Spending on tertiary education in Europe in 2002

Statistics in focus

POPULATION AND SOCIAL CONDITIONS

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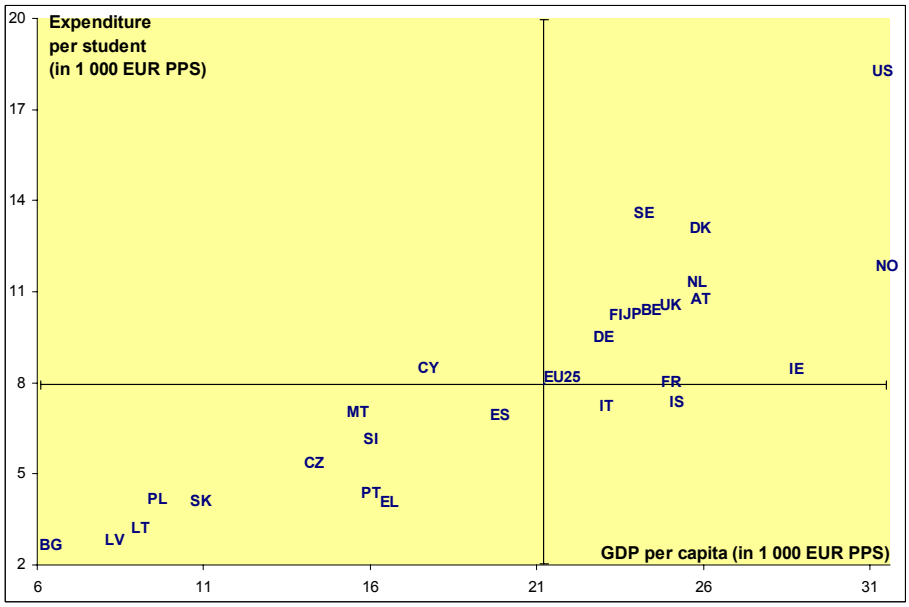
Expenditure per student in tertiary education generally increases relative to country's wealth

The amount spent per student at the tertiary level of education usually increases with the level of wealth of a country. This is illustrated in chart 1.

Chart 1: Expenditure per student in comparison to GDP per capita



Source: Eurostat, Education statistics, National Accounts

Countries with a below average GDP per capita also tend to spent less than average per student at the tertiary level of education. All new Member States except Cyprus spent less than the EU25 average per student at the tertiary level of education.

Most countries with a GDP per capita higher than 21,200 EUR PPS, spent more than average per student at the tertiary level of education.

To better compare the efforts made by those (governments, participants, households, private firms and non-profit organisations etc.) funding tertiary education when the levels of wealth of countries is very different, the indicator expenditure per student compared to GDP per capita is used, as it takes countries´ relative wealth into account.

In Europe 37.1% of GDP per capita is spent per student at the tertiary level of education compared to 43.9% in Japan and 57.8% in the United States (see table 1).

Table 1: Expenditure per student in tertiary institutions (in EUR PPS, compared to GDP per capita)

country	in EUR PPS	compared to GDP per capita
EU25	**7,945.9**	**37.1**
BE	10,377.0	42.0
CZ	5,383.6	37.6
DK	13,108.6	50.5
DE	9,496.2	41.4
EL	4,084.2	24.9
ES	6,924.9	34.7
FR	8,009.4	32.0
IE	8,469.1	29.4
IT	7,226.3	31.3
CY	8,487.3	48.0
LV	2,828.8	33.9
LT	3,199.0	35.0
MT	7,048.0	45.1
NL	11,310.9	43.9
AT	10,747.2	41.4
PL	4,173.8	43.4
PT	4,328.8	26.7
SI	6,138.2	38.2
SK	4,106.0	37.7
FI	10,160.0	43.2
SE	13,568.0	56.1
UK	10,429.8	42.7
IS	7,371.1	29.3
LI	17,653.7	29.2
NO	11,861.6	37.7
BG	2,744.7	44.9
US	18,260.1	57.8
JP	10,253.3	43.9

Source: Eurostat, Education statistics

Countries with different levels of GDP per capita can invest similar amounts per student at the tertiary level of education. This is the case for Poland (GDP per capita of 9,600 EUR PPS) with 43.4% and Finland (GDP per capita of 23,500 EUR PPS) with 43.2%.

