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THE "CRISIS" OF PUBLIC HIGHER EDUCATION: A Comparative Perspective

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ABSTRACT
Is public tertiary education really in a crisis, and, if yes, what is the crisis about? This paper analyses international aggregated data and examines to what extent there has been a crisis of public tertiary education in OECD countries in the past decade. It first focuses on relative enrolments in the public and private sectors to show that enrolments in the public sector have not significantly declined, and only marginally benefited the private for-profit sector. It then analyzes changes in the funding of tertiary education from the perspectives of tertiary education institutions, students and governments. It shows that only students can (to some extent) complain about a recent crisis of funding and of public funding of tertiary education. Finally, the paper points to other possible reasons for the perceived crisis. Throughout the paper, the differences in the structure of public/private enrolments and funding in the United States and other OECD countries are emphasised to help better understand the differences in tertiary education policy debates in the United States and most other OECD countries.

There is growing concern in the United States that public higher education institutions, and particularly public research universities, is losing ground compared to private research universities: this is the so-called "crisis of the publics". In other OECD countries[1], there is also a feeling of a "crisis" of public higher education, relating to the perception of an underfunding of public tertiary education, especially when compared to US tertiary education, and some concerns about the rise of competition, trade, private providers and market mechanisms. Many observers see the traditional public model governing tertiary education changing, for better or for worse. Something is changing in tertiary education and tertiary education currently ranks higher in policy debates than it used to: anecdotal evidence is that OECD

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[1] The OECD has 30 member countries (as of 2007): Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, The Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States of America.

education ministers decided to devote their 2006 meeting to higher education. Several projects discussing the possible future of higher education, such as the Spelling Commission on the Future of Higher Education in the United States[2] and the OECD international project on the Future of higher education[3], also point to this widespread perceived urge to engage a dialogue about recent trends and possible and desirable changes in higher education in the coming decades.

Is public tertiary education really in a crisis, and, if yes, what is the crisis about? This chapter gives an answer to this question by analysing international aggregated data and examining to what extent there has been a crisis of public tertiary education in the OECD area in the past decade, with an emphasis on research universities when the data enable it. The first section focuses on relative enrolments in the public and the private sector and shows that enrolments in the public sector have not significantly declined and only marginally benefited the private for-profit sector. The second section analyzes changes in the funding of tertiary education from the perspectives of tertiary education institutions, students and governments. It shows that students have to some extent experienced a recent crisis of funding and of public funding of tertiary education. Otherwise, there has been a remarkable stability. The third section concludes by pointing to other possible reasons for the perceived crisis. Throughout the chapter, the differences in the structure of public/private enrolments and funding in the United States and other OECD countries are emphasised and help better understand the differences in tertiary education policy debates in the United States and most other OECD countries.

1. A crisis of enrolments in the public sector?

Is the crisis of public tertiary education about enrolments in the public sector? Along with the discussion on the inclusion of education services in the General Agreement on Trade in Services (GATS) under the World Trade Organization (WTO) and on the "commodification" of higher education (OECD, 2004), there has been a lot of public concern about the emergence of new types of providers, in particular for-profit providers (Cunningham et al., 2000; Knight, 2004). There is a perception of an expansion and increasing competition from the private for-profit sector in a sector which has traditionally been public or not-for-profit. This perception is pervasive in all segments of the tertiary education sector, from research universities to community colleges (Bailey, 2007).

To what extent is tertiary education still a public enterprise? Is the private sector becoming more attractive to students? One way to answer these questions and see whether public tertiary education is in crisis is to look at the relative importance of enrolments in private and public tertiary education institutions in OECD countries and how this has changed over time. Given the way international statistics are collected (and that the concept of a "research university" does not exist in all OECD countries), enrolments in advanced research programs (ISCED 6) will be the closest indicator of what happens in research universities.

Public and private, for-profit and not-for-profit, institutions refer to different animals across OECD countries, with different conditions of operation and relationships to public authorities and their stakeholders. In international statistics (OECD, 2006), the definitions of public and private are the following:

- a *public* institution is "controlled and managed directly by a public education authority or agency, or is controlled and managed either by a government agency directly or by a governing body (Council, Committee etc.), most of whose members are appointed by a public authority or elected by public franchise."

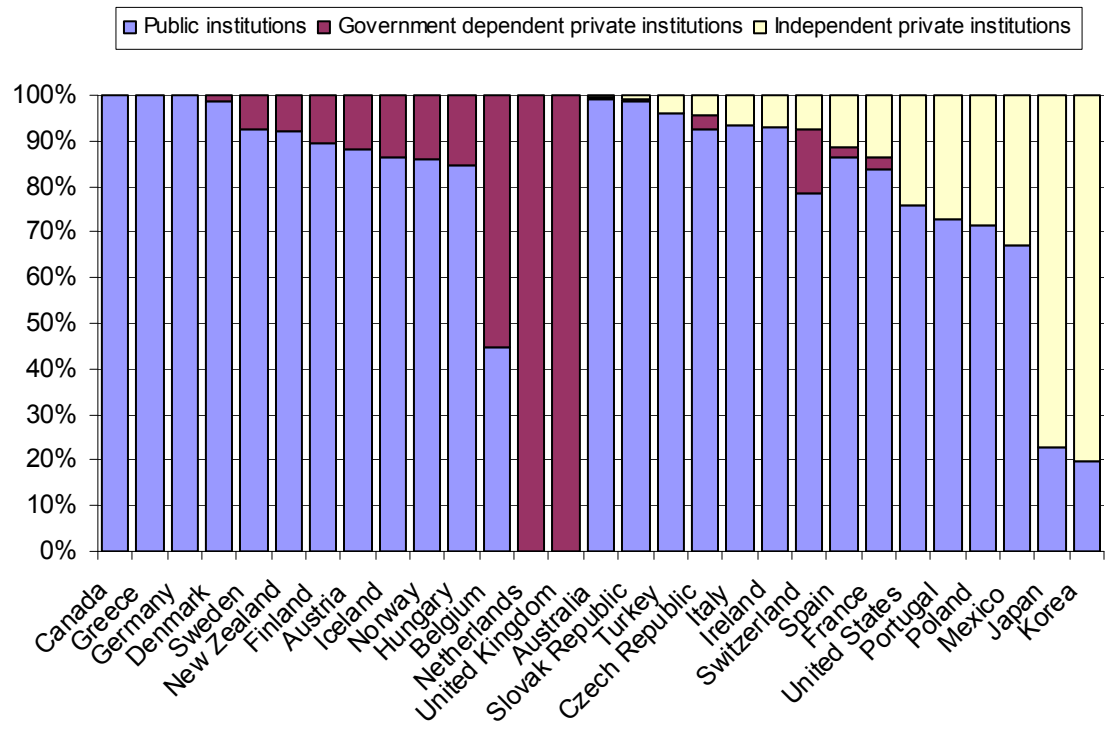
[2] See http://www.ed.gov/about/bdscomm/list/hiedfuture/about.html.
[3] See http://www.oecd.org/edu/universityfutures.

– a *private* institution is "controlled and managed by a nongovernmental organisation (e.g., a Church, Trade Union or business enterprise), or its Governing Board consists mostly of members not selected by a public government agency but by private institutions."

The source of funding is an additional dimension of what defines private institutions. Otherwise, the difference between public and private could be purely formal or legal. There is thus an additional distinction between private institutions: depending on their funding, some are *government-dependent* while others are *independent* private institutions. Government-dependent private institutions receive (by definition) more than 50% of their core funding from government agencies,. Independent private institutions receive less than 50%. Hence, independent private institutions are the institutions generally referred to as private (or the closest to the common understanding).

Public and government-dependent private institutions are not necessarily very different, at least in public perception. For example, in the United Kingdom, higher education institutions are generally considered public, although they are technically government-dependent private. Australia has a very close system to the British system, but almost all institutions are actually public, although their funding comes to a larger extent from private sources than in the United Kingdom. In 2004, a new law incurring some changes in the composition of the governing boards of Dutch universities including more members from non-governmental organisations has changed the formerly "public" higher education institutions into government-dependent private institutions, although most observers would not describe this particular aspect of the reform as a radical change in the Dutch university system. In statistical terms, it implies that the public sector has become a "not applicable" category (see Table 1). The recent "incorporation" of Japanese public universities will lead to the same outcome in future international statistics about Japan. A recent law (July 2007) that gives full autonomy to public universities in France might lead to the same outcome.

