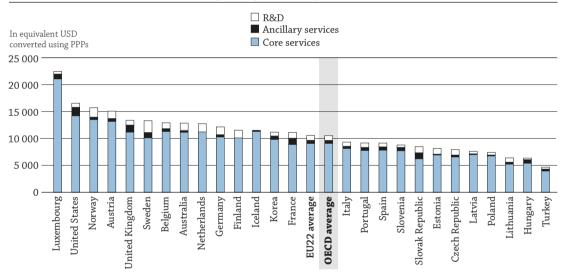
## **INDICATOR C1**

## **HOW MUCH IS SPENT PER STUDENT ON EDUCATIONAL INSTITUTIONS?**

- On average, OECD countries spend USD 10 500 a year on educational institutions to educate each student from primary to tertiary education. This represents about USD 8 600 per student at primary level, USD 10 000 at secondary level and USD 15 700 at tertiary level.
- In non-tertiary education (primary, secondary and post-secondary non-tertiary levels), 94% of institutions' expenditure per student is devoted to core educational services (such as teaching costs), and the remaining is devoted to ancillary services (such as student welfare). At the tertiary level, a much lower share of institutional expenditure goes to core services (68%), while roughly 30% of total educational expenditure per student is on research and development.
- Across OECD countries, students enrolled at primary or secondary school between the age of 6 and 15 add up to a total cumulative expenditure of around USD 91 000 per student.

Figure C1.1. Total expenditure on educational institutions per student, by type of service (2015)

In equivalent USD converted using PPPs, based on full-time equivalents, from primary to tertiary education



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

Source: OECD/UIS/Eurostat (2018), Table C1.2. See Source section for more information and Annex 3 for notes (http://dx.doi. org/10.1787/eag-2018-36-en).

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#### Context

The willingness of policy makers to expand access to educational opportunities and to provide highquality education can translate into higher costs per student and must be balanced against other demands on public expenditure and the overall tax burden. As a result, the question of whether the resources devoted to education yield adequate returns features 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 useful reference points (see Definitions and Methodology sections).

This indicator provides an assessment of the investment in each student. Expenditure per student on educational institutions is largely influenced by teachers' salaries (see Indicators C7 and D3), pension systems, instructional and teaching hours (see Indicator C7), the cost of teaching materials and facilities (see Indicator C6), the programme provided (e.g. general or vocational) and the number of students enrolled in the education system (see Indicator B1). Policies to attract new teachers,

reduce average class size or change staffing patterns (see Indicator D2) have also affected per-student expenditure. Ancillary services and research and development (R&D) activities can also influence the level of expenditure per student.

At primary and secondary levels, educational expenditure is dominated by spending on instructional services. At the tertiary level, other services, particularly those related to ancillary services or R&D activities, can account for a significant proportion of educational spending. Indicator C6 provides further information on how spending is distributed by the different types of services provided.

#### Other findings

- In almost all countries, expenditure on educational institutions per student increases at each educational level, with the exception of post-secondary non-tertiary education, where the average expenditure per student is around the level in primary education or lower than in other levels.
- On average, private sources in OECD countries spend more than USD 4 600 per student in tertiary levels of education. This share represents around 40% of the investment per student made by governments at the same level (USD 11 100).
- From 2010 to 2015, expenditure on non-tertiary educational institutions increased by 4% on average across OECD countries, while the number of students decreased by 1%, resulting in an increase of 5% in expenditure per student over the same period.
- The orientation of secondary school programmes influences expenditure on educational institutions per student in most countries. On average, across the 27 OECD countries with separate data on expenditure per student for general and vocational programmes at upper secondary levels, the cost per student in a vocational programme was almost USD 2 000 more than in a general programme in 2015.
- Excluding activities peripheral to instruction (R&D and ancillary services, such as student welfare services), OECD countries annually spend an average of USD 9 800 per student from primary to tertiary education.
- Annual expenditure per student on educational institutions as a share of GDP per capita amounts to 22% at primary level and 25% at secondary level on average across OECD countries. The figure is much higher at tertiary level, where countries spend on average 38% of GDP per capita on funding short-cycle, bachelor's, master's and doctoral degrees.

# **INDICATOR C1**

### **Analysis**

#### Expenditure per student on educational institutions at different levels of education

Annual expenditure per student on educational institutions between primary and tertiary education provides an assessment of the investment made in each student. In 2015, annual spending per student from primary to tertiary education ranged from around USD 3 000 or slightly more in Colombia and Mexico to more than USD 15 000 in Austria, Norway and the United States and nearly USD 22 000 in Luxembourg (Table C1.1 and Figure C1.1). Across the OECD, countries spend on average USD 10 500.

Methods of resource allocation across the different levels of education vary widely and are largely a reflection of the mode of educational provision. Education still essentially takes place in settings with generally similar organisation, curriculum, teaching style and management. These shared features have tended to result in similar patterns of unit expenditure from primary through post-secondary non-tertiary levels. In recent decades, however, greater use of private funds for tertiary education has modified the allocation pattern of expenditure at this level compared to lower ones (see Indicator C3, and Table C1.5, available on line). In 2015, OECD countries on average spent around USD 8 600 per student at the primary level, USD 10 000 at the secondary level and USD 15 700 at the tertiary level, although at this level, the average is affected by high expenditure in a few OECD countries, most notably Australia, Luxembourg, Norway, Sweden, the United Kingdom and the United States (Table C1.1 and Figure C1.1). These differences in annual expenditure on educational institutions per student at each level of education can also lead to large differences in the cumulative expenditure per student over the duration of studies (Table C1.6, available on line). Significant differences are also observed at the subnational level (Box C1.1).

