



Higher Education Infrastructure Working Group

Final Report



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The document must be attributed as the Higher Education Infrastructure Working Group Final Report 2015.

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EXECUTIVE SUMMARY

1. Introduction

In May 2014 the Minister for Education and Training established a small Working Group to examine:

- the actions required to set in place policy frameworks to support institutions in creating high quality infrastructure;
- any impediments there might be to more strategic management of infrastructure; and
- opportunities for better employment of internal reserves and all available financing mechanisms, including capital markets, to support development of infrastructure.

The Working Group commenced work in late 2014 with a program of research and consultations, which included:

- commissioning research on universities' expenditure on infrastructure and the various sources of funds for development of infrastructure based on their published accounts for the 2011-2013 triennium;
- examining historical trends in capital funding by government;
- seeking information about capital funding arrangements at the system level in other countries; and
- consulting with university leaders and with people who have expertise in capital markets, credit rating agencies' practices, financing options and philanthropy.

The Working Group is comfortable that its views and recommendations are based on a sound evidence base and reflect the current needs of the sector.

2. We have reached some broad conclusions

2.1 Universities manage their infrastructure and financial resources well.

The evidence we have seen suggests that universities are husbanding their resources, improving and building their businesses by reinvesting in their teaching and research infrastructure, and generally meeting the demands of a student population requiring high tech and high touch.

In the 2011-2013 triennium, universities generated \$10.6 billion cash from operating activities and they reinvested \$10.6 billion into Property, Plant and Equipment (PPE) infrastructure to build and improve their businesses.

The increase in the book value of university buildings and infrastructure, including construction in progress, was 23 per cent over the 2011-2013 triennium. This was considerably more than the increase in floor space, which was only five per cent over the same period. It was also considerably more than the increase in total student load, which was eight per cent.

Those comparisons suggest that the focus of university investment was improving the quality and functionality of infrastructure rather than simply expanding floor space to accommodate more students.

However, we note with concern institutions with the legacy problems of badly positioned campuses with buildings no longer fit for purpose. Many are still grappling with the formidable problem of rationalisation, with varying degrees of success.

2.2 There is considerable interest from financial institutions and capital markets in lending to and engaging with universities.

Capital markets currently have significant excess liquidity and interest rates are at all-time lows, although there is some difference of opinion about how long this situation will prevail.

Institutional investors, including sovereign funds and large superannuation funds, are actively seeking to identify and invest in new sectors that have scale and secure investment characteristics. The university sector meets both of those requirements.

Based on our consultations, our view is that the most relevant point of engagement for universities with the capital markets is likely to be the Debt Capital Markets (DCM) that provide borrowings in the form of bank debt and bonds. We also see considerable potential for securitised real estate transactions.

We believe traditional project finance has limited application for the university sector because of the relatively high cost of capital thresholds. Likely infrastructure applications for project finance are ancillary services, notably student accommodation and commercial transactions with high returns.

2.3 Enthusiasm to lend is not matched by enthusiasm to borrow.

Despite the keen interest of capital markets in lending, the universities and their governing bodies are very chary of debt.

We recognise that institutions make borrowing decisions based on their individual circumstances, which will vary considerably across the sector. There are circumstances where gearing development or purchase of infrastructure through debt financing is clearly in the best strategic interests of an institution. A healthy system will be carrying moderate, but not excessive, levels of debt.

The majority of Australian universities had very low gearing ratios at 31 December 2013, reflecting a low risk appetite.

An apparent low risk appetite among universities appears to be amplified at present by regulatory and funding uncertainty. It may be argued that all enterprises must operate and make decisions in the light of uncertainty. However, universities cannot control the tap that increases or decreases the flow of base funding for domestic students, the largest single income source for the sector. So it is not surprising in light of the changes and mooted changes over the last decade that they have paid down debt, as they did in the 2011-2013 triennium, and are anxious about how much more they borrow.

2.4 Philanthropy can assist in small part in provision of funds for university infrastructure. There is capacity to build philanthropic giving to universities but it is not a silver bullet for university infrastructure funding.

Information gained in the course of our consultations disclosed that, internationally, only approximately 14 per cent of funds raised by universities from philanthropy is directed to infrastructure. This rule of thumb appears to also apply in Australia, where total philanthropic donations to universities in 2014 were reported at \$576 million. Our best estimate is that philanthropy directly accounted for only approximately \$80 million or 2.5 per cent of total university infrastructure investment in 2014.

However, there is also an indirect benefit from university philanthropy. Strong institutional philanthropy programs do assist universities to increase their overall revenue and provide capacity to direct any savings from the outcomes of philanthropic bequests to other line items, including infrastructure investment.

Accordingly there is a case for taking action to grow philanthropy and the Working Group has identified a role for the Australian Government in that process.

2.5 In most states and territories, universities face significant red tape issues.

Red tape issues, arising from state governments, were frequently raised with strong conviction in our consultations. Those most often raised were:

- requirements for Ministerial or Treasury approval to borrow;
- constraints on or approvals required to dispose of land or campuses;
- complex and time consuming planning approval requirements; and
- the composition of some governing bodies, where some members lack the necessary skills and experience to understand and evaluate the operation of the capital markets, complex financial transactions and infrastructure development proposals. This concern arose most frequently in relation to Ministerial appointees and elected representative members.

3. We see some dangers and significant risks in the present situation

3.1 It is imperative that any changes to policy settings are developed and implemented in a manner which allows universities adequate time to respond and adapt in order to maintain financial stability.

The continuing ability to generate sound operating surpluses lies at the heart of universities' capacity to make the infrastructure investments necessary to support high quality teaching, learning and research.