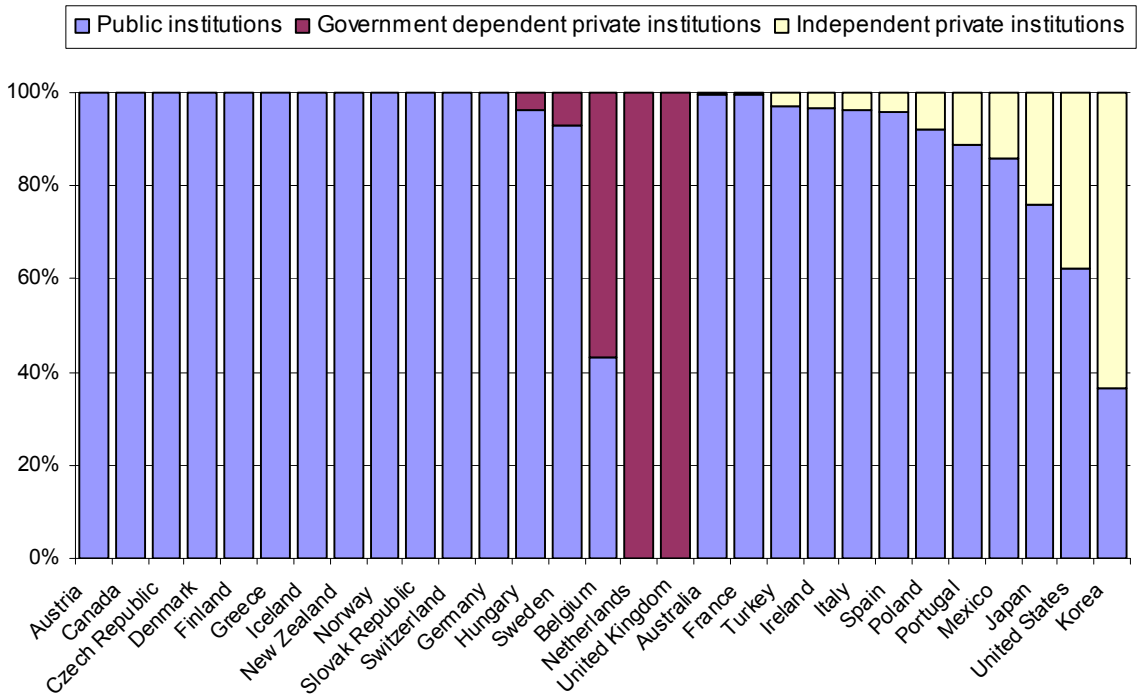
Figure 1
Distribution of all tertiary education enrolments by control of institution, 2004



Source: OECD

First of all, higher education is (still) structurally a public enterprise in almost all OECD countries (Figure 1). Independent private institutions are a small segment of the system in most OECD countries, even when growing. The (independent) private sector represents slightly more than 10% of total tertiary education enrolments in Spain and France, around 25% in the United States and Portugal, about 30% in Poland and Mexico, and over three quarters of enrolments in Japan and Korea. While it is more important in other economically advanced non-OECD countries, especially in Asia and South America, it is only in Japan and Korea that it overtakes the public sector within the OECD area. The share of enrolments in the private sector is consistently and significantly lower for advanced research programs, except in the United States where the share of enrolments increases to 34% (Figure 2). In many countries, independent private institutions are on average smaller and less prestigious (and thus, one would be tempted to add, less research intensive) than public institutions. Japan and Korea are good counter-examples though, as they have a good public/private balance at the top of their national institutional hierarchy – and some other countries have their counter-examples too, but more scattered.

Figure 2:
Distribution of enrolments in advanced research programs by control of institution, 2004



Source: OECD

Table 1:
Change in the distribution of students enrolled in tertiary education and in advanced research programs by control of institutions between 1998 and 2004 (%)

	Tertiary education (ISCED 5a. 5b. 6)			Advanced research programs (ISCED 6)		
	Public institutions	Government dependent private institutions	Independent private institutions	Public institution	Government dependent private institutions	Independent private institutions
Netherland	-32.2	32.2	0.0	m	m	m
Poland	-9.0	0.0	9.0	-0.3	0.0	0.3
Iceland	-8.9	8.9	0.0	0.0	0.0	0.0
Mexico	-6.4	0.0	6.4	m	m	m
Austria	-6.1	6.1	0.0	0.0	0.0	0.0
New Zealand	-5.5	7.1	-1.6	0.0	0.0	0.0
Switzerland	-3.9	2.5	1.4	0.0	0.0	0.0
Hungary	-3.7	3.7	0.0	-2.2	2.2	0.0
Norway	-3.6	0.0	0.0	-0.8	0.0	0.0
France	-3.4	-0.2	3.6	-0.3	0.0	0.3
Czech Republic	-3.3	-1.0	4.3	0.0	0.0	0.0
Spain	-2.7	1.9	0.9	-0.3	0.0	0.3
Turkey	-2.4	-1.5	3.9	-2.7	0.0	2.7
Ireland	-1.7	0.0	1.7	-3.5	0.0	3.5
Sweden	-1.6	1.6	0.0	-1.5	1.5	0.0
Denmark	-1.0	1.0	0.0	0.0	0.0	0.0
Korea	-0.6	0.0	0.6	-0.2	0.0	0.2
Australia	-0.2	-0.1	0.3	-0.2	0.0	0.2
Greece	0.0	0.0	0.0	0.0	0.0	0.0
United Kingdom	0.0	0.0	0.0	0.0	0.0	0.0
Germany	0.1	0.0	0.0	m	m	m
Finland	0.5	-0.5	0.0	0.0	0.0	0.0
Canada	0.9	-0.9	0.0	0.0	0.0	0.0
Japan	1.8	0.0	-1.8	0.2	0.0	-0.2
United States	2.3	0.0	-2.3	0.3	0.0	-0.3
Italy	6.4	0.0	-6.4	0.4	0.0	-0.3
Portugal	7.5	0.0	-7.5	-0.4	0.0	0.4
Country mean	**-2.8**	**2.3**	**0.5**	**-0.5**	**0.2**	**0.3**

Note: m: missing
Source: OECD education database

While most students are enrolled in public or government-dependent private tertiary education institutions, a rapid change in the distribution of enrolments in favour of independent private higher education institutions would certainly be a sign of an OECD-wide crisis of the public tertiary education sector. Table 1 shows recent changes in the distribution of enrolments: the share of total enrolments in public institutions has dropped by 2.8% on average between 1998 and 2004 (and by 1.7% when the large shift in the Netherlands is excluded). However, the independent private sector benefited from only 0.5% of this average

shift. Most of the enrolment shift went to government-dependent private institutions. Poland, Mexico, the Czech Republic, Turkey and France are the countries where private institutions have expanded their share the most against both public and government-dependent private institutions. In Portugal and Italy, the public sector has regained ground after the recent growth of the private sector. However, the structure of enrolments in advanced research programs (ISCED 6), that is those which are typically the most relevant for research universities, has changed very little.

While data have the advantage of being comparable over this 7-year period as they were all collected according to the latest ISCED classification, it is possible that the time series is too short to show the erosion of the public sector in terms of enrolments. At this aggregated level, one can also look further back without too many comparability problems, but for a smaller number of countries. One should be cautious with the data though. It is only in 1992 that the distinction between government-dependent and independent private was introduced. However, data were already collected between public and private institutions in 1985 and are available for 1985 and 2004 in 18 OECD countries. Over this 20-year period, the drop in the share of tertiary education enrolments in public institutions is more marked, at about 5%, but it is still modest (see Table 2)—and even more so if the Netherlands is excluded (the means become -3% and -1% for the two periods). What the data indicate too is a slowdown of the decreasing share of public institutions in most countries: the Czech Republic and Norway are the sole countries were the relative decrease has accelerated in the most recent period. In the United States, the relative share of public institutions has slightly decreased over this longer period, although the contrary is true in recent years.

It is noteworthy that a loss in the relative share of public institutions in total tertiary education enrolments does not imply an absolute decrease in enrolments. In almost all countries, enrolments in public institutions have increased in the same period, sometimes significantly. Again, it does not imply either that students haemorrhaged to the independent private sector.