With over 7.5 percentage points more than the EU25 average Denmark, Cyprus, Malta, Sweden, Bulgaria and the United States all invest considerably more than the EU25. On the other hand, Greece and Portugal invest over 10 percentage points less than average.

Salaries and R&D performed in tertiary institutions are important determinants of total expenditure per student

Total expenditure per student is influenced by many different determinants, such as the duration of tertiary programmes, the degree structure (short/long degrees), the intensity of study (full or part-time), the level of resources, but also what tertiary educational institutions offer in addition to instruction (e.g. ancillary services like meals or housing, R&D activities performed in tertiary educational institutions).

The total expenditure per student at the tertiary level of education shows direct public and private expenditure on tertiary educational institutions in relation to full-time equivalent students enrolled in these institutions.

If broken down by function, expenditure per student at the tertiary level is on average made up of 5,849.5 EUR PPS for educational core services (73.6% of total expenditure), 1,963.6 for R&D activities (24.7%) and 132.9 for ancillary services (1.7%).

Expenditure per student on R&D activities performed in tertiary educational institutions varies markedly and depends on both total R&D expenditure and the national infrastructure for R&D activities. Cyprus, Lithuania, Malta, Slovakia, Liechtenstein and Bulgaria spent less than 10% of total expenditure on tertiary institutions on R&D activities whilst Germany, the Netherlands, Austria, Finland and Sweden all spent over 35%. Expenditure per tertiary student for ancillary services exceeds 500 EUR PPS in the Czech Republic, France and Slovakia.

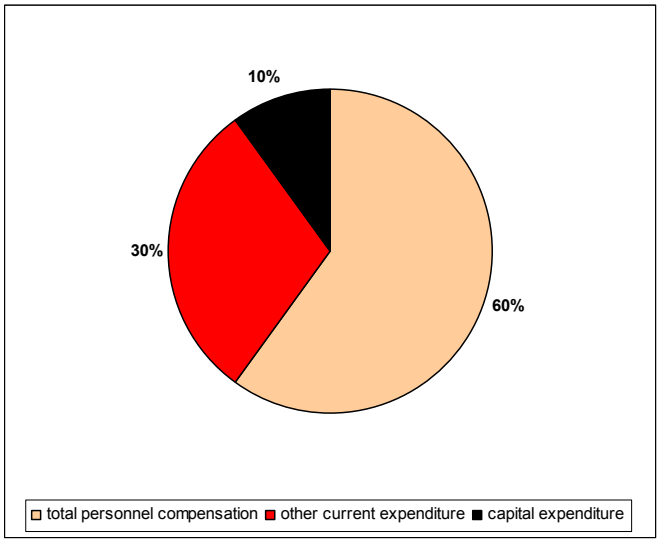
Table 2: Expenditure per pupil/student by function, at tertiary level of education in EUR PPS