Comparisons of the distribution of expenditure at different levels of education reflect the relative emphasis of governments at these levels as well as the relative costs of education provision. Expenditure per student on educational institutions rises with the level of education in almost all countries, but the range varies markedly across countries (Table C1.1). OECD countries spend on average 15% more per secondary student than they do per primary student. This percentage is around 60% in the Czech Republic and France, and slightly over 50% in the Netherlands, but countries invest more per primary student than they do per secondary student in Chile, Colombia, Iceland, Lithuania, Luxembourg, the Slovak Republic, Slovenia, Turkey and the United Kingdom. Similarly, educational institutions in OECD countries spend an average of 30% more on each tertiary student (excluding R&D) than on each primary student mostly because education policies vary more at the tertiary level (see Indicator C5). For example, Mexico and the United States spend at least 120% more on a tertiary student (excluding R&D) than on a primary student (Table C1.1).

#### Box C1.1. Subnational variation in annual expenditure per student on educational institutions

Annual expenditure per student is not homogeneous within countries. Among the four countries providing data, large differences are observed across regions within a country in 2015. The Russian Federation is the country with the highest subnational range in terms of annual expenditure per student on educational institutions at primary and secondary levels combined with a ratio of 9 between the region with the highest and the region with the lowest value, ranging from around USD 2 700 to USD 25 000. Canada is the country with the second-largest subnational range, with a ratio of almost 3 between the top and bottom regions in terms of expenditure per student at primary and secondary levels. Regional differences are the smallest in Belgium and Germany (countries with few subnational regions) (OECD/NCES, 2018<sub>[1]</sub>).

An examination of homogeneity in spending at primary and secondary levels within countries show that 57 out of 85 regions in the Russian Federation devoted a lower annual expenditure per student than the national average, indicating that the peak values benefit a select minority of regions. This is contrast to Canada where less than 50% of the 13 provinces and territories provide a lower level of expenditure than the national average. In Germany, 6 out of the 9 Länder that spend less than the national average are mainly located in the western part of the country. This could be explained by the sharp demographic downturn in the eastern Länder (OECD/NCES, 2018[1]).

To make these comparisons across countries, expenditure figures were converted into common currency (USD) using national purchasing power parities (PPPs). However, differences in the cost of living within countries were not taken into account.

On average across OECD countries, expenditure on core education services (such as teaching costs) represents 86% of total expenditure per student from primary to tertiary educational institutions and it exceeds 90% in Iceland, Latvia, Luxembourg and Poland. In 9 of the 25 OECD and partner countries for which data are available, annual expenditure on R&D and ancillary services per student from primary to tertiary education accounts for around 15%-30% of the total annual expenditure per student and can influence the ranking of countries for all services combined.

However, this overall picture masks large variations among levels of education (Table C1.2). At non-tertiary levels (primary, secondary and post-secondary non-tertiary), expenditure is dominated by spending on core education services. On average, OECD countries for which data are available spend 94% of the total per-student expenditure (USD 9 400) on core educational services. However, in Finland, France, Hungary, the Slovak Republic, Sweden and the United Kingdom, ancillary services account for 10% or slightly more of the expenditure per student (Table C1.2).

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 (Table C1.2). Across OECD countries, 68% of total expenditure on educational institutions at tertiary level goes to core services, while almost 30% of total educational expenditure is on research and development. The OECD countries in which most R&D is performed in 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 in industry. Excluding R&D activities, average expenditure per student in all countries accounts for over USD 11 200, ranging from around USD 2 600 in Greece to more than USD 40 000 in Luxembourg. On average across OECD countries, expenditure on R&D and ancillary services at the tertiary level represents 32% of all tertiary expenditure on educational institutions per student. In 7 of the OECD and partner countries for which data are available, expenditure on R&D and ancillary services in tertiary institutions is at least 40% of total expenditure on educational institutions per student, with the Slovak Republic (50%) and Sweden (54%) the countries with the highest shares. Ancillary services are even less important in tertiary education than at lower levels. On average, only 4% of expenditure on tertiary institutions targets ancillary services, and the amount is negligible in the Czech Republic, Estonia, Finland, Iceland, Israel, Korea and Sweden. The United Kingdom and the United States stand out for spending over USD 2 000 per student on ancillary services in their tertiary institutions.

#### Cumulative expenditure over the expected duration of studies

Policy makers are interested in the relationship between the resources devoted to education and the outcomes of education systems (Box B1.1 in Education at a Glance 2017 [OECD, 2017[2]]). In order to compare the cost of education across countries, it is important to consider not only the yearly expenditure per student, but also the cumulative expenditure for students over the total period they are expected to spend at that educational level. High expenditure per student, for example, might be offset by short programmes or weaker access to education at certain levels. On the other hand, a seemingly inexpensive education system per student can prove to be costly overall, if enrolment is high and students spend more time in school.

Primary and secondary education are usually compulsory across the OECD, and the theoretical cumulative expenditure per student aged between 6 and 15 at these levels shows how much it costs to teach a student on average based on current compulsory education (Figure C1.2 and Table C1.6, available on line). On average across OECD countries, students aged between 6 and 15 adds up to a total cumulative expenditure of around USD 92 000 per student. Theoretical cumulative expenditure on educational institutions per student varies considerably among countries, Austria, Luxembourg, Norway and the United States spend over USD 120 000 per student across those two levels, while the figure is below USD 40 000 in Mexico and Turkey.