Table 2:
Change in the share of tertiary education students enrolled in public institutions (full-time and part-time) (%)

	1985-2004	1998-2004
Netherlands	-42	-32
Portugal	-14	7
Austria	- 9	6
New Zealand	- 8	-6
Finland	- 8	1
France	-5	-3
Ireland	-5	-2
Switzerland	-5	-4
Spain	- 5	-3
Turkey	- 4	-2
United States	-1	2
Denmark	-1	-1
Australia	-1	0
Italy	0	6
Czech Republic	-2	-3
Norway	3	-4
Japan	4	2
Canada	10	1
Country mean	**-5**	**-3**

Source: OECD

These enrolment patterns may be interpreted as a crisis of the public higher education sector, but arguably not a critical one, and one that has only modestly benefited the independent private sector. Moreover, the change is almost negligible for advanced research programs so that there is less evidence of a crisis of public research institutions (by this indicator). In the United States, the structure of enrolments has not changed for advanced research students and public institutions have actually increased their enrolment share of tertiary students by 2.3% between 1998 and 2004, in spite of a small relative decline of 1% since 1985.

Although the Republic of Korea relies more heavily than any other OECD country on independent private institutions for its research training, the United States ranks second and is the only country where the private sector seems to have a strong presence and competitive advantage in advanced research programs compared to other types of institutions. One reason why the crisis of public "research universities" is (generally) not perceived in relation to private education outside the United States may come from this difference: there are few countries where public research universities have strong private competitors, just because the (independent) private sector is generally much less important. This does not mean that public research universities do not feel ill equipped to compete with US private research universities, as US public universities sometimes do, but this is rather perceived as a loss of *global* competitiveness and a crisis of their domestic public higher education in a changing global environment.

Three conclusions follow from this section:

1. The (independent) private sector has grown, sometimes significantly in some countries, but it is relatively small in most OECD countries and even less so for advanced research programs.

2. The growth of the government-dependent private sector is likely a sign of a change in public governance and management of higher education rather than an evidence of a rapid growth of the private sector. Public institutions are increasingly changing status to become more autonomous and less reliant on public authorities, without becoming "independent private". This shift is not pervasive though, and the traditional public sector remains the norm in most OECD countries.

3. Except in the United States, public research universities have little domestic competition for their enrolments in advanced research programmes. This might explain why the "crisis of the publics" is not debated in terms of a public-private competition in most OECD countries, but rather in terms of a crisis or transformation of the public governance in higher education and of a loss of global competitiveness.

2. A crisis of public funding?

More than a crisis of enrolments and attractiveness to students, the crisis of the publics may be a crisis of funding of public tertiary education or a crisis of public funding of higher education. Clearly, private research universities topping US and international rankings are more affluent than their public counterparts. Yale University, one of the top private US universities, had an operating budget of USD 1.67 billion in 2005, for 13000 students and 1430 faculty, and an endowment of USD 18 billion. By comparison, the University of California, Berkeley, one of the top public US research universities, had an operating budget of USD 1.54 billion in 2005, for 33000 students and 2000 hired and international faculty. The University of Vienna, one of the top Austrian research universities, had an operating budget

of USD 451 million (EUR 391.6 million, transformed in PPPs) for about 66000 students and 5000 hired faculty in 2005.[4] In other words, Yale had thrice as much resources per student as Berkeley, and 19 times as much as the University of Vienna, and, per faculty, 1.5 times as much as Berkeley and 13 times as much as Vienna. But US public universities tend to be more affluent than other public universities in the OECD: Berkeley had 7 times as much resources per student as Vienna and 9 times as much per faculty. In Austria, a system relying almost exclusively on public funds, the operating budget for all tertiary education institutions equated USD 3.2 billion (in power purchasing parities) in 2004, for 238500 students and about 29000 faculty – that is, twice as much as Yale University to serve almost twenty times more students and 6 times more faculty. Austria is nonetheless the 9th best resourced system per student within the OECD area (see Figure 6 below). The figures speak for themselves.

There is a wide consensus in some OECD countries that the expansion of higher education systems has led to its under-funding, especially where it relies on a traditional public governance model. However, it should be reminded that there is no objective benchmark in this respect. While more money certainly means better resources, it does not necessarily imply better quality or cost-effectiveness; some less well funded systems might compare favourably to better resourced ones. Nobody knows what the optimal level of tertiary education funding ought to be.

The funding issue has many facets and varies according to the standpoints. Typically, governments, students (and their families), higher education institutions and their staff will have different perspectives/interests on this. In other words, a crisis of public funding does not necessarily imply a crisis of funding generally and several conflicting perceptions may be accurate (depending on one's perspective). This section explores how the funding of tertiary education has changed at the macro-level. Here, international statistics do not allow one to see what happened in "research universities": the only thing that can be looked at is what happened in the funding of academic research (Vincent-Lancrin, 2006).

The institutional perspective

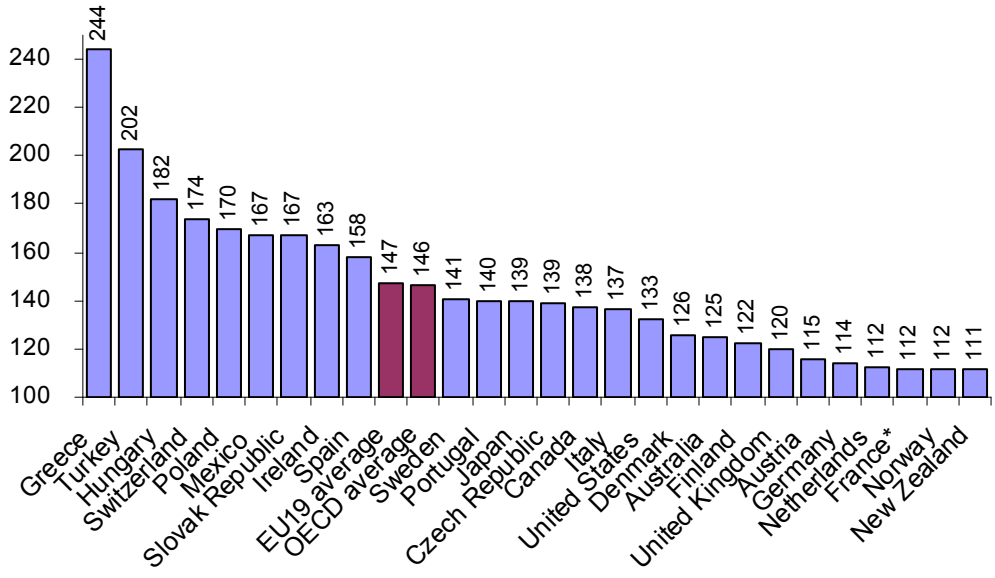
A crisis of public funding could take different forms from the perspective of tertiary education institutions: an absolute and/or relative decline in public funding, and, in countries where there is a significant private sector, a relative impoverishment of public higher education institutions compared to their independent private counterparts. This can have broadreaching effects on education funding, research funding, as well as education and research facilities.

The funding of tertiary education institutions has increased in all OECD countries between 1995 and 2003, both as a percentage of GDP and in real terms. On average, countries have spent 46% more for tertiary education institutions in 2003 than in 1995 (see Figure 3). While slower than the OECD average, there has also been a 33% growth in the United States. Research expenditures in the academic sector have not suffered either: overall, research universities and academic centres have increased their share of research and development compared to other sectors between 1981 and 2003, and their funding accounted for 0.39% of GDP in 2003, against 0.28% in 1981. In real terms (constant prices), research expenditures have tripled during that time (Vincent-Lancrin, 2006).

However, the budget growth has been more modest when the expansion of enrolments is taken into account, and has even decreased in 5 countries. The budget per student of tertiary education institutions has increased by 6% on average. This time the growth has been slightly above the OECD average in the United States, at 10%.

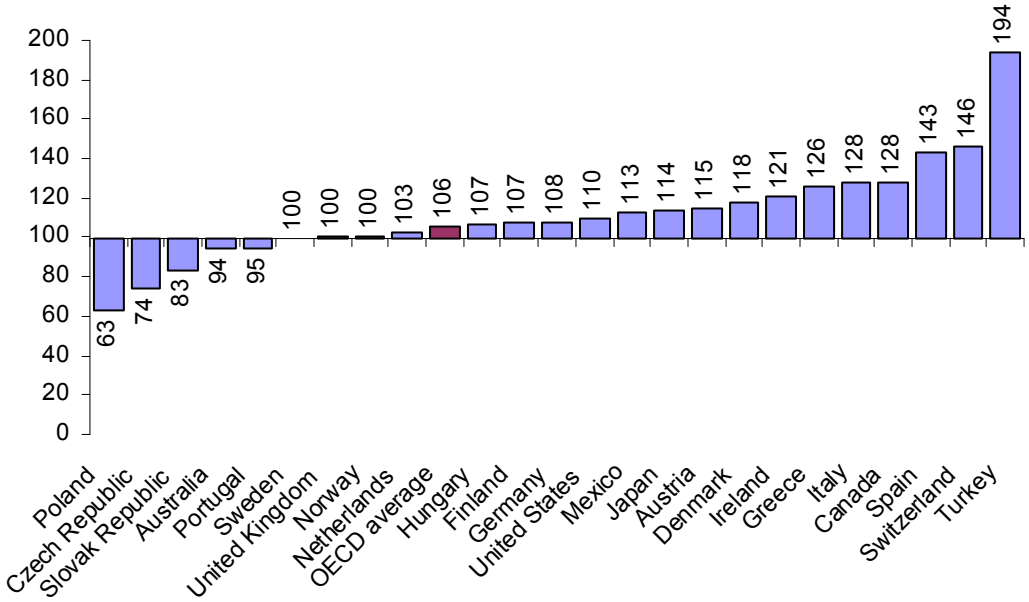
[4] The figures come from activity reports posted on the respective institutional websites (and from the common dataset for faculty figures for Yale and Berkeley). For University of Vienna: *Tätigkeitbericht* 2005.