country	Total	of which:		
		Educational core services	R&D	Ancillary services
EU25	**7,945.9**	**5,849.5**	**1,963.6**	**132.9**
BE	10,377.0	6,878.4	3,208.9	289.6
CZ	5,383.6	3,719.6	1,099.0	565.0
DK	13,108.6	10,018.8	3,089.8	:
DE	9,496.2	5,674.0	3,783.4	38.7
EL	4,084.2	3,476.0	608.2	:
ES	6,924.9	5,206.5	1,718.4	0.0
FR	8,009.4	5,803.3	1,704.6	501.5
IE	8,469.1	6,770.5	1,698.6	0.0
IT	7,226.3	6,990.9	:	235.4
CY	8,487.3	7,662.2	769.0	56.1
LV	2,828.8	2,439.2	389.5	:
LT	3,199.0	3,006.2	192.8	:
MT	7,048.0	6,814.3	182.3	51.4
NL	11,310.9	6,859.6	4,449.0	2.3
AT	10,747.2	6,717.6	4,029.6	0.0
PL	4,173.8	3,625.4	544.2	4.2
PT	4,328.8	4,328.8	:	:
SI	6,138.2	4,956.6	1,121.6	60.0
SK	4,106.0	3,154.6	301.3	650.0
FI	10,160.0	6,327.6	3,829.8	2.6
SE	13,568.0	6,762.1	6,805.9	0.0
UK	10,429.8	7,909.8	2,520.1	:
LI	17,653.7	16,609.6	1,044.2	:
BG	2,744.7	2,509.8	122.9	112.0
US	18,260.1	16,263.9	1,996.2	:

Source: Eurostat, Education statistics

Large variations in the level of salaries paid to academic staff may be another key determinant that explains the very significant differences in total expenditure per student between countries, as total personnel compensation accounts for around 60% of total expenditure per student at the tertiary level of education. Other current expenditure (e.g. maintenance of buildings) amounts to 30% and capital expenditure (construction of buildings, provision of equipment) to 10%.

Chart 2: breakdown of total expenditure by resource category in EU25 at tertiary level of education

