 2005, and the United Kingdom (51%) and the partner country Chile (48%) are just below the OECD average, although entry to tertiary-type A education in these countries increased by 4 and 6 percentage points, respectively, between 2000 and 2005 (Table A2.5). Finally, these countries spend more per tertiary student on core services than the OECD average and have a relatively high level of tax revenue based on income as a percentage of GDP compared to the OECD average. The Netherlands is an exception in terms of the level of taxation on income and the partner country Chile for both indicators (see Table B1.1b and OECD [2006]).

Model 3: Countries with high level of tuition fees but less developed student support systems

Japan and Korea present a different pattern: while cost sharing is extensive and broadly uniform across students, student support systems are somewhat less developed than in Models 1 and 2. This places a considerable financial burden on students and their families. In these two countries, tertiary-type A institutions charge high tuition fees (more than USD 3 500) but a relatively small proportion of students benefit from public subsidies (one-quarter of students receive public subsidies in Japan, and only 3% of total public expenditure on tertiary

education is allocated to public subsidies in Korea). Tertiary-type A entry rates in those two countries are 41 and 51%, respectively, which is below the OECD average. In Japan, some students who excel academically but have difficulty in financing their studies may benefit from reduced tuition and/or admission fees or be entirely exempted from these fees. The below average access to tertiary-type A education is counterbalanced by an entry rate above the OECD average to tertiary-type B programmes (see Indicator C2). These two countries are among those with the lowest levels of public expenditure allocated to tertiary education as a percentage of GDP (Table B4.1). This partially explains the small proportion of students who benefit from public loans; tax revenue from income as a percentage of GDP is also among the lowest in OECD countries. However, in Japan, public subsidies for students are above the OECD average and represent 22% of total public expenditure on tertiary education and expenditure per tertiary student is also above the OECD average. Korea presents the opposite picture on both indicators (Table B5.2).

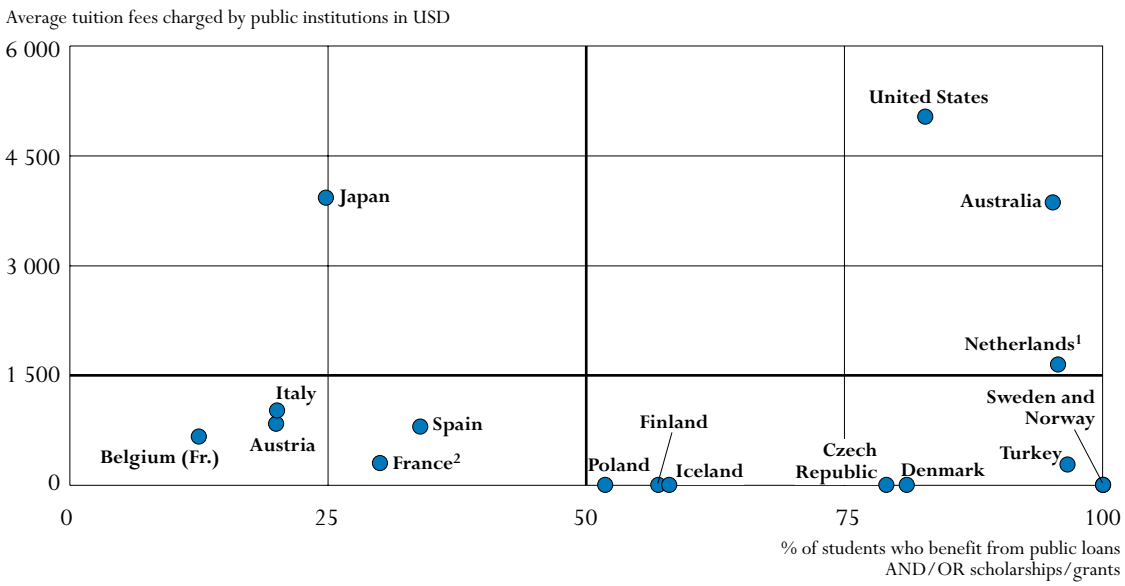
Model 4: Countries with a low level of tuition fees and less developed student support systems

The fourth and last group includes all other European countries for which data are available (Austria, Belgium, France, Ireland, Italy, Poland and Spain). These countries have relatively low financial barriers to entry to tertiary education combined with relatively low subsidies for students, mainly targeted to specific groups. There is a high level of dependence on public resources for the funding of tertiary education and participation levels are typically below the OECD average. The average tertiary-type A entry rate in this group of countries is a relatively low 48%. Similarly, expenditure per student in tertiary-type A education is also comparatively low (see Indicator B1 and Chart B5.1). While high tuition fees can raise potential barriers to student participation, this suggests that the absence of tuition fees, which is assumed to ease access to education, is not sufficient to entirely meet the challenges of access and quality of tertiary-type A education.

Tuition fees charged by public institutions in this group never exceed USD 1 100, and the proportion of student who benefit from public subsidies is below 40% in countries for which data are available (Tables B5.1a and B5.1c). In these countries students and their families can benefit from subsidies provided by sources other than the ministry of education (*e.g.* housing allowances, tax reductions and/or tax credits for education); these are not covered in this analysis. For example, in France housing allowances represent about 90% of scholarships/grants and about one-third of students benefit from these allowances. In Poland, a notable feature is that cost sharing is achieved by arrangements whereby some students have their studies fully subsidised by the public budget and the remainder pay the full costs of tuition. In other words, the burden of private contributions is borne by part of the student population rather than shared by all (see Indicator B3 and OECD [2008a]). Loan systems (public loans or loans guaranteed by the state) are not available or only available to a small proportion of student in these countries (Table B5.1c). Alongside this, the level of public spending and the tax revenue from income as a percentage of GDP vary significantly more among this group of countries than in the other groups, but policies on tuition fees and public subsidies are not necessarily the main drivers in students' decision to enter tertiary-type A education.

Chart B5.3. Relationships between average tuition fees charged by public institutions and proportion of students who benefit from public loans AND/OR scholarships/grants in tertiary-type A education (academic year 2004/05)

For full-time national students, in USD converted using PPPs



1. Public institutions do not exist at this level of education and all the students are enrolled in government dependent institutions.
2. Average tuition fees from 160 to 490 USD.

Source: OECD. Tables B5.1a and B5.1c. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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OECD countries use different mixes of grants and loans to subsidise students' educational costs

A key question in many OECD countries is whether financial subsidies for households should primarily be provided in the form of grants or loans. Governments subsidise students' living or educational costs through different mixes of grants and loans. Advocates of student loans argue that money spent on loans goes further: if the amount spent on grants were used to guarantee or subsidise loans instead, more aid would be available to students and overall access would increase. Loans also shift some of the cost of education to those who benefit most from educational investment. Opponents of loans argue that student loans are less effective than grants in encouraging low-income students to pursue their education. They also argue that loans may be less efficient than anticipated because of the various subsidies provided to borrowers or lenders and because of the costs of administration and servicing. Cultural differences among and within countries may also affect students' willingness to take out student loans. Thus, Usher (2006), analysing the summary of the literature on tertiary education access in the United States by St John (2003) concluded that loans are useful to support tertiary study among middle and upper-income students, but ineffective among lower-income students, while the converse is true for grants (for more details see OECD [2008a]).

Chart B5.2 presents the proportion of public educational expenditure dedicated to loans, grants and scholarships, and other subsidies to households at the tertiary level. Grants and scholarships include family allowances and other specific subsidies, but exclude tax reductions that are part of the subsidy system in Australia, Belgium (Fl. community), Canada, the Czech Republic, Finland, France, Hungary, Italy, the Netherlands, Norway, the Slovak Republic, Switzerland and the United States (see Chart B5.3 in *Education at a Glance 2006,* [OECD, 2006b]). Around one-half of the 31 reporting OECD countries and partner countries rely exclusively on scholarships/grants and transfers/payments to other private entities. The remaining OECD countries provide both scholarships/grants and loans to students (except Iceland, which relies only on student loans) and both subsidies are particularly developed in Australia, the Netherlands, New Zealand, Norway, Sweden, the United Kingdom, the United States and the partner country Chile. In general, the highest subsidies to students are provided by the countries that offer student loans; in most cases these countries also spend an above-average proportion of their budgets on grants and scholarships alone (Chart B5.2 and Table B5.2). Some other countries – Belgium (Fl. community), Finland and the partner country Estonia – do not have public loan systems but private loans that are guaranteed by the state (Table B5.1e).

Implementation of public loan systems and amount of public loans

Public loan systems are relatively recent in most of the countries that report data; their development occurred between the 1960s and 1980s, corresponding to the massive growth in enrolments at the tertiary level of education. Since then, public loan systems have developed particularly in Australia, Sweden and Turkey, where some 80% or more of students benefit from a public loan during their tertiary-type A studies. In Norway, public loans are a part of all students' tertiary-type A studies as 100% of students take out loans. Public loan systems are also quite well developed in Iceland (58% of students with a loan), one of the countries – along with Norway and Sweden – where educational institutions at this level do not charge tuition fees. In contrast, the United States has the highest tuition fees in public tertiary-type A institutions, but less than 40% of students benefit from a public loan during their studies.

The financial support that students receive from public loans during their studies cannot be solely analysed in light of the proportion of students who have loans. The support for students also depends on the amount they can receive in public loans. In countries with comparable data, the average annual gross amount of public loan available to each student is superior to USD 4 000 in about one-half of the countries and ranges from less than USD 2 000 in Belgium (Fr. community) and Turkey to more than USD 5 400 in Iceland, Japan, Mexico, the Netherlands, the United Kingdom and the United States (Table B5.1e).

A comparison of average tuition fees and average amounts of loans should be interpreted with caution because, in a given educational programme, the amount of a loan can vary widely among students even though the programme's tuition fees are usually similar. Nevertheless, it can give some insight into the possibility of a loan covering tuition fees and living expenses. The higher the average level of tuition fees charged by institutions, the greater the need for financial support to students through public loans, in order to overcome financial barriers that prevent access to tertiary education. The financial pressure on governments to support students increases with the tuition fees charged by institutions. In all of the OECD countries for which data are available on annual gross amounts of loans, the average amount of public loan is superior to the average

tuition fees charged by public institutions. This shows that public loans also help to support student's living expenses during their studies.

Among the countries with average tuition fees above USD 1 500 in tertiary-type A public institutions, the average amount of the loan is more than twice the average tuition fees in the Netherlands and the United Kingdom. However, in the Netherlands, the difference in amounts should be counterbalanced by the fact that only about one-quarter of students benefit from a loan (this information is not available for the United Kingdom). The largest differences between average tuition fees and the average amount of loans are observed in the Nordic countries, in which no tuition fees are charged by institutions and a large proportion of students benefit annually from a public loan in an average amount that ranges from about USD 2 500 in Denmark to nearly USD 7 000 in Iceland to nearly USD 9 000 in Norway (Tables B5.1a and B5.1e).

The amount that students receive is not the only support related to public loans. Public loan systems also offer some financial aid through the interest rate that students may have to pay, the repayment system or even remission/forgiveness mechanisms (Table B5.1e).

Financial support through interest rates

The financial help arising from reduced interest rates on public or private loans is twofold: there may be a difference between the interest rates supported by students during and after their studies. Comparing interest rates among countries is quite difficult as the structure of interest rates (public and private) is not known and can vary significantly among countries, so that a given interest rate may be considered high in one country and low in another. However, the difference in rates during and after studies seems to aim at lowering the charge on the loan during the student's studies. For example, in Canada, Iceland, New Zealand and Norway, there is no nominal interest rate on the public loan during the period of studies but after their studies, students/graduates have an interest rate related to the cost of government borrowing or to a higher rate. For example, New Zealand charges no interest to full-time students and low-income borrowers and during 2005 made loans interest-free for borrowers while they reside in New Zealand. Nevertheless, there is no systematic difference between interest rates during and after studies, and Belgium, the Netherlands, Sweden, the United Kingdom, the United States and the partner country Estonia do not differentiate between the interest rate borne by student during and after their studies. In Australia, a real interest rate is not charged on loans. Instead, the part of a loan which has remained unpaid for 11 months or more is indexed to ensure that the real value of the loan is maintained (Table B5.1e).

Repayment of loans

Repayment of public loans can be a substantial source of income for governments and can decrease the costs of loan programmes significantly. The current reporting of household expenditure on education as part of private expenditure (see Indicator B3) does not take into account the repayment of public loans by previous recipients.

These repayments can be a substantial burden on individuals and have an impact on the decision to participate in tertiary education. The repayment period varies among countries and ranges from less than 10 years in Belgium (Fr. community), New Zealand and Turkey, and the partner country Estonia, to 20 years or more in Iceland, Norway and Sweden.

Among the 13 OECD countries for which data on repayment systems are available, four Anglophone countries (Australia, New Zealand, the United Kingdom and, under specific circumstances, the United States) as well as Iceland and the Netherlands make the repayment of loans dependent on graduates' level of income (with a maximum of payback time up to 15 years in the case of the Netherlands). These are also countries in which the average tuition fees charged by their institutions are higher than USD 1 500 and the average amount of the loan is among the highest in the countries with a public loan system (Table B5.1e).

Definitions and methodologies

Data refer to the financial year 2005 and are based on the UOE data collection on education statistics administered by the OECD in 2007 (for details see Annex 3 at *www.oecd.org/edu/eag2008*). Data on tuition fees charged by educational institutions and financial aid to students (Tables B1.1a, B1.1b and B1.1c) were collected through a special survey undertaken in 2007 and refer to the academic year 2004/05. Amounts of tuition fees and amounts of loans in national currency is converted into equivalent USD by dividing the national currency figure by the purchasing power parity (PPP) index for GDP. Amounts of tuition fees and associated proportions of students should be interpreted with caution as they represent the weighted average of the main tertiary-type A programmes and do not cover all the educational institutions.

Public subsidies to households include the following categories: *i)* grants/scholarships; *ii)* public student loans; *iii)* family or child allowances contingent on student status; i*v)* public subsidies in cash or in kind, specifically for housing, transport, medical expenses, books and supplies, social, recreational and other purposes; and *v)* interest-related subsidies for private loans.

Expenditure on student loans is reported on a gross basis, that is, without subtracting or netting out repayments or interest payments from borrowers (students or households). This is because the gross amount of loans, including scholarships and grants, provides an appropriate measure of the financial aid to current participants in education.

Public costs related to private loans guaranteed by governments are included as subsidies to other private entities. Unlike public loans, only the net cost of these loans is included.

The value of tax reductions or credits to households and students is not included.

Further references

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

StatLink http://dx.doi.org/10.1787/402038326553

- ***Table B5.3. Public subsidies for households and other private entities as a percentage of total public expenditure on education and GDP, for primary, secondary and post-secondary non-tertiary education (2005)***

B5

Table B5.1a.

Estimated annual average tuition fees charged by tertiary-type A educational institutions[1] for national students (academic year 2004/05)

In equivalent USD converted using PPPs, by type of institutions, based on full-time students

Tuition fees and associated proportions of students should be interpreted with caution as they result from the weighted average of the main tertiary-type A programmes and do not cover all educational institutions. However, the figures reported can be considered as good proxies and show the difference among countries in tuition fees charged by main educational institutions and for the majority of students.