Figure 3: Change in expenditure on educational institutions in 2003 constant prices, 1995-2003 (1995 = 100)



Note: * 2002 instead of 2003
Source: OECD (2006)

Figure 4: Change in expenditure on educational institutions for all services per student for tertiary education (1995, 2003)
Index of change between 1995 and 2003 (GDP deflator 1995=100, 2003 constant prices)

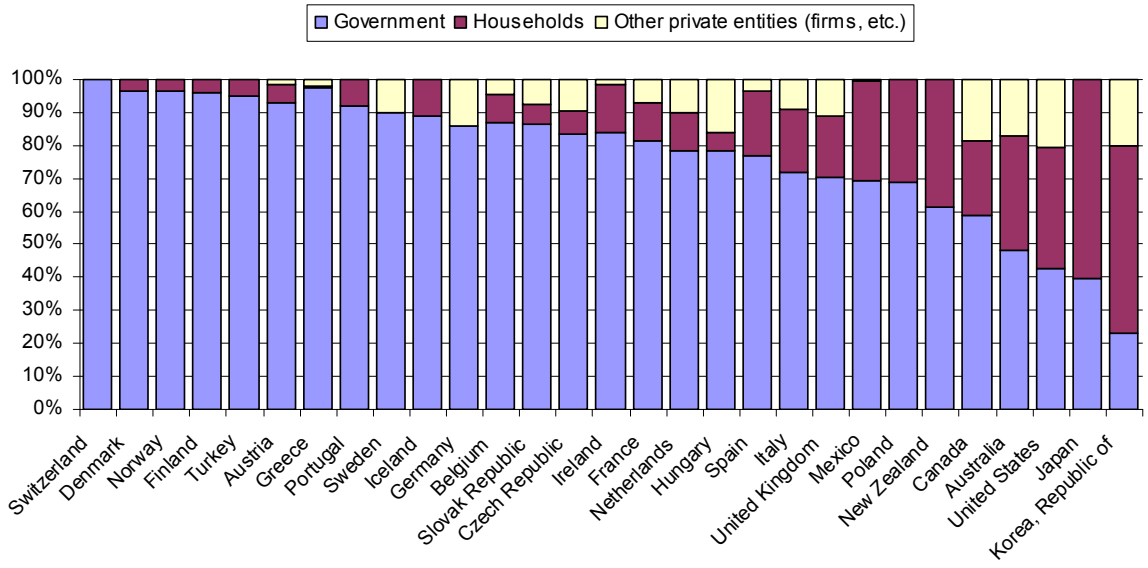


Source: OECD (2006)

While the resources of tertiary education institutions have actually increased in recent years, the share of their public resources have on average diminished by 9% (Table 4). However, in most OECD countries, their resources remain overwhelmingly public (Figure 5). Only in 4 countries, including the United States, do public resources represent less than 50% on average of an institution's budget, whereas they represent more than 70% in 21 countries. Table 4 shows that there were marked differences in changes across countries: the decrease in the share of public funding has been significant (over 30%) in some countries (Australia,

Canada, New Zealand, United Kingdom), but more modest or very small in most countries. In the United States, the share of public funding in institutions' budget has dropped by 7% on average between 1992 and 2003.

Figure 5: Distribution of funding for higher education institutions, 2003



Source: OECD

A relative decrease in public funding does not necessarily imply an absolute decrease in public funding: it can also result from the development of other funding sources. Between 1992 and 2003, there was an absolute decrease in direct public funding to tertiary education institutions in three countries (among those for which information was available on both years): Australia, Canada and Italy. Over the same period, the public funding *per student* has decreased in absolute terms in 7 countries (with only one overlap with the former indicator): Czech Republic, Finland, Hungary, Italy, the Netherlands, New Zealand and the United Kingdom. If one looks at a shorter period of time, between 1998 and 2003, the picture changes somewhat: in Australia, Austria and Iceland, there is a decrease in public funding *and* in public funding per student, while institutions have experienced a decrease in public funding per student in Greece, the Netherlands, New Zealand, Norway, Poland, and Sweden.

Research performed by the higher education sector is largely government-funded in the OECD area. In 2003, the government sector funded directly or indirectly 72% on average of academic research: that year, government funding amounted to more than 80% of academic research in 16 out of the 28 OECD countries for which information is available. Between 1981 and 2003, the share of government funding has dropped from 9%, most of the decrease having occurred before 1992 where this share was at 74%. In the United States, 68% of the funding for academic research came from public sources in 2003, against 67% in 1992 and 74% in 1981 (Vincent-Lancrin, 2006).

US tertiary education institutions have not experienced an absolute decline in public funding or in public funding per student during these periods (in real terms). Figure 6 shows that they are the second best resourced institutions after Switzerland in the OECD area with a unique relatively balanced tripartite origin of income. In absolute terms, US tertiary education institutions are the ones that get the most money from households, from private sources other than households, and they rank seven in terms of public resources they receive (for countries for which information is available).

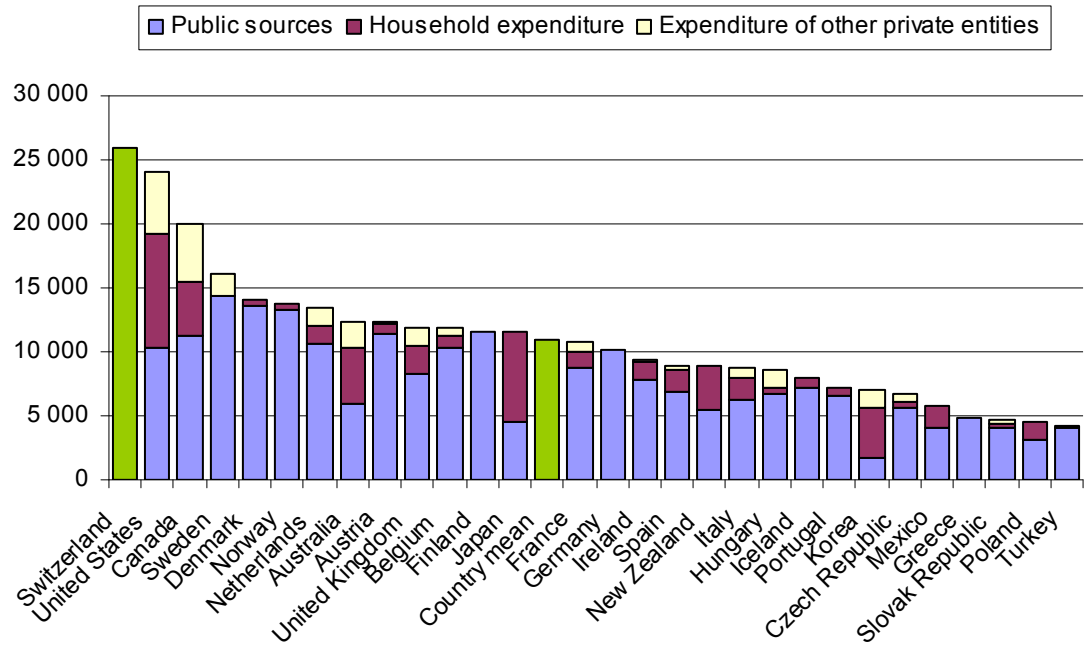
Table 3: Change in the distribution of funding to higher education institutions by stakeholder between 1992 and 2003 and change in public funding and public funding per student (1998-2003)