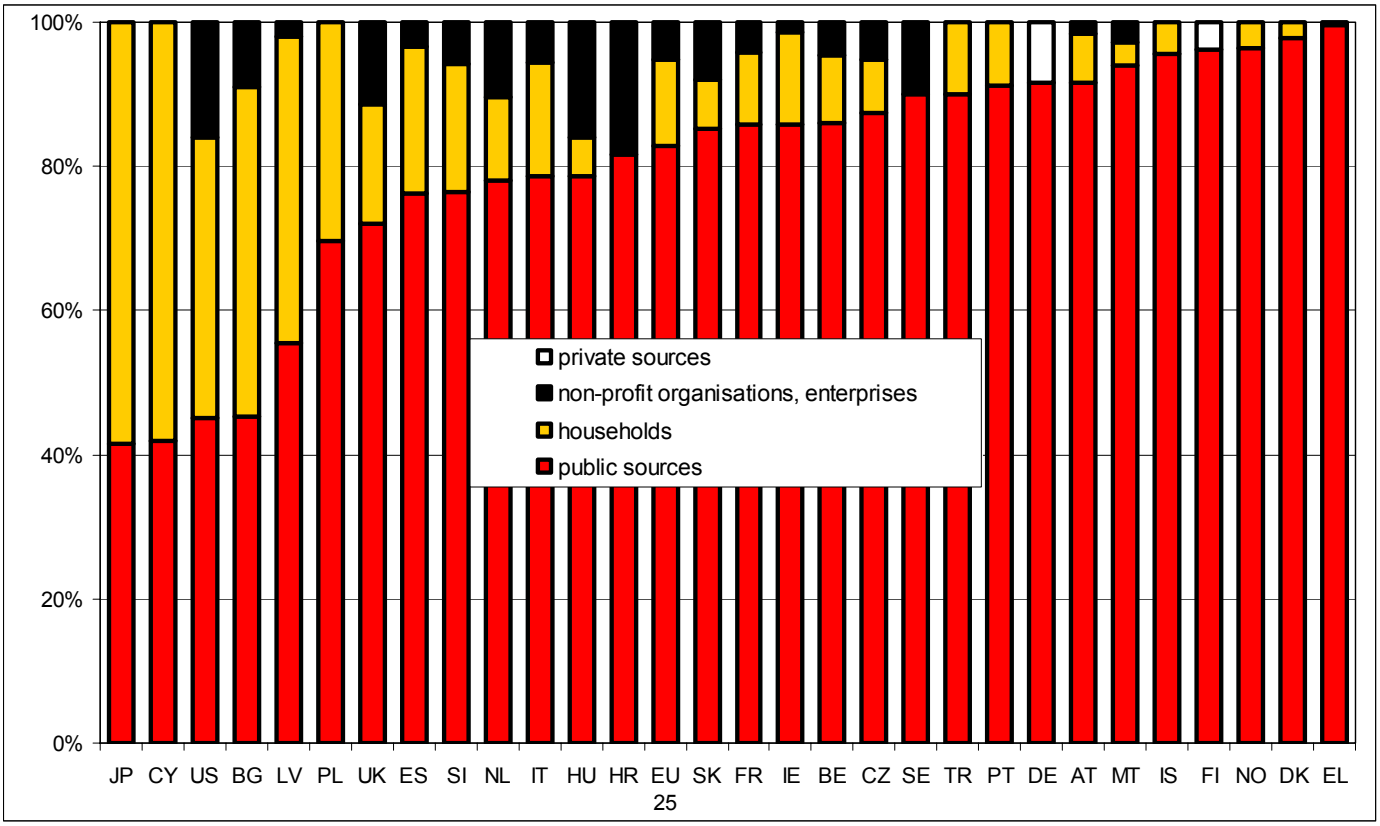


Source: Eurostat, Education statistics

In many countries in which households contribute significantly to the funding of education, governments offer considerable support to households via financial aid to students

The final public and private proportions are the percentages of educational funds spent directly by public and private purchasers of educational services. The final private funds include public transfers actors in the private sector may have received.

Chart 3: relative proportions of public private spending on educational institutions, at tertiary level of education



Source: Eurostat, Education statistics

On average in Europe, 82.8% of tertiary educational institutions´ resources come from public sources, 12.1% from households, and 5.1% from non-profit organisations and enterprises.

In Hungary, the Netherlands, Sweden, the United Kingdom, Croatia and the United States over 10% of tertiary educational institutions funds come from non-profit organisations and enterprises, to finance in general certain R&D activities performed in tertiary educational institutions.

The amounts paid by students and their families to cover tuition fees and other education related expenditure vary across countries and are shown under the relative proportion of household's spending on tertiary educational institutions. They account for less than 5% in Denmark, Greece, Malta, Finland, Sweden, Iceland and Norway whilst they exceed 20% in Spain, Cyprus, Latvia, Poland, Bulgaria, Japan and the United States. However, in many countries in which households contribute significantly to the funding of education governments offer considerable support to households via financial aid to students. Cyprus, Latvia, the United Kingdom, Japan and the United States fall under this pattern. In all these countries households contribute over 15% to the funding of tertiary educational institutions (see chart 3), but receive at the same time over 15% of total expenditure on education spent by public authorities as financial aid to students[1] (see table 3).

Countries have at their disposal different investment schemes to fund tertiary education as they can use direct spending by transferring funds directly to tertiary educational institutions or indirect spending by subsidising student living costs or payments of tuition fees of students enrolled in tertiary educational programmes or a combination thereof. The distribution of total public expenditure on tertiary education by type of transactions is illustrated in table 3.

Public authorities in the Czech Republic, Greece, Spain, France, Poland, Portugal and Switzerland attribute more than 90% of total public expenditure on tertiary education directly to educational institutions.

[1] *The indicators illustrated in chart 3 and table 3 rely on two different concepts. Chart 3 shows the final funds spent by different sectors of the economy on tertiary educational institutions whilst table 3 describes the transactions made by public authorities in form of direct or indirect expenditure.*