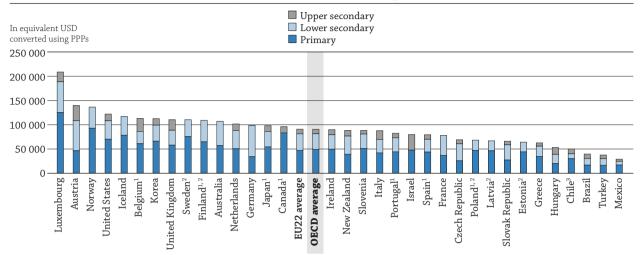
#### Expenditure per student on educational institutions relative to per capita GDP

Expenditure on educational institutions per student relative to GDP per capita is a spending measure that takes into account the relative worth of OECD countries. Since access to education in most OECD countries is universal (and usually compulsory) at the lower levels of schooling, the quotient between the amount spent per student and the per capita GDP can be indicative of whether the resources spent per student are correlated to the country's ability to pay. At higher levels of education, where student enrolments vary sharply among countries, the link is less clear. At tertiary level, for example, OECD countries may rank relatively high on this measure, even when a large proportion of their wealth is spent on educating a relatively small number of students.

C<sub>1</sub>

Figure C1.2. Cumulative expenditure per student on educational institutions between the age of 6 and 15 (2015)

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



Note: Cumulative expenditure per student on educational institutions is calculated using expected years in education.

- 1. Some levels of education are included with others. Refer to "x" code in Table C1.1 for details.
- 2. Includes one year of pre-primary education as part of core education.
- 3. Year of reference 2016.

Countries are ranked in descending order of the total expenditure on educational institutions per student over the theoretical duration of primary and secondary studies between the age of 6 and 15.

Source: OECD/UIS/Eurostat (2018), Table C1.6. See Source section for more information and Annex 3 for notes (http://dx.doi.org/10.1787/eag-2018-36-en).

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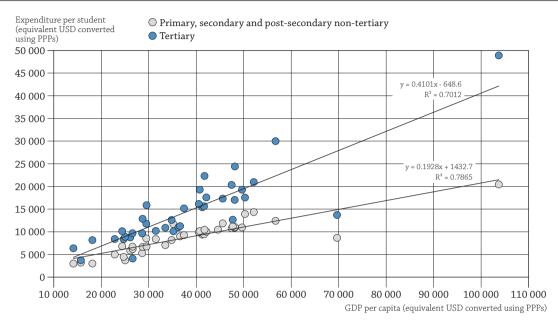
In OECD countries, overall expenditure per student on educational institutions from primary to tertiary levels averages 26% of per capita GDP, broken down into 22% at primary level, 25% at lower secondary level, 26% at upper secondary level, 22% at post-secondary non-tertiary level and 39% at tertiary level (Table C1.4, available on line and Figure C1.3). Countries with low levels of expenditure per student may nonetheless invest relatively higher amounts as a share of per capita GDP. For example, although Latvia's expenditure per student at all educational levels and per capita GDP are both below the OECD average, it spends per student an above-average share of its per capita GDP on each educational level.

The relationship between per capita GDP and expenditure per student on educational institutions is difficult to interpret. However, there is a clear positive relationship between the two at non-tertiary educational levels. In other words, less wealthy countries tend to spend less per student than richer countries. Although the relationship is generally positive at these levels, there are variations, even among countries with similar levels of per capita GDP, and especially in those in which per capita GDP exceeds USD 30 000. Austria and the Netherlands, for example, have similar levels of per capita GDP (around USD 50 000) (see Table X2.1 in Annex 2) but they allocate very different shares of their wealth to primary and secondary education. Austria spends 23% of per capita GDP on primary institutions (above the OECD average of 22%) and 31% on secondary institutions (above the OECD average of 25%), while the Netherlands spends less with 17% at primary level and 26% at secondary level (Table C1.4, available on line and Figure C1.3).

At tertiary level, there is more cross-country variation in spending and in the relationship between countries' relative wealth and their level of tertiary expenditure. Spending by tertiary institutions in Brazil, the Slovak Republic, Sweden, the United Kingdom and the United States represents more than 50% of per capita GDP for each student (Table C1.4, available on line and Figure C1.3). The high share for Sweden, for example, is clearly explained by its extremely high expenditure on R&D, which accounts for over half of total expenditure per student at this level (Table C1.2).

Figure C1.3. Expenditure on educational institutions per student relative to GDP per capita (2015)

Annual expenditure on educational institutions per student versus GDP per capita in equivalent USD converted using PPPs, by level of education



Source: OECD/UIS/Eurostat (2018), Table C1.1 and OECD.Stat. See Source section for more information and Annex 3 for notes (http://dx.doi. org/10.1787/eag-2018-36-en).

StatLink https://doi.org/10.1787/888933804223

#### Changes in expenditure per student on educational institutions between 2010 and 2015

Changes in expenditure on educational institutions largely reflect changes in the size of the school-age population and in teachers' salaries, both of which tend to increase over time. Teachers' salaries, the main component of costs, have increased in the majority of countries over the past decade (see Indicator D3). The size of the school-age population influences both enrolment levels and the amount of resources and organisational effort a country must invest in its education system. The larger this population, the greater the potential demand for education services. Changes in expenditure per student over the years may also vary between levels of education within countries, as both enrolment and expenditure may follow different trends at different levels of education.