	2003			Shift 1992-2003				
	Government	Households	Other private entities (firms, etc.)	Government share	Households share	Other private entities (firms, etc.) share	Percent change in public funding (PPPs) between 1998 and 2003	Percent change in public funding per student (PPPs) (98-03)
Australia	48%	35%	17%	-33%	16%	17%	-3	-16
Austria	93%	6%	1%	-6%	5%	1%	-18	-12
Belgium	85%	9%	4%				44	m
Canada	59%	23%	18%	-30%	18%	12%	51	m
Czech Republic	83%	7%	9%	M	m	m	45	9
Denmark	97%	3%	0%	-1%	3%	-2%	23	11
Finland	96%	4%	m	-1%	m	m	19	2
France	80%	12%	7%	-3%	0%	3%	31	25
Germany	86%	m	14%	-3%	m	m	12	4
Greece	93%	0%	2%	M	m	m	37	-9
Hungary	78%	5%	16%	6%	m	m	67	9
Iceland	89%	11%	0%	-4%	4%	0%	m	m
Ireland	82%	14%	1%	8%	-9%	-1%	42	12
Italy	72%	19%	9%	-14%	9%	5%	15	12
Japan	40%	60%	0%	0%	1%	-1%	23	23
Korea	23%	57%	20%	5%	-23%	19%	112	74
Mexico	69%	30%	0%	-12%	11%	0%	33	2
Netherlands	79%	11%	10%	-8%	-2%	10%	9	-4
New Zealand	61%	39%	0%	-39%	39%	0%	11	-9
Norway	97%	3%	0%	-3%	3%	0%	16	0
Poland	69%	31%	0%	0%	-1%	0%	10	-34
Portugal	91%	8%	0%				18	4
Slovak Republic	85%	6%	8%	m	m	m	m	m
Spain	77%	19%	4%	-5%	4%	2%	42	35
Sweden	90%	0%	10%	-9%	0%	9%	27	-14
Switzerland	100%	0%	0%	0%	0%	0%	60	31
Turkey	95%	5%	0%	-3%	3%	0%	44	5
United Kingdom	70%	19%	11%	-30%	19%	11%	33	13
United States	43%	37%	20%	-7%	0%	7%	29	4
Country mean	**77%**	**17%**	**7%**	**-9%**	**5%**	**4%**	**31**	**7**

Note**:** The sum of the changes does not always equate zero because of rounding. Missing data for 1992 were replaced by a close year (1991 or 1993) if available. (e) notes estimates.

Source: OECD

Figure 6: Annual expenditure per student on core services, ancillary services and R&D by source of funding (2003) (in equivalent US dollars converted using PPPs for GDP, based on full-time equivalents (FTE))



Notes: In Switzerland, the distribution between sources is missing; Canada: 2002 instead of 2003; Canada, Hungary, Italy, Poland, Portugal, Turkey: public institutions only; Mexico: R&D expenditures (and thus total) underestimated

Source: OECD

The crisis can also develop from changes in the structure of each institutions' expenditures. International data on institutional cost structure are available, but they are difficult to interpret in this light without being supplemented by institutional case studies. Between 1998 and 2003, the share of capital expenditures in institutional budgets has decreased on average by 3% (and represented 10% on average of an OECD country's institutional budget). On one hand, a decrease in the share of capital expenditure can correspond to an underinvestment in capital (and thus be interpreted as an evidence of budget pressures), but it can also mean there is more available income for current teaching and research activities (budget relief). Conversely, a significant increase in the share of capital expenditures could correspond to an upgrade of facilities having a positive impact on work conditions for teaching and research. Between 1998 and 2003, the share of current expenditures other than staff compensation has increased by 5% in institutions' budget (to 34.5% of their budget on average). In France, where the expenditures have actually fallen (-10%), the drop could indicate that available income for teaching and research has diminished: such a decrease could be due to the ageing of staff (whose compensation grows more quickly than the total budget). But more compensation for staff could also be due to the expansion of staff and represent less rather than more pressure on institutional budgets and conditions of work. No conclusions about budget pressure or crisis can thus be drawn from these data alone.

The main conclusion is a trend towards a smaller share of public resources in institutional budgets, generally because of a quicker growth of other sources of income: this has happened in 19 countries (with different magnitudes). Tertiary education institutions have experienced an increase in their budget (or expenditures) in all OECD countries over the past decade, but their funding per student has decreased in 6 countries. Overall, their public

funding has increased (except in 3 countries) as well as their public funding per student (except in 7 countries). Three countries stand out and may indeed experience a funding crisis: in Australia, there was a decrease in funding per student, in public funding and in the share of public funding (although the decrease was small and there was no decrease of public funding per student); in Italy, there was a decrease in the share of public funding, but also in public funding and in public funding per student; finally, the Czech institutions experienced a drop in funding per student as well as in public funding per student. Like the tertiary education institutions of 9 other OECD countries, US institutions only experienced a decrease in their share of public funding between 1992 and 2003: while this may be the consequence of insufficient public funding, it is not a strong evidence of a major public funding crisis.

A caveat to this discussion is that averages can hide big variations within countries and the average story can vary greatly from the individual ones. The distribution of public funding within countries may have become more concentrated and left a majority of institutions less well off than they used to (even if the average story is different). Conversely, the distribution of public funding may have become less concentrated and some top research universities may feel they have been inadequately funded compared to other national institutions or their foreign counterparts.

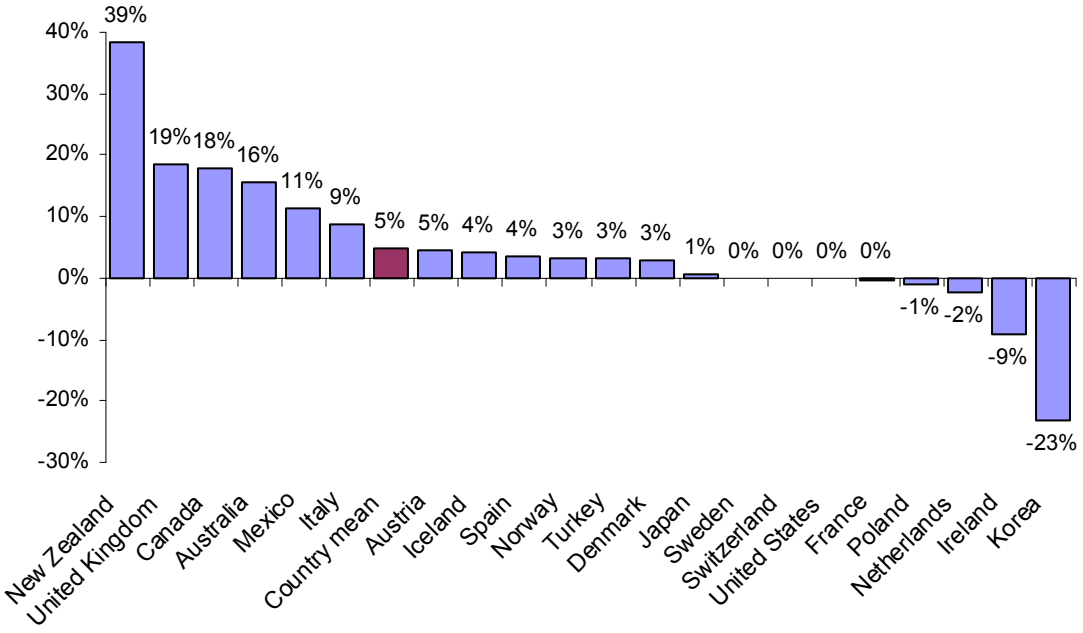
The student (household) perspective

From a student perspective, there has been a small crisis of (public) funding in recent years in the sense that, overall, students (and their families) have made a greater contribution to the cost of their higher education than in the past, both in absolute and relative terms. In most OECD countries though, their tertiary education is still subsidised to a great extent.

In international statistics, the best estimate of the cost of tertiary education to students is the households' contribution to the expenditures (or budget) of tertiary education institutions. This contribution typically consists of tuition fees but it can include other components like boarding fees and all other payments made to institutions (e.g. for meals, textbooks and other instructional material, etc.). Given the differences of habits regarding boarding and provision of other services than teaching by the institutions themselves, the data are only imperfectly comparable: an institution offering catering or boarding to students will for example get more student contribution than one where catering and housing are left to external providers, although the cost of tertiary education to the student would in all cases include living costs. However, in most countries non-fee revenues are small enough to make it a fairly good proxy.

While institutions' resources have increased, the share coming from households has increased by 5% on average between 1992 and 2003. Figure 7 shows that there have been marked differences across countries: in most countries, this share has been fairly stable, as was the case in the United States. Changes towards more household contribution have occurred in New Zealand, United Kingdom, Australia, and Canada – while changes in Korea and Ireland have taken the opposite direction.