Table 3: distribution of total public expenditure on tertiary education by type of transaction

country	Direct public expenditure to educational institutions	Indirect public expenditure on education					
		Financial aid to students					
		scholarships and other grants to households					
		Total	of which: attributable for educational institutions	Student loans	Total	Transfers to non-profit organisations and enterprises	Total
EU25	**83.6**	**10.3**	**1.3**	**5.8**	**16.1**	**0.3**	**16.4**
BE	84.9	15.1	4.1	0.0	15.1	0.0	15.1
CZ	93.0	7.0	:	-	7.0	0.0	7.0
DK	68.7	26.2	:	5.1	31.3	0.0	31.3
DE	83.4	12.7	-	3.9	16.6	0.0	16.6
EE	82.5	7.8	-	-	7.8	9.8	17.5
EL	94.5	5.5	:	:	5.5	-	5.5
ES	92.1	7.9	2.6	-	7.9	0.0	7.9
FR	91.3	8.7	2.5	-	8.7	-	8.7
IE	87.7	12.3	:	-	12.3	0.0	12.3
IT	84.2	15.8	4.5	0.0	15.8	0.0	15.8
CY	47.5	39.6	9.2	12.9	52.5	0.0	52.5
LV	80.1	12.2	:	7.7	19.9	0.0	19.9
LT	88.1	10.1	:	1.5	11.7	0.2	11.9
HU	77.6	13.2	-	9.1	22.4	0.0	22.4
MT	74.8	25.2	:	-	25.2	0.0	25.2
NL	77.7	8.4	1.3	13.8	22.3	0.0	22.3
AT	79.8	15.4	:	-	15.4	4.8	20.2
PL	96.4	0.4	:	-	0.4	3.2	3.6
PT	92.8	4.9	:	-	4.9	2.3	7.2
SI	74.2	25.3	:	-	25.3	0.5	25.8
SK	82.5	15.8	-	1.7	17.5	0.0	17.5
FI	81.5	17.8	-	-	17.8	0.8	18.5
SE	70.7	10.7	:	18.6	29.3	-	29.3
UK	76.1	1.6	0.6	22.4	23.9	0.0	23.9
BG	88.8	11.2	0.0	0.0	11.2	0.0	11.2
HR	58.0	:	:	:	:	42.0	42.0
RO	67.1	8.3	-	-	8.3	0.0	32.9
TR	87.4	4.2	0.0	8.4	12.6	0.0	12.6
IS	88.8	-	-	21.0	21.0	0.0	11.2
NO	67.1	11.6	0.0	21.2	32.9	0.0	32.9
CH	97.4	0.7	0.0	0.0	0.7	1.9	2.6
US	84.5	13.8	:	1.7	15.5	-	15.5
JP	83.7	1.1	-	15.1	16.3	0.0	16.3

Source: Eurostat, Education statistics

Financial aid to students accounts for 16.1% of total public expenditure on average in Europe. It is proportionally highest in Cyprus (52.5% of total public expenditure on tertiary education), but proportionally less than half the EU25 average in the Czech Republic, Estonia, Greece, Spain, Poland, Portugal and Switzerland.

Most countries offer scholarships and other grants or a combination of scholarships and other grants and student loans. The Netherlands, Sweden, the United Kingdom, Norway, Turkey and Japan offer a higher volume of student loans than of scholarships and other grants. In the United Kingdom, Iceland and Norway student loans[2] account for over 20% of total public expenditure on tertiary education.

