



Original Article

Beautiful Lies, Damned Statistics: Reframing How Australian University Finances are Compared with the OECD

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In higher education funding debates, Australia has been ranked ‘second last in the OECD’ for its public investment in universities. Yet such comparisons overlook particular features of the Australian situation. Five general problems with the ‘second-last’ narrative are examined. Many interpretations of OECD statistics overstate the Australian under-funding case and raise questions of relevance in domestic funding debates. Flawed comparisons drawn from OECD data do not appear to be confined to Australian commentary.

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Introduction

When visiting Melbourne in 1895, American author and humourist Mark Twain wrote that Australian history was so ‘curious and strange’ that actual events seemed like ‘the most beautiful lies’ (Twain and Watson, 2006, p. 65). To a modern cosmopolitan the way we finance universities may seem just as strange. In 2013, one political party (Greens Party, 2013, pp. 1–2) claimed that to match the OECD average, Australia would need to invest over A\$10 billion more per year and that the sector faced ‘chronic under-funding’ compared with other nations.

The evidence base for this Australian under-funding narrative is an impartial and carefully constructed set of statistical indicators, updated each year in the OECD’s *Education at a Glance* reports. The metrics cited most often have been taken as proof, pure and simple, of how poorly funded Australian universities have become. But OECD datasets are neither pure nor simple. From nation to nation tertiary system design, financing methods and resource allocation vary widely. The report’s statistical indicators are complex and nuanced, with many footnotes and caveats.

This paper points to error, not wilful misuse of OECD data. Its title is a blend of two famously ironic quotes: Benjamin Disraeli on ‘lies, damned lies and statistics’ and Mark Twain on Australian history as ‘beautiful lies’.



Different OECD tables tell different stories, complicating the picture. As well, there is at least a 3-year lag between the report's publication and the financial data presented.

The Decline and Fall of Australian Funding

In Australian commentary, a widely cited measure of relative under-funding has been the statistical indicator used by the OECD to estimate public expenditure on educational institutions as a share of each country's gross domestic product (GDP). For example, Marginson (2007, p. 17) drew on the 2007 *Education at a Glance* report to conclude that:

[in] public funding of tertiary education, Australia is a relatively low public investor at 0.8% of GDP in 2004 compared to the OECD average of 1.0%. Australia is 25th of the 29 OECD countries for which data are available...

Three years later, Marginson (2010) observed, relative spending rates had declined further:

Australia's commitment to tertiary education, and especially to public funding, has declined in comparative terms...Australia allocates 0.7% of GDP to public funding of tertiary education. OECD nations average 1%.

Over time, this spending gap appears to have become notably wider, leading to concerns about serious under-investment. As Marginson (2011) puts it:

Australia spends less in public funding on universities than almost every other country in the OECD. Australia spends 0.7% of GDP and the OECD average is 1.1% of GDP.

Other Australian university sector commentators such as Massaro (2010), Young (2011), Connell (2013), Pitman (2013), Bexley (2014), Moodie (2014), Tiffen (2015), Kristjanson (2015), Parker (2015a), Whelan (2016, p. 53) and Hoj (2017) have cited similar metrics drawn from successive OECD reports. Taken together these support a dual narrative of declining levels of public investment over time and a widening gap between Australian and OECD average rates of public investment: from 0.8 versus 1.0% of GDP in 2004 to 0.7 versus 1.1% in 2011. Marginson (2013a) notes that disparities like these represent billions of dollars:

In 2010, the OECD found Australia spends 0.7% of GDP in public funding of tertiary education compared to an OECD country average of 1.1%, a difference of A\$6 billion.

Other scholars have ranked Australian funding levels against those of OECD peers in similar terms. By 2011, Australia had 'the second-lowest public investment in



higher education as a share of GDP in the OECD’ (Bexley, 2014) and was ‘ranked 33rd out of 34 OECD countries’ (Hook, 2015). Similar comparisons by journalists (e.g. Jericho, 2014), university vice-chancellors and the university sector’s peak bodies have framed the problem this way also. In a 2015 pre-budget submission Universities Australia highlighted ‘low and falling’ investment in the sector. A chart based on data from the 2014 edition of *Education at a Glance* suggested that only Japan had a lower rate of public funding (Figure 1).

The submission outlined the problem as follows (Universities Australia, 2015a, p. 6):

By international standards, our public investment in the university sector is low and falling...Australia is ranked 30 out of 31 OECD countries for public investment in (university equivalent) tertiary education as a percentage of GDP in 2011...0.74% of GDP, compared to [the] OECD average of 1.13%...

The Australian Business Deans Council submission made a similar case (Australian Deans of Business Council, 2015, p. 2):

Australia currently invests 0.7% of GDP in tertiary education, compared with the OECD average of 1.1% of GDP. Australia is ranked 33rd out of 34 OECD countries for public investment in tertiary education...

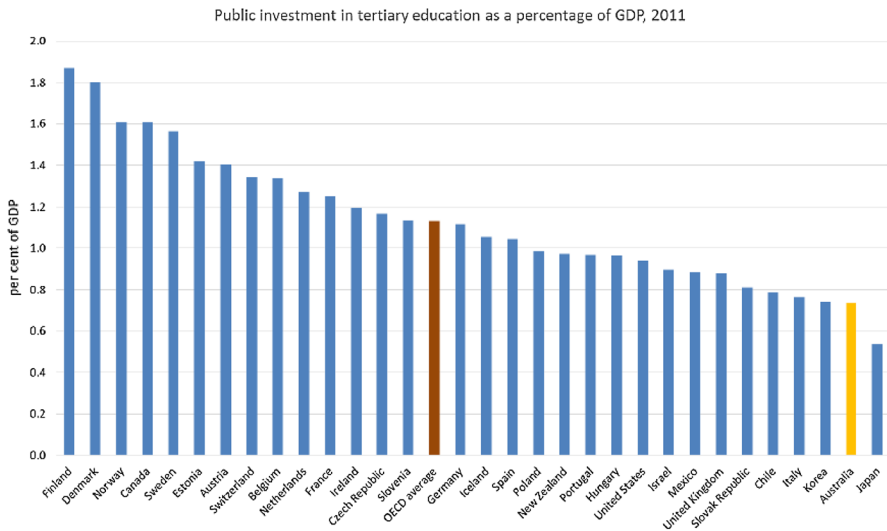


Figure 1. Source: Universities Australia (2015a, p. 7).