Figure 7: Change in the share of resources coming from households in tertiary education institutions' expenditures, 1992-2003



Source: OECD

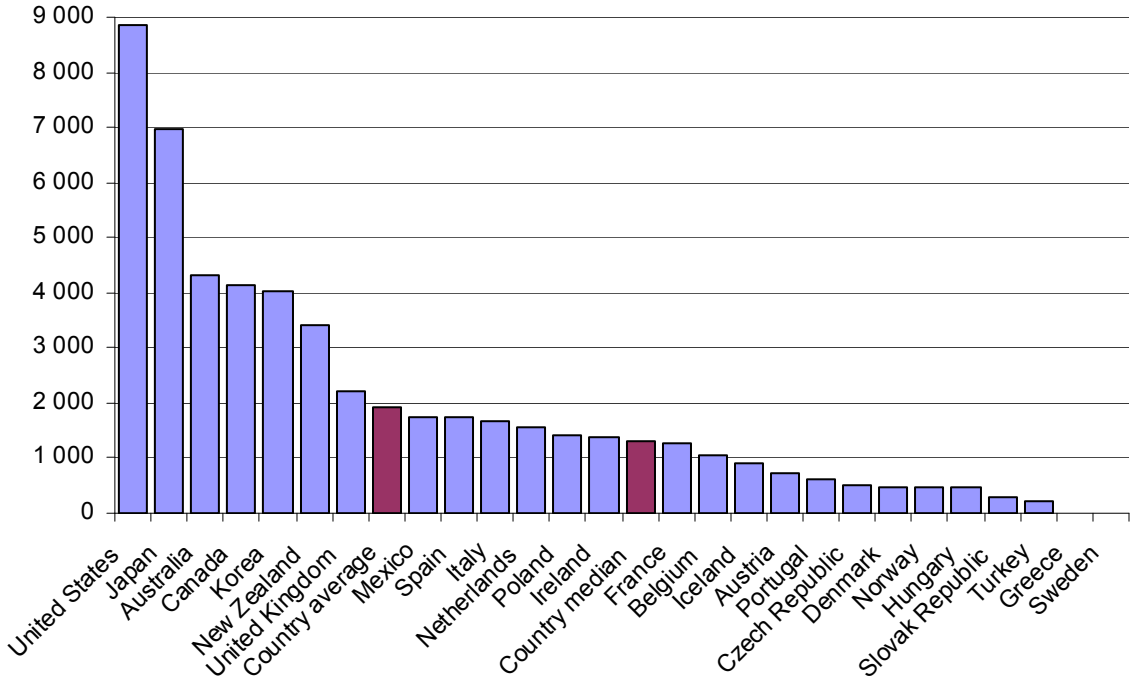
The relative stability of students' share to the expenditures of tertiary education institutions in most countries (except in four Anglo-Saxon countries and in Korea) does not mean that there was no change in the cost to students and their families. Indeed, as shown in the previous section, the expenditures of tertiary education institutions have risen. In absolute terms, the level of the household contribution in constant prices has increased in almost all countries for which information was available for both years – with the exception of Ireland (-33%) and the Netherlands (-12%). In the United States, student expenditures to institutions have increased by 52% in real terms (constant prices) between 1992 and 2003, with a slowdown of this increase in recent years (+10% between 1998 and 2003). It is noteworthy that tuition fees were first introduced in several countries during that period: before 1998, tertiary education students did for example not pay fees in the United Kingdom, while student payments represented 19% of British institutions' budget in 2003. Given that the distribution of enrolments in the private and public sector have remained more or less stable over that period, the increase has occurred across the board rather than as a mechanical impact of the growth of the private sector.

In power purchasing parities, the average contribution of students to tertiary education institutions' expenditures amounted to 2,011 dollars in 2003, while the median was at 1,372 dollars. Figure 8 shows that household contribution varies significantly across countries. These average costs can also hide a large variance within countries. The cost of tertiary education to students is significantly higher in the United States and in Japan than in other countries. US households contribute the most to tertiary education institutions, with an average contribution per student of 8,900 dollars. While boarding costs probably weigh more than in many other countries, this is mainly due to higher tuition fees. In 2003 tuition fees represented 58% of US undergraduate students' contribution to public 4-year institutions, 27% for private four-year institutions (while there is typically no boarding at 2-year institutions that enrol about 40% of US students) (College Board, 2003). In the United States, the cost of tertiary education to families (including tuition fees) varies significantly for public 2-year colleges, public 4-year institutions, and private 4-year institutions. In 2003, costs to *undergraduate* students averaged 1,735 at public 2-year institutions, 9,663 dollars (including 4081 of tuition and fees) at public 4-year institutions, 16,206 dollars (including 9,890 dollars

of tuition fees) at private 2-year institutions, and 25,052 dollars (including 18,273 dollars of tuition fees) at private 4-year institutions[5].

The cost of tertiary education to students (and their families) can be alleviated by student aid, but student aid does not have a big impact on the cost per student on average (although it has a big positive impact on those receiving it according to many studies (e.g. Dynarski, 2003, 2004)). Only 0.4% of the private funding of tertiary education institutions was actually an indirect public subsidy in 2003 in OECD countries (OECD, 2006). In many countries, student aid is supposed to support living costs rather than tuition fees (especially as they are often low and publicly subsidised in the OECD area). Moreover, part of it can take the form of loans which will be repaid (and are thus a temporary aid). While the contribution of students to tertiary education institutions increased, the public student aid also increased per student by 93% on average between 1992 and 2003 (but with strong variations: the median increase is 25%). It amounted to an average to 1,629 dollars in 2003 (with a median at 1,057 dollars).

Figure 8: Contribution of households to the expenditures of tertiary education institutions, 2003 (USD and PPPs, based on FTE)



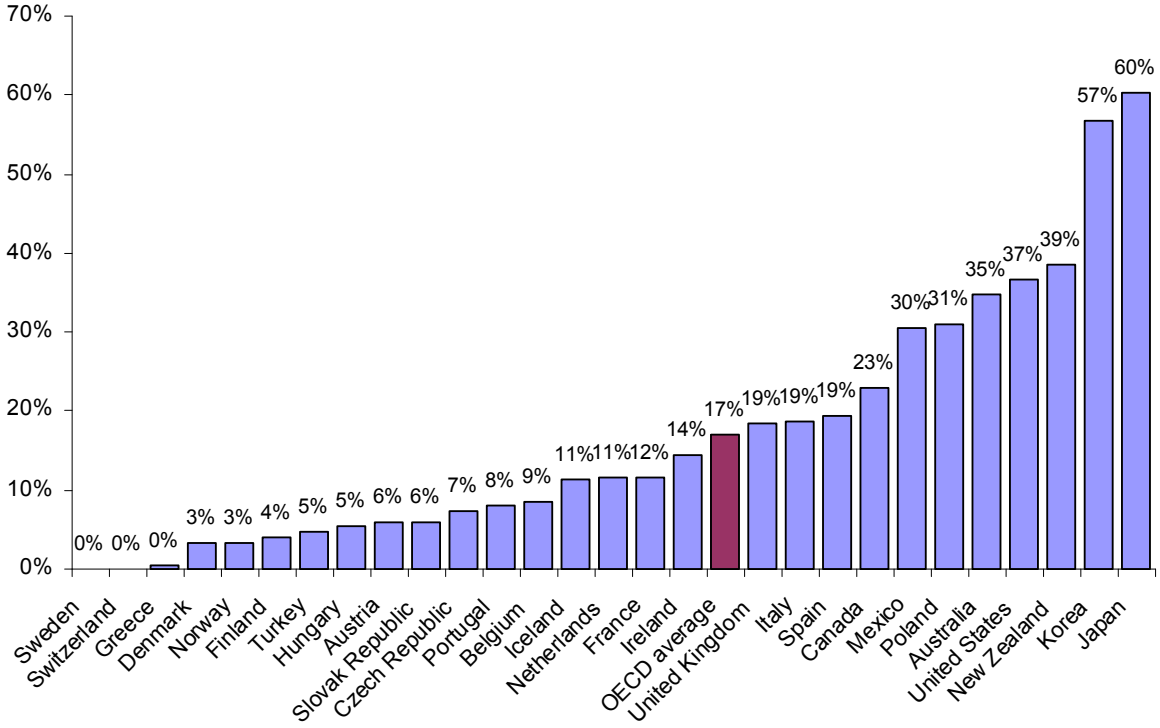
Notes: Same as Figure 6
Source: OECD

However, in spite of their increasing contribution to the expenditures of tertiary education institutions, students and their families still benefit from generally high levels of public subsidisation. Student payments represent on average 17% of tertiary education institutions' expenditures in OECD countries. There are only 7 countries where students (and their households) contribute more than 30% on average to the tertiary institutions' budgets, including the United States (37%), with only two (Japan and Korea) where they are the main

[5] The price has continued to rise since 2003. Total charges to families amounted to USD 2272 at public 2-year institutions, USD 12796 at public 2-year institutions (including USD 5836 of tuition and fees), and USD 30367 at private 4-year institutions (including USD 22218 of tuition and fees). After student aid (grants and tax benefits), the prices for full time students fall to USD 72, USD 9696 and USD 21367, respectively (College Board, 2007).

income source in institutions' budgets (Figure 9). While this means that students are still publicly subsidised in most if not all OECD countries, it is noteworthy that unsubsidised students would generally contribute less than 100% of institutions' revenues: tertiary education institutions produce non-teaching services like research and services to the community (participation in boards, peer reviewing, work with private companies, etc.) which would not necessarily be paid for by (all) students and their families in a marketplace.