	Percentage of tertiary full-time students enrolled in tertiary-type A	Percentage of tertiary-type A full-time students enrolled in:			Annual average tuition fees in USD charged by institutions (for full-time students)			Comment
		Public institutions	Government dependent private institutions	Independent private institutions	Public institutions	Government dependent private institutions	Independent private institutions	
	(1)	(2)	(3)	(4)	(5)	(6)	
OECD countries								
Australia	87	98	a	2	3 855	a	7 452	95% of national students in public institutions are in subsidised places and pay an average USD 3 595 tuition fee, including HECS/HELP subsidies.
Austria	83	88	12	n	837	837	n	
Belgium (Fl.)	m	x(2)	100	m	x(5)	574	m	
Belgium (Fr.)[2]	m	32	68	m	661	746	m	
Canada	m	m	m	m	3 464	m	m	
Czech Republic	83	93	a	7	No tuition fees	a	3 145	The average fee in public institutions is negligible because fees are paid only by students studying too long (more than standard length of the programme plus 1 year): about 4% of students.
Denmark[3]	89	100	n	a	No tuition fees	m	a	
Finland	100	89	11	a	No tuition fees	No tuition fees	a	Excluding membership fees to student unions.
France	72	87	1	12	From 160 to 490	m	m	University programmes dependent from the Ministry of Education.
Germany	87	98	2	x(2)	m	m	m	
Greece	61	100	a	a	m	m	m	
Hungary	90	88	12	a	m	m	m	
Iceland	97	87	13	a	No tuition fees	From 1 750 to 4 360	a	Excluding registration fees for all students.
Ireland	74	99.6	a	0.4	No tuition fees	a	No tuition fees	The tuition fees charged by institutions are in average of USD 4 470 [1 870 to 20 620] in public institutions and of USD 4 630 [3 590 to 6 270] in private institutions but the government gives the money directly to institutions and the students do not have to pay these fees.
Italy	97	93.7	a	6.3	1 017	a	3 520	The annual average tuition fees do not take into account the scholarships/grants that fully cover tuition fees but partial reductions of fees cannot be excluded.
Japan	72	25.0	a	75.0	3 920	a	6 117	Excludes admission fee charged by the school for the first year (USD 2 267 on average for public, USD 2 089 on average for private institutions)and subscription fee for using facilities (USD 1 510 on average) for private institutions.

1. Scholarships/grants that the student may receive are not taken into account.
2. Tuition fees charged for programmes are the same in public as in private institutions but the distribution of students differs between public and private institutions so that the weighted average is not the same.
3. Weighted average for all tertiary education.
4. Year of reference 2006.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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B5

Table B5.1a. *(continued)*

Estimated annual average tuition fees charged by tertiary-type A educational institutions[1] for national students (academic year 2004/05)

In equivalent USD converted using PPPs, by type of institutions, based on full-time students

Tuition fees and associated proportions of students should be interpreted with caution as they result from the weighted average of the main tertiary-type A programmes and do not cover all educational institutions. However, the figures reported can be considered as good proxies and show the difference among countries in tuition fees charged by main educational institutions and for the majority of students.

		Percentage of tertiary full-time students enrolled in tertiary-type A	Percentage of tertiary-type A full-time students enrolled in:			Annual average tuition fees in USD charged by institutions (for full-time students)			
			Public institutions	Government dependent private institutions	Independent private institutions	Public institutions	Government dependent private institutions	Independent private institutions	
		(1)	(2)	(3)	(4)	(5)	(6)	Comment
OECD countries	**Korea**	61	22	a	78	3 883	a	7 406	Tuition fees in first degree programme only. Excludes admission fees to university, but includes supporting fees. Student receiving a scholarship twice a year are counted as two students.
	Luxembourg	m	m	m	m	m	m	m	
	Mexico	96	66.2	a	33.8	m	a	11 359	
	Netherlands	100	a	100	a	a	1 646	a	
	New Zealand	78	98.4	1.6	x(2)	2 671	x(4)	x(4)	
	Norway	96	87.0	13.0	a	No tuition fees	From 4 800 to 5 800	a	
	Poland	96	86.6	a	13.4	No tuition fees	a	2 710	
	Portugal	94	74	a	26	m	m	m	
	Slovak Republic	96	99	n	1	m	m	m	
	Spain	81	90.9	a	9.1	795	a	m	
	Sweden	89	92.9	7.1	n	No tuition fees	No tuition fees	m	Excluding mandatory membership fees to student unions.
	Switzerland	84	95	5	n	m	m	m	
	Turkey	69	91.9	a	8.1	276	a	14 430 [9 020 to 20 445]	For public institutions, only undergraduate and master levels.
	United Kingdom	88	a	100	n	a	1 859	1 737	
	United States	81	68.5	a	31.5	5 027	a	18 604	Including non national students.
Partner countries	**Brazil**	94	28	a	72	m	m	m	
	Chile[4]	67	39	16	44	4 863	4 444	5 644	
	Estonia	62	a	86.0	14.0	a	From 2 190 to 4 660	From 1 190 to 9 765	
	Israel	76	a	87	13	a	From 2 658 to 3 452	From 6 502 to 8 359	Tuition fees charged by institutions are higher for 2nd degree than for 1st degree programmes.
	Russian Federation	73	91	a	9	m	a	m	
	Slovenia	64	99	n	n	m	m	m	

1. Scholarships/grants that the student may receive are not taken into account.
2. Tuition fees charged for programmes are the same in public as in private institutions but the distribution of students differs between public and private institutions so that the weighted average is not the same.
3. Weighted average for all tertiary education.
4. Year of reference 2006.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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B5

Table B5.1b.

Estimated annual average tuition fees charged by tertiary-type B educational institutions[1] for national students (academic year 2004/05)

In equivalent USD converted using PPPs, by type of institutions, based on full-time students

	Tuition fees and associated proportions of students should be interpreted with caution as they result from the weighted average of the main Tertiary-type B programmes and do not cover all educational institutions. However, the figures reported can be considered as good proxies and show the difference among countries in tuition fees charged by main educational institutions and for the majority of students.							
		Percentage of tertiary-type B full-time students enrolled in:			Annual average tuition fees in USD charged by institutions (for full-time students)			
	Percentage of tertiary full-time students enrolled in tertiary-type B	Public institutions	Government dependent private institutions	Independent private institutions	Public institutions	Government dependent private institutions	Independent private institutions	Comment
	(1)	(2)	(3)	(4)	(5)	(6)	
OECD countries								
Australia	10	97	1	2	3 734	a	5 991	
Austria	10	69	31	n	No tuiton fees	No tuiton fees	No tuiton fees	Refers only to post-secondary colleges of three years duration.
Belgium (Fl.)	m	m	m	m	m	m	m	
Belgium (Fr.)[2]	m	m	m	m	191	192	m	
Canada	m	m	m	m	m	m	m	
Czech Republic	10	67	33	a	171	1 137	a	
Denmark[3]	9	100	n	a	No tuiton fees	m	a	
Finland	n	a	a	a	a	a	a	ISCED 5B education is being phased out.
France	24	72	8	20	From 0 to 1 420	m	m	
Germany	13	62	38	x(2)	m	m	m	
Greece	35	100	n	n	m	m	m	
Hungary	8	69	31	a	m	m	m	
Iceland	2	72	28	a	No tuiton fees	From 1 750 to 4 360	a	
Ireland	23	95	a	5	No tuiton fees	a	m	
Italy	1	86	a	14	272	a	1 886	
Japan	26	7	a	93	1 682	a	5 014	Average tuition fees exclude the admission fee charged by the school for the first year (USD 621 on average in public, USD 1 024 in independent private institutions) and the subscription fee for using facilities (USD 1 178 on average) for private institutions.

1. Scholarships/grants that the student may receive are not taken into account.
2. Tuition fees charged for programmes are the same in public as in private institutions but the distribution of students differs between public and private institutions so that the weighted average is not the same.
3. Weighted average for all tertiary education.
4. Year of reference 2006.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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Table B5.1b. *(continued)*

Estimated annual average tuition fees charged by tertiary-type B educational institutions[1] for national students (academic year 2004/05)

In equivalent USD converted using PPPs, by type of institutions, based on full-time students

Tuition fees and associated proportions of students should be interpreted with caution as they result from the weighted average of the main Tertiary-type B programmes and do not cover all educational institutions. However, the figures reported can be considered good proxies and show the difference among countries in tuition fees charged by main educational institutions and for the majority of students.

		Percentage of tertiary full-time students enrolled in tertiary-type B	Percentage of tertiary-type B full-time students enrolled in:			Annual average tuition fees in USD charged by institutions (for full-time students)			
			Public institutions	Government dependent private institutions	Independent private institutions	Public institutions	Government dependent private institutions	Independent private institutions	
		(1)	(2)	(3)	(4)	(5)	(6)	Comment
OECD countries	**Korea**	38	16	a	84	2 696	a	5 653	Tuition fees in first degree programme only. Excludes admission fees to university, but includes supporting fees. Student receiving a scholarship twice a year, are counted as two students.
	Luxembourg	m	m	m	m	m	m	m	
	Mexico	3	96	a	4	m	a	m	
	Netherlands	a	a	a	a	a	a	a	
	New Zealand	19	63	33	4	2 489	x(4)	x(4)	Weighted average fees on the whole tertiary level.
	Norway	1	53	47	x(2)	m	m	m	
	Poland	2	78	a	22	No tuiton fees	a	m	Full-time students in public institutions do not pay fees
	Portugal	1	m	m	m	m	m	m	
	Slovak Republic	2	94	6	a	m	m	a	
	Spain	15	78	16	6	n	n	m	
	Sweden	7	61	39	n	No tuiton fees	No tuiton fees	a	
	Switzerland	5	49	25	26	m	m	m	
	Turkey	29	98	a	2	166	a	6.010 [4 210 to 10 820]	
	United Kingdom	9	a	100	n	a	m	m	
	United States	17	76	a	24	1 850	a	12 120	
Partner countries	**Brazil**	4	30	a	70	m	a	m	
	Chile[4]	33	7	3	8	3 154	3 767	2 506	
	Estonia	35	51	13	36	From 1 060 to 3 060	From 1 600 to 3 990	From 1 200 to 4 100	Many public institutions do not charge tuition fees.
	Israel	20	34	66	a	m	m	m	
	Russian Federation	27	97	a	3	m	m	m	
	Slovenia	36	96	4	n	m	m	m	

1. Scholarships/grants that the student may receive are not taken into account.
2. Tuition fees charged for programmes are the same in public as in private institutions but the distribution of students differs between public and private institutions so that the weighted average is not the same.
3. Weighted average for all tertiary education.
4. Year of reference 2006.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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Table B5.1c.

Distribution of financial aid to students compared to amount of tuition fees charged in tertiary-type A education (academic year 2004/05)

		Amount of tuition fees charged by tertiary-type A educational institutions			Distribution of financial aid to students: Percentage of students that			
		10th percentile	Average	90th percentile	benefit from public loans only	benefit from scholarships/ grants only	benefit from public loans AND scholarships/ grants	DO NOT benefit from public loans OR scholarships/ grants
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
OECD countries	**Australia**[1]	2 712	3 855	4 718	71	17	7	5
	Austria	837	837	837	n	20	n	80
	Belgium (Fl.)	m	574	m	m	m	m	m
	Belgium (Fr.)	357	746	820	n	12	n	88
	Canada	1 516	3 464	4 045	m	m	m	m
	Czech Republic	n	n	m	a	79	a	21
	Denmark[2]	No tuition fees	No tuition fees	No tuition fees	1	39	41	19
	Finland	No tuition fees	No tuition fees	No tuition fees	a	57	a	43
	France[2]	m	m	m	n	30	n	70
	Germany	m	m	m	m	m	m	m
	Greece	m	m	m	m	m	m	m
	Hungary	m	m	m	m	m	m	m
	Iceland	No tuition fees	No tuition fees	No tuition fees	58	n	m	42
	Ireland	No tuition fees	No tuition fees	No tuition fees	a	m	m	m
	Italy	443	1 017	1 733	n	20	n	80
	Japan	m	5 568	m	24	1	a	75
	Korea	m	m	m	m	m	m	m
	Luxembourg	m	m	m	m	m	m	m
	Mexico[2]	m	m	m	1	10	m	90
	Netherlands	m	1 646	m	13	68	15	4
	New Zealand[2]	m	2 671	m	m	m	m	m
	Norway	No tuition fees	No tuition fees	No tuition fees	m	m	100	n
	Poland	No tuition fees	No tuition fees	No tuition fees	a	52	n	48
	Portugal	m	m	m	m	m	m	m
	Slovak Republic	m	m	m	m	m	m	m
	Spain	638	795	988	a	34	n	66
	Sweden[2]	No tuition fees	No tuition fees	No tuition fees	n	20	80	n
	Switzerland	m	m	m	m	m	m	m
	Turkey	m	276	m	88	6	3	3
	United Kingdom	m	1 859	m	m	m	m	m
	United States[2]	2 880	5 027	7 542	38	44	m	17
Partner countries	**Brazil**	m	m	m	m	m	m	m
	Chile[2]	3 032	6 762	9 402	23	m	m	m
	Estonia	m	From 2 190 to 4 660	m	m	m	m	m
	Israel	m	m	m	m	m	m	m
	Russian Federation	m	m	m	m	m	m	m
	Slovenia	m	m	m	m	m	m	m

1. Excludes foreign students.
2. Distribution of students in total tertiary education.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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Table B5.1d.
Governance of tertiary institutions (academic year 2004/05)

		Responsibility for determining the level of tuition fees (domestic students) in:		Government restrictions to setting of tuition fees (for domestic students) by:	
		Public institutions	Government dependent private institutions	Public institutions	Government dependent private institutions
		(1)	(2)	(3)	(4)
OECD countries	**Australia**	TEI[1]	TEI	Lower limit (unsubsidised places); upper limit (publicly subsidised places)	Lower limit (unsubsidised places); upper limit (publicly subsidised places)
	Belgium (Fl.)	TEI	TEI	Within a range	Within a range
	Czech Republic	TEI	TEI	Within a range (ISCED 5B); lower limit (ISCED 5A)	None
	Finland	a	a	a	a
	Greece	TEI	a	Governement approval required	a
	Iceland	a	TEI	a	None
	Japan	National universities/ public university corporations: TEIs, in all cases Public universities: Local governments	a	National universities: government sets standard tuition fee level and the upper limit of 110% of it. Public university corporations: no restrictions by central government	a
	Korea	TEI	TEI	None	None
	Mexico	TEI	a	None	a
	Netherlands	TEI only in certain cases (students above 30; dual programme, part-time students)	TEI only in certain cases (students above 30; dual programme, part-time students)	Lower limit	Lower limit
	New Zealand	TEI	TEI	Upper limit; maximum growth rate (5% each year)	Upper limit; maximum growth rate (5% each year)
	Norway	a	TEI	a	May not exceed the cost of providing the programme; upper limit on programme costs
	Poland	TEI	a	May not exceed the cost of providing the programme	a
	Portugal	TEI	a	Within a range for some programmes (1st cycle programme, integrated programme; 2nd cycle programme. Providing access to professional activity); no restrictions on others	a
	Spain	Educational authorities	a	a	a
	Sweden	a	a	a	a
	Switzerland	Educational authorities (universities), TEI in other cases	TEI or negotiations between TEI and educational authorities	None (except for Federal Institute of Technology where fees must be "socially acceptable")	None, or within a range (higher VET study programmes and courses)
	United Kingdom	a	TEI (in Scotland, only in certain cases)	a	Upper limit generally; no restrictions for postgraduate and part-time students
Partner countries	**Chile**	TEI	TEI	None	None
	Estonia	TEI	TEI	Maximum growth rate (10% each year)	Maximum growth rate (10% each year)
	Russian Federation	TEI	a	None	a

1. TEI : Tertiary educational institutions

Source: OECD (2008a).

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Table B5.1d. *(continued-1)*

Governance of tertiary institutions (academic year 2004/05)

		Mechanisms to allocate public funds to educational institutions for teaching and learning activities, and bases for allocation		
		Block grants	Targeted funds	Other
		(5)	(6)	(7)
OECD countries	**Australia**	Funding formula, historical trends	Competitive basis, funding formula	Mix of block grant and targeted funds, funded on funding formula mainly
	Belgium (Fl.)	Funding formula, historical trends	No competition (evaluation of teaching development plan and performance)	a
	Czech Republic	Funding formula	Competitive basis	a
	Finland	Funding formula	Competitive basis	a
	Greece	a	a	Line-item budget: funded based on funding formula
	Iceland	Funding formula	a	a
	Japan	Funding formula	Competitive basis	a
	Korea	no	Competitive basis	Line-item budget funded based on funding formula
	Mexico	m	Competitive basis	Line-item budget funded based on historical trends
	Netherlands	Funding formula, historical trends	Competitive basis, at the discretion of the ministry depending on given fund	a
	New Zealand	Funding formula; negociation with government	Competitive basis, funding formula	a
	Norway	Funding formula, historical trends	a	a
	Poland	Funding formula, historical trends	Funding formula	a
	Portugal	Funding formula	Competition, negotiations with government authorities	a
	Spain	Funding formula (negotiations with government authorities in some autonomous regions)	a	a
	Sweden	Funding formula	No competition	a
	Switzerland	Funding formula, negotiations with government authorities and intermediate agencies	Negotiations with government authorities and intermediate agencies, funding formulas, competitive basis, no competition	Line-item budget funded based on negotiations with government authorities and intermediate agencies, funding formulas
	United Kingdom	Funding formula	Competitive basis	a
Partner countries	**Chile**	Funding formula (5%), historical trends (95%)	Competitive basis	Indirect funding on competitive basis
	Estonia	Historical trends (main part), funding formula, priority fields of study	a	a
	Russian Federation	a	Competitive basis	Line-item budget funded based on historical trends and funding formulas

1. TEI : Tertiary educational institutions

Source: OECD (2008a).