Changes in enrolment do not seem to have been the main factor behind changes in expenditure on educational institutions per non-tertiary student. Expenditure by non-tertiary educational institutions increased in most countries by an average of 4% between 2010 and 2015 (Table C1.3). Over the same period, enrolment at those levels decreased slowly, with a total decline of 1% over the five-year period. Falling enrolment together with increasing expenditure resulted in greater expenditure per student at those levels - 5% higher in 2015 than in 2010. Most countries were spending more per student in 2015 than they did in 2010, with the exception of the United States and some European countries that were hard hit by the economic crisis of 2008: Estonia, France, Ireland, Slovenia and Spain. On the other hand, expenditure per student increased significantly between 2010 and 2015 in several countries and by 20% in Chile, 24% in Korea, 30% in Latvia and 22% in the Slovak Republic. In Chile, Korea, Latvia, Poland and the Slovak Republic a decrease in enrolments of more than 5% coincided with significant increases in spending on educational institutions per student between 2010 and 2015. On the contrary, in Ireland, Slovenia and Spain the increase in enrolments was accompanied by a reduction in spending on educational institutions.

Expenditure at tertiary level increased much more quickly than at lower levels of education, rising on average by 12% between 2010 and 2015. This results, in part, from growth in enrolment of 3% over the same period. OECD countries recorded on average an increase of 11% in the expenditure per student over this five-year period. Of the 26 OECD and partner countries with available data, Chile, Finland, France, Germany, Ireland, Israel, Mexico and Spain recorded a decrease in expenditure on tertiary education per student. In most of these countries, the decline was mainly the result of a rapid increase in the number of tertiary students. In countries such as Estonia

and the Slovak Republic, for example, increases in expenditure per student were mainly due to an increase in total expenditure and a decrease in the number of students at tertiary level. However, as is the case in Australia, Belgium, the Netherlands and Norway, large increases in the number of tertiary students do not necessarily lead to a decrease in expenditure per student (Table C1.3).

#### **Definitions**

Ancillary services are services provided on educational institutions that are peripheral to their main educational mission. The main component of ancillary services is student welfare. In primary, secondary and post-secondary non-tertiary education, student welfare services include meals, school health services and transportation to and from school. At the tertiary level, they include residence halls (dormitories), dining halls and health care.

Core educational services include all expenditures that are directly related to instruction in educational institutions, including teachers' salaries, construction and maintenance of school buildings, teaching materials, books and administration of schools.

Research and development includes research performed at universities and other tertiary educational institutions, regardless of whether the research is financed from general institutional funds or through separate grants or contracts from public or private sponsors.

## Methodology

Expenditure per student on educational institutions at a particular level of education is calculated by dividing 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 conversion factor 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 (see Annex 2 for further details).

Expenditure per student on educational institutions relative to per capita GDP is calculated by dividing expenditure per student on educational institutions by the percentage of per capita GDP. 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).

Full-time equivalent student: 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 that he/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 apparent expenditure per full-time equivalent student on educational institutions than OECD countries that cannot differentiate among the different types of student attendance.

Data on subnational regions on how much is spent per student are adjusted using national purchasing power parities (PPPs). Future work on cost of living at subnational level is required to fully adjust expenditure per student used in this section.

For more information please see the OECD Handbook for Internationally Comparative Education Statistics 2018 (OECD, 2018<sub>[3]</sub>) and Annex 3 for country-specific notes (<a href="http://dx.doi.org/10.1787/eag-2018-36-en">http://dx.doi.org/10.1787/eag-2018-36-en</a>).

Lithuania was not an OECD member at the time of preparation of this publication. Accordingly, Lithuania does not appear in the list of OECD members and is not included in the zone aggregates.

#### **Source**

Data refer to the financial year 2015 (unless otherwise specified) and are based on the UNESCO, OECD and Eurostat (UOE) data collection on education statistics administered by the OECD in 2017 (for details see Annex 3 at http:// dx.doi.org/10.1787/eag-2018-36-en). Data from Argentina, China, Colombia, India, Indonesia, Saudi Arabia and South Africa are from the UNESCO Institute of Statistics (UIS).

The data on expenditure for 2005, 2011 to 2015 were updated based on a survey in 2017-18, and expenditures for 2005 to 2014 were adjusted to the methods and definitions used in the current UOE data collection.

Data on subnational regions for selected indicators have been released by the OECD, with the support from the US National Centre for Education Statistics (NCES) and are currently available for four countries: Belgium, Canada, Germany and the Russian Federation. Subnational estimates were provided by countries using national data sources.

#### Note regarding data from Israel

The statistical data for Israel are supplied by and are under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

#### References

- OECD (2018), OECD Handbook for Internationally Comparative Education Statistics 2018: Concepts, Standards, Definitions [3] and Classifications, OECD Publishing, Paris, https://doi.org/10.1787/9789264304444-en.
- OECD (2017), Education at a Glance 2017: OECD Indicators, OECD Publishing, Paris, http://dx.doi.org/10.1787/eag-2017-en.
- OECD/NCES (2018), Education at a Glance Subnational Supplement, OECD/National Center for Education Statistics, Paris and [1] Washington DC, https://nces.ed.gov/surveys/annualreports/oecd/index.asp.

#### **Indicator C1 Tables**

StatLink https://doi.org/10.1787/888933804109												
Table C1.1	otal expenditure on educational institutions per full-time equivalent student (2015)											
Table C1.2	Total expenditure on educational institutions per full-time equivalent student for core educational services, ancillary services and R&D (2015)											
Table C1.3	Change in total expenditure per student on educational institutions (2005, 2011 and 2015)											
WEB Table C1.4	Total expenditure on educational institutions per full-time equivalent student relative to GDP per capita (2015)											
WEB Table C1.5	Total expenditure on educational institutions per full-time equivalent student, by source of funds (2015)											
WEB Table C1.6	Cumulative expenditure per student on educational institutions between ages 6 and 15 (2015)											

Cut-off date for the data: 18 July 2018. Any updates on data can be found on line at http://dx.doi.org/10.1787/eag-data-en. Data can also be found at <a href="http://stats.oecd.org/">http://stats.oecd.org/</a>, Education at a Glance Database.