Figure 9: Percentage of direct expenditures to tertiary education institutions coming from households, 2003



Source: OECD

In conclusion, students and their households have faced a small crisis of public funding in OECD countries, actually mainly concentrated in a few countries. However, in most OECD countries students are still very far from paying unsubsidised market prices for their tertiary education. It is likely that tuition fees will be raised in the coming years, particularly in public education systems where fees are very low or nonexistent. For example, Germany has introduced tuition fees in 2005. However, this may take a long time in some countries due to local political issues. The financing models of Australia, New Zealand and now England have become the most appealing to many tertiary education experts and economists, with higher tuition fees paid after graduation through a public (income-contingent) loan scheme,.

The debate takes an opposite direction in the United States and Japan: the affordability of tertiary education to students has become a big concern and the question is more about cost containment or, in the case of Japan, a possible increase of public funding. While tertiary education can be expensive to students in the United States, notably if they study in private selective universities, it remains largely subsidised for the bulk of tertiary education students: in 2003, about 70% of US undergraduate students attended tertiary education students charging less than 7000 dollars for tuition fees (College Board, 2003). Given the coming demographic pressure on US tertiary education, whose enrolments are projected to increase

significantly in the coming decades, costs to students and their families are likely to remain a big issue in the coming decades.

The government perspective

From a government perspective, a decline in public spending will be less likely regarded as a crisis than a rapid increase (although a decrease could also be a sign of under-funding). Overall, government spending on higher education and on academic research has increased in the past decades, but not in a critical way. The share of public expenditures on tertiary education (including all transfers to students, other private entities, and tertiary education institutions) has increased by about 0.4% on average since 1993, to reach 3.1% in 2003. Canada, the Czech Republic and the United Kingdom are the only three countries (for which information is available on both years) where the public spending on higher education has declined as a share of total public spending. These public expenditures represented on average 1.3% of an OECD country's GDP in 2003, as they did in 1998. And as real GDP has grown in all countries over that period (net of inflation), this is also the case of real public expenditures on tertiary education. In 2003, the United States was the 9th top public spender on tertiary education relative to GDP in the OECD area, at 1.5% of its GDP (against 1.3% in 1998) (Table 4).

Between 1992 and 2003, there has been little change in the pattern of public funding for higher education. On average, 83.2% of a country's public budget for tertiary education still funds directly tertiary education institutions in the OECD area. This share has slightly decreased (-2% on average) between 1992 and 2003 (Table 5). Governments and other public authorities have spent a higher proportion of their budget for financial aid for students (part of which is only a temporary disbursement when it takes the form of a student loan that will typically be repaid and later represent a source of public income). In some countries (Australia, Austria, Canada, Italy, Japan, New Zealand, Turkey and the United States), this shift towards student financial aid (and less direct funding to institutions as a share of their budget) has been above 8%. The opposite trend could be observed in a smaller number of countries (Belgium, Iceland, Slovak Republic, Sweden). The structure of spending did not change much in other countries.

Between 1998 and 2003, the share of the public budget for tertiary education going directly to institutions has virtually not changed: it increased by 0.4% on average. The share of public expenditures for financial aid to students also remained stable at 17% of public expenditures for tertiary education – and 0.27% of countries' GDP. The only noticeable change is that the relative importance of funding for grants and scholarships has decreased by 2% and benefited student loans, with 10% of public funding being devoted to grants and 7 to student loans in 2003. That being said, publicly subsidized (and/or administrated) student loans are still unavailable or of negligible amount in 11 of the 28 OECD countries for which information was available in 2003. Apart from a few exceptions, notably the United Kingdom, there has been little change in the structure of public expenditures for tertiary education between 1998 and 2003.

In most countries for which information is available, only a small part of financial aid to students ultimately seems to ultimately go to educational institutions: it can thus generally not be seen as a new way of indirectly financing tertiary education institutions through more competitive market mechanisms or vouchers. In the case of research, there is more evidence of a shift towards a different allocation of public funding: Between 1981 and 2003, the percentage of public research funding allocated through general university funds has dropped from 78% to 65% in the 16 OECD countries for which information is available for both years. While general university funds still funded over 70% of academic research in 2003 in 8 OECD countries, they have decreased by more than 13% in New Zealand, Ireland, the United Kingdom, Australia, Finland, Denmark, Greece, Spain and Turkey (Vincent-

Lancrin, 2006). Moreover, the allocation of these general university funds have been increasingly (partially) performance-related in many countries, generally based on university research evaluation that were introduced in several countries in the late 1980s and 1990s (Geuna and Martin, 2003).

Table 4: Total public expenditure on tertiary education as a percentage of public expenditure and as a percentage of GDP

	Public expenditure on education as a percentage of total public expenditure		**Public expenditure on tertiary education as a percentage of GDP**	
OECD countries	**1993**	**2003**	**1994**	**2003**
Australia	3.8	m	1.36	1.1
Austria	2.1	2.5	0.9	1.3
Belgium	1.7	2.6	1	1.3
Canada	4.7	4.3	2.27	1.7
Czech Republic	2.1	1.8	0.8	0.9
Denmark	3.4	4.5	1.4	2.5
Finland	3.6	4.1	1.5	2.1
France	1.8	2.2	0.9	1.2
Germany	2.1	2.5	0.91	1.2
Greece	2.3	2.5	0.7	1.5
Hungary	3	m	0.9	1.2
Iceland	2.9	2.9	0.7	1.4
Ireland	2.9	m	1.12	1.1
Italy	1.5	1.6	0.72	0.8
Japan	1.1	1.8	0.5	0.6
Korea	1.3	2.0	0.3	0.6
Luxembourg	m	m	m	m
Mexico	m	4.0	0.9	1.0
Netherlands	2.9	m	1.33	1.3
New Zealand	4.4	5.5	1.1	1.6
Norway	3.9	4.8	1.4	2.3
Poland	m	m	m	1.1
Portugal	m	2.2	0.8	1.1
Slovak Republic	m	2.2	m	0.9
Spain	2.1	m	0.8	1.0
Sweden	2.9	3.7	1.5	2.2
Switzerland	3.3	3.5	1.11	1.6
Turkey	m	m	1.25	1.2
United Kingdom	2.6	2.4	0.97	1.1
United States	3.6	4.0	1.12	1.5
OECD average	2.8	**3.1**	**1.0**	**1.3**
EU19 average	2.5	**2.7**	**1.0**	**1.3**

Source: OECD

Table 5: Public expenditures for tertiary education by category (and change)