StatLink http://dx.doi.org/10.1787/402038326553

Table B5.1d. *(continued-2)*

Governance of tertiary institutions (academic year 2004/05)

		Criteria for funding formulas			
		Criteria related to volume of education provided		Criteria related to outputs/ outcomes of education	
		Number of students	Number of staff	Student results/ behaviour	Number of degrees awarded/graduates
		(8)	(9)	(10)	(11)
OECD countries	**Australia**	Student load, mode of study	Full-time employment	Progress rate; commencing bachelor students' retention rate	
	Belgium (Fl.)	First-year students		Number of credits accumulated by students	Yes
	Czech Republic	Yes			Number of graduates
	Finland	Agreed number of entry places			Number of graduates; target number of degrees
	Greece	First-year students	Number of staff		
	Iceland	Full-time equivalent students			
	Japan	Yes, number of first-year students	Number of staff and academic staff		
	Korea	Yes	Number of staff		
	Mexico	m	m	m	m
	Netherlands	First-year students		Number of students leaving institutions with/ without diploma	Number of degrees awarded
	New Zealand	FTE students; number of international student exchange		Number of credits accumulated by students	
	Norway				Number of credits accumulated by students
	Poland	FTE students; number of international student exchange	Number of academic staff		
	Portugal	Yes	Number of staff and academic staff		Number of graduates
	Spain	First-year students, number of students		Number of credits accumulated by students; number of students completing each year of study	Number of graduates
	Sweden	Number of students		Number of credits accumulated by students	
	Switzerland	Number of students		Number of credits accumulated by students	
	United Kingdom	Number of students, mode of study			
Partner countries	**Chile**	Number of students	FTE academic staff		
	Estonia	Agreed number of state-commissionned places per field			
	Russian Federation	Number of students per teacher			

1. TEI : Tertiary educational institutions

Source: OECD (2008a).

StatLink http://dx.doi.org/10.1787/402038326553

Table B5.1d. *(continued-3)*

Governance of tertiary institutions (academic year 2004/05)

		Criteria for funding formulas				
		Criteria relating to quality/type of education provided				Criteria relating to cost
		Equity	Field of study	Qualification of	Other	
		(12)	(13)	(14)	(15)	(16)
OECD countries	**Australia**	Domestic students with low SES, disability…)			Student satisfaction with generic skills and with teaching	
	Belgium (Fl.)	Yes	Yes			
	Czech Republic		Yes			Cost per student
	Finland				Regional role	
	Greece		Yes	Staff		Cost per student, expenditure on renovation and infrastructure
	Iceland		Yes			
	Japan	Yes	High priority field		Quality evaluation; regional role	Cost per student; income from non-public sources
	Korea		Yes		Degree of innovation	Total area of buidings and facilities
	Mexico	m	m	m		m
	Netherlands					
	New Zealand	Yes	Yes			Cost per student, institutions' fixed costs, type of institutions
	Norway				Number of international student exchange programmes – based indicators	
	Poland		Yes	Staff		
	Portugal			Academic staff		Average study duration
	Spain		Yes	Academic staff		Cost per student, income from non-public sources, average study duration
	Sweden		Yes			
	Switzerland		Yes, high priority fields			Cost per student
	United Kingdom		Yes			
Partner countries	**Chile**			Academic staff	Number of indexed jounal articles published, research programmes ongoing	Number of programmes offered
	Estonia		Yes			Cost per student
	Russian Federation		Yes	Academic staff		

1. TEI : Tertiary educational institutions

Source: OECD (2008a).

StatLink http://dx.doi.org/10.1787/402038326553

B5

Table B5.1e.

Financial support to students through public loans in tertiary-type A education (academic year 2004/05)

National students, in USD converted using PPPs

		Year of creation of a public loan system in the country	Proportion of students who have a loan (in %)	Average annual gross amount of loan available to each student (in USD)	Subsidy through reduced interest rate	
					Interest rate during studies	Interest rate after studies
		(1)	(2)	(3)	(4)	(5)
OECD countries	**Australia**[1]	1989	79	3 450	No nominal interest rate	No real interest rate (2.4%)
	Belgium (Fl.)[2]	m	m	m	1/3 of the interest rate supported by the students (2%)	1/3 of the interest rate supported by the students (2%)
	Belgium (Fr.)[3]	1983	1	1 380	4.0%	4.0%
	Canada[4]	1964	m	3 970	No nominal interest rate	Interest rates paid by the student (6.7%)
	Denmark[5]	1970	42	2 500	4.0%	Flexible rate set by the Central Bank plus percentage point
	Finland[2]	1969	26	Up to 2 710 per year	1.0%	Full interest rate agreed with the private bank; interest assistance for low-income persons
	Hungary[2]	2001	m	1 717	11.95	11.95
	Iceland	1961	58	6 950	No nominal interest rate	1.0%
	Japan[6]	1943	24	5 950	No nominal nor real interest rate	Maximum of 3%, rest paid by government
	Mexico[7]	1970	1	10 480	m	m
	Netherlands	1986	28	5 730	Cost of government borrowing (3.05%), but repayment delayed until the end of studies	Cost of government borrowing (3.05%)
	New Zealand	1992	m	4 320	No nominal interest rate	Cost of government borrowing (max. 7%)
	Norway	m	100	Maximum 8 960	No nominal interest rate	Cost of government borrowing
	Poland[2]	1998	26	Maximum 3 250	No nominal interest rate	Cost of government borrowing (2.85 to 4.2%)
	Sweden	1965	80	4 940	2.80%	2.80%
	Turkey	1961	91	1 800	m	m
	United Kingdom[8]	1990	m	5 480	No real interest rate (2.6%)	No real interest rate (2.6%)
	United States	1970s	38	6 430	5% (interest assistance for low-income students)	5% (interest assistance for low-income students)
Partner countries	**Estonia**[2]	1995	m	2 260	5%, rest paid by government	5%, rest paid by government

1. Including Commonwealth countries.
2. Loan guaranted by the state rather than public loan.
3. Loan made by the student's parents. Only the parents have to reimburse the loan.
4. Loan outside Quebec. In Quebec, there are only private loans guaranteed by the government.
5. The proportion of students refers to all tertiary education. Average amount of loan includes foreign students.
6. Average amount of loan for students in ISCED 5A first qualification programme.
7. Average amount of loan for students in tertiary education.
8. Annual gross amount of loan refers to students in England.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

StatLink http://dx.doi.org/10.1787/402038326553

Table B5.1e. *(continued)*

Financial support to students through public loans in tertiary-type A education (academic year 2004/05)

National students, in USD converted using PPPs

		Repayment				Debt at graduation	
		Repayment system	Annual minimum income threshold (in USD)	Duration of typical amortisation period (in years)	Average annual amount of repayment (in USD)	Percentage of graduates with debt (in %)	Average debt at graduation (in USD)
		(6)	(7)	(8)	(9)	(10)	(11)
OECD countries	Australia[1]	Income contingent	25 750	m	m	67 % (domestic graduates)	m
	Belgium (Fl.)[2]	m	m	m	m	m	m
	Belgium (Fr.)[3]	Mortgage style	-	5	250	a	a
	Canada[4]	Mortgage style	-	10	950	m	m
	Denmark[5]	Mortgage style	-	10-15	830	49	10 430
	Finland[2]	Mortgage style	-	m	1 330	39	6 160
	Hungary[2]	Mortgage style	-	m	640	m	m
	Iceland	A fixed part and a part that is income contingent	-	22	3.75% of income	m	m
	Japan[6]	Mortgage style	-	15	1 270	m	m
	Mexico[7]	m	m	m	m	m	m
	Netherlands	Income contingent	17 490	15	m	m	12 270
	New Zealand	Income contingent	10 990	6.7	10% of income amount above income threshold	57% (domestic graduates)	15 320
	Norway	m	-	20	m	m	20 290
	Poland[2]	Mortgage style	-	m (twice as long as benefiting period)	1 950 (+interest)	11	3 250-19 510
	Sweden	Income contingent	4 290	25	860	83	20 590
	Turkey	Mortgage style	-	1-2	1 780	20	3 560
	United Kingdom[8]	Income contingent	24 240	m	9% of income amount above income threshold	79% of eligible students	14 220
	United States	Mortgage style	-	10	m	65	19 400
Partner countries	Estonia[2]	Mortgage style	a	7-8	m	m	m

1. Including Commonwealth countries.
2. Loan guaranted by the state rather than public loan.
3. Loan made by the student's parents. Only the parents have to reimburse the loan.
4. Loan outside Quebec. In Quebec, there are only private loans guaranteed by the government.
5. The proportion of students refers to all tertiary education. Average amount of loan includes foreign students.
6. Average amount of loan for students in ISCED 5A first qualification programme.
7. Average amount of loan for students in tertiary education.
8. Annual gross amount of loan refers to students in England.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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B5

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 (2005)

Direct public expenditure on educational institutions and subsidies for households and other private entities

		Direct public expenditure for institutions	Public subsidies for education to private entities						Subsidies for education to private entities as a percentage of GDP
			Financial aid to students				Transfers and payments to other private entities	Total	
			Scholarships/ other grants to households	Student loans	Total	Scholarships/ other grants to households attributable for educational institutions			
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD countries	Australia	**67.7**	14.7	17.7	32.3	1.0	n	**32.3**	0.37
	Austria	**81.2**	16.8	m	16.8	m	2.0	**18.8**	0.28
	Belgium	**84.8**	15.2	n	15.2	4.3	n	**15.2**	0.20
	Canada[1]	**84.5**	11.5	2.8	14.4	m	1.2	**15.5**	0.26
	Czech Republic	**94.1**	5.9	a	5.9	m	n	**5.9**	0.05
	Denmark	**69.2**	25.8	5.0	30.8	n	n	**30.8**	0.73
	Finland	**82.9**	16.6	n	16.6	n	0.5	**17.1**	0.34
	France	**92.1**	7.9	a	7.9	m	a	**7.9**	0.09
	Germany	**80.9**	14.1	5.1	19.1	m	n	**19.1**	0.22
	Greece	**98.6**	0.8	0.7	1.4	m	a	**1.4**	0.02
	Hungary	**84.3**	15.7	m	15.7	n	n	**15.7**	0.16
	Iceland[2]	**76.9**	m	23.1	23.1	m	n	**23.1**	0.34
	Ireland	**85.2**	14.8	n	14.8	4.8	n	**14.8**	0.16
	Italy	**83.2**	16.8	n	16.8	5.5	n	**16.8**	0.13
	Japan[2]	**78.5**	0.7	20.9	21.5	m	n	**21.5**	0.13
	Korea	**97.1**	1.4	1.2	2.7	0.8	0.3	**2.9**	0.02
	Luxembourg	**m**	m	m	m	m	m	**m**	m
	Mexico	**93.6**	3.7	2.7	6.4	1.2	n	**6.4**	0.06
	Netherlands	**72.3**	12.3	15.5	27.7	1.2	n	**27.7**	0.38
	New Zealand	**58.5**	11.6	30.0	41.5	m	n	**41.5**	0.63
	Norway	**57.4**	10.9	31.7	42.6	m	n	**42.6**	0.97
	Poland[3]	**98.4**	1.1	a	1.1	m	0.4	**1.6**	0.02
	Portugal	**91.1**	8.9	a	8.9	m	m	**8.9**	0.09
	Slovak Republic[2]	**85.9**	12.1	1.6	13.7	a	0.4	**14.1**	0.12
	Spain	**91.8**	8.2	n	8.2	2.2	n	**8.2**	0.08
	Sweden	**72.9**	10.3	16.8	27.1	a	a	**27.1**	0.52
	Switzerland[3]	**95.0**	2.2	0.2	2.4	m	2.6	**5.0**	0.07
	Turkey	**m**	m	m	m	m	m	**m**	m
	United Kingdom	**74.2**	6.7	19.1	25.8	x(4)	n	**25.8**	0.31
	United States	**76.5**	14.9	8.6	23.5	m	m	**23.5**	0.31
	OECD average	***82.4***	***10.4***	***7.8***	***17.3***	***1.6***	***0.3***	***17.6***	***0.25***
Partner countries	Brazil[2, 3]	**87.9**	6.8	4.3	11.1	x(2)	1.0	**12.1**	0.10
	Chile[4]	**59.9**	17.1	22.9	40.1	14.8	m	**40.1**	0.19
	Estonia[3]	**84.6**	8.2	a	8.2	m	7.2	**15.4**	0.14
	Israel	**88.4**	10.0	1.6	11.6	9.6	n	**11.6**	0.12
	Russian Federation[3]	**m**	m	a	m	a	m	**m**	m
	Slovenia	**76.3**	23.7	n	23.7	m	n	**23.7**	0.30

1. Year of reference 2004.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Public institutions only.
4. Year of reference 2006.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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INDICATOR B6

ON WHAT RESOURCES AND SERVICES IS EDUCATION FUNDING SPENT?

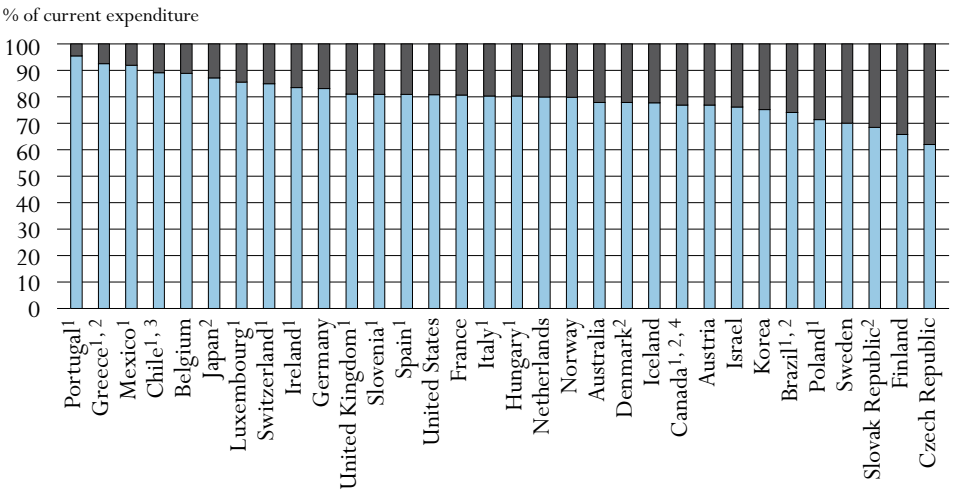
This indicator compares OECD countries with respect to the division of spending between current and capital expenditure and the distribution of current expenditure. It is affected by teachers' salaries (see Indicator D3), pension systems, the age distribution of teachers, the size of the non-teaching staff employed in education (see Indicator D2 in *Education at a Glance 2005*) and the degree to which expanded enrolments require the construction of new buildings. It also compares how OECD countries' spending is distributed among the different functions of educational institutions.

Key results

Chart B6.1. Distribution of current expenditure on educational institutions for primary, secondary and post-secondary non-tertiary education (2005)

The chart shows the distribution of current spending on educational institutions by resource category. Spending on educational institutions can be broken down into capital and current expenditure. Within current expenditure, one can distinguish between spending on instruction compared to ancillary and R&D services. The biggest item in current spending – teachers' compensation – is examined further in Indicator D3.

In primary, secondary and post-secondary non-tertiary education, taken together, current expenditure accounts for an average of 92% of total spending in OECD countries. In all but four OECD and partner countries, more than 70% of current expenditure on primary, secondary and post-secondary non-tertiary educational institutions is for staff salaries.