During 2014 and 2015, Australia's 'second-last' status seemed beyond question. A widely read commentary with a link to the relevant OECD report dataset (Table B2.3) put the case cogently (Tiffen, 2015):

In 2011, the last year for which full international data is available, Australia's public funding of universities ranked thirty-third out of the thirty-four OECD member countries. Governments across the OECD spent an average of 1.1% of GDP on universities; Australia devoted just 0.7%. Six countries – including Canada, at 1.6% – spent at least double Australia's proportion of national income. Finland, at 1.9%, tops the list... private funding constitutes 0.9% of GDP in Australia, which is almost double the OECD average of 0.5% and puts us among the most privatised group. The relationship between income inequality and private share of university funding is striking, with relatively equitable countries, such as the Nordic countries, having the lowest...

While claims of Australia's '33rd out of 34' status ignore countries such as Greece (which for years has reported no data in the relevant OECD table), this summation became a reference point for other commentary; for example Bexley (2015), Hook (2015), Connell (2015) and Whelan (2016, p. 53). For funding advocates, this kind of data offers dramatic metrics from a highly credible source. Each year the OECD appears to reconfirm how poorly funded Australian universities have become, and how heavily reliant they now are on student fees.

Under-Funded Yet Out-Performing?

Yet despite this history, the performance of the Australian university sector looks strong. The OECD data in Table 1 (2016, p. 42, Table A1.2) show how in 2014 overall tertiary education attainment in Australia at 48% was higher than the OECD average for 25- to 34-year-olds (42%) and also higher than for many others in this sample of 15 of the 34 OECD countries. In Table 1, Australia looks strong in bachelor degree attainment especially, though below average in master degrees.

Table 1 also suggests somewhat stronger performance in total bachelor/master qualifications provision by the Australian university sector, even compared with notably higher-spending countries such as Austria and Canada. Canada had much higher tertiary attainment overall, notably above the OECD average also, especially in its 'short-cycle' programmes.

Research performance in the Australian university sector has grown quite strongly also, in quantity and in quality, according to a formal assessment (Universities Australia, 2015b). In its *Keep it Clever* policy statement (2015c, p. 8), Universities Australia noted also that the sector has performed well in international rankings:


Table 1 Percentage of 25- to 34-year-olds attaining tertiary education in 15 OECD countries

<i>Tertiary education attainment: % of 25- to 34-year-olds in 2015</i>														
	<i>Australia</i>	<i>Austria</i>	<i>Belgium</i>	<i>Canada</i>	<i>Denmark</i>	<i>Finland</i>	<i>France</i>	<i>Germany</i>						
A1.3a Doctoral degrees	1	1	1	1	1	0	1	1						
A1.3a Master degrees	8	14	19	9	16	14	15	13						
A1.3a Bachelor degrees	30	7	23	25	24	26	12	15						
A1.3a Short-cycle tertiary	10	16	0	25	4	0	17	0						
A1.3a Total tertiary	48	39	43	59	44	41	45	30						
<i>Tertiary education attainment: % of 25- to 34-year-olds in 2015</i>														
	<i>Italy</i>	<i>Netherlands</i>	<i>Norway</i>	<i>Portugal</i>	<i>Spain</i>	<i>Sweden</i>	<i>UK</i>	<i>OECD average</i>						
A1.3a Doctoral degrees	0	1	0	0	0	1	1	1						
A1.3a Master degrees	15	16	13	21	17	13	13	14						
A1.3a Bachelor degrees	10	27	21	12	11	22	28	21						
A1.3a Short-cycle tertiary	0	1	14	0	13	11	8	8						
A1.3a Total tertiary	25	45	48	33	41	46	49	42						

Data source OECD, Education at Glance 2016, p. 42.



Half the number of Australian universities are now ranked in the Academic Ranking of World Universities' top 500 research-oriented Universities...Australia is the seventh most-represented country in the 2015 Times Higher Education World University Rankings, boasting an impressive 22 institutions in the top 400.

If relative under-funding in Australia has gone from bad to worse, why has this not led to relative under-performance?

Flawed OECD Comparisons: Five Problems

A plausible answer is that Australian universities are not as badly under-resourced as these comparisons suggest. The OECD metrics cited earlier rise and fall from year to year: any 'ranking' may be short-lived due to rounding up or down or to other factors outlined later. In the 2015 edition of *Education at a Glance*, the Australian indicator for public spending on tertiary institutions rose from 0.7% of GDP in 2011 (rounded down that year) to 0.9% in 2012 (rounded up that year). This new rate implied that Australia no longer ran 'second last'. It was higher than in five other OECD countries for which data were available: Luxembourg, Japan, Korea, Hungary and Italy (OECD, 2015a, Table B2.3, p. 235). However, the OECD average rate rose also in 2012 to 1.2% of GDP. On this basis, it may be argued that the Australian sector remained badly under-funded in 2012. Drawing on the OECD's 2015 report, the Group of Eight universities (Thomson, 2016) put it this way:

Australian universities are public institutions in which we significantly under invest ...for the latest available figures Australia finished 27 out of 32 countries for public investment in tertiary education at 0.9% of GDP...only three-quarters of the OECD average of 1.2% of GDP and has us trailing the Slovak Republic, Mexico and Spain.

But there are pitfalls when commentators pluck simple metrics from *Education at a Glance*. The following analysis will argue that Australia's 'chronic under-funding' narrative is a myth. In reality, Australian university sector resourcing has never been 'second last in the OECD' for the level of public financial support it receives; nor does it 'trail Spain' in terms of resourcing. This is despite the recurrence in the latest available report (OECD, 2016, p. 207) of data which appear to rank Australia 'second last' once again (at 0.7% of GDP in 2013, compared with an OECD average of 1.1%) in the indicator for public expenditure on tertiary institutions.

Five general problems with such claims will be outlined, with reference to OECD financial data for Australia and the 14 other sample countries in Table 1. To make the task of supporting my critique of the 'second last' narrative a little harder, this sample will use 2013 data from the 2016 report. It will exclude Japan



and Luxembourg. And it will include countries well known for their higher than average rates of public investment and tertiary attainment, such as the Nordic countries and Canada.

Public and Private Tertiary Expenditure Rates in *Education at a Glance*

Table 2 sets out data drawn from three OECD tables of financial statistical indicators (OECD, 2016, pp. 205, 207 and 230). From OECD table B2.3, we see countries with a range of rates for ‘public’ expenditure on tertiary institutions and an OECD average of 1.1% of GDP in 2013. OECD table B2.3 also shows ‘private’ expenditure on tertiary institutions as well as ‘total’ expenditure on tertiary institutions (i.e. public plus private) with an OECD average of 1.6% of GDP.

The data from OECD table B2.1 separate ‘tertiary’ spending on typical university degree programmes such as bachelor or master degrees (formerly classed as ‘tertiary type A’ by the OECD) and spending on other ‘short-cycle’ tertiary programmes, such as sub-bachelor qualifications and vocational diplomas (formerly ‘type B’). The OECD average for total expenditure on the first group of programmes in 2013 was 1.4% of GDP and on the second group, 0.2%.