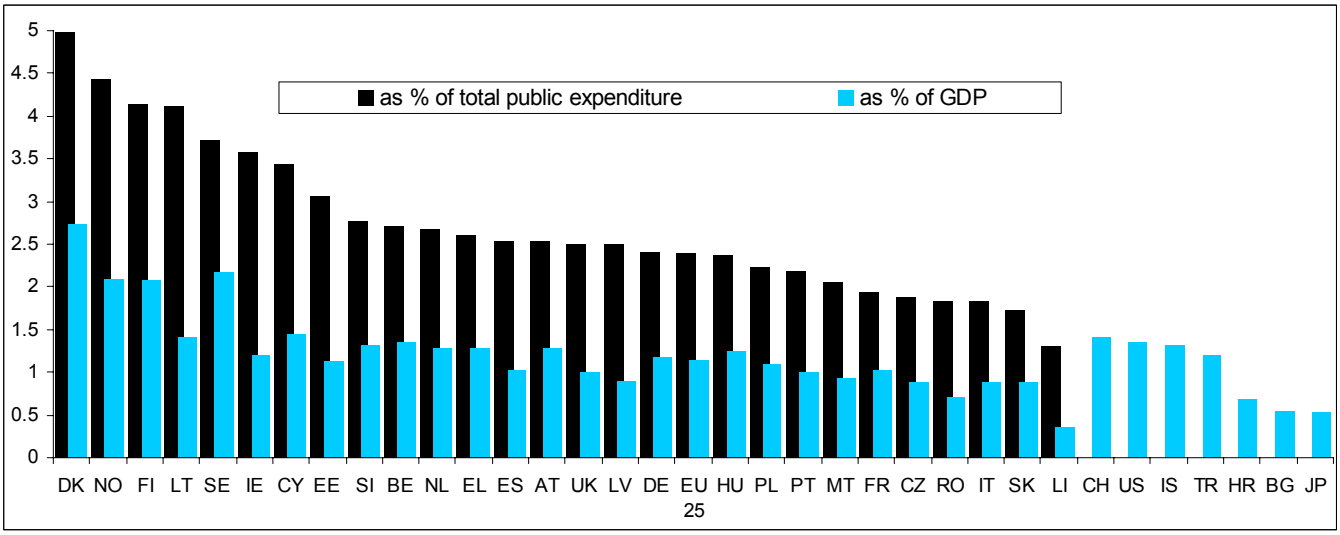
1.1% of GDP or 2.4% of total public expenditure is spent on tertiary education in Europe

Total public expenditure on education includes expenditure on educational institutions from public sources (i.e. direct public expenditure) and public subsidies to the private sector (i.e. indirect public expenditure). In fact, the public sector generally funds education either by bearing directly the current and capital expenses of educational institutions or by supporting students and their families with scholarships, public loans or child allowances contingent on student status as well as by transferring public subsidies for educational activities to non-profit organisations and enterprises. Denmark had total public expenditure on tertiary education twice as high as the European average both compared to GDP and to total public expenditure. Public authorities in Finland, Sweden and Norway also spent over 2% of GDP for tertiary educational institutions.

In terms of total public expenditure, the Czech Republic, Italy, Slovakia, Romania and Liechtenstein all spent 0.5 percentage points less than the EU25 average on total public expenditure on tertiary education.

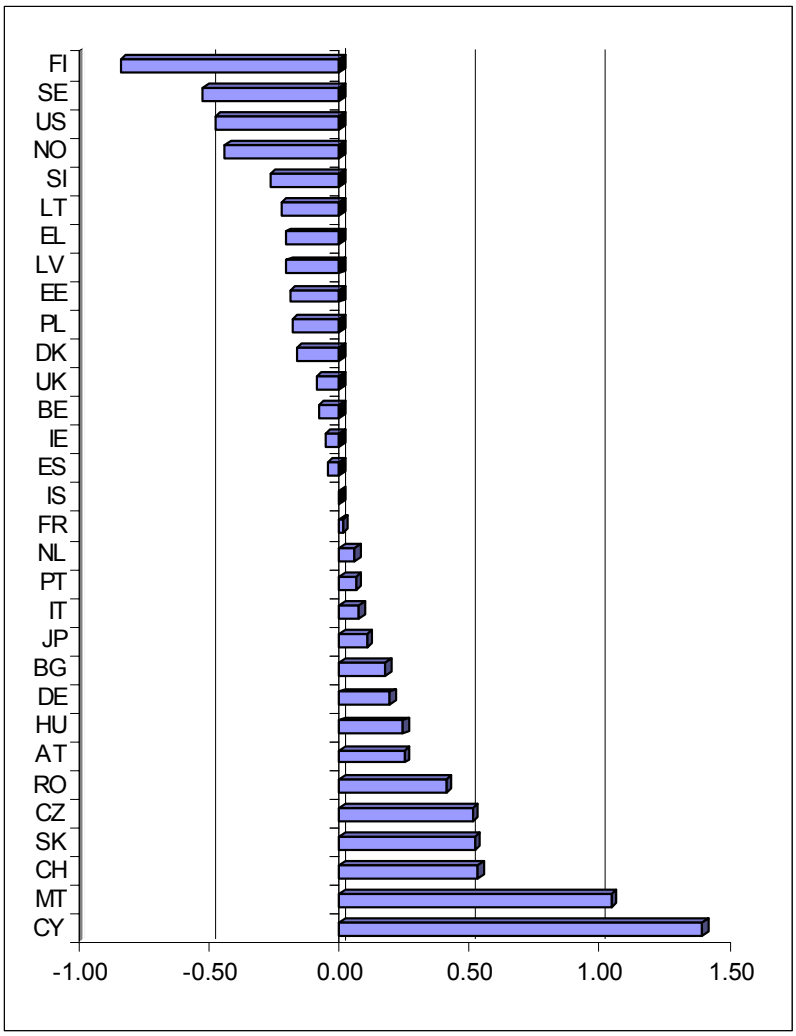
[2] *Student loans are gross. Therefore, they do not consider the reimbursements made by former beneficiaries of student loans which may be important in some countries.*