Table C1.1. Total expenditure on educational institutions per full-time equivalent student (2015)

In equivalent USD converted using PPPs for GDP, direct expenditure within educational institutions, by level of education, based on full-time equivalents

		Secondary									Tertiary				
			À	Upr	er second	ary			lary, lary						ary
		Primary	Lower secondary	General programmes	Vocational programmes	All programmes	All secondary	Post-secondary non-tertiary	Primary, secondary, and post-secondary non-tertiary	Short-cycle tertiary	Long-cycle tertiary	All tertiary	All tertiary (excluding R&D)	Primary to tertiary	Primary to tertiary (excluding R&D)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
8	Australia	9 546	12 466	12 826	9 328	12 028	12 303	9 343	10 766	21 290	20 122	20 344	14 159	12 829	11 497
OECD	Austria	11 689	15 514	13 514	16 696	15 432	15 477	4 876	13 931	16 700	17 718	17 555	13 138	15 043	13 688
	Belgium	10 211	12 538	13 138 <sup>d</sup>	13 497 <sup>d</sup>	13 352 <sup>d</sup>	13 070 <sup>d</sup>	x(3, 4, 5, 6)	11 856	11 577	17 538	17 320	11 627	12 900	11 812
	Canada <sup>1</sup>	9 249 <sup>d</sup>	x(1)	x(5)	x(5)	12 900	12 900	x(8)	10 468 <sup>d</sup>	m	m	m	m	m	m
	Chile <sup>2</sup>	5 064	4 974	4 852	5 054	4 909	4 930	a	4 996	4 103	10 164	8 406	8 067	5 986	5 888
	Czech Republic	5 207	8 714	7 368	8 566	8 251	8 476	2 399	7 075	18 635	10 870	10 891	6 365	7 919	6 918
	Denmark Estonia	m 6 327	m 6 614	m 6 514	m 8 048	m 7 090	m 6 861	m 7 929	m 6 663	m a	m 12 867	m 12 867	m 8 404	m 8 133	m 7 076
	Finland	9 3 0 5	14 682	8 425	8 587 <sup>d</sup>	8 543 <sup>d</sup>	10 482 <sup>d</sup>	x(4, 5, 6)	10 025	a	17 591	17 591	10 391	11 518	10 098
	France	7 395	10 268	13 131	14 963	13 799	11 747	9 286	9 897	14 093	16 805	16 145	10 638	11 106	10 030
	Germany	8 619	10 680	11 423	15 943	13 652	11 791	10 736	10 863	10 149	17 036	17 036	10 018	12 139	10 689
	Greece	5 810	7 099	5 678	8 513	6 490	6 786	m	6 191	a	4 095	4 095	2 601	5 470	4 957
	Hungary	5 089	4 711	6 110	9 794	6 966	5 870	12 301	5 852	4 102	8 952	8 761	7 068	6 346	6 058
	Iceland	11 215	12 872	8 142	14 821	10 023	11 149	13 860	11 207	8 918	12 754	12 671	x(11)	11 499	x(13)
	Ireland	8 288	9 983	10 259	a	10 259	10 111	m	8 671	x(11)	x(11)	13 229	9 747	9 439	8 852
	Israel	7 971	x(3, 4, 5)	6 025 <sup>d</sup>	15 400 <sup>d</sup>	7 987 <sup>d</sup>	7 987 <sup>d</sup>	m	m	5 267	13 865	11 003	7 109	m	m
	Italy	8 426	9 258	x(5)	x(5)	8 969	9 079	m	8 831	4 120	11 285	11 257	7 352	9 308	8 539
	Japan	9 105	10 562	x(5)	x(5)	11 715 <sup>d</sup>	11 147 <sup>d</sup>	x(5, 6, 9, 10, 11)	10 167	13 806 <sup>d</sup>	20 758 <sup>d</sup>	19 289 <sup>d</sup>	x(11)	12 120	x(13)
	Korea	11 047	11 025	x(5)	x(5)	13 247	12 202	a	11 688	5 817	11 310	10 109	8 141	11 143	10 464
	Latvia	6 672	6 723	7 049	7 233	7 123	6 930	8 235	6 824	10 693	10 046	10 137	8 208	7 595	7 146