Finally, Table 2 shows data from OECD table B4.1. This presents ‘total public expenditure’ as a percentage of GDP, including public subsidies to households (such as student fee loans, to be discussed later) and also student housing/living cost loans. In the B4.1 indicator, these public subsidies are added to direct public expenditure on institutions (B2.3). Here the OECD average for ‘total public expenditure on tertiary education’ is 1.3% of GDP.

In the first line, we see the main evidence base for the Australian university sector ‘second-last’ and ‘chronically under-funded’ narrative. The B2.3 ‘public’ rate of ‘expenditure on tertiary institutions’ for Australia was 0.7% of GDP in 2013, lower than for all others in the sample. In the second line, we see the B2.3 ‘private’ spending rate. For Australia, this was 1.0% of GDP, higher than for all other countries in the sample except Canada. The third line shows the total (public plus private) Australian spending rate for tertiary institutions at 1.7% of GDP, higher than for seven of the other 14 sample countries (Belgium, France, Germany, Italy, Norway, Portugal and Spain) and higher too than for the OECD average (1.6). Four other countries had the same total spending rate at 1.7% of GDP (Austria, Denmark, the Netherlands and Sweden); three had a higher rate for tertiary institutions: Canada (2.5), Finland (1.8) and the UK (1.8).

Much of this seems consistent with Table 1 data. Tertiary attainment levels for 25- to 34-year-olds in 2015 were higher in Australia than the OECD average and in all but three of the sample OECD countries (Canada, Norway and the UK). Some countries with notably higher rates of public spending in the B2.3 indicator, but notably lower rates of private spending, appeared to have lower tertiary

Table 2 Public and private expenditure (tertiary) as % of GDP in 2013

<i>Comparison rates for public and private spending as % of GDP in 2013</i>	<i>Australia</i>	<i>Austria</i>	<i>Belgium</i>	<i>Canada^a</i>	<i>Denmark</i>	<i>Finland</i>	<i>France</i>
B2.3 Public spending on 'tertiary institutions'	0.7	1.7	1.3	1.3	1.6	1.7	1.2
B2.3 Private spending on 'tertiary institutions'	1.0	0.1	0.1	1.2	0.1	0.1	0.3
B2.3 Public + private spending on tertiary institutions (total of above)	1.7	1.7	1.4	2.5	1.7	1.8	1.5
B2.1 Public + private spending on bachelor/master/doctoral programmes incl R&D	1.5	1.5	1.4	1.6	1.7	1.8	1.2
B2.1 Public + private spending on short-cycle tertiary programs	0.1	0.3	0.0	0.9	0.0	0.0	0.3
B4.1 Total public spending on 'tertiary education' incl public subsidies to households	1.3	1.8	1.4	1.3	2.3	2.0	1.2
<i>Comparison rates for public and private spending as % of GDP in 2013</i>	<i>Netherlands</i>	<i>Norway</i>	<i>Portugal</i>	<i>Spain</i>	<i>Sweden</i>	<i>UK</i>	<i>OECD average</i>
B2.3 Public spending on 'tertiary institutions'	1.2	1.5	0.9	0.9	1.5	1.1	1.1
B2.3 Private spending on 'tertiary institutions'	0.2	0.1	0.5	0.4	0.2	0.8	0.5
B2.3 Public + private spending on tertiary institutions (total of above)	1.2	1.6	1.4	1.3	1.7	1.8	1.6
B2.1 Public + private spending on bachelor/master/doctoral programmes incl R&D	1.2	1.6	1.4	1.1	1.7	1.8	1.4
B2.1 Public + private spending on short-cycle tertiary programs	0.0	0.0	0.0	0.2	0.0	0.0	0.2
B4.1 Total public spending on 'tertiary education' incl public subsidies to households	1.3	2.4	0.9	1.0	2.0	1.4	1.3

^a Canada data are for 2012.

Data source Education at a Glance 2016, pp. 205, 207 and 230.

attainment rates, such as Austria and Finland (each with a public spending rate of 1.7% of GDP). Other sample countries with total spending rates at 1.7% (Denmark, with 1.7% public and 0.1 private, Sweden, with 1.5 public and 0.2 private, and the Netherlands with 1.2 public and 0.5 private) had high tertiary attainment levels. These examples appear to confirm that, in themselves, neither the level of public funding nor the public/private mix of financing will determine tertiary education access or attainment levels. As noted in *Education at a Glance* (2016, p. 236), despite widely disparate tuition fee levels in countries such as Australia, Austria and Denmark,

countries with a low level of tuition fees for national students do not appear to achieve better access to tertiary education than other countries.

In the B2.1 data in Table 2, we see Australia's total spending rate on bachelor, master and doctoral degree programmes at 1.5% of GDP in 2013; slightly above the OECD average (1.4%); and also higher than for countries such as France (1.2), Germany (1.2), Italy (1.0) and Spain (1.1). Again, this seems consistent with the attainment metrics in Table 1 for this group of tertiary programmes.

In the B4.1 data in Table 2, Australia's 'total public expenditure' on 'tertiary education' at 1.3% of GDP in 2013 was the same as the OECD average (1.3) but higher than for France (1.2), Italy (0.8), Portugal (0.9) and Spain (1.0).

In the next sections, the five problems with interpreting OECD statistics will be discussed with reference to Australian commentary and the data in Tables 1 and 2.

Problem 1: Tertiary Education Funding is Not (Just) Direct Funding for Tertiary Institutions

As Table 2 suggests, one problem with claims that the Australian rate of public funding for universities is 'second last in the OECD' is that *Education at a Glance* defines 'public' expenditure in more than one way. For the indicator at B2.3, expenditure from 'public' sources included direct public subsidies to tertiary institutions, but not government loans for student fees. In this case, government loans are counted as expenditure from 'private' sources, just as they would be if students borrowed money from a private bank to pay course fees. But for the indicator at B4.1, government loans for student fees are included in 'total public expenditure'. One reason to treat student loans as 'private' in the B2.3 indicator is its focus on *institutional revenue* as a share of GDP. Here the OECD presents expenditure from both 'public' and 'private' sources and also compares 'total' rates of revenue. In the B4.1 indicator, government loans for other purposes such as student living costs are included, due to its focus on *government outlays* as a share of GDP.