1. Public institutions only.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Year of reference 2006.
4. Year of reference 2004.

Countries are ranked in descending order of the share of compensation of all staff in primary, secondary and post-secondary non-tertiary education.

Source: OECD. Table B6.2b. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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Other highlights of this indicator

- At primary, secondary and post-secondary non-tertiary levels of education, OECD countries spend an average of 20% of current expenditure on purposes other than the compensation of educational personnel.
- The difference between primary and secondary education in terms of the proportion of current expenditure for purposes other than compensation exceeds 5 percentage points only in Austria, France, Ireland and Spain and is mainly due to significant variations in teachers' salaries, size of non-teaching staff, class size, instruction hours received by pupils and teaching time given by teachers.
- Compensation of teaching staff is a smaller share of current and capital spending at the tertiary level than at other levels because of the higher cost of facilities and equipment and the construction of new buildings owing to the expansion in enrolments. At the tertiary level, OECD countries spend an average of 32% of current expenditure on purposes other than compensation of educational personnel.
- On average, OECD countries spend 0.2% of GDP on ancillary services provided by primary, secondary and post-secondary non-tertiary institutions. This represents 6% of total spending on educational institutions. At the high end, Finland, France, the Slovak Republic, Sweden and the United Kingdom allocate some 10% or more of total expenditure on educational institutions to ancillary services.
- High spending on R&D is a distinctive feature of tertiary institutions and averages over one-quarter of expenditure. The fact that some countries spend much more than others (Switzerland and Sweden spend up to 40% or more) helps explain wide differences in overall tertiary spending as do significant differences among OECD countries in their emphasis on R&D in tertiary institutions.

B6

Policy context

The distribution of spending among categories of expenditure can affect the quality of services (such as teachers' salaries), the condition of educational facilities (such as school maintenance) and the education system's capacity to adjust to changing demographic and enrolment trends (such as construction of new schools).

Comparisons of how different OECD countries apportion educational expenditure among the various categories can also provide insight into the organisation and operation of their educational institutions. Decisions on the allocation of budgetary and structural resources at the system level eventually feed through to the classroom and affect the nature of instruction and the conditions under which it is provided.

Educational institutions offer a range of services in addition to instruction, and this indicator also compares how spending is distributed among their various functions. At the primary, secondary and post-secondary non-tertiary levels, they may offer meals and free transport to and from school or boarding facilities. At the tertiary level, they may offer housing and often perform a wide range of research activities.

Evidence and explanations

What this indicator does and does not cover

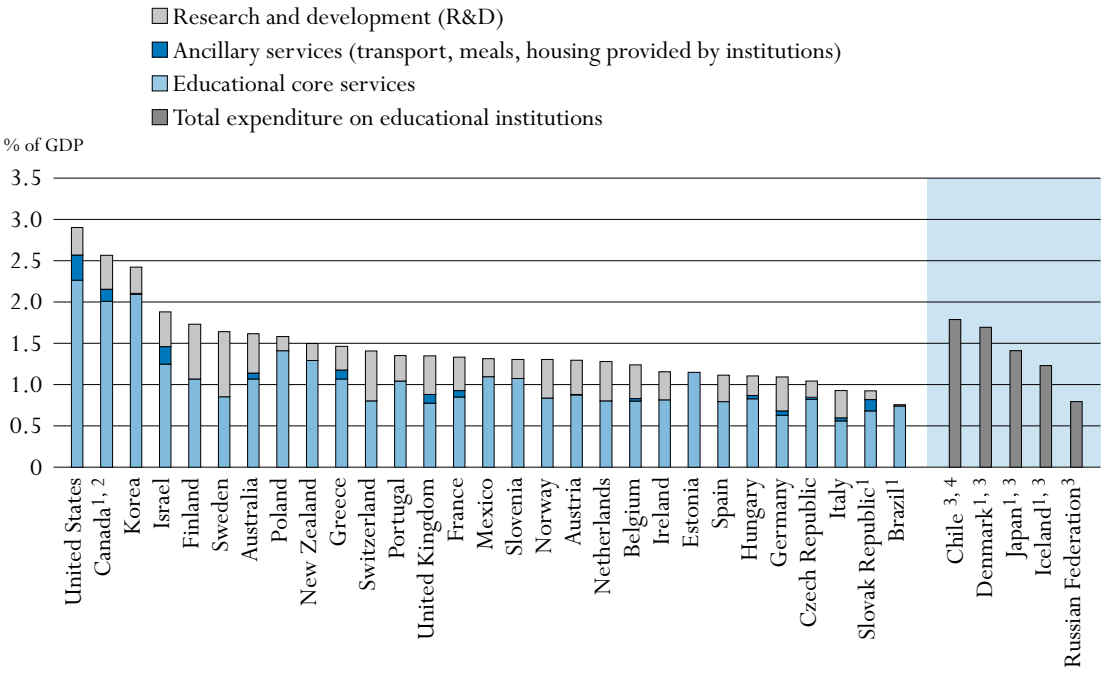
This indicator breaks down educational expenditure by current and capital expenditure and the three main functions typically fulfilled by educational institutions. It includes costs directly attributable to instruction, such as teachers' salaries or school materials, and costs indirectly related to the provision of instruction, such as expenditure on administration, instructional support services, teachers' professional development, student counselling, or the construction and/or provision of school facilities. It also includes spending on ancillary services such as the student welfare services provided by educational institutions. Finally, it includes spending on research and development (R&D) performed at tertiary institutions, in the form either of separately funded R&D activities or of the proportion of salaries and current expenditure in general education budgets that is attributable to the research activities of staff.

The indicator does not include public and private R&D spending outside educational institutions, such as R&D spending in industry. A review of R&D spending in sectors other than education is provided in the *Main OECD Science and Technology Indicators.* Expenditure on student welfare services at educational institutions only includes public subsidies for those services; expenditure by students and their families on services that are provided by institutions on a self-funding basis is not included.

Expenditure on instruction, R&D and ancillary services

Below the tertiary level, educational expenditure is dominated by spending on educational core services. At the tertiary level, other services – particularly those related to R&D activities – can account for a significant proportion of educational spending. Differences among OECD countries in expenditure on R&D activities therefore explain a significant part of the differences in overall educational expenditure per tertiary-level student (Chart B6.2). For example, high levels of R&D spending (between 0.4 and 0.8% of GDP) in tertiary educational institutions in Australia,

Chart B6.2. Expenditure on educational core services, R&D and ancillary services in tertiary educational institutions as a percentage of GDP (2005)



1. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
2. Year of reference 2004.
3. Total expenditure at tertiary level including expenditure on research and development (R&D).
4. Year of reference 2006.

Countries are ranked in descending order of total expenditure on educational institutions in tertiary institutions.

Source: OECD. Table B6.1. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

StatLink http://dx.doi.org/10.1787/402057518843

Austria, Belgium, Canada, Finland, France, Germany, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom, and the partner country Israel, imply that spending on educational institutions per student in these countries would be considerably lower if the R&D component were excluded (Table B1.1b).

Student welfare services

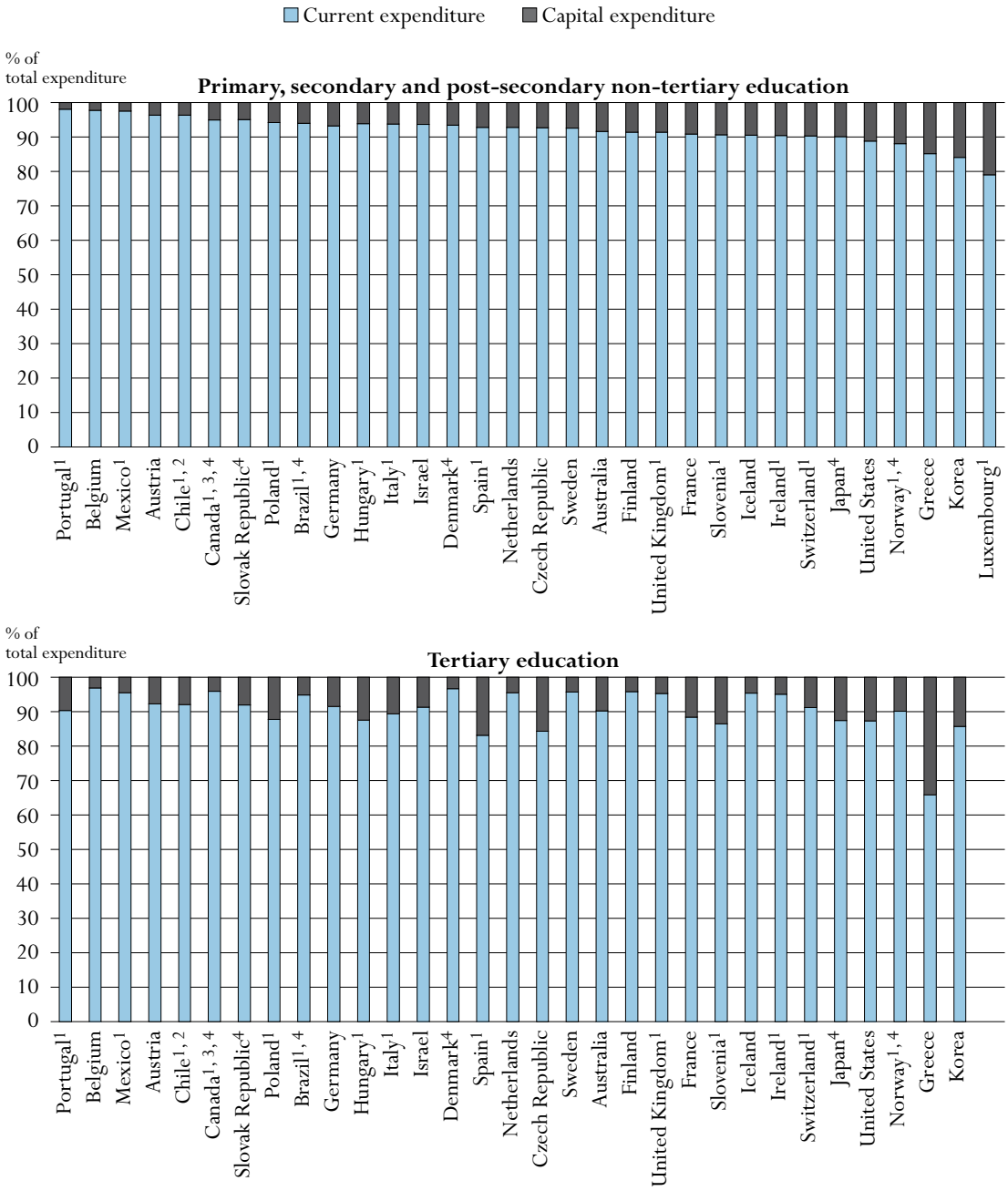
Student welfare services (and in some cases services for the general public) are an integral function of schools and universities in many OECD countries. Countries finance these ancillary services with different combinations of public expenditure, public subsidies and fees paid by students and their families.

On average, OECD countries spend 0.2% of GDP on ancillary services provided by primary, secondary and post-secondary non-tertiary institutions. This represents 6% of total spending on these institutions. At the high end, Finland, France, the Slovak Republic, Sweden and the United Kingdom spend some 10% or more of their total spending on educational institutions on ancillary services (Table B6.1).

B6

Chart B6.3. Distribution of current and capital expenditure on educational institutions (2005)

By resource category and level of education



1. Public institutions only.
2. Year of reference 2006.
3. Year of reference 2004.
4. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.

Countries are ranked in descending order of the share of current expenditure on primary, secondary and post-secondary non-tertiary education.

Source: OECD. Table B6.2b. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

StatLink http://dx.doi.org/10.1787/402057518843

At the tertiary level, ancillary services are more often self-financed. On average, expenditure on subsidies for ancillary services at the tertiary level amounts to less than 0.1% of GDP but represents up to 0.3% in the United States (Table B6.1).

Current and capital expenditure and the distribution of current expenditure

Educational expenditure can be divided into current and capital expenditure. Capital expenditure on educational institutions covers spending on assets that last longer than one year and includes spending on the construction, renovation and major repair of buildings. Current expenditure on educational institutions comprises spending on school resources used each year for the operation of schools.

Education mostly takes place in school and university settings. Its labour-intensive nature explains the large proportion of current spending in total educational expenditure. In primary, secondary, and post-secondary non-tertiary education, taken together, current expenditure accounts on average for nearly 92% of total spending across all OECD countries.

There is significant variation among OECD countries in the proportions of current and capital expenditure: at the primary, secondary and post-secondary non-tertiary levels, taken together, the proportion of current expenditure ranges from less than 80% in Luxembourg to 97% or more in Belgium, Mexico and Portugal (Table B6.2b and Chart B6.3).

Proportion of current expenditure on educational institutions allocated to compensation of teachers and other staff

Current expenditure on educational institutions can be further subdivided into three broad functional categories: compensation of teachers, compensation of other staff and other current expenditures (teaching materials and supplies, maintenance of school buildings, preparation of students' meals, and rental of school facilities). The amount allocated to each of these functional categories depends partly on current and projected changes in enrolments, on salaries of educational personnel, and on the costs of maintenance and construction of educational facilities.

The salaries of teachers and other staff employed in education account for the largest proportion of current expenditure in all OECD countries. Expenditure on compensation of educational personnel accounts on average for 80% of current expenditure at the primary, secondary and post-secondary non-tertiary levels of education, taken together. In all countries except the Czech Republic, Finland and the Slovak Republic, 70% or more of current expenditure at the primary, secondary and post-secondary non-tertiary levels is spent on staff salaries. The proportion devoted to the compensation of educational personnel is 90% or more in Greece, Mexico and Portugal (Chart B6.1).

There is very little difference in the average proportion of expenditure on compensation of personnel between primary and secondary levels of education. The only exceptions to this pattern are Austria, France, Ireland and Spain where the difference between the two exceeds 5 percentage points (Table B6.2a). This is mainly due to significant variations in teachers' salaries, class size, size of non-teaching staff, instruction hours received by pupils and teaching time given by teachers (see Indicators B7, D1, D2, D3 and D4).

OECD countries with relatively small education budgets, such as Mexico, Portugal and Turkey, tend to spend a larger proportion of current educational expenditure on compensation of personnel and a smaller proportion on sub-contracted services such as support services (*e.g.* maintenance of school buildings), ancillary services (*e.g.* preparation of students' meals), and rental of school buildings and other facilities.

In Austria, Denmark, France, the United Kingdom and the United States, and the partner country Slovenia, more than 20% of current expenditure in primary, secondary and post-secondary non-tertiary education, taken together, goes towards compensation of non-teaching staff, while in Ireland, Korea and the partner country Chile, the figure is 10% or less. These differences are likely to reflect the degree to which educational personnel such as principals, guidance counsellors, bus drivers, school nurses, janitors and maintenance workers are included in this category (Table B6.2b).

OECD countries spend, on average, 32% of current expenditure at the tertiary level on purposes other than the compensation of educational personnel. This is due to the higher cost of facilities and equipment in higher education (Table B6.2b).

Proportions of capital expenditure

At the tertiary level, the proportion of total expenditure for capital outlays is larger than at the primary, secondary and post-secondary non-tertiary levels (9.5 versus 8.2%), generally because of more differentiated and advanced teaching facilities. In 11 out of the 31 OECD and partner countries for which data are available, the proportion spent on capital expenditure at the tertiary level is 10% or more and in the Czech Republic, Greece and Spain it is above 15% (Chart B6.3).

Differences are likely to reflect how tertiary education is organised in each country as well as the degree to which the expansion in enrolments requires the construction of new buildings.

Definitions and methodologies

Data refer to the financial year 2005 and are based on the UOE data collection on education statistics administered by the OECD in 2007 (for details see Annex 3 at *www.oecd.org/edu/eag2008*).

The distinction between current and capital expenditure on educational institutions is taken from the standard definition used in national income accounting. Current expenditure refers to goods and services consumed within the current year and requiring recurrent production in order to sustain the provision of educational services. Capital expenditure refers to assets which last longer than one year, including spending on construction, renovation or major repair of buildings and new or replacement equipment. The capital expenditure reported here represents the value of educational capital acquired or created during the year in question – that is, the amount of capital formation – regardless of whether the capital expenditure was financed from current revenue or by borrowing. Neither current nor capital expenditure includes debt servicing.