	Luxembourg Mexico	20 892 2 874	21 124 2 514	18 580 4 098	20 587 4 429	19 808 4 224	20 413 3 129	1 588	20 451	24 769	51 625	48 907 8 170	41 905 6 404	22 430 3 611	21 943
	Netherlands	8 478	12 491	10 329	14 698	13 241	12 850	a 12 655	10 960	x(11) 10 543	x(11) 19 323	19 286	12 107	12 730	x(13) 11 204
	New Zealand	7 849	9 409	11 206	12 544	11 509	10 383	9 990	9 266	11 494	16 015	15 166	12 207	10 392	x(13)
	Norway	13 275	14 486	16 429	15 768	16 095	15 401	16 962	14 353	16 399	21 129	20 973	12 363	15 705	13 947
	Poland	6 757	6 985	5 775	7 346	6 655	6 806	4 424	6 725	16 373	9 678	9 687	7 647	7 400	6 935
	Portugal	7 380	9 568	x(5)	x(5)	9 469 <sup>d</sup>	9 518 <sup>d</sup>	x(5, 6, 11)	8 533	x(11)	x(11)	11 766 <sup>d</sup>	7 477 <sup>d</sup>	9 153	8 331
	Slovak Republic	6 877	6 282	6 069	7 658	7 092	6 660	7 774	6 747	8 263	15 998	15 874	9 845	8 477	7 334
	Slovenia	8 542	9 925	7 971	6 846	7 230	8 290	a	8 406	3 129	11 140	10 208	8 075	8 778	8 338
	Spain	7 3 2 0	8 765	8 716	10 408 <sup>d</sup>	9 269 <sup>d</sup>	9 020 <sup>d</sup>	x(4, 5, 6)	8 189	9 088	13 487	12 605	9 328	9 130	8 432
	Sweden	10 853	11 493	7 749	16 873	11 331	11 402	5 102	11 052	6 777	25 889	24 417	11 297	13 289	11 093
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey United Kingdom	4 134 11 630	3 491 10 249	3 175 11 660	3 919 9 440	3 528 10 798	3 511 10 569	a a	3 715 11 028	x(11) 8 421	x(11) 27 931	8 901 26 320	7 018	4 652 13 355	4 312 12 473
	United States	11 727	12 693	x(5)	x(5)	13 474	13 084	14 294	12 424	x(11)	x(11)	30 003	26 817	16 518	15 776
	OECD average	8 631	9 941 10 175	9 119	11 037	10 196	10 010 10 105	8 927	9 401	11 022	16 518	15 656	11 202	10 520	9 772
_	EU22 average	8 656	10 175	9 445	11 428	10 230	10 105	m	9 465	11 090	16 835	15 998	11 132	10 555	9 617
ers	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Partn	Brazil	3 762	3 789	x(5)	x(5)	3 986 <sup>d</sup>	3 872 <sup>d</sup>	x(5, 6)	3 829	x(11)	x(11)	14 261	x(11)	4 451	x(13)
ď	China Colombia <sup>2</sup>	m	m 2.000	m (5)	m (5)	m n Eocd	m	m (5 6)	m	m (11)	m (11)	m	m (11)	m	m (12)
	Costa Rica	3 178 m	2 909 m	x(5) m	x(5) m	2 586 <sup>d</sup> m	2 817 <sup>d</sup>	x(5, 6) m	2 987 m	x(11) m	x(11) m	6 369 m	x(11) m	3 683 m	x(13) m
	India	m	m	m	m	m	m m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Lithuania	5 500	5 135	5 244	5 484	5 310	5 188	5 483	5 292	a	9 657	9 657	6 457	6 393	5 585
	Russian Federation	x(8)	x(8)	x(8)	x(8)	x(8)	x(8)	x(8)	4 473 <sup>d</sup>	4 249	9 554	8 369	7 527	5 409	x(13)
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: See Definitions and Methodology sections for more information. Data and more breakdowns available at http://stats.oecd.org/, Education at a Glance Database. 1. Primary education includes data from pre-primary and lower secondary education.