In some systems, government loans for living costs are a significant part of the public cost of student support to ensure access to study. In Norway, for example, tuition is free, but 68% of domestic university students take up loans, and the



average debt at graduation exceeds \$US26,000 in ‘purchasing power parities’ (OECD, 2016, p. 249). Where loans to students do not finance teaching programmes directly, it makes sense to exclude these from expenditure on ‘tertiary institutions’ in the B2.3 indicator. In Australia, however, Higher Education Loan Program (HELP) loans are a major form of university revenue, as these loans are used to finance tuition fees alone, not living costs (except for overseas study). Along with the grants paid directly to Australian universities each year for Commonwealth supported course places, 90% of domestic undergraduate tuition fees are financed by government in the form of HELP loans. Both streams of funding are paid directly to the institution at which the student enrolls. So, in the B4.1 indicator of ‘total public expenditure’ teaching grants are counted as ‘direct public subsidies’ (OECD, 2016, p. 230) as per B2.3, but here student loans count also.

In the present discussion, the question this raises is why, in domestic funding debates, Australian commentary focuses so often on the direct public subsidy element of the B2.3 indicator alone, without reference to HELP loans as ‘indirect’ public financing of teaching programmes via ‘subsidies to households’, as per B4.1. As Table 2 shows, the 2013 estimate of the Australian comparison rate of ‘total public expenditure’ for tertiary education was 1.3% of GDP. This was lower than for eight other countries in the sample and notably lower than Nordic countries such as Norway (2.4). But as noted earlier, it was higher than the ‘total public’ rate for France (1.2), Italy (0.8), Portugal (0.9) and Spain (1.0) and higher also than those of several other OECD countries not shown in Table 2 (OECD, 2016, p. 230). On this view, the rate of public funding for ‘tertiary education’ in Australia seems a long way from ‘second last’. Thus, the OECD distinctions between these different views of tertiary sector financing are often lost in representations of ‘public expenditure’ in Australian commentary.

Problem 2: Tertiary Institutions are Not (Just) Universities

The second problem also turns on definitions and inferences. Several countries in Table 2 that have had the B2.3 indicator taken as a reference point in Australian commentary (e.g. Young, 2011; Marginson, 2013b; Tiffen, 2015), such as Finland (1.7), Norway (1.5) and Canada (1.3), for years have had rates of direct public expenditure on tertiary institutions well above the OECD average (1.1% of GDP in the 2016 report). But in *Education at a Glance* reports, no table tracks direct public expenditure rates for universities alone. As a former director of Australia’s reporting of statistics to the OECD noted in an earlier critique of misinformed debates in Australia (O’Reilly, 2009, p. 4):

OECD figures for ‘tertiary’ do not relate to any institutional sector (for example, the university sector or universities combined with VET) but instead to courses of a specific educational level. For Australia they include all

courses of diploma level and higher, thus taking in the top 25% or so of vocational courses, in addition to virtually all of university education.

Many Australian commentators refer to OECD direct public spending rates for ‘tertiary institutions’ in the B2.3 indicator as a proxy for public spending on ‘universities’. But this can lead to problematic comparisons. Higher rates of direct public spending on ‘tertiary institutions’ may reflect national systems with considerably larger non-university sectors than is the case for the Australian tertiary sector. In Canada, for example, a large share of public spending is allocated to diploma or associate degree programmes in community colleges and polytechnics. As Table 2 shows, total public and private spending on ‘short-cycle’ (type B) programmes amounted to 0.9% of Canadian GDP. This is consistent with the data in Table 1: Canada’s high level of tertiary attainment reflects its high levels of sub-bachelor-level study. In 2015, some 25% of Canadian 25- to 34-year-olds have bachelor degrees, and 25% have ‘short-cycle’ qualifications. This contrasts with a 30 versus 10% allocation in Australia. Due to differences in system design, Canada invested over a third of all spending in what Australians would regard as ‘non-university’ or ‘non-degree’ programmes (0.9% of GDP, from a total of 2.5), while Australia invested far less (0.1% from a total of 1.7).

As Table 2 shows, Canada’s rate of direct public spending on tertiary institutions amounted to 1.3% of GDP and its private spending rate was 1.2% (B2.3). From a total of 2.5% of GDP, its rate of total public and private spending on bachelor/master/doctoral degree programmes amounted to 1.6% (B2.1). Some Australian commentators (e.g. Tiffen, 2015, citing the 1.6% rate from the 2014 report) appear to assume that all of Canada’s direct public spending goes to its universities, thus ‘double’ the rate in Australia. However, most Canadian universities also enjoy a significant ‘private’ spending and the public/private mix is not clear for ‘degree’ programmes. Canadian universities charge slightly higher domestic tuition for bachelor degrees than in Australia; they attract substantial numbers of fee-paying international students (OECD, 2015a, pp. 265 and 352); and as noted, they invest heavily in ‘short-cycle’ qualifications.

Thus, the ‘public’ funding gap between these two university sectors will not be as large as it looks in the B2.3 indicator. In both cases, the rates of ‘total public expenditure’ for tertiary education, as reported in the B4.1 indicator in the 2016 report, were the same: 1.3% of GDP. Universities Australia’s *Keep it Clever* policy falls into this kind of error. In a chart comparing the Australian level of direct public expenditure to institutions with that of Canada in particular, it appears to assume that all of Canada’s public spending goes to universities (Universities Australia, 2015c, p. 15). Reproduced here as Figure 2, the chart is presented as follows:

...since 1995, Australia has dropped from having the sixth highest to the second lowest level of public investment in tertiary education as a share of

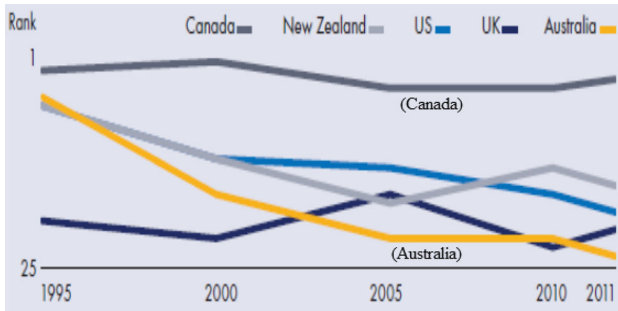


Figure 2. Australian public spending compared with selected OECD countries 1995–2011.
Image source Universities Australia (2015c, p. 15).

GDP...In 1995, this investment stood at 1.2% of GDP; in 2011, it stood at 0.74% of GDP, well below the OECD average of 1.13%. If government expenditure on university education increased to at least 1% of GDP (still below the OECD average)...

As with public funding for ‘tertiary institutions’ and ‘tertiary education’, the conflation of ‘universities’ with the wider ‘tertiary education’ sector may simply reflect attempts to write about complex OECD data in shorthand, in media commentary especially. But in this case, the comparison uses data from a series of metrics focusing on ‘expenditure on tertiary institutions from public sources’. Apart from offering a confusing view of sectoral finances, conflating ‘universities’ with ‘tertiary institutions’ will inflate the apparent disparities between Australian rates of public spending on bachelor/master/doctoral degree programmes and those of countries such as Canada, Austria or France. Each of these has high levels of ‘short-cycle’ programmes classed as ‘tertiary’, as shown in Table 1.