Calculations cover expenditure by public institutions or, where available, that of both public and private institutions.

Current expenditure on educational institutions other than on compensation of personnel includes expenditure on sub-contracted services such as support services (*e.g.* maintenance of

school buildings), ancillary services (*e.g.* preparation of meals for students) and rental of school buildings and other facilities. These services are obtained from outside providers, unlike the services provided by the education authorities or by the educational institutions themselves using their own personnel.

Expenditure on R&D includes all expenditure on research performed at universities and other tertiary education institutions, regardless of whether the research is financed from general institutional funds or through separate grants or contracts from public or private sponsors. The classification of expenditure is based on data collected from the institutions carrying out R&D rather than on the sources of funds.

Ancillary services are those provided by educational institutions that are peripheral to the main educational mission. The two main components of ancillary services are student welfare services and services for the general public. At primary, secondary and post-secondary non-tertiary levels, student welfare services include meals, school health services and transport to and from school. At the tertiary level, it includes residence halls (dormitories), dining halls and health care. Services for the general public include museums, radio and television broadcasting, sports and recreational and cultural programmes. Expenditure on ancillary services, including fees from students or households, is excluded.

Educational core services are estimated as the residual of all expenditure, that is, total expenditure on educational institutions net of expenditure on R&D and ancillary services.

B6

Table B6.1.

Expenditure on educational institutions by service category as a percentage of GDP (2005)

Expenditure on instruction, R&D and ancillary services in educational institutions and private expenditure on educational goods purchased outside educational institutions

		Primary, secondary and post-secondary non-tertiary education				Tertiary education				
		Expenditure on educational institutions			Private payments on instructional services/goods outside educational institutions	Expenditure on educational institutions				Private payments on instructional services/goods outside educational institutions
		Core educational services	Ancillary services (transport, meals, housing provided by institutions)	Total		Core educational services	Ancillary services (transport, meals, housing provided by institutions)	Research & development at tertiary institutions	Total	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
OECD countries	**Australia**	3.93	0.16	**4.09**	0.13	1.07	0.07	0.48	**1.62**	0.16
	Austria	3.57	0.15	**3.72**	m	0.87	0.01	0.41	**1.30**	m
	Belgium	3.92	0.16	**4.08**	0.12	0.80	0.03	0.41	**1.24**	0.17
	Canada[1, 2]	3.43	0.20	**3.63**	m	2.01	0.15	0.41	**2.56**	0.14
	Czech Republic	2.80	0.22	**3.02**	0.04	0.82	0.03	0.19	**1.04**	0.03
	Denmark[2]	x(3)	x(3)	**4.45**	0.57	x(8)	a	x(8)	**1.69**	0.73
	Finland	3.45	0.42	**3.87**	m	1.07	n	0.66	**1.73**	m
	France	3.49	0.52	**4.01**	0.19	0.86	0.08	0.40	**1.33**	0.07
	Germany	3.32	0.08	**3.40**	0.14	0.63	0.05	0.41	**1.09**	0.08
	Greece[2]	2.67	0.07	**2.74**	0.93	1.07	0.11	0.29	**1.46**	0.10
	Hungary[3]	3.17	0.28	**3.44**	m	0.83	0.04	0.24	**1.11**	m
	Iceland[2]	x(3)	x(3)	**5.36**	m	x(8)	x(8)	x(8)	**1.23**	m
	Ireland	3.34	0.08	**3.42**	m	0.82	x(8)	0.34	**1.16**	m
	Italy	3.16	0.13	**3.29**	0.37	0.56	0.04	0.33	**0.93**	0.14
	Japan[2]	x(3)	x(3)	**2.89**	0.78	x(8)	x(8)	x(8)	**1.41**	0.04
	Korea	3.95	0.39	**4.34**	m	2.09	0.01	0.32	**2.42**	m
	Luxembourg[3]	x(3)	x(3)	**3.73**	m	m	m	m	**m**	m
	Mexico	4.37	m	**4.37**	0.23	1.10	m	0.22	**1.31**	0.06
	Netherlands	3.34	0.03	**3.38**	0.21	0.80	n	0.48	**1.28**	0.07
	New Zealand	x(3)	x(3)	**4.74**	n	1.29	x(8)	0.20	**1.50**	n
	Norway	x(3)	x(3)	**3.81**	m	0.84	n	0.47	**1.31**	m
	Poland[3]	3.62	0.12	**3.74**	0.17	1.41	n	0.17	**1.58**	0.05
	Portugal[3]	3.78	0.03	**3.80**	0.05	x(8)	x(8)	0.31	**1.35**	0.00
	Slovak Republic[2]	2.47	0.43	**2.90**	0.45	0.68	0.14	0.10	**0.92**	0.20
	Spain	2.79	0.12	**2.90**	m	0.79	m	0.32	**1.12**	m
	Sweden	3.82	0.43	**4.25**	m	0.85	n	0.79	**1.64**	m
	Switzerland[3]	x(3)	x(3)	**4.39**	m	0.80	x(8)	0.61	**1.41**	m
	Turkey	m	m	**m**	m	m	m	m	**m**	m
	United Kingdom	3.86	0.75	**4.60**	m	0.78	0.11	0.47	**1.35**	0.15
	United States	3.53	0.31	**3.84**	a	2.26	0.31	0.33	**2.90**	a
	OECD average	***3.44***	***0.24***	***3.80***	***0.27***	***1.05***	***0.06***	***0.37***	***1.46***	***0.13***
Partner countries	**Brazil**[3]	x(3)	x(3)	**3.23**	m	0.74	x(5)	0.01	**0.76**	m
	Chile[4]	3.26	0.14	**3.41**	0.02	x(8)	x(8)	x(8)	**1.79**	n
	Estonia	x(3)	x(3)	**3.46**	m	x(8)	x(8)	n	**1.15**	m
	Israel	4.32	0.15	**4.47**	0.31	1.25	0.21	0.42	**1.88**	n
	Russian Federation[3]	x(3)	x(3)	**1.88**	m	x(8)	x(8)	x(8)	**0.79**	m
	Slovenia[3]	4.08	0.18	**4.25**	m	1.08	n	0.23	**1.31**	m

1. Year of reference 2004.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Public institutions only.
4. Year of reference 2006.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

StatLink http://dx.doi.org/10.1787/402057518843

Table B6.2a.

Expenditure on educational institutions by resource category in primary and secondary education (2005)

Distribution of total and current expenditure on educational institutions from public and private sources

		Primary education						Secondary education					
		Percentage of total expenditure		Percentage of current expenditure				Percentage of total expenditure		Percentage of current expenditure			
		Current	Capital	Compensation of teachers	Compensation of other staff	Compensation of all staff	Other current expenditure	Current	Capital	Compensation of teachers	Compensation of other staff	Compensation of all staff	Other current expenditure
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD countries	Australia	**91.8**	**8.2**	64.0	16.1	80.1	19.9	**91.4**	**8.6**	59.1	17.4	76.5	23.5
	Austria	**95.0**	**5.0**	53.5	20.0	73.5	26.5	**97.0**	**3.0**	58.2	20.9	79.1	20.9
	Belgium	**97.2**	**2.8**	69.5	20.0	89.6	10.4	**98.0**	**2.1**	70.7	17.8	88.5	11.5
	Canada[1]	m	m	m	m	m	m	m	m	m	m	m	m
	Czech Republic	**90.9**	**9.1**	47.5	17.6	65.1	34.9	**93.2**	**6.8**	48.7	12.8	61.5	38.5
	Denmark[2]	**92.2**	**7.8**	51.0	27.5	78.4	21.6	**94.4**	**5.6**	52.4	25.0	77.5	22.5
	Finland	**90.8**	**9.2**	58.2	9.5	67.7	32.3	**91.7**	**8.3**	52.3	12.4	64.7	35.3
	France	**93.7**	**6.3**	53.1	22.8	75.9	24.1	**89.7**	**10.3**	59.5	23.2	82.7	17.3
	Germany	**92.3**	**7.7**	x(5)	x(5)	83.0	17.0	**93.5**	**6.5**	x(11)	x(11)	83.4	16.6
	Greece[2, 3]	**86.5**	**13.5**	x(5)	x(5)	91.3	8.7	**85.2**	**14.8**	x(11)	x(11)	95.0	5.0
	Hungary[3]	**95.2**	**4.8**	x(5)	x(5)	81.0	19.0	**93.5**	**6.5**	x(11)	x(11)	80.2	19.8
	Iceland	**88.2**	**11.8**	x(5)	x(5)	79.0	21.0	**93.0**	**7.0**	x(11)	x(11)	76.6	23.4
	Ireland[3]	**90.0**	**10.0**	76.3	11.8	88.1	11.9	**90.8**	**9.2**	74.8	5.7	80.5	19.5
	Italy[3]	**93.6**	**6.4**	64.9	16.8	81.7	18.3	**94.1**	**5.9**	64.7	16.5	81.2	18.8
	Japan[2]	**90.0**	**10.0**	x(5)	x(5)	87.6	12.4	**90.2**	**9.8**	x(11)	x(11)	86.9	13.1
	Korea	**82.8**	**17.2**	64.7	10.7	75.4	24.6	**85.0**	**15.0**	68.3	6.7	75.0	25.0
	Luxembourg[3]	**75.6**	**24.4**	74.2	10.6	84.8	15.2	**83.0**	**17.0**	73.8	12.6	86.5	13.5
	Mexico[3]	**97.7**	**2.3**	84.1	9.5	93.6	6.4	**97.3**	**2.7**	74.9	15.0	89.9	10.1
	Netherlands	**91.5**	**8.5**	x(5)	x(5)	78.5	21.5	**93.7**	**6.3**	x(11)	x(11)	81.0	19.0
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m
	Norway	**88.4**	**11.6**	x(5)	x(5)	79.6	20.4	**87.7**	**12.3**	x(11)	x(11)	80.2	19.8
	Poland[3]	**93.7**	**6.3**	x(5)	x(5)	72.9	27.1	**94.6**	**5.4**	x(11)	x(11)	70.6	29.4
	Portugal[3]	**99.1**	**0.9**	85.4	11.1	96.5	3.5	**97.3**	**2.7**	81.5	13.2	94.7	5.3
	Slovak Republic[2]	**92.3**	**7.7**	52.7	14.0	66.7	33.3	**96.3**	**3.7**	53.7	15.4	69.0	31.0
	Spain[3]	**92.2**	**7.8**	72.5	11.6	84.1	15.9	**93.2**	**6.8**	69.7	9.3	79.0	21.0
	Sweden	**92.6**	**7.4**	53.7	18.3	72.1	27.9	**92.6**	**7.4**	50.6	17.8	68.5	31.5
	Switzerland[3]	**88.6**	**11.4**	71.6	13.0	84.7	15.3	**91.7**	**8.3**	71.9	13.2	85.2	14.8
	Turkey	m	m	m	m	m	m	m	m	m	m	m	m
	United Kingdom[3]	**90.5**	**9.5**	53.4	26.2	79.6	20.4	**92.8**	**7.2**	60.0	21.3	81.4	18.6
	United States	**88.8**	**11.2**	55.1	25.8	80.8	19.2	**88.8**	**11.2**	55.1	25.8	80.8	19.2
	OECD average	***91.1***	***8.9***	***63.5***	***16.5***	***80.5***	***19.5***	***92.2***	***7.8***	***63.2***	***15.9***	***79.9***	***20.1***
Partner countries	Brazil[2, 3]	**93.2**	**6.8**	x(5)	x(5)	74.2	25.8	**94.6**	**5.4**	x(11)	x(11)	74.0	26.0
	Chile[3, 4]	**96.6**	**3.4**	85.1	4.9	89.9	10.1	**96.1**	**3.9**	83.4	4.8	88.2	11.8
	Estonia	m	m	m	m	m	m	m	m	m	m	m	m
	Israel	**92.8**	**7.2**	x(5)	x(5)	75.4	24.6	**94.6**	**5.4**	x(11)	x(11)	77.1	23.0
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m
	Slovenia[3]	m	m	m	m	m	m	m	m	m	m	m	m

1. Year of reference 2004.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Public institutions only.
4. Year of reference 2006.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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B6

Table B6.2b.

Expenditure on educational institutions by resource category and level of education (2005)

Distribution of total and current expenditure on educational institutions from public and private sources

		Primary, secondary and post-secondary non-tertiary education						Tertiary education					
		Percentage of total expenditure		Percentage of current expenditure				Percentage of total expenditure		Percentage of current expenditure			
		Current	Capital	Compensation of teachers	Compensation of other staff	Compensation of all staff	Other current expenditure	Current	Capital	Compensation of teachers	Compensation of other staff	Compensation of all staff	Other current expenditure
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD countries	**Australia**	**91.6**	**8.4**	60.9	17.0	77.9	22.1	**90.2**	**9.8**	32.4	28.0	60.4	39.6
	Austria	**96.4**	**3.6**	56.1	20.8	76.9	23.1	**92.3**	**7.7**	42.5	15.8	58.3	41.7
	Belgium	**97.7**	**2.3**	70.3	18.6	88.9	11.1	**96.9**	**3.1**	54.1	23.8	77.9	22.1
	Canada[1, 2, 3]	**95.0**	**5.0**	63.8	13.5	77.3	22.7	**95.9**	**4.1**	33.0	34.6	67.5	32.5
	Czech Republic	**92.7**	**7.3**	48.2	13.8	62.0	38.0	**81.9**	**15.2**	36.0	24.4	60.4	39.6
	Denmark[2]	**93.4**	**6.6**	51.8	26.1	77.9	22.1	**96.6**	**3.4**	51.7	24.9	76.6	23.4
	Finland	**91.4**	**8.6**	54.3	11.4	65.7	34.3	**95.8**	**4.2**	35.4	28.2	63.6	36.4
	France	**90.9**	**9.1**	57.5	23.1	80.6	19.4	**88.4**	**11.6**	52.7	28.5	81.2	18.8
	Germany	**93.3**	**6.7**	x(5)	x(5)	83.1	16.9	**91.5**	**8.5**	x(11)	x(11)	70.4	29.6
	Greece[2, 3]	**85.1**	**14.9**	x(5)	x(5)	92.5	7.5	**65.8**	**34.2**	x(11)	x(11)	70.2	29.8
	Hungary[3]	**93.9**	**6.1**	x(5)	x(5)	80.3	19.7	**87.6**	**12.4**	x(11)	x(11)	69.9	30.1
	Iceland	**90.6**	**9.4**	x(5)	x(5)	77.7	22.3	**95.4**	**4.6**	x(11)	x(11)	80.0	20.0
	Ireland[3]	**90.4**	**9.6**	74.9	8.6	83.5	16.5	**95.1**	**4.9**	49.2	24.8	74.0	26.0
	Italy[3]	**93.7**	**6.3**	64.0	16.4	80.4	19.6	**89.4**	**10.6**	43.4	23.3	66.7	33.3
	Japan[2]	**90.1**	**9.9**	x(5)	x(5)	87.2	12.8	**87.4**	**12.6**	x(11)	x(11)	61.7	38.3
	Korea	**84.1**	**15.9**	66.8	8.4	75.1	24.9	**85.7**	**14.3**	35.3	15.6	50.9	49.1
	Luxembourg[3]	**79.0**	**21.0**	74.0	11.6	85.6	14.4	m	m	m	m	m	m
	Mexico[3]	**97.5**	**2.5**	80.1	11.9	92.0	8.0	**95.5**	**4.5**	57.0	14.7	71.7	28.3
	Netherlands	**92.8**	**7.2**	x(5)	x(5)	79.9	20.1	**95.5**	**4.5**	x(11)	x(11)	74.3	25.7
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m
	Norway	**88.1**	**12.0**	x(5)	x(5)	79.9	20.1	**90.1**	**9.9**	x(11)	x(11)	64.1	35.9
	Poland[3]	**94.2**	**5.8**	x(5)	x(5)	71.4	28.6	**87.8**	**12.2**	x(11)	x(11)	60.5	39.5
	Portugal[3]	**98.1**	**1.9**	83.2	12.3	95.5	4.5	**90.4**	**9.6**	x(11)	x(11)	69.8	30.2
	Slovak Republic[2]	**95.2**	**4.8**	53.4	15.0	68.4	31.6	**92.0**	**8.0**	30.9	21.9	52.7	47.3
	Spain[3]	**92.8**	**7.2**	70.8	10.2	80.9	19.1	**83.2**	**16.8**	59.3	21.5	80.8	19.2
	Sweden	**92.6**	**7.4**	52.0	18.1	70.0	30.0	**95.7**	**4.3**	x(11)	x(11)	62.8	37.2
	Switzerland[3]	**90.3**	**9.7**	71.7	13.2	84.9	15.1	**91.2**	**8.8**	53.6	23.1	76.7	23.3
	Turkey	m	m	m	m	m	m	m	m	m	m	m	m
	United Kingdom[3]	**91.4**	**8.6**	57.4	23.6	81.0	19.0	**95.2**	**4.8**	m	m	m	m
	United States	**88.8**	**11.2**	55.1	25.8	80.8	19.2	**87.3**	**12.7**	28.9	36.5	65.4	34.6
	OECD average	***91.8***	***8.2***	***63.3***	***16.0***	***79.9***	***20.1***	***90.4***	***9.5***	***43.5***	***24.3***	***68.0***	***32.0***
Partner countries	**Brazil**[2, 3]	**93.9**	**6.1**	x(5)	x(5)	74.1	25.9	**94.8**	**5.2**	x(11)	x(11)	77.9	22.1
	Chile[3, 4]	**96.4**	**3.6**	84.3	4.8	89.1	10.9	**92.1**	**7.9**	x(11)	x(11)	64.5	35.5
	Estonia	m	m	m	m	m	m	m	m	m	m	m	m
	Israel	**93.7**	**6.3**	x(5)	x(5)	76.1	23.9	**91.3**	**8.7**	x(11)	x(11)	75.8	24.2
	Russian Federation	m	m	m	m	m	m	m	m	m	m	m	m
	Slovenia[3]	**90.6**	**9.4**	47.6	33.4	81.0	19.0	**86.4**	**13.6**	37.0	34.0	71.0	29.0

1. Year of reference 2004.
2. Some levels of education are included with others. Refer to "x" code in Table B1.1a for details.
3. Public institutions only.
4. Year of reference 2006.