	Direct expenditure for institutions in 2003	Subsidies for education to private entities (2003)						Change in the share of direct expenditures for institutions (1992-2003)
		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			
OECD countries								
Australia	**65.0**	13.5	21.5	35.0	1.2	n	**35.0**	-13.0
Austria	**82.0**	16.6	a	16.6	m	1.4	**18.0**	-13.8
Belgium	**84.2**	15.8	n	15.8	4.6	n	**15.8**	12.2
Canada	**78.0**	16.8	3.9	20.7	m	1.3	**22.0**	-8.9
Czech Republic	**93.8**	6.2	a	6.2	m	n	**6.2**	-3.2
Denmark	**67.8**	26.8	5.5	32.2	m	n	**32.2**	4.9
Finland	**82.1**	17.4	n	17.4	n	0.5	**17.9**	-1.7
France	**91.8**	8.2	a	8.2	2.6	a	**8.2**	-0.1
Germany	**82.8**	13.5	3.7	17.2	n	n	**17.2**	-6.0
Greece	**94.0**	6.0	m	6.0	m	a	**6.0**	2.2
Hungary	**85.3**	14.7	a	14.7	n	n	**14.7**	-1.7
Iceland	**75.9**	n	21.4	21.4	n	2.7	**24.1**	8.4
Ireland	**86.2**	13.8	n	13.8	4.3	n	**13.8**	6.1
Italy	**83.0**	17.0	n	17.0	5.2	n	**17.0**	-13.7
Japan	**81.4**	2.4	16.2	18.6	m	n	**18.6**	-18.6
Korea	**95.4**	3.3	1.2	4.6	2.9	0.1	**4.6**	1.1
Luxembourg	**m**	m	m	m	m	m	**m**	m
Mexico	**94.1**	3.5	2.4	5.9	1.1	n	**5.9**	-2.7
Netherlands	**74.1**	12.1	13.7	25.9	1.4	m	**25.9**	3.6
New Zealand	**56.6**	13.7	29.8	43.4	m	a	**43.4**	-13.5
Norway	**63.3**	14.9	21.8	36.7	m	n	**36.7**	-1.2
Poland	**97.7**	0.4	a	0.4	m	2.0	**2.3**	1.9
Portugal	**97.4**	2.2	a	2.2	m	0.5	**2.6**	6.3
Slovak Republic	**91.5**	6.8	1.8	8.5	m	a	**8.5**	9.0
Spain	**92.1**	7.9	n	7.9	2.4	n	**7.9**	-0.5
Sweden	**71.6**	10.4	18.0	28.4	a	a	**28.4**	8.2
Switzerland	**98.0**	1.2	0.1	1.3	m	0.6	**2.0**	4.5
Turkey	**86.8**	3.2	10.0	13.2	n	m	**13.2**	-7.4
United Kingdom	**75.3**	1.6	23.2	24.7	0.7	n	**24.7**	-2.4
United States	**82.2**	13.9	3.9	17.8	m	a	**17.8**	-8.8
OECD average	**83.1**	**9.8**	**7.1**	**16.6**	**1.6**	**0.3**	**16.9**	**-1.7**

Notes: Canada: 2002 instead of 2003; m: missing, n: negligible, a: not applicable.

Source: OECD

In conclusion, in the past decade the structure of public expenditures for higher education has remained fairly stable on average in most OECD countries. In some countries, including the United States, there was a notable decrease of the share of direct public expenditures for tertiary education institutions at the beginning of the 1990s. In recent years, while the share of public expenditures devoted to student financial aid has remained stable, there has been a tendency towards less expenditures for grants and more for student loan programs in relative terms. However, Table 5 shows that the structure of public expenditures for tertiary education varies considerably across countries.

3. Concluding remarks

The present analysis shows that there is no general crisis of enrolments, of funding or of public funding in public tertiary education in OECD countries. At the macro level, on the contrary, there was remarkable stability overall in the distribution of enrolments and in the funding patterns of tertiary education in the past decade. Except for Japan and Korea, tertiary education is still predominantly a public enterprise in the OECD area; the private for-profit sector is still marginal in a large majority of countries, and even more so for advanced research programmes. However, the small shift towards enrolments in private government-dependent institutions corresponds to recent shifts in policy thinking and policy reforms making tertiary education institutions more autonomous from public authorities and more remote from traditional administrative models of public governance.

As for funding, tertiary education institutions have not faced a major crisis either: their budgets have increased over the past years, in most cases per student, and their public funding per student has also increased in most countries. The share of public funding in their budget has decreased on average, but this is mainly due to the quicker growth of (additional) private funding. Students (and their households) have arguably faced the most serious crisis as they contribute more to the expenditures of tertiary education institutions than they used to; however, in most countries their tertiary education is still significantly publicly subsidised. In brief, the crisis, if any, is limited – and actually limited to a few countries. In the United States, there is no evidence of a crisis of enrolments in the public sector, nor of funding or public funding per student: tertiary education is overwhelmingly public. While students' contribution to tertiary education institutions has remained stable, the cost of tertiary education to students and their families has increased in real terms though while tertiary education institutions' expenditures increased.

Does this mean that there is no crisis of public tertiary education (or "crisis of the publics")? Not necessarily. Country averages can hide large variations within countries and case studies or less aggregated data could help better understand this widespread perception of a crisis. In the case of academic research, there is for example a well established trend towards allocating public research funding through competitive bids, as this has long been the case in the United States, whereas a large share of public research funding used to go directly to tertiary education institutions (Vincent-Lancrin, 2006; Geuna and Martin, 2003). As a result, public funding may become more concentrated in a few institutions, leaving a large number of public universities with less resources and research facilities (even if the public funding increases): most institutions could thus legitimately feel they are in crisis, a few being better off.

Another important reason could be that the crisis rests with other factors than enrolments or funding levels. A mental revolution is underway in tertiary education with the qualitative transformation of the public governance and economics of tertiary education, the frontrunners countries being Australia, New Zealand and the United Kingdom – the United States following a different trend because of a different tradition and history of its higher education. This can be seen through several changes in the way institutions, governments

and experts think about tertiary education, regardless of the implementation of these changes. These changes can take the following forms:

- changes in the legal and funding relationships of (public) tertiary education institutions and public authorities, which are encouraged to raise more private funds and act in a more entrepreneurial way: this results in a cost sharing that is less favourable to students compared, to more endeavours to raise (or use) private funds for academic research, and in new ways of publicly funding tertiary education;

- changes in the employment system and job content of academics: while they are still civil servants or tenured professionals in a number of OECD countries, tertiary education institutions use more temporary or adjunct professors than in the past, and the academic profession is changing to become closer to a business-like employer-employee relationship (Enders and Musselin, 2007, Schuster and Finkelstein, 2006);

- changes in the perception of the sector, which is increasingly seen as a regular economic sector: while the sector can hardly be described as a regular marketplace, some ways of thinking about it would have been difficult decades ago: the inclusion of the tertiary education it the GATS, the competition for foreign (and sometimes domestic) fee paying students and for funding are indeed transforming the perception (and to a large extent self-perception) of tertiary education from a public service into a service industry, even in countries which are not directly affected by these changes.

In most countries, these changes are driven (or at least viewed as driven) by globalization, either directly or indirectly, as a response or preparation to it – demography being another important factor. Public governance practices have got closer, though not converged, as information and "best practices" circulate more quickly internationally. Globalization has also brought innovation and human capital development to the fore of public policies. As a result, tertiary education is now perceived as playing a major role for maintaining the economic standards of economically advanced nations – and governments now try to make their public education competitive globally. International rankings have recently been prominent in policy reform discussions and explain why some countries try to have a build up "world class" universities (although a few world class departments located in different universities may actually be enough if excellence was the only objective). While international competition and competitiveness become more important in public tertiary education, perhaps is it not so surprising to see public tertiary education transforming itself. Given that relatively affluent US universities top international rankings, giving the rest of the world a benchmark of what world class universities are, most OECD countries try to help their institutions to raise as much resources and to be able to compete with them by attracting (or retaining) their best faculty: this will probably remain a major driver of change in public tertiary education in the coming decade.

Because of the prominence of US research universities worldwide, the pressure of globalisation and competitiveness is not perceived in the same way in the United States and in most other OECD countries. While US public research universities find it more difficult to compete financially with US private research universities, some US public research universities belong to these "world class" universities and are much more affluent than the most affluent public universities in other countries. Many of the changes underway in other OECD countries have long been features of US tertiary education. Whereas research funding becomes more concentrated in many countries, this has long been the case in the United States; whereas countries are starting to openly differentiate their public tertiary education hierarchically, this hierarchy has long been in place in the United States; whereas private funding becomes more important in the economy of tertiary education institutions, this has long be part of public tertiary education in the United States; whereas many countries are considering having students covering a more significant share of the cost of their tertiary

education in order to increase their institutions' resources, this has long been the case in the United States.

In the United States, the major challenge related to globalisation lies in the qualification or tertiary educational attainment of its workforce: in spite of a high access to tertiary education, tertiary educational attainment has stagnated while it has continued to increase in most other OECD countries. The cost (or "affordability") of tertiary education to students is part of the equation: while many OECD are in the process of increasing the contribution of household to their public tertiary education, the policy agenda in the United States is about maintaining or reducing it. While the research excellence of US research universities makes the United States a benchmark for other countries, one question about the US model is whether quality in teaching and excellence in research can be achieved at a lower cost to students and taxpayers. The search for the answer will probably lead to a further transformation of public tertiary education, both in the United States and in other OECD countries.

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