Problem 3: Australian GDP is Not OECD GDP

A third problem is that all of the spending comparisons reproduced in Table 2 take GDP as if this were a neutral common denominator. In economic surveys of OECD countries, Australia’s long period of sustained economic growth since the early 1990s has made it the ‘Iron Man’ of OECD nations (OECD, 2012). In consequence, from 1992 to 2012 Australian GDP grew by 95%, while the OECD average growth was 55%. Part of the invisible story behind Figure 2 is that higher rates of tertiary spending as a percentage of GDP elsewhere in the OECD often reflect (in part) under-performing GDP growth, particularly since the 2007–2008 global financial crisis. For example, in 2013 *Education at a Glance* found that over 2008–2010 Estonia cut public spending on its educational institutions significantly, by 10%. But it also noted that as a percentage of GDP, Estonia’s comparison rate of public spending actually

rose for this indicator, because its GDP had fallen by more than 10% during that period (OECD, 2013, p. 187). For similar reasons, Italy’s comparison rate rose also, over 2010–2013 (OECD, 2016, p. 202).

Figure 3 sets the Australian ‘decline and fall’ outlined earlier in this context. Between 2000 and 2014, Australian GDP grew by 50%, while the OECD average was 26% (and for Euro area countries, 13%). In real terms, the widening gap that commentators have tracked year by year between Australian and OECD rates of public spending on tertiary institutions, from 0.8 versus 1.0% of GDP in 2004 to 0.7 versus 1.1% in 2009, 2011 and 2013, may not reflect a significant relative decline at all.

Figure 3 illustrates how, from 2007 to 2008 especially, GDP growth disparities have been so large that their effect on comparison rates of spending between Australia and the OECD average is too big to ignore when commentators make claims about ‘rankings’. The same issue arises with many country-specific spending comparisons. Figure 4 shows how Australian GDP growth from 2001 to 2013 compares with that of the sample countries listed in Table 2. During this period, Australian GDP grew by 42%, Canadian GDP by 27%, German GDP by 12% and so on. The OECD average was 22%. In two of the sample countries (Italy and Portugal), GDP in 2013 was lower than in 2001.

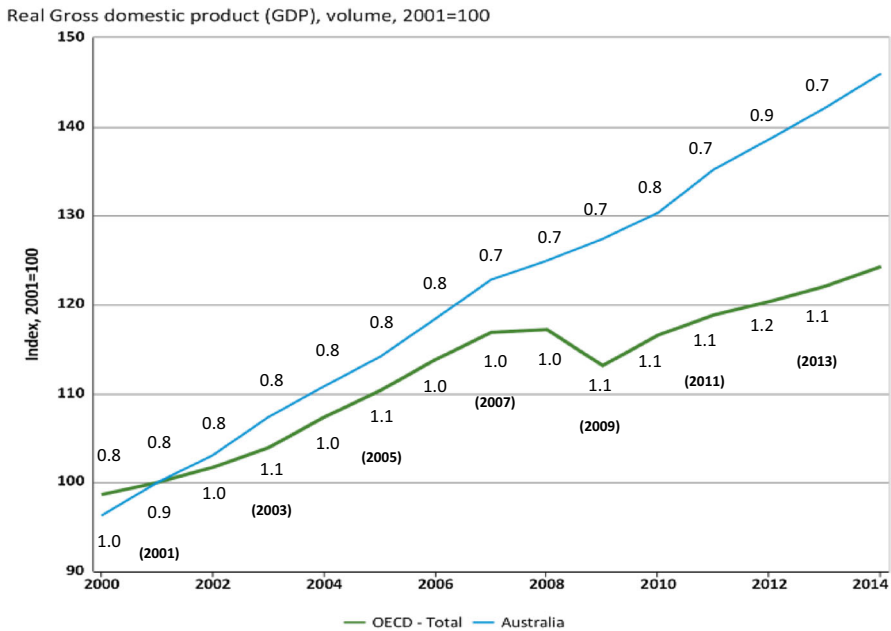


Figure 3. Growth in real GDP from 2000 to 2014 and public expenditure on tertiary institutions as a percentage of GDP, for Australia (above) and the OECD (below).
 Data source OECD, National Accounts at a Glance (2015b).

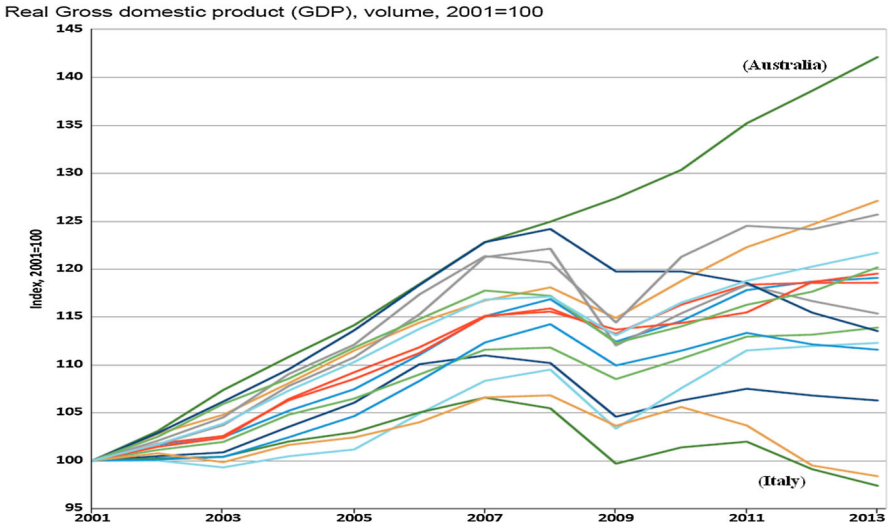


Figure 4. GDP growth from 2001 to 2013 in Table 1 OECD countries.
 Data source OECD, National Accounts at a Glance (2015b).

It follows that the GDP-based spending comparisons in Table 2 cannot be as meaningful as they first appear to be. Table 3 shows what would happen if each OECD country in Table 2 agreed to invest 1.0% of its GDP in public funding for tertiary institutions every year from 2001, equal to 100 units in 2001. By 2013, the volume of Australian spending would rise to 142 units, Belgian spending to 119 units, Danish spending to 106 units and so on. Table 3 also shows the effect this has on two of Table 2 spending comparisons if adjusted for GDP growth: direct public spending on tertiary institutions and total spending on bachelor/master/doctoral degree programmes ('university degrees' in the Australian context), as a share of GDP.