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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INDICATOR B7

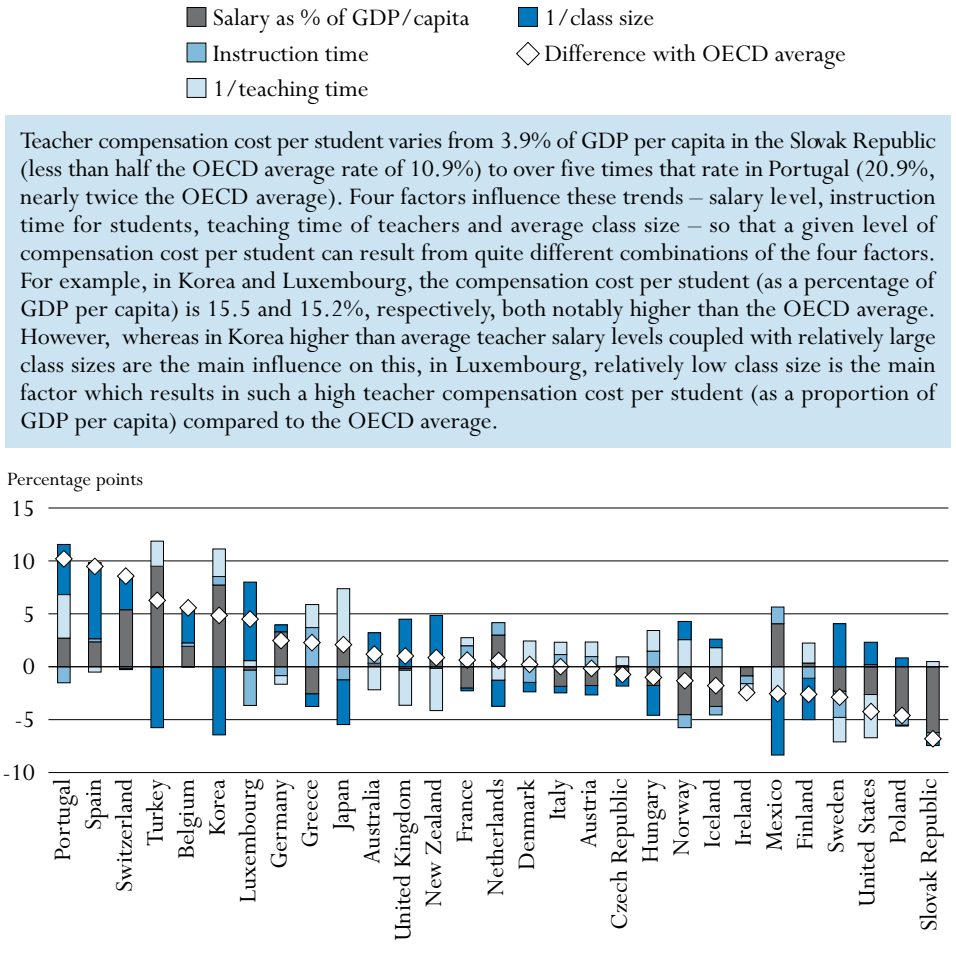
HOW EFFICIENTLY ARE RESOURCES USED IN EDUCATION?

This indicator examines the relationship between resources invested and outcomes achieved in upper secondary education in OECD countries and thus raises questions about the efficiency of education systems.

Key results

Chart B7.1. Contribution of various factors to salary cost per student as a percentage of GDP per capita, at the upper secondary level of education (2004)

The chart shows the contribution (in percentage points) of the factors to the difference between salary cost per student (as a percentage of GDP per capita) in the country and the OECD average, at the upper secondary level of education. For example, in Portugal, the salary cost per student is 10 percentage points higher than the average salary cost per student. This is because Portugal has higher salaries (compared to GDP per capita) than the average, a smaller number of teaching hours for teachers than the average and smaller class sizes than the average. However these effects are slighltly dampened by below average instruction time for students.



Teacher compensation cost per student varies from 3.9% of GDP per capita in the Slovak Republic (less than half the OECD average rate of 10.9%) to over five times that rate in Portugal (20.9%, nearly twice the OECD average). Four factors influence these trends – salary level, instruction time for students, teaching time of teachers and average class size – so that a given level of compensation cost per student can result from quite different combinations of the four factors. For example, in Korea and Luxembourg, the compensation cost per student (as a percentage of GDP per capita) is 15.5 and 15.2%, respectively, both notably higher than the OECD average. However, whereas in Korea higher than average teacher salary levels coupled with relatively large class sizes are the main influence on this, in Luxembourg, relatively low class size is the main factor which results in such a high teacher compensation cost per student (as a proportion of GDP per capita) compared to the OECD average.

Countries are ranked in descending order of the difference between the salary cost in percentage of GDP per capita and the OECD average.

Source: OECD. Table B7.2. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

StatLink http://dx.doi.org/10.1787/402072442032

Other highlights of this indicator

- In countries with the lowest compensation cost per student (as a percentage of GDP per capita) at the upper secondary level, low salary levels as a proportion of GDP is usually the main driver. This is the case in Iceland, Ireland, Norway, Poland, the Slovak Republic and Sweden. The main exception to this pattern is Mexico where teacher salary costs relative to GDP per capita are well above the OECD average but this is more than compensated for by large class sizes.

- In contrast, among countries with the highest levels of compensation cost per student (Portugal, Spain, Switzerland), no single factor determines this position, but rather each of the four factors act to increase costs to varying degrees.

- High spending per student cannot automatically be equated with strong performance by education systems. Spending per student up to the age of 15 in the Czech Republic is roughly one-third of, and in Korea roughly one-half of, spending levels in the United States. However, while both the Czech Republic and Korea are among the top ten performers in the PISA 2006 assessment of science achievement among 15-year-olds, the United States performs below the OECD average. Similarly, Spain and the United States perform almost equally well, but while the United States spends roughly USD 95 600 per student up to the age of 15 years, Spain only spends USD 61 860.

- Clustering countries according to the characteristics of their education system shows that similar education systems can have very different outcomes. For example, Finland and the Czech Republic and, to a lesser extent, Sweden perform well above the OECD average on the PISA science scale but the other countries in the same cluster (Denmark, Iceland, Norway and the Slovak Republic) perform below the OECD average.

Policy context

The relationship between the resources devoted to education and the outcomes achieved has been the focus of much education policy interest in recent years as governments seek to achieve more and better education for the whole population. However, given the increasing pressures on public budgets, there is intense interest in ensuring that funding – public funding in particular – is well directed, in order to achieve the desired outcomes in the most effective way possible. Internationally, much attention is of course paid to which education systems achieve most in terms of the quality and equity of learning outcomes, but there is also considerable interest in knowing which systems achieve most given the inputs provided. Could the same outputs be achieved with fewer inputs? Could better outputs be achieved with the same inputs? What are the main factors that drive investment in education? Would better performances be achieved if one of these factors is modified?

Evidence and explanations

This indicator begins with an examination of the correlation between spending and performance and considers what this says about the efficiency of education systems, referring also to analyses conducted by the OECD Economics Department in the context of its "Public Spending Efficiency" project and published in *Education at a Glance 2007*. Finally, the indicator describes the main variables accounting for differences among countries in the level of expenditure per student allocated by countries to upper secondary education and groups countries with similarities in their input variables at the upper secondary level of education to see whether similar education systems can expect similar levels of outcomes.

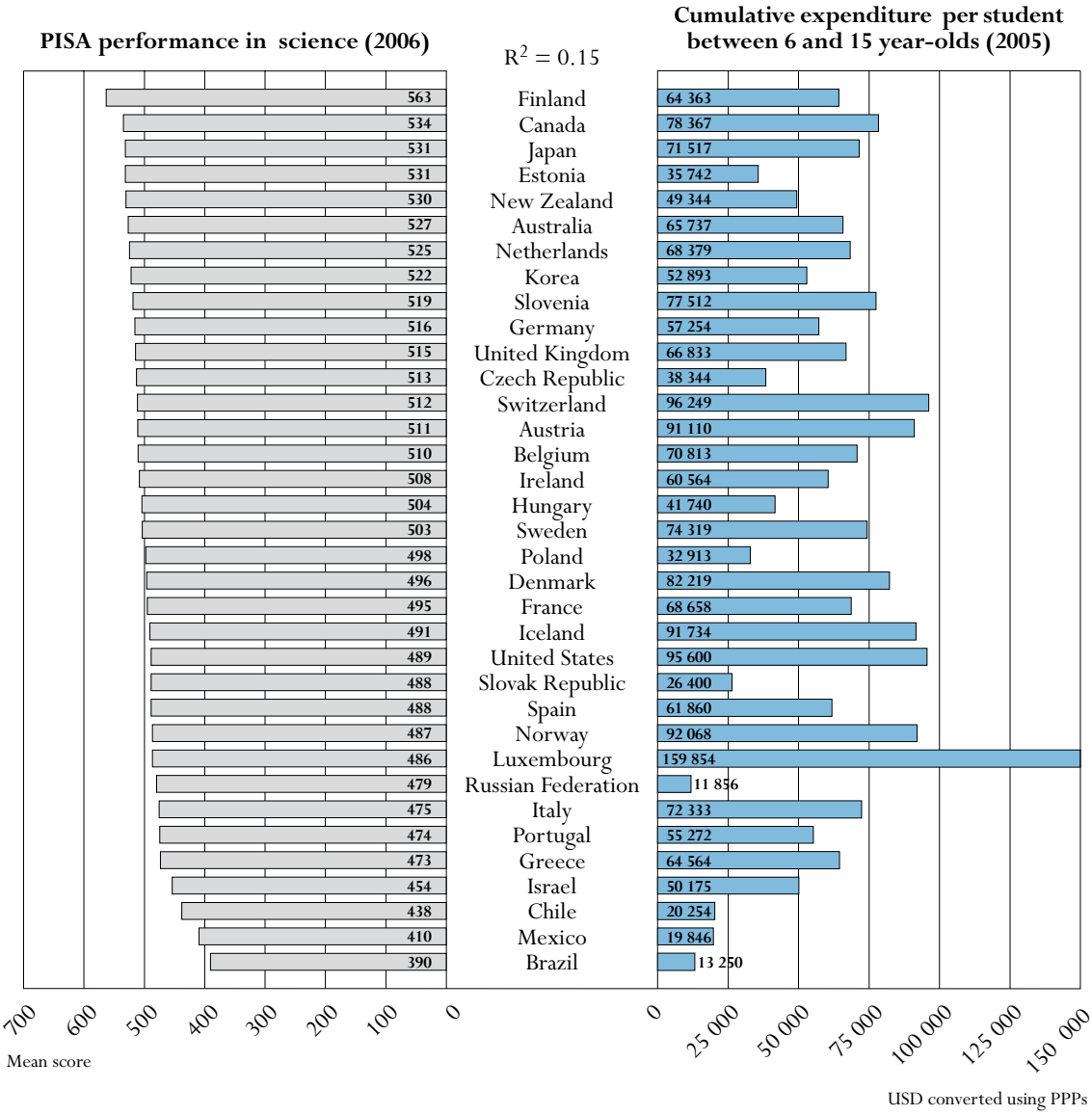
Student performance and spending per student

Table B7.1 compares countries' actual cumulative spending per student between the ages of 6 and 15 in 2005 on average, with their average student performance on the science literacy scale of PISA 2006 and with other economic and social indicators. Cumulative spending per student is approximated by multiplying public and private expenditure on educational institutions per student in 2005 at each level of education by the theoretical duration of education at these levels between the ages of 6 and 15 years. The results are expressed in USD using purchasing power parities.

Chart B7.2 shows a positive relationship between cumulative spending per student and mean science performance. As cumulative expenditure per student on educational institutions increases, so does a country's mean PISA performance in science. However, the relationship is not a strong one; cumulative expenditure per student in fact explains merely 15% of the variation in mean performance between countries. The relation between PISA performance in science and national income is similarly weak, though the correlation is stronger when the performance of countries with comparatively low levels of national income and cumulative expenditure per student between the ages of 6 and 15 years are taken into account (Mexico, the Slovak Republic and the partner countries Brazil, Chile and the Russian Federation) (Table B7.1 and Chart B7.2).

However, many countries deviate from the trend line. In other words, spending levels per student cannot automatically be equated with the performance of the education system as measured by PISA. To illustrate this, spending per student up to the age of 15 years in the Czech Republic is roughly one-third of, and in Korea roughly one-half of, spending levels in the United States,

Chart B7.2. Relationship between PISA performance in science at age 15 and cumulative expenditure per student between 6 and 15 year-olds (2005, 2006)



Countries are ranked in descending order of the PISA performance in science at age 15.
Source: Table B7.1 and PISA 2006 databases. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).
StatLink http://dx.doi.org/10.1787/402072442032

but while both the Czech Republic and Korea are among the top ten performers in PISA, the United States performs below the OECD average. Similarly, Spain and the United States perform almost equally well, but while the United States spends roughly USD 95 600 per student up to the age of 15, Spain spends only USD 61 860 (Table B7.1 and Chart B7.2).

Table B7.1 also shows that spending per student up to the age of 15 is more closely correlated with the proportion of low performers at 15 years of age (level of proficiency 1 or below) than with the proportion of best achievers on the PISA science scale (level of proficiency 5 or above),

though the correlations are both relatively weak: cumulative expenditure per student explains 17% of the variation in the proportion of low performers and only 8% of the variation in the proportion of the best performers. However, these figures should be interpreted with caution given that they are influenced by a small group of countries with the highest proportion of low achievers on the PISA scale combined with the lowest cumulative spending per student between 6 and 15 years of age.

In summary, the results suggest that, while spending on education is a necessary prerequisite for high-quality education, it is not sufficient to achieve high levels of outcomes. Effective use of resources is necessary to achieve good outcomes. This is not surprising as countries with the same level of expenditure can allocate their spending to different aspects of their education system.

What factors account for performance differences among countries with similar levels of investments?