Chart 4: total public expenditure on education as % of total public expenditure and as % of GDP, at tertiary level of education



Source: Eurostat, Education statistics

Chart 5: Estimated in-/decrease in expenditure as % of GDP if participation rates [3] at tertiary level in each country were at EU25 average



Source: Eurostat, Education statistics

Chart 4 illustrates that countries spending comparable amounts of public money for tertiary education in terms of total public expenditure, may spend different amounts in terms of GDP because of the relative size of the public budget compared to GDP. For instance, Latvia, the United Kingdom and Austria all spent around 2.5% of total public expenditure for tertiary education; but 0.89%, 1.00% and 1.28% respectively of GDP.

The amount allocated to education can be influenced by different factors such as the demographic structure of the population, enrolment rates, income per capita, national levels of academic staff salaries or the organisation and delivery of instruction.

The impact of varying participation rates on total expenditure on tertiary education as % of GDP is displayed in chart 5. If the participation rates at the tertiary level of education in each country were at the EU25 average, then total public expenditure on tertiary education as % of GDP would decrease in Finland (by 0.8 percentage points), in the United States and in Sweden (by 0.5 percentage points), remain almost unchanged (less than 0.1 percentage points variation) in Belgium, Spain, France, Ireland, Italy, the Netherlands, Portugal, the United Kingdom, Iceland and Japan and increase by over 0.5 percentage points in the Czech Republic, Cyprus, Malta, Slovakia and Switzerland.

[3] *Total number of enrolments as % of 20-29 year olds in the population, at tertiary level of education*

➢ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

Country specific notes:

Chart1, table 1 and 2:

Greece, Portugal: Imputed retirement expenditure is not available; France: Without French Oversea Departments; Lithuania: Public expenditure in public and private institutions; Malta, Portugal, Liechtenstein: Full-time equivalent enrolment is estimated by assuming that it corresponds to full-time enrolment and half of the part-time enrolment; Portugal: Expenditure at local level of government is not available; Slovakia: Expenditure at ISC 5B is included under upper secondary level of education; United Kingdom, Japan: Adjustment of educational expenditure of financial year 2002 that is running from 1st of April 2001 to 31st of March 2002 to the calendar year 2002; Iceland, United States, Japan: Expenditure at post secondary non-tertiary level of education is partly included under tertiary level of education; United States: Adjustment of educational expenditure of financial year 2002, that is running from 1st of July 2001 to 30th of June 2002, to the calendar year 2002.

Chart 3:

Greece, Portugal: Imputed retirement expenditure is not available; France: Without French Oversea Departments; Portugal: Expenditure at local level of government is not available; Slovakia: Expenditure at ISC 5B is included under upper secondary level of education; United Kingdom, Japan: Adjustment of GDP to the financial year that is running from 1st of April to 31st of March; Iceland, United States, Japan: Expenditure at post secondary non-tertiary level of education is partly included under tertiary level of education; Croatia: Expenditure on educational institutions from public sources; Turkey: Direct expenditure at regional and local levels of government is not available; United States: Adjustment of GDP to the financial year that is running from 1st of July to 30th of June.