Funding shocks that increase risk and erode university operating results and balance sheets will reduce self-financing capacity. That may lead to forced reliance on external capital sources if universities are to continue to make infrastructure investments. At the same time, institutions' capacity to borrow on favourable terms will be reduced if their balance sheets come under too much pressure from funding shocks.

3.2 Research infrastructure and its funding is a bedevilling issue.

University research activity imposes large indirect costs that are not met by research grants. Those indirect costs include buildings, institutional level research equipment and other physical infrastructure. Despite periodic new funding initiatives over the last two decades, growth in government funding for the indirect costs of research has not kept pace with growth in grants funding or expenditure on research activity.

Universities have made clear in consultations that they have responded by further reliance on the long standing practice of cross-subsidising research infrastructure from fees paid by international or domestic students. The reasons given for this are that research is a core function of a university and that investment in good research supported by appropriate research infrastructure enhances a university's reputation and status and hence the demand for and perceived value of its degrees.

The issue of cross-subsidisation went under the radar of domestic and international students for many years but is now an issue of public recognition and debate. We caution against over-reliance on the assumption that students will accept any level of cross-subsidisation of research from their tuition fees on the basis of it enhancing the prestige of their degrees.

The appointment in mid-2015 of an eminent expert panel, chaired by Dr Ian Watt AO, to report on research funding arrangements including research infrastructure is timely because the existing arrangements do not seem to be working particularly well.

3.3 Government funding for transformative infrastructure is vital for internationally competitive universities.

With the loss of the Higher Education Endowment Fund (HEEF) and the Education Investment Fund (EIF), established to assist universities to build world class transformative facilities, we have lost something which was designed to take our institutions to another level.

The leveraging effect of the HEEF and EIF was also very significant. The funding provided by the Government attracted significant co-investment, stimulated the economy and created jobs, and resulted in some outstanding infrastructure outcomes. HEEF/EIF matched or bettered many infrastructure funding schemes for universities in countries Australia benchmarks against and competes with in the international higher education market.

The question needs to be asked why government no longer believes it has any role to play in this form of nation building.

3.4 Some regional and multi-campus outer suburban universities face particular infrastructure difficulties.

Australia is dependent upon a higher education system that maintains universities and a university presence in regional and outer suburban centres. These institutions generally offer complex patterns of study: on campus, by distance delivery, in partnership with vocational education and training (VET) providers and all deliver in many regional and remote towns, often across great distances. A number are dual sector universities and have been seriously affected by great changes to VET funding over the last decade.

These universities are significant drivers of local economies and play a vital role in the fabric of local communities.

Most of these outer metropolitan and regional campuses were established after the Martin Report (1965) as colleges of advanced education. The reforms of the 1980s and 1990s provided very little funding to improve their capital stock to assist in their becoming fit for purpose as a university.

The Working Group consultations have identified a few examples of pressing need to rationalise campuses. Central metropolitan universities have the scale and, thus, the resources necessary to cope with campus rationalisation. On the other hand, some suburban and regional universities have no realistic prospect of amassing significant surpluses or developing balance sheets that allow them, acting alone, to effectively access capital markets.

These funding problems are often compounded by political considerations: no politician wants campus closure in their electorate.

Recommendations

Recommendation 1

Broadening infrastructure funding options

- 1.1 The Working Group recommends that the Australian Government commission further work on securitising university real estate in Australia and that it involve Universities Australia in that work.
- 1.2 The Working Group recommends that further specification of the Asset Recycling Fund (ARF) and Asset Recycling Initiative (ARI) make it clear and transparent that:
 - i. the ARI may be used to encourage divestment of underutilised university assets; and
 - ii. universities, as state government agencies, are eligible for the 15 per cent ARI incentive, provided they use those funds to develop new infrastructure.

Recommendation 2

Philanthropy

The Working Group recommends that the Australian Government commission a detailed review of options to increase philanthropic giving to Australian universities, including consideration of establishing a matched funding programme along the lines of successful programmes conducted internationally, including in the United Kingdom (UK), Singapore and Hong Kong.

Recommendation 3

Providing a stable funding environment

The Australian Government should ensure that policy settings and the national regulatory environment for the higher education sector are developed and implemented in a manner that allows universities adequate time to respond in order to maintain financial stability.

Recommendation 4

The role of state and territory governments

The Working Group recommends that the Australian Government work with state and territory governments to find ways to improve the capacity of universities to manage their businesses. They should aim to:

- i. remove unnecessary requirements for Ministerial or Treasury approval to borrow;
- ii. remove unnecessary constraints on or approvals required to dispose of land or campuses;
- iii. rationalise planning approval requirements for universities;
- iv. ensure requirements about the composition of governing bodies allow them to have a clear majority of members competent to make decisions about major investments; and
- v. facilitate ‘financial federations’, for example syndicated loan and bond facilities, for those universities that do not have the scale or financial standing to effectively engage with the capital markets.

Recommendation 5

Transformative infrastructure funding

The Australian Government should consider the need for and benefits of transformative infrastructure in the university sector for both teaching and research. The Working Group recommends that the Government:

- i. conduct a detailed analysis of the economic impact and other outcomes for the nation and for universities of HEEF and EIF investments; and
- ii. based on the analysis, develop a long term plan to provide adequate funding for transformative institutional research infrastructure and teaching facilities, with co-investment and collaboration as prerequisites.

Findings

1. Borrowing capacity

- 1.1 The Working Group does not believe that there is any evidence of a need for government intervention to cap university borrowing in Australia, but it does believe that each Australian university should establish measures of debt affordability and impact appropriate to its circumstances as part of its financial performance indicators.
- 1.2 Most Australian universities have ready access to bank debt.
- 1.3 There are significant opportunities for most Australian universities to access the domestic and international bond markets should they wish to do so.