Many factors affect the relationship between spending per student and student performance. They include the organisation and management of schooling within the system (*e.g.* layers of management and distribution of decision making, geographic dispersion of the population), the organisation of the immediate learning environment of the students (*e.g.* class size, hours of instruction), the quality of the teaching workforce as well as characteristics of the students themselves, most notably their socio-economic background.

Countries with similar levels of spending on education may reach different performance levels and some results suggest that there are possibilities for reducing inputs while holding outputs constant, or, on the contrary, for maximising outputs while holding inputs constant. In *Education at a Glance 2007*, for instance, indicator B7 showed that among OECD countries, there is the potential for increasing learning outcomes by 22% while maintaining current levels of resources (output efficiency).

The level of expenditure is therefore not the sole factor to be taken into account when analysing the efficiency of the resources used in education. As a given level of expenditure may result from differences in education systems, analysis of differences among countries that have an impact on the level of expenditure may help to understand differences in performance.

A relationship exists between expenditure per student and structural and institutional factors that relate to the organisation of the school and curriculum. Expenditure can be broken down into the compensation of teachers and other expenditure (defined as all expenditure other than compensation of teachers). Compensation of teachers usually constitutes the largest part of expenditure on education. Then, compensation of teachers divided by the number of students (referred to here as "compensation cost per student" or "salary cost per student") is the main proportion of expenditure per student.

Compensation of teachers is a function of instruction time of students, teaching time of teachers, teachers' salaries and the number of teachers needed to teach students, which depends on class size (see Definitions and methodologies). As a consequence, differences among countries in these four factors may explain differences in the level of expenditure per student. In the same way, a given level of expenditure may result from a different combination of these factors; for example, teachers' salaries may be higher in some countries than in others or the amount of students' instruction time may differ.

The first part of Table B7.2 presents the level of teacher compensation cost as well as the contribution of these four factors to the difference from the OECD average at the upper secondary level of education. Compensation cost per student varies from USD 570 in the Slovak Republic to about USD 9 850 in Luxembourg. However, as the level of salary, and as a consequence, the level of the compensation cost also depends on the country's relative wealth, the second part of the table presents compensation cost as a percentage of GDP per capita to exclude the effect of relative wealth on compensation cost. This table also shows the contribution (in percentage points) of the four factors to the difference from the OECD average.

Teacher compensation cost per student varies from 3.9% of GDP per capita in the Slovak Republic (less than half the OECD average rate of 10.9%) to over five times that rate in Portugal (20.9%, nearly twice the OECD average). The four factors influencing teacher compensation costs interact in contrasting ways between countries to reveal the different policy choices that governments make (Table B7.2 and Chart B7.1).

For example, in Korea and Luxembourg, compensation cost per student (as a percentage of GDP per capita) are both well above the OECD average (15.5% and 15.2% respectively) but these rates result from quite different combinations of instruction time, teaching time, class size and teachers' salaries (as a proportion of GDP per capita). In Korea, of the four factors, relatively large class size is the only one that acts to reduce compensation cost per student relative to the OECD average. Here, despite the size of this effect, it is more than counter-balanced by relatively high teacher salaries (as a proportion of GDP per capita), which together with above-average instruction time and below-average teaching time produce a compensation cost per student that is much higher than the OECD average. In contrast, higher than average compensation costs per student in Luxembourg are almost entirely attributable to very low class sizes, which outweigh the counter influences of slightly below average teacher salaries as a percentage of GDP per capita and above average instruction time (Table B7.2).

Alongside such contrasts, there are also striking similarities in the policy choices made by countries. In Australia, New Zealand and the United Kingdom, the compensation cost per student as a percentage of GDP per capita is close to the OECD average, which is the result in each of the countries of the balancing of two opposite effects: above-average teaching time, acting to reduce compensation cost per student relative to the OECD average and relatively low class sizes, which act to increase compensation cost per student relative to the OECD average.

In countries with the lowest compensation cost per student (as a percentage of GDP per capita) at the upper secondary level, low salary levels as a proportion of GDP per capita is usually the main driver. This is the case in Iceland, Ireland, Norway, Poland, the Slovak Republic and Sweden. The main exception to this pattern is Mexico where teacher salary costs relative to GDP per capita are well above the OECD average but this is more than compensated for by large class sizes.

In contrast, among countries with the highest levels of compensation cost per student (Portugal, Spain, Switzerland), no single factor dictates this position, but rather each of the four factors act to increase costs to varying degrees (Table B7.2 and Chart B7.1).

The fact that similar levels of expenditure between countries can mask a variety of contrasting policy choices made by countries goes some way to explaining why simplistic comparisons of

student performance and expenditure levels fail to show strong correlations. It remains for further analysis to examine what influence these different policy choices actually have on quality and equity of learning outcomes.

Moreover, this analysis only considers the reasons for the variation in compensation costs per student (as a proportion of GDP per capita). However, as noted previously, compensation cost is only part of expenditure on education. To quantify the relative impact that each of the factors has on total expenditure per student (rather than on the compensation cost per student) requires a different approach. The regression analysis discussed in the next section attempts to do this by seeking to determine the factors that have a statistically significant impact on expenditure per student and to isolate their effects.

What are the main factors accounting for differences among countries in expenditure per student in upper secondary education?

Table B7.3 presents the results of the regression analysis. In addition to instruction time, teaching time, teachers' salaries and class size, more than ten other quantitative explanatory variables have been included to take into account characteristics related to the school context, the teacher context, the student context as well as general investment in education (for a list of these variables, see Definitions and methodologies). Variables considered for the regression analysis were those that seemed, *a priori*, to have a strong relationship with educational expenditure and which, in most cases, could be derived from data published in *Education at a Glance*. The final choice of variables to be included in the regression analysis was made on the basis of their correlation with expenditure per student. As expenditure per student (and the level of salaries) is closely correlated with GDP per capita (coefficient of 0.90), and to avoid multicolinearity, the dependent variable in the model is expenditure per student as a percentage of GDP per capita (rather than expenditure per student on its own). Similarly, statutory salaries have been divided by GDP per capita as well.

Testing alternative models concluded that a regression containing 10 out of the 13 variables (see Table B7.3 and Definitions and methodologies for excluded variables) resulted in the model with most explanatory power. In this case, 83% of the variation in expenditure per student as a proportion of GDP per capita is accounted for. However, only four of the variables have a significant impact on expenditure per student as a proportion of GDP per capita at the 5% threshold, with one other significant at the 10% threshold.

In terms of general investment in education, two variables are significantly linked to expenditure per student. As expected, other things being equal, the proportion of GDP devoted to education is positively linked to expenditure per student as a proportion of GDP. Moreover, the proportion of educational expenditure from private sources is also positively linked to expenditure per student. Thus public and private sources of funds are complementary sources of funds, as an increase of private funds goes with an increase in expenditure per student.

In terms of the school context, only the student-teacher ratio has a significant relationship with expenditure per student as a proportion of GDP per capita. As expected, the relationship is negative: other things being equal, an increase in the number of students per teacher should lead to a decrease in the number of teachers necessary to teach all students, and this should then

result in a decrease in expenditure per student. Another way to vary the number of teachers necessary for a given population of students would be to change the number of teaching hours for teachers and/or the number of hours of instruction to students. However, this analysis does not show that these factors have a significant relationship with expenditure per student. This may be because the relationship is investigated at national level whereas changes in the annual number of teaching hours may have an impact (other things being equal) on the number of teachers needed for teaching at school or local level.

In terms of the teacher context, only statutory salaries as a proportion of GDP per capita are significantly linked to expenditure per student as a proportion of GDP per capita. As expected the relationship is positive.

In terms of the student context, no factor seems to be statistically significantly linked to expenditure per student as a proportion of GDP per capita.

This regression analysis (as well as the analysis of the contribution of instruction time, teaching time, class size and teachers' salary on compensation cost per student) shows the complex relationship between the level of expenditure per student and factors that may have an impact on the level of expenditure. The complexity of the relationship may also explain the lack of a direct relationship between the level of expenditure and the level of performance, as each of the factors that explains the level of expenditure may affect performance. Nevertheless, the different combinations of the characteristics of the education system appear to be as important as the level of expenditure for analysing their effect on students' performance. Therefore, a complementary analysis seeks to distinguish between different combinations of characteristics of the education system in OECD countries.

What are the main profiles of countries in upper secondary education?

For this purpose, Chart B7.3 presents clusters of countries according to their similarities at the upper secondary level of education. As shown above, countries' performance and more generally countries' outcomes are not necessarily linked to expenditure per student. Thus, countries with similar investments in education can have very different education systems. However, the question is whether countries with similarities in their education system have similar level of outcomes. To answer this question, *Education at a Glance* has many indicators that rank and compare countries according to their economic and financial, student, system level, school or teacher contexts. Countries are grouped here into six profiles or clusters, based on their similarities relative to the 14 variables that represent the main indicators for upper secondary education published in *Education at a Glance 2007*. The distribution of these clusters is based on four dimensions:

- **Student context**: These variables include the percentage of students who repeated at least one grade before the age of 15, the instruction time between 12 and 14 years of age, the percentage of student enrolled in vocational programmes in upper secondary education, and the enrolment rates at 16 years of age.
- **Teacher context**: These variables include the ratio of statutory salary after 15 years of experience relative to GDP per capita, annual variation in salary from starting to top statutory salary scale, proportion of teachers aged 50 or more and instruction time in upper secondary education.

- **General investment in education**: These variables include expenditure per student as a percentage of GDP per capita, educational expenditure as a percentage of GDP, and the proportion of private expenditure in upper secondary education.
- **School context**: These variables include the proportion of 5-to-25-year-olds in the population, the ratio of students to teaching staff, the proportion of expenditure devoted to other than compensation of teachers in upper secondary education.

Six main country profiles can be defined for the 25 OECD countries for which data on the 14 variables are available.

Cluster 1 includes Australia, Ireland, the Netherlands, New Zealand, Poland and the United States. They have similar patterns in terms of teacher and school contexts. In these countries teaching time is above the OECD average and the ratio of student to teaching staff is also generally above the OECD average. However, whereas the level of teachers' salaries differs markedly among these countries, teachers' salaries have large increases between starting and top salaries compared to the OECD average which reward over time the high level of teaching time compared to the OECD average. All of these countries except New Zealand have both enrolment rates at 16 years of age well above the OECD average and expenditure on upper secondary education as a percentage of GDP below the OECD average. Other factors vary and have less influence on their grouping.

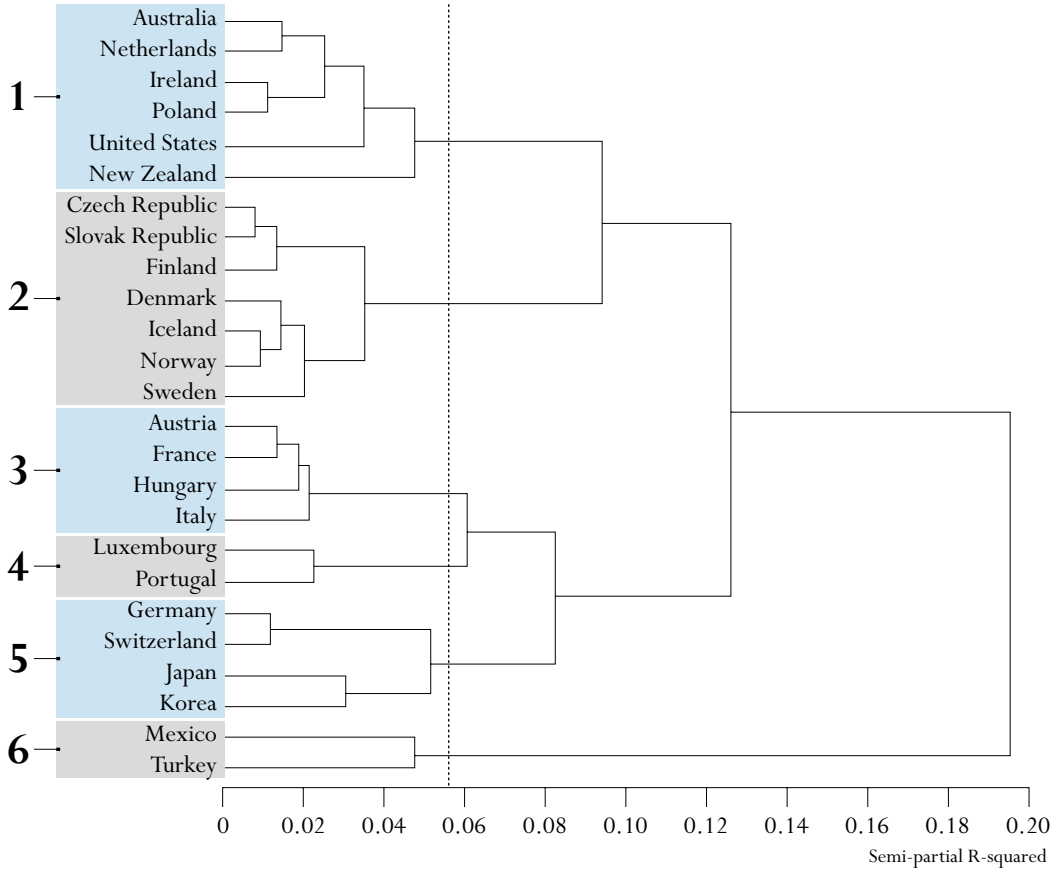
Cluster 2 includes all Nordic countries (Denmark, Finland, Iceland, Norway, and Sweden) and two eastern European countries (the Czech Republic and the Slovak Republic). They have moderate figures on general investment in education, school, student and teacher contexts. The education systems are globally less demanding in these countries at this level of education for all the actors of education (*i.e.* government, students and teachers). Thus, educational expenditure as a proportion of GDP is below or at the OECD average, educational expenditure relies less than the average on private funds, students usually receive fewer instruction hours than the average and teaching time and salaries as a percentage of GDP per capita are also below the OECD average. In these countries, few or no students have repeated at least one grade before the age of 15.

Cluster 3 includes Austria, France, Hungary and Italy. This group is mainly influenced by student and teacher contexts and are among the countries with the highest number of hours of instruction (more than 1 000 hours per year in all against an average of 959). More than 10% of pupils have repeated at least one grade before the age of 15. Moreover, net teaching time is well below the OECD average, so that the ratio of instruction relative to teaching time is well above the OECD average and the students to teaching staff ratios are below the OECD average. Teachers' salaries are also below the OECD average.

Cluster 4 includes Portugal and Luxembourg. Like the countries in cluster 3, they are mainly influenced by student and teacher contexts but have relatively low instruction time and a small proportion of 16-year-olds enrolled in education. Other similarities with cluster 3 are a relatively low teaching hours combined with a high level of repeaters. They have quite a young teacher population relative to the OECD average. They spend 1% or less of their GDP on educational expenditure in upper secondary education, whereas cluster 3 countries spend proportionally more on education (at least 1.2% of their GDP).

Chart B7.3. Groupings of countries according to their similarities/dissimilarities, at the upper secondary level of education (2004, 2005)

Cluster analysis of 25 countries and 14 variables retated to general investment in education, school, student and teacher contexts



Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

StatLink http://dx.doi.org/10.1787/402072442032

Countries in Cluster 5 (Germany, Japan, Korea and Switzerland) have similar patterns in terms of general investment in education and teacher context. They have the highest levels of expenditure per student as a proportion of GDP per capita (from 35 to 44% of GDP per capita except in Japan, which has 27%, at the OECD average), and among the largest proportions of private expenditure in OECD countries (from 24% in Japan and 35% in Korea, mainly because of tuition fees paid by households, to more than 36% in Switzerland and Germany, mainly because of their dual systems). This last characteristic, together with teachers' salaries as a proportion of GDP per capita well above average, may explain the high level of expenditure per student in upper secondary education. Nevertheless, Japan and Korea differ from Germany and Switzerland in terms of the proportion of students enrolled in vocational programmes (less than 30% versus more than 60%), the proportion of teachers more than 50 years old (28% or less versus 35% or more) and teaching time (550 hours or less versus 670 or more).