Source: OECD/UIS/Eurostat (2018). See Source section for more information and Annex 3 for notes (http://dx.doi.org/10.1787/eag-2018-36-en).

 $Please\ refer\ to\ the\ Reader's\ Guide\ for\ information\ concerning\ symbols\ for\ missing\ data\ and\ abbreviations.$ 

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<sup>2.</sup> Year of reference 2016.

Table C1.2. Total expenditure on educational institutions per full-time equivalent student for core educational services, ancillary services and R&D (2015)

In equivalent USD converted using PPPs for GDP, direct expenditure within educational institutions, by level of education, based on full-time equivalents

					<u>-</u>											
			ry, seconda ondary nor				Tertiary			Primary to tertiary						
		Core services	Ancillary services	All services	Core services	Ancillary services	R&D	All services	All services excluding R&D	Core services	Ancillary services	R&D	All services	All services excluding R&D		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)		
8	Australia	10 541	225	10 766	13 370	788	6 186	20 344	14 159	11 151	347	1 332	12 829	11 497		
Ö	Austria	13 261	670	13 931	12 963	175	4 417	17 555	13 138	13 169	518	1 355	15 043	13 688		
	Belgium	11 452	404	11 856	10 654	973	5 693	17 320	11 627	11 299	513	1 088	12 900	11 812		
	Canada <sup>1</sup>	x(3)	x(3)	10 468	m	m	m	m	m	m	m	m	m	m		
	Chile <sup>2</sup>	x(3)	x(3)	4 996	7 961	106	339	8 406	8 067	x(12)	x(12)	98	5 986	5 888		
	Czech Republic	6 624	451	7 075	6 287	78	4 526	10 891	6 365	6 550	368	1 001	7 919	6 918		
	Denmark	m	m	m	m	m	m	m	m	m	m	m	m	m		
	Estonia	6 567	96	6 663	8 401	3	4 463	12 867	8 404	7 002	74	1 057	8 133	7 076		
	Finland	9 023	1 003	10 025	10 391	0	7 200	17 591	10 391	10 098	0	1 420	11 518	10 098		
	France	8 643	1 254	9 897	9 870	768	5 507	16 145	10 638	8 881	1 160	1 065	11 106	10 040		
	Germany	10 573	290	10 863	9 137	880	7 018	17 036	10 018	10 276	412	1 450	12 139	10 689		
	Greece	x(3)	x(3)	6 191	x(7)	x(7)	1 493	4 095	2 601	x(12)	x(12)	513	5 470	4 957		
	Hungary	5 193	658	5 852	6 452	615	1 694	8 761	7 068	5 407	651	288	6 346	6 058		
	Iceland	10 971	236	11 207	12 671	0	0	12 671	12 671	11 310	189	0	11 499	11 499		
	Ireland	x(3)	x(3)	8 671	9 747	a	3 483	13 229	9 747	x(12)	x(12)	586	9 439	8 852		
	Israel	m	m	m	7 069	40	3 894	11 003	7 109	m	m	m	m	m		
	Italy <sup>3</sup>	8 452	378	8 831	6 945	406	3 906	11 257	7 352	8 156	384	769	9 308	8 539		
	Japan	x(3, 7)	x(3, 7)	10 167	x(7)	x(7)	x(7)	19 289 <sup>d</sup>	x(7)	x(12)	x(12)	x(12)	12 120	x(12)		
	Korea	10 751	938	11 688	8 054	86	1 968	10 109	8 141	9 820	644	679	11 143	10 464		
	Latvia	6 714	110	6 824	8 080	128	1 928	10 137	8 208	7 032	114	449	7 595	7 146		
	Luxembourg	19 571	880	20 451	40 800	1 105	7 002	48 907	41 905	21 048	896	487	22 430	21 943		
	Mexico	x(3)	x(3)	2 998	x(7)	x(7)	1 766	8 170	6 404	x(12)	x(12)	x(12)	3 611	x(12)		
	Netherlands	10 960	a	10 960	12 107	a	7 179	19 286	12 107	11 204	a	1 526	12 730	11 204		
	New Zealand	x(3)	x(3)	9 266	x(7)	x(7)	2 959	15 166	12 207	x(12)	x(12)	x(12)	10 392	x(12)		
	Norway	13 850	503	14 353	12 120	243	8 610	20 973	12 363	13 497	450	1 759	15 705	13 947		
	Poland	6 551	175	6 725	7 437	210	2 040	9 687	7 647	6 752	183	465	7 400	6 935		
	Portugal	7 974	560	8 533	6 868 <sup>d</sup>	608 <sup>d</sup>	4 289 <sup>d</sup>	11 766 <sup>d</sup>	7477 <sup>d</sup>	7 762	569	822	9 153	8 331		
	Slovak Republic	5 822	925	6 747	7 990	1 855	6 029	15 874	9 845	6 233	1 101	1 142	8 477	7 334		
	Slovenia	7 719	687	8 406	7 755	320	2 133	10 208	8 075	7 727	611	440	8 778	8 338		
	Spain Sweden	7 564 9 888	625 1 165	8 189 11 052	8 807 11 297	521 0	3 278 13 120	12 605 24 417	9 328	7 828 10 124	603 970	698 2 196	9 130 13 289	8 432 11 093		
	Switzerland						14 282					2 679				
		m 3 426	m 289	m 3 715	m 6 296	m 722	1 882	m 8 901	7 018	m 3 944	m 367	340	m 4 652	m 4 312		
	Turkey	9 871		11 028		2 096	5 794	26 320	20 526	11 173	1 300	882				
	United Kingdom	11 410	1 157 1 014		18 429	3 370	3 186	30 003	26 817		1 563	742	13 355	12 473 15 776		
	United States	11410	1 014	12 424	23 448	3370	3 100	30 003	20 017	14 213	1 303	742	16 518	13 / / 6		
	OECD average EU22 average	8 822 8 843	579 622	9 401 9 465	10 654 10 696	593 579	4 409 4 723	15 656 15 998	11 249 11 132	9 086 9 082	548 562	886 911	10 520 10 555	9 834 9 617		
	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m		
Partners	Brazil	x(3)	x(3)	3 829	x(7)	x(7)	x(7)	14 261	x(7)	x(12)	x(12)	x(12)	4 451	x(12)		
art	China	m	m	m	m	m	m	m	m m	m m	m	m	m	m		
-	Colombia <sup>2</sup>	x(3)	x(3)	2 987	x(7)	x(7)	x(7)	6 369	x(7)	x(12)	x(12)	x(12)	3 683	x(12)		
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m m	m	m		
	India	m	m	m	m	m	m	m	m	m	m	m	m	m		
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m		
	Lithuania	5 041	250	5 292	5 795	662	3 200	9 657	6 457	5 232	354	807	6 393	5 585		
	Russian Federation	x(3)	x(3)	4 473 <sup>d</sup>	x(7)	x(7)	842	8 369	7 527	x(12)	x(12)	x(12)	5 409	x(12)		
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m		
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m		
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m		

Note: Data on early childhood education are available in Indicator B2. See Definitions and Methodology sections for more information. Data and more breakdowns available at <a href="http://stats.oecd.org/">http://stats.oecd.org/</a>, Education at a Glance Database.

 $\textbf{Source:} \ OBCD/UIS/Eurostat\ (2018). \ See \textit{Source} \ section\ for\ more\ information\ and\ Annex\ 3\ for\ notes\ (\underline{http://dx.doi.org/10.1787/eag-2018-36-en}).$ 

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

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 $<sup>1.\</sup> Primary\ education\ includes\ data\ from\ pre-primary\ and\ lower\ secondary\ education.$ 

<sup>2.</sup> Year of reference 2016.

<sup>3.</sup> Data from post-secondary non-tertiary is excluded from the computations.