As noted in the discussion of Table 2, the OECD B2.3 metric showing the Australian rate of direct public spending on tertiary institutions in *Education at a Glance* looked lower than for all sample countries at 0.7% of GDP in 2013. But if growth-adjusted, a rough reckoning of the Australian volume of spending in 2013 at 99 units looks higher than for Italy (77) and Portugal (88). Does it still 'trail Spain' (103) on this indicator? It still looks notably lower than the OECD average (134 units) and lower than the other sample country with a below average B2.3 rate, Germany (112). However, in countries with notably higher than average rates of direct public spending such as Denmark (1.6% of GDP) even very low GDP growth (6% over 2001–2013) does not bridge the apparent funding gap. Growth-adjusted, Denmark has a volume of 170 units.

On the second OECD metric, the total (public plus private) Australian spending rate for 'university degree' bachelor/master/doctoral programmes at 1.5% of GDP

Table 3 Direct public spending and public + private spending comparisons in Table 2 OECD countries, adjusted for GDP growth

<i>Comparison rates for public and private spending as % of GDP in 2013</i>	<i>Australia</i>	<i>Austria</i>	<i>Belgium</i>	<i>Canada^a</i>	<i>Denmark</i>	<i>Finland</i>	<i>France</i>	<i>Germany</i>
Real GDP growth 2001–2013	42%	19%	19%	27%	6%	15%	14%	12%
Growth in capacity to 2013(1% of GDP = 100 units in 2001)	142	119	119	127	106	115	114	112
B2.3 Public spending on tertiary institutions	0.7	1.7	1.3	1.3	1.6	1.7	1.2	1.0
B2.3 Comparison in 2013 adjusted for GDP growth	99	202	155	165	170	195	137	112
B2.1 Public + private spending on bachelor/master/doctoral programmes incl R&D	1.5	1.5	1.4	1.6	1.7	1.8	1.2	1.2
B2.1 Comparison in 2013 adjusted for GDP growth	213	179	167	203	180	207	137	134
B1.1 Total \$USD'000 spent per bachelor/master/doctoral student in PPPs incl R&D	19.9	16.7	16.1	25.1	16.5	17.9	17.0	16.9
<i>Comparison rates for public and private spending as % of GDP in 2013</i>	<i>Italy</i>	<i>Netherlands</i>	<i>Norway</i>	<i>Portugal</i>	<i>Spain</i>	<i>Sweden</i>	<i>UK</i>	<i>OECD average</i>
Real GDP growth 2001–2013	-3%	12%	20%	-2%	14%	26%	20%	22%
Growth in capacity to 2013(1% of GDP = 100 units in 2001)	97	112	120	98	114	126	120	122
B2.3 Public spending on tertiary institutions	0.8	1.2	1.5	0.9	0.9	1.5	1.1	1.1
B2.3 Comparison in 2013 adjusted for GDP growth	77	134	180	88	103	189	132	134
B2.1 Public + private spending on bachelor/master/doctoral programmes incl R&D	1.0	1.7	1.6	1.4	1.1	1.7	1.8	1.4
B2.1 Comparison in 2013 adjusted for GDP growth	97	190	192	137	125	214	216	179
B1.1 Total \$USD'000 spent per bachelor/master/doctoral student in PPPs incl R&D	11.2	19.0	20.4	11.1	13.5	24.8	25.8	16.2

^a Canada data are for 2012.



already looked higher than for six of the 14 countries in the sample and (slightly) higher than the OECD average also (1.4). Growth-adjusted, the Australian volume of 213 units now looks clearly higher than the OECD average (179), as well as Austria (179), Belgium (167), Denmark (180), France (137), Italy (97), Portugal (137) and Spain (125). On this view, Australian resourcing for ‘university degree programmes’ (bachelor degree and above) at 213 units is around the Nordic levels of Finland (207), Norway (192) and Sweden (214), as well as Canada (203), the Netherlands (190) and the UK (216).

These rough reckonings are not rocket science and not a reliably accurate picture of relative resourcing levels. However, in many cases they are not inconsistent with the OECD’s own ‘purchasing power parity’ (PPP) estimates of total spending per student at the bachelor degree and above level (OECD, 2016, p. 192). Data from Table B1.1 indicator in the final row of Table 3 show these estimates (here in round figures) for sample countries in 2013. In PPPs, Australia spent US\$19,900 per student compared with an OECD average of \$16,200. For Austria, Belgium and Denmark, the figures were \$16,700, \$16,100 and \$16,500, respectively. For Italy, Portugal and Spain, they were \$11,200, \$11,100 and \$13,500. For the Netherlands and Norway, they were \$19,000 and \$20,400. For Finland, France and Germany, they were \$17,900, \$17,000 and \$16,900. For Canada, Sweden and the UK, they were \$25,100, \$24,800 and \$25,800. On this view, the rough reckonings in Table 3 look too low for Canada, Sweden and the UK and too high for Portugal and Finland. But in other cases, they seem reasonable.

Cases vary, but the essential point remains: once GDP growth disparities are taken into account, even a B2.3 version of ‘public spending’ which ranks Australia ‘second lowest in the OECD’ for funding its university sector seems far less credible. If such simple ‘rankings’ against a putative OECD ‘norm’ are then translated into multi-billion dollar funding shortfalls, problems of accuracy or relevance are likely to be compounded. The Greens Party claim of ‘chronic under-funding’ cited earlier (2013, p. 2) looks like a case in point:

The OECD average for public investment in universities is 1.1% of GDP. For Australia, this equals A\$28.3 billion. We would need to invest an additional A\$10.3 billion per year to reach the OECD average.

The next sections present some further problems, this time with the ‘private spending’ aspect of the Australian story.

Problem 4: HELP Loans are Not (Just) Private Spending and are a Cost to Taxpayers

Many OECD nations ‘tax and spend’ to finance their public university sectors. But Australia also ‘spends then taxes’. It allows all domestic students entering bachelor degrees access to government loans to meet the full cost of their tuition fees in all

public universities, which make up over 90% of the Australian sector. On average, domestic tuition fees cover less than 50% of the total public spending per place for bachelor degree programmes. Higher Education Loan Program (HELP) loans attract zero real interest and are repayable (via the taxation system) only by graduates earning a decent level of income (a line that may be redrawn from time to time).

HELP loans differ from student loans in Canada, which attract real rates of interest post-study and (for the most part) must be repaid regardless of income like mortgages. This policy difference allows private banks to finance student loans in Canada, thus reducing the burden on government. But as in the USA, it also creates greater debt risk for students than has been the case in Australia. Compared with other countries where students contribute substantially to the cost of their studies via a loan scheme (such as England), Australia's HELP scheme has been judged one of the 'most generous' schemes in the world (Cherastidtham and Moodie, 2016). In effect, repayments work as an income-related tax with variable rates of repayment to clear an inflation-indexed debt. Higher income graduates repay their debts sooner and so cost general taxpayers less in implicit subsidies, since the government borrows to finance the loans at real rates of interest. For graduates who earn less than the repayment threshold for all of their lives, debts are written off.