Countries in Cluster 6 (Mexico and Turkey) differ from others especially in terms of school context and financial investment in education. Compared to other countries, a large proportion

of their population is between 5 and 25 years old (about 40% or above) and they have the highest ratios of students to teaching staff (with Finland) among OECD countries. They have low economic resources for meeting educational needs and the lowest proportion of GDP devoted to education (0.9% or less). In spite of this, teachers' salaries as a proportion of GDP per capita in upper secondary education in Turkey (in lower secondary for Mexico) are among the highest in the OECD countries (over twice the level of GDP per capita).

Can we identify a relation between secondary profiles and PISA performance?

Grouping countries by their main features at the upper secondary level of education can provide insight into the relationship between the organisation of the education system at upper secondary level and performance on the PISA science scale. However, the cluster analysis tends to show that similar education systems can have quite different outcomes. Three out of the six clusters presented show this. In cluster 3, Finland, the Czech Republic and to a lesser extent Sweden perform well above the OECD average on the PISA science scale whereas Denmark, Iceland, Norway and the Slovak Republic do not. Similarly, Australia (cluster 6) and Austria (cluster 4) perform well above the OECD average on the PISA science scale whereas the United States (cluster 6) and Italy (cluster 3) at 489 and 475, respectively, on the science scale perform significantly below the OECD average. This indicates that other factors not taken into account in this classification have better explanatory value as regards the performance of 15-year-olds. Among these, the socio-economic context, the quality of the teachers, the teaching methods and the content of the curriculum may affect outcomes. Taking into account features at lower secondary level of education could also give some more insight into this relationship. Moreover, this analysis of the relationship between clusters and student performance focuses on science, the results may be different for a similar analysis of another field of study.

Definitions and methodologies

Table B7.2 shows the compensation cost of teachers**.** The compensation of teachers divided by the number of students or "the compensation cost per student" (CCS) is estimated through:

$$CCS = SAL \times instT \times \frac{1}{teachT} \times \frac{1}{ClassSize} = \frac{SAL}{Ratiostud/teacher}$$

SAL: teachers' salaries (estimated by statutory salary after 15 years of experience).
instT: instruction time of students (estimated as the annual number of instruction time for students).
teachT: teaching time of teachers (estimated as the annual number of teaching hours for teachers).
ClassSize: a proxy for class size.
Ratiostud/teacher: the ratio of students to teaching staff.

With the exception of class size (which was not computed at upper secondary level, as class sizes are difficult to define and compare as students may attend several classes depending on the subject area), values for the different variables can be obtained from the indicators published in chapter D of *Education at a Glance 2007*. However, for the purpose of the analysis, a "theoretical" class size or proxy class size is estimated based on the ratio of students to teaching staff and the number of teaching hours and instruction hours. This should be interpreted with caution as a proxy.

Further details on the analysis of these factors are available in Annex 3.

For the regression analysis shown in Table B7.3, a multilinear regression analysis was carried out on expenditure per student as a percentage of GDP/capita and 13 explanatory variables related to general, school, teacher and student contexts, at the upper secondary level of education. The following variables were used:

- From general investment in education: GDP per capita, educational expenditure as a percentage of GDP, proportion of educational expenditure from private sources.
- From school context: the ratio of students to teaching staff, the proportion of 5-to-25-year-olds in the population, the proportion of expenditure for other than compensation of teachers.
- From teacher context: teachers' statutory salaries after 15 years of experience (or ratio of statutory salary to GDP per capita), proportion of teachers aged 50 or more, annual variation of salary from the beginning of the statutory salary scale to the top of the statutory salary scale; teaching time.
- From student context: instruction time, enrolment rate at 16, proportion of repeaters among 15-year-olds, proportion of students enrolled in prevocational/vocational programmes.

The enrolment rate for 16-year-olds students, the proportion of students enrolled in prevocational/vocational programmes, and the proportion of repeaters among 15 year-olds have been excluded from the final model because the coefficient of the regression was of better quality without these three variables.

In most cases, the values for the variables are derived from *Education at a Glance 2007* and refer to the school year 2004/05 and the calendar year 2004 for indicators related to finance. However, in order to compensate for missing values for some variables, some data have been estimated on the basis of data published in previous editions of *Education at a Glance*. When there was no possibility for estimating and no knowledge of a proxy figure, the missing values have been replaced by the average for all OECD countries.

Among the 30 OECD countries, Canada was excluded from the analysis because of the amount of missing data for the reference year. Four other countries (Belgium, Greece, Spain and the United Kingdom) were also excluded as data on expenditure per student were not available separately for upper secondary level of education (but only for total secondary level of education) (see Annex 3).

A cluster analysis was performed for Chart B7.3 to determine whether countries were similar enough to fall into groups or clusters showing general investment in education and student, school and teacher contexts in upper secondary education. It used Ward's method which uses an analysis of variance approach to evaluate the distance between clusters. This method attempts to minimise the sum of the squares of any two hypothetical clusters that can be formed at each step. Cluster analysis was also calculated using the four other main agglomerative methods: the single linkage (nearest neighbour approach); the complete linkage (furthest neighbour); the average linkage; and the Centroid method. Results from the Ward method were most meaningful. The semi-partial r-square (or within-class variance) measures the loss of homogeneity of joined clusters: the lower the semi-partial r-square, the higher is the homogeneity within clusters.

B7

Table B7.1.

Economic and social indicators and the relationship with performance in science (2005, 2006)

		PISA performance at 15-year-olds (2006)			Economic and social indicators			
		Science performance	Percentage of students at level of proficiency 1 or below on the science scale (below 409.54 score points)	Percentage of students at level of proficiency 5 or above on the science scale (above 633.33 score points)	GDP per capita (2005, in USD)	Cumulative expenditure per student aged between 6 and 15 (2005, in USD)	Percentage of the population aged 35 to 44 that has attained at least upper secondary education (2006)	Percentage of the variance in PISA performance in science explained by the PISA index of economic, social and cultural status[1] (2006)
OECD countries	Australia	527	13	15	33 983	65 737	66	11.3
	Austria	511	16	10	34 107	91 110	84	15.4
	Belgium	510	17	10	32 077	70 813	72	19.4
	Canada	534	10	14	32 929	78 367	88	8.2
	Czech Republic	513	16	12	20 280	38 344	93	15.6
	Denmark	496	18	7	33 626	82 219	83	14.1
	Finland	563	4	21	30 468	64 363	87	8.3
	France	495	21	8	29 644	68 658	71	21.2
	Germany	516	15	12	30 496	57 254	85	19.0
	Greece	473	24	3	25 472	64 564	65	15.0
	Hungary	504	15	7	17 014	41 740	81	21.4
	Iceland	491	21	6	35 571	91 734	67	6.7
	Ireland	508	16	9	38 061	60 564	70	12.7
	Italy	475	25	5	27 750	70 126	54	10.0
	Japan	531	12	15	30 290	71 517	m	7.4
	Korea	522	11	10	21 342	52 893	88	8.1
	Luxembourg	486	22	6	69 984	159 854	68	21.7
	Mexico	410	51	0	11 299	19 846	23	16.8
	Netherlands	525	13	13	34 724	68 379	76	16.7
	New Zealand	530	14	18	24 882	49 344	82	16.4
	Norway	487	21	6	47 620	92 068	78	8.3
	Poland	498	17	7	13 573	32 913	50	14.5
	Portugal	474	24	3	19 967	55 272	26	16.6
	Slovak Republic	488	20	6	15 881	26 400	92	19.2
	Spain	488	20	5	27 270	61 860	54	13.9
	Sweden	503	16	8	32 770	74 327	90	10.6
	Switzerland	512	16	10	35 500	96 249	85	15.7
	Turkey	424	47	1	7 786	m	25	16.5
	United Kingdom	515	17	14	31 580	66 833	67	13.9
	United States	489	24	9	41 674	95 600	88	17.9
	OECD average	*500*	*19*	*9*	*29 587*	*67 895*	*71*	*14.4*
Partner countries	Brazil	390	61	1	8 586	12 442	32	17
	Chile	438	40	2	12 655	20 254	52	23
	Estonia	531	8	11	16 660	m	95	9
	Israel	454	36	5	21 474	50 175	82	11
	Russian Federation	479	22	4	10 846	11 132	95	8
	Slovenia	519	14	13	23 043	77 512	84	17
	Correlation (R) between cumulative expenditure and other factors:	**0.39**	**-0.41**	**0.28**	**0.94**	**1.00**	**0.26**	**-0.05**

1. This index is derived from the occupational status of the father or the mother (whichever is higher), the level of education of the father or the mother (whichever is higher) and from the index of home possessions. For more details see PISA website (*www.pisa.oecd.org*).

Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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

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Table B7.2.

Contribution of various factors to salary cost per student at the upper secondary level of education (2004)

	Contribution (in USD) of school factors to salary cost per student					
	Salary cost per student	Difference from OECD average	Contribution to the difference from the OECD average			
			Salary	Instruction time	1/teaching time	1/class size
OECD countries						
Australia	3 668	**596**	389	209	-646	644
Austria	3 502	**430**	-13	291	425	-272
Belgium	5 202	**2 129**	1 070	99	-6	966
Czech Republic	1 936	**-1 136**	-1 152	22	205	-212
Denmark	3 530	**458**	587	-448	593	-274
Finland	2 411	**-661**	246	-315	550	-1 141
France	3 284	**212**	-497	565	221	-77
Germany	3 938	**865**	1 154	-242	-239	192
Greece	3 592	**520**	-790	1 035	611	-337
Hungary	1 600	**-1 473**	-1 621	336	451	-639
Iceland	2 963	**-109**	-657	-241	545	245
Ireland	3 013	**-59**	498	-232	-283	-42
Italy	2 971	**-101**	-577	323	328	-175
Japan	3 695	**623**	650	-351	1 539	-1 214
Korea	3 222	**149**	842	192	616	-1 501
Luxembourg	9 848	**6 776**	4 712	-1 601	262	3 403
Mexico	827	**-2 245**	-1 063	292	-421	-1 053
Netherlands	3 786	**714**	1 519	364	-396	-774
New Zealand	2 869	**-203**	-221	-35	-1 059	1 113
Norway	3 926	**854**	-173	-412	860	579
Poland	797	**-2 275**	-2 285	-161	-21	191
Portugal	4 038	**965**	-747	-351	954	1 109
Slovak Republic	570	**-2 502**	-2 323	-130	119	-167
Spain	5 247	**2 175**	288	75	-139	1 951
Sweden	2 430	**-642**	-425	-730	-684	1 197
Switzerland	6 690	**3 618**	2 643	-56	-30	1 061
Turkey	1 223	**-1 849**	-1 394	-6	357	-806
United Kingdom	3 722	**649**	343	-40	-999	1 346
United States	2 562	**-510**	97	56	-1 365	702

Source: OECD. Data from *Education at a Glance 2007* (*www.oecd.org/edu/eag2007*). See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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Table B7.2. *(continued)*

Contribution of various factors to salary cost per student at the upper secondary level of education (2004)

	Contribution (in percentage points) of school factors to salary cost per student as a percentage of GDP per capita					
	Salary cost per student as % of GDP/capita	Difference from OECD average	Contribution to the difference from the OECD average			
			Salary as % of GDP per capita	Instruction time	1/teaching time	1/class size
OECD countries						
Australia	11.9	**1.0**	0.3	0.7	-2.2	2.2
Austria	10.5	**-0.3**	-1.8	1.0	1.4	-0.9
Belgium	16.3	**5.4**	1.9	0.3	0.0	3.2
Czech Republic	10.0	**-0.9**	-0.9	0.1	0.8	-0.9
Denmark	10.9	**0.1**	0.5	-1.5	2.0	-0.9
Finland	8.1	**-2.8**	0.3	-1.1	1.9	-3.9
France	11.3	**0.5**	-2.0	2.0	0.8	-0.3
Germany	13.2	**2.3**	3.3	-0.8	-0.8	0.7
Greece	13.0	**2.1**	-2.6	3.7	2.2	-1.2
Hungary	9.7	**-1.2**	-1.8	1.5	2.0	-2.8
Iceland	8.9	**-1.9**	-3.8	-0.8	1.8	0.8
Ireland	8.2	**-2.6**	-0.9	-0.7	-0.9	-0.1
Italy	10.7	**-0.1**	-1.8	1.2	1.2	-0.6
Japan	12.8	**1.9**	2.0	-1.2	5.4	-4.2
Korea	15.5	**4.7**	7.7	0.8	2.6	-6.4
Luxembourg	15.2	**4.3**	-0.3	-3.3	0.6	7.4
Mexico	8.2	**-2.7**	4.1	1.6	-2.3	-6.0
Netherlands	11.3	**0.4**	3.0	1.2	-1.3	-2.5
New Zealand	11.6	**0.7**	0.7	-0.1	-4.0	4.2
Norway	9.4	**-1.5**	-4.5	-1.2	2.6	1.7
Poland	6.1	**-4.8**	-4.8	-0.7	-0.1	0.8
Portugal	20.9	**10.0**	2.7	-1.5	4.1	4.8
Slovak Republic	3.9	**-7.0**	-6.2	-0.5	0.5	-0.7
Spain	20.2	**9.3**	2.3	0.3	-0.5	7.2
Sweden	7.8	**-3.0**	-2.3	-2.5	-2.3	4.1
Switzerland	19.3	**8.4**	5.4	-0.2	-0.1	3.3
Turkey	17.0	**6.1**	9.5	0.0	2.4	-5.7
United Kingdom	11.7	**0.9**	-0.2	-0.1	-3.3	4.5
United States	6.5	**-4.4**	-2.6	0.2	-4.1	2.1

Source: OECD. Data from *Education at a Glance 2007* (*www.oecd.org/edu/eag2007*). See Annex 3 for notes (*www.oecd.org/edu/eag2008*).

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Table B7.3.

Relationships between expenditure per student as a percentage of GDP per capita and 10 explanatory variables, at the upper secondary level of education (2005, 25 OECD countries)

	Variables	Coefficient	Standard error	t value	pr > t
General context	**Expenditure as % of GDP**	9.33126	2.71578	**3.43594**	0.00402
	5-to-25 year-olds in population	-0.15898	0.16764	-0.94830	0.35906
	Proportion of private expenditure	0.17596	0.06359	**2.76701**	0.01513
School context	Instruction time	-0.00005	0.00636	-0.00788	0.99383
	Teaching time	0.00681	0.00520	1.30921	0.21154
	Ratio student/teachers	-0.57713	0.28026	**-2.05927**	0.05857
	Expenditure other than teachers' compensation	-0.17095	0.10712	-1.59588	0.13283
Teacher context	**Salaries as % of GDP/capita**	4.55855	1.78904	**2.54804**	0.02321
	Annual variation in salaries	-0.35682	0.39721	-0.89831	0.38421
Student context	Repeaters	0.01579	0.06579	0.24003	0.81379
	Intercept	21.38996	8.16527	**2.61963**	0.02019
	R^2 = 0.8329 (F = 6.978; Pr > F = 0.00064)				

Note: Bold figures relate to variables that are statistically significant at a 5% or 10% threshold.
Source: OECD. See Annex 3 for notes (*www.oecd.org/edu/eag2008*).
StatLink http://dx.doi.org/10.1787/402072442032

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 and 2000 data, both the OECD average and OECD total are calculated for countries providing 1995, 2000 and 2005 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/eag2008* 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/eag2008* 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/eag2008*.

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 Glance 2008* 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
AUT	Austria
BEL	Belgium
BFL	Belgium (Flemish Community)
BFR	Belgium (French Community)
BRA	Brazil
CAN	Canada
CHL	Chile
CZE	Czech Republic
DNK	Denmark
ENG	England
EST	Estonia
FIN	Finland
FRA	France
DEU	Germany
GRC	Greece
HUN	Hungary
ISL	Iceland
IRL	Ireland
ISR	Israel
ITA	Italy
JPN	Japan
KOR	Korea
LUX	Luxembourg
MEX	Mexico
NLD	Netherlands
NZL	New Zealand
NOR	Norway
POL	Poland
PRT	Portugal
RUS	Russian Federation
SCO	Scotland
SVK	Slovak Republic
SVN	Slovenia
ESP	Spain
SWE	Sweden
CHE	Switzerland
TUR	Turkey
UKM	United Kingdom
USA	United States

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