Table C1.3. Change in total expenditure per student on educational institutions (2005, 2011 and 2015)

Index of change (GDP deflator 2010 = 100, constant prices)

		Primary, secondary and post-secondary non-tertiary  Tertiary																	
		Change in total expenditure (2010=100)								,									
					Change in number of students (2010=100)			pe	in exper er studer 010=10	nt	Change in total expenditure (2010=100)			Change in number of students (2010=100)			Change in expenditure per student (2010=100)		
		2005	(2)	<b>2015</b> (3)	2005	(5)	2015	2005	2011	2015	2005	2011	2015 (12)	2005	2011	2015	2005	2011	2015
9	Australia	76	98	104	99	102	103	76	96	100	79	102	144	80	103	120	99	99	120
OE	Austria	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Belgium	88	101	105	105	100	103	84	101	102	83	102	113	90	103	113	93	99	100
	Canada <sup>1</sup>	83 <sup>d</sup>	98 <sup>d</sup>	104 <sup>d</sup>	m	99 <sup>d</sup>	104 <sup>d</sup>	m	99 <sup>d</sup>	$100^{\rm d}$	83	97	104	m	m	m	m	m	m
	Chile <sup>2</sup>	88	104	113	108	98	94	82	106	120	70	111	108	67	107	124	104	103	87
	Czech Republic	91	103	107	113	98	97	81	105	110	72	117	107	76	101	87	95	116	122
	Denmark	92	92	m	95	105	m	97	88	m	90	102	m	93	94	m	97	109	m
	Estonia	92	93	93	118	98	95	78	95	98	74	114	135	100	100	78	75	113	174
	Finland	90	101	101	100	99	99	89	102	102	86	104	94	101	101	101	85	103	92
	France	94	99	100	100	100	102	94	98	97	85	101	105	98	101	108	86	100	97
	Germany	93	100	98	106	98	93	88	101	105	80	104	111	93	105	126	86	99	88
	Greece	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Hungary	m	m	m	107	99	92	m	m	m	m	m	m	114	107	88	m	m	m
	Iceland	107	103	112	99	100	98	108	103	114	98	97	126	86	103	99	115	94	127
	Ireland	70	100	85	93	101	109	75 83	99	78	72	98	79	98 84	100	113	73 99	98	71 93
	Israel	76 103	111 96	135 99	92 98	102 101	m 99	105	109 95	m 100	83 89	111 102	113 93	102	101 99	122 92	88	110 103	101
	Italy	97	100	100	104	99	96	92	101	100	92 <sup>d</sup>	102 104 <sup>d</sup>	100 <sup>d</sup>	102 104 <sup>d</sup>	100 <sup>d</sup>	99d	88 <sup>d</sup>	103 104 <sup>d</sup>	101 101 <sup>d</sup>
	Japan Korea	71	103	105	104	97	84	66	101	124	m	m	m	98	100	98	m	m	m
	Latvia	100	96	118	129	96	91	78	100	130	105	116	131	119	95	84	89	123	156
	Luxembourg	m	96	98	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Mexico	91	104	115	95	101	105	96	103	109	79	96	121	86	105	130	92	92	93
	Netherlands	88	99	99	98	100	97	90	99	102	84	104	111	84	103	110	100	101	101
	New Zealand	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Norway	91	95	109	98	101	102	93	94	107	m	97	122	94	103	114	m	94	107
	Poland	82	98	105	120	98	94	68	101	111	85	93	109	106	98	87	80	95	125
	Portugal	93	94	101	m	m	m	m	m	m	88	94	88 <sup>d</sup>	80	101	85 <sup>d</sup>	110	93	104 <sup>d</sup>
	Slovak Republic	74	93	108	118	97	89	63	96	122	78	111	197	81	98	94	97	113	210
	Slovenia	97	98	87	111	99	101	88	99	87	93	104	85	96	98	83	96	106	101
	Spain	84	98	95	95	101	106	88	96	89	79	98	97	90	103	111	88	95	87
	Sweden	98	100	107	110	99	106	89	101	101	86	102	108	97	103	99	89	99	109
	Switzerland	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Turkey	m	m	m	m	110	115	m	m	m	m	m	m	m	m	m	m	m	m
	United Kingdom	92	102	114	100	101	106	92	101	108	m	m	m	95	105	111	m	m	m
	United States	92	98	100	101	101	103	91	97	97	86	104	107	85	104	99	101	100	107
	OECD average EU22 average	89 90	99 98	104 101	104 106	100 100	99 99	86 85	100 99	105 102	84 84	103 104	112 110	93 95	102 101	103 98	93 90	102 104	111 115
r.	Argentina	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
rtners	Brazil	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Par	China	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Colombia <sup>2</sup>	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Costa Rica	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	India	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Lithuania	m	94	87	126	95	83	m	100	105	78	119	111	102	98	92	76	121	121
	Russian Federation	77	104	110 <sup>d</sup>	m	m	m	m	m	m	43	93	86	m	94	77	m	99	111
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	South Africa	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	G20 average	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

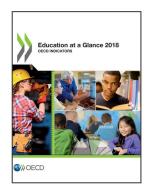
Note: See Definitions and Methodology sections for more information. Data and more breakdowns available at <a href="http://stats.oecd.org/">http://stats.oecd.org/</a>, Education at a Glance Database.

 $\textbf{Source:} \ OBCD/UIS/Eurostat\ (2018). \ See \textit{Source} \ section\ for\ more\ information\ and\ Annex\ 3\ for\ notes\ (\underline{http://dx.doi.org/10.1787/eag-2018-36-en}).$  $Please\ refer\ to\ the\ Reader's\ Guide\ for\ information\ concerning\ symbols\ for\ missing\ data\ and\ abbreviations.$ 

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<sup>1.</sup> Primary education includes data from pre-primary and lower secondary education.

<sup>2.</sup> Year of reference 2016.



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