In 2016, the government budget papers estimated that 18% of new HELP loans (including those for vocational study) would never be repaid, according to the Department of Education and Training (Department of Education and Training, 2016, p. 59). According to a Grattan Institute report (Norton, 2016, p. 48), accumulated HELP debts (including those for vocational study) of over \$A42 billion were owed to the government in 2015, and the government estimated that over \$11 billion of this was 'doubtful debt', unlikely ever to be recovered.

As noted earlier (Problem 1), a loan scheme such as HELP makes it unusually hard to compare 'public' and 'private' spending rates across systems. OECD reporting of HELP loans (as private spending in the B2.3 indicator and as public spending in the B4.1 indicator) is generally consistent with government loan schemes in other countries which have these. However, reportedly student tuition loans in the UK were treated as public spending in the OECD B2.3 data for 2012, as university fees there rose dramatically (Morgan, 2016). This appears to have contributed to a jump in the UK's B2.3 rate of public spending on tertiary institutions to 1.2% of GDP in the 2015 edition of *Education at a Glance*, up from 0.9% in 2011 (OECD, 2014, p. 232). Possible category errors aside, the OECD notes (2016, p. 226) that accounting for the public cost of loan schemes with different terms and conditions is a problem that needs further work:

The indicators in *Education at a Glance*...do not capture the full cost of student loans to governments and individuals over the lifetime of a loan. Depending on a country's student loan system and method of reporting, the indicators can overstate or understate public expenditure on student loans.



This particularly affects countries where student loans form a significant part of the student support system, such as Australia, New Zealand, Norway, the United Kingdom and the United States.

Commentators who take OECD data on ‘public expenditure on tertiary institutions’ as firm evidence of a ‘collapse’ in Australian university funding (e.g. Connell, 2013, 2015) or a ‘free fall’ in funding per student (Marginson, 2013b, p. 59) note correctly that public financing for domestic course places has shifted to rely less on direct grants and more on loans. Together with GDP growth disparities, this trend has helped to create the impression of a slide into ‘chronic under-funding’ in Australia, as shown earlier, in Figures 1 and 2.

Meanwhile, a different story emerges from analyses of domestic data. According to a Mitchell Institute estimate (O’Connell and Torii, 2016, p. 4), total Australian higher education expenditure rose by 45% in real terms over the decade to 2015. An analysis of the university sector’s financial health over 2004–2014 by Larkins and Marshman (2016, p. 18) drew a similar conclusion:

Whatever one might conclude about their international competitiveness in terms of resourcing, Australian universities are nearly 50% better off in real terms — both in revenue and assets — than they were a decade ago.

These local perspectives on domestic levels of spending are consistent with the government’s own view in Figure 5, drawn from a Department of Education and Training report (2015, p. 29). From a government perspective, the flow of publicly sourced dollars paid to universities does not look like a ‘decline’ in funding in the past decade. Figure 5 suggests that in real terms, total public financing of Australian universities was flat for nearly a decade until 2004 and then rose for a decade. What changed most over the decade to 2004 was the mix of public financing. Direct grants for teaching programmes fell; this was partly offset by the increase in HELP loans; and from 2001, the level of public research funding rose also.

According to the Department of Education and Training (2015, pp. 28–29), total public funding to the sector rose in real terms by 238% between 1989 and 2014, while domestic enrolments grew from 420,000 to over 1 million (that is, about 244%). If the research funding in Figure 5 is excluded, total public financing per domestic student still fell, though less dramatically than a grants-only view suggests. Offsetting this, full-fee international enrolments grew substantially to nearly 350,000 in 2014, according to the Department of Education and Training (2015, p. 28). As outlined in the next section, these enrolments have provided Australian universities with a significant third stream of revenue, while also adding to costs and overall growth.

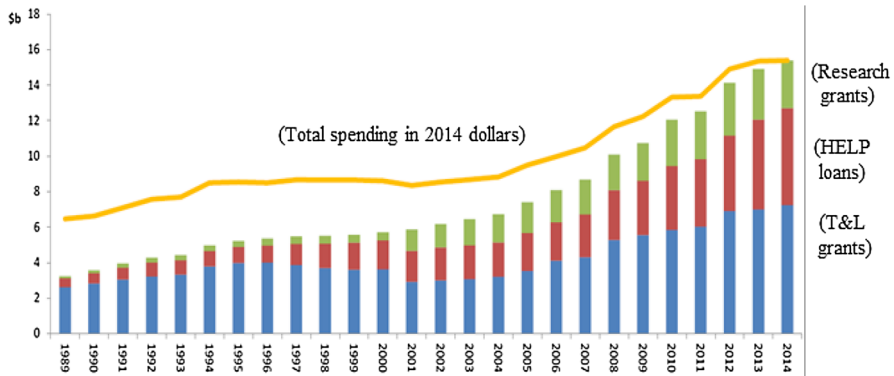


Figure 5. Total public spending including HELP loans, in nominal and inflation-adjusted Australian dollars, 1989–2014.

Source Department of Education and Training (2015, p. 29).

Problem 5: Private Spending is Not (Just) Domestic Student Spending

Part of the Australian under-funding narrative is its flip side: if public funding is too low, it is logical to assume that the level of private spending on university study must be too high, creating access and equity problems. The so-called privatisation of what remains a predominantly public university sector in Australia is sometimes linked to social and economic inequality (e.g. Tiffen, 2015). Even commentators who accept that HELP loans have widened access to bachelor degrees through system expansion assume that Australia’s higher than average level of ‘private’ spending in OECD statistics must mean that domestic students inevitably pay too much. As one commentator put it (Parker, 2015b):

Australian taxpayers contribute one of the lowest proportions in the developed world to their universities, with the balance being picked up almost entirely by students who borrow their contribution from the taxpayer...

To those familiar with the HELP scheme, this statement may sound accurate, but it is not. Several countries finance their tertiary sectors with a combination of public spending and domestic student fees, with a loan scheme in the mix. But Australian tertiary education also doubles as a significant export industry. Compared with most OECD countries, international students make up a far higher share of total tertiary enrolments. At 18% of the total in 2013, this rate was about twice the OECD average (OECD, 2015a, p. 352).

A Grattan Institute graph (Figure 6, from Norton and Cherastidtham, 2014, p. 53) shows the share of public university revenue from Australian domestic students (paid up front as direct fees or financed by government in the form of

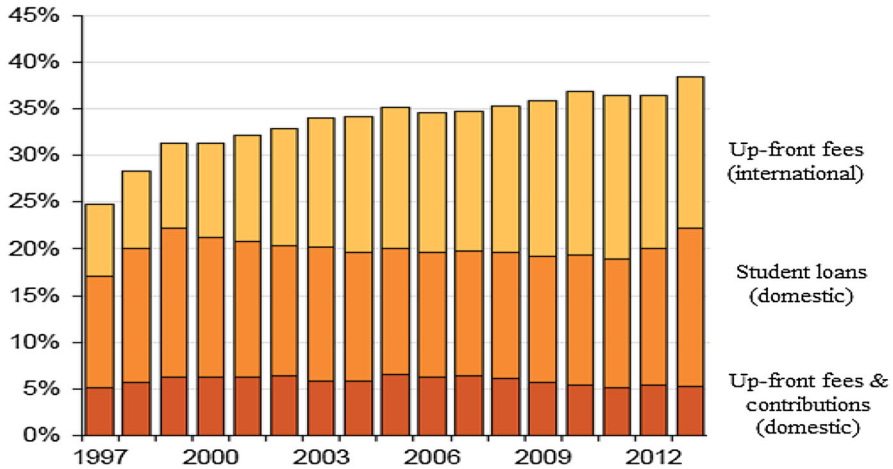


Figure 6. Domestic and international tuition revenue to Australian universities, 1997–2013.
Source Norton and Cherastidtham, Mapping Australian Higher Education 2014–2015.

HELP loans) and from international student fees. In 2013, total student tuition charges (including HELP loans) made up about 38% of public university sector revenue. According to Norton and Cherastidtham (2014, p. 52), HELP income made up 17%. As Figure 6 shows, direct fees from domestic students made up about 5% and from international students about 16%.

Implications

Taken together, these five problems suggest that many claims made in recent years do not paint a useful picture of Australian university sector financing, or how it should be compared with other university sectors elsewhere. In Australian commentary, the most familiar metrics used to compare our own situation with an ‘OECD average’ conceal as much as they reveal. With country-specific comparisons, the more deeply we probe to tell apples from oranges, the more fruit salad we find. And it is 3-year-old salad at best. When used to inform funding debates and domestic policy, metrics like these should come with a health warning.

Framing the Australian university funding situation as ‘second last in the OECD’ does little to put the sector’s finances in a wider perspective. Such claims are little more than curious factoids. They may be technically correct in a narrow sense. But more than one caveat is needed to put such claims into context, and by then it seems hardly germane as a sectoral response to policymakers to say: ‘once upon a time we were (sort of) second last’. Such a damning statistic may have rhetorical power when there are sectoral interests to protect or social policy

agendas to pursue. In public debates and media commentary especially, it is nice to be able to refer sceptics to a particular table of figures in a 500-page OECD report to prove one's point. But arguably, the cosmopolitan impressionism that such metrics afford has made them too easy a card to play in funding debates.

For their part, Australian governments today are unlikely to find these OECD metrics persuasive. A government-commissioned review of base funding for higher education in Australia in 2011, widely considered within the sector (e.g. Marginson, 2013b; Sharrock, 2013), observed of GDP-based comparisons that 'In the current economic environment... some nations have experienced a falling GDP' (Lomax-Smith *et al.*, 2011, p. 18). The review concluded (p. 33) that:

It is difficult to establish credible international benchmarks between the Australian higher education system and higher education systems in other countries because of differences between the funding systems and the diversity in many higher education systems. Consequently, international benchmarks are limited in scope and relevance.

Indeed, it has been said of politicians that sometimes they use statistics the way drunkards use lamp posts: more for support than for illumination. Some of the statistics that arise in Australian commentary appear to require more sober examination than they have had. This is not to suggest that scholars or sectoral leaders have been engaging in some vast conspiracy to misinform the public—an absurd conclusion to draw. Rather, there have been blind spots in the way OECD data are construed, particularly in relation to GDP growth disparities. In domestic university funding debates, a risk with an over-reliance on simple comparative metrics to oppose prospective funding cuts, or to make the case for better investment, is that they divert attention from more relevant and up-to-date domestic data.

Problems of interpretation such as those examined in this paper are not confined to Australian commentary on *Education at a Glance* reports. One critic of the 'propaganda of international comparisons' in the USA (Adelman, 2008) has highlighted how educational attainment levels there must be seen in their proper context: vast education systems which carry massive social freight in ethnically diverse, economically disparate communities. Yet even with local progress evident, Adelman noted, authorities may be lobbied with OECD data showing how US attainment metrics were failing to match those of a country like Denmark, which has very different characteristics. And even in Canada it has been argued that OECD metrics suggest that higher education there is under-funded also; but as one critic of this view says (Usher, 2016):

For those of you who have spent the last couple of years arguing how great Germany because of free tuition is and why can't Canadian governments spend money like Germany, the answer is clearly they can. All they would



need to do is cut spending by about 30%...If we're under-funded, everyone's under-funded.

Conclusions

It is not that global comparisons and statistical indicators have no relevance to domestic policy making. They can and do inform consideration of alternative system design, financing options and public policy trade-offs. But as Oscar Wilde wrote of truth itself, OECD statistics are 'rarely pure and never simple' (Wilde, 1895). In tertiary education financing, any detailed study of what lies beneath apparently simple and familiar comparative metrics will find a kaleidoscopic array of moving parts. To make sense of these, the data must be reconciled with domestic data and also with other OECD metrics.

All this suggests that Australian financing arrangements for universities may be rather exceptional, working in local categories which do not fit neatly into international ones. A modern Mark Twain visiting Melbourne today might find all this as 'curious and strange' as his 1895 counterpart found local events. The Australian public university sector is set in an economy which has had unusually high and sustained GDP growth over many years, particularly since the 2007–2008 financial crisis. Here domestic tuition charges, classed as private spending in some but not all OECD metrics, are paid to institutions largely in the form of government loans. To date this has enabled good growth in domestic enrolments, fairly stable financing and fairly wide access, while also avoiding the student debt problems seen with some loan schemes elsewhere. As well, an unusually large share of the Australian university sector's private revenue is contributed by international students. Overall, these local arrangements have worked to support relatively wide participation and attainment and relatively strong sectoral performance.

For funding advocates, an inconvenient truth is that simple international comparisons of 'public expenditure on tertiary institutions as a percentage of GDP' do not reflect the financial realities of the Australian university sector. GDP growth disparities alone make the popular 'rankings' that have featured in Australian commentary problematic. With many countries, neither spending rates nor resource levels are necessarily comparable in a meaningful way on this basis. Despite many impressions that the Australian university sector has a serious under-funding problem when compared with most others in the OECD, the evidence for this is not as strong as it seems 'at a glance'.

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