Table 3:

Czech Republic, Estonia, Greece, Spain, France, Ireland, Malta, Austria, Poland, Slovenia, Finland, Bulgaria, Romania: Student loans from public sources are not applicable; Greece, Portugal: Imputed retirement expenditure is not available; France: Without French Oversea Departments; Cyprus: Including financial aid to Cypriot students studying abroad; Portugal: Financial aid to students from regional level of government is not available; Portugal: Expenditure at local level of government is not applicable; Slovakia: Expenditure at ISC 5B is included under upper secondary level of education; Iceland: Scholarships are not applicable; Iceland: Expenditure at post secondary non-tertiary level of education is partly included under tertiary level of education; Turkey: Direct expenditure at regional and local levels of government is not available; United States, Japan: Expenditure at post secondary non-tertiary level of education is included under tertiary level of education.

Chart 4 and 5:

Greece, Portugal: Imputed retirement expenditure is not available; France: Without French Oversea Departments; Cyprus: Including financial aid to students studying abroad; Portugal: Expenditure at local level of government is not available; Slovakia: Expenditure at ISC 5B is included under upper secondary level of education; United Kingdom, Japan: Adjustment of GDP to the financial year that is running from 1st of April to 31st of March; Iceland, United States, Japan: Expenditure at post secondary non-tertiary level of education is partly included under tertiary level of education; Croatia: Expenditure on educational institutions from public sources; Turkey: Direct expenditure at regional and local levels of government is not available; United States: Adjustment of GDP to the financial year that is running from 1st of July to 30th of June.

Statistical abbreviations and symbols:

: not available - not applicable or nil

Country codes:

BE: Belgium, CZ: Czech Republic, DK: Denmark, DE: Germany, EE: Estonia, EL: Greece, ES: Spain, FR: France, IE: Ireland, IT: Italy, CY: Cyprus, LV: Latvia, LT: Lithuania, LU: Luxembourg, HU: Hungary, MT: Malta, NL: Netherlands, AT: Austria, PL: Poland, PT: Portugal, SI: Slovenia, SK: Slovakia, FI: Finland, SE: Sweden, UK: United Kingdom, IS: Iceland, LI: Liechtenstein, NO: Norway, CH: Switzerland, BG: Bulgaria, HR: Croatia, RO: Romania, TR: Turkey, US: United States, JP: Japan

ISCED-classification:

Data are classified according to the International Standard Classification of Education (ISCED), revised in 1997. For more information about ISCED see:
http://forum.europa.eu.int/Public/irc/dsis/edtcs/library?l=/public/measuring_lifelong/classifications/isced97_levels&vm=detailed&sb=Title

ISCED level 5: First stage of tertiary education (not leading directly to an advanced research qualification), covering programmes of at least two years duration, divided between:

- Type A: programmes that are theoretically based and/or preparatory to research (history, philosophy, mathematics, etc.) or give access to professions with high skill requirements, such as medicine, dentistry, and architecture.

- Type B: programmes that are practically oriented/occupationally specific and are mainly designed for participants to acquire the practical skills and know how needed for employment in a particular occupation or trade, the successful completion of which usually culminates in a qualification relevant for the labour-market.

ISCED level 6: Second stage of tertiary education, covering programmes leading to an advanced research qualification (e.g. PhD or Doctorate), which are devoted to advanced study and original research and not based on course-work only.

Further information:

Databases

EUROSTAT Website/Population and social conditions/Education and training/Education/Indicators on education finance/Expenditure on education as % of GDP or public expenditure

EUROSTAT Website/Population and social conditions/Education and training/Education/Indicators on education finance/Expenditure on public and private educational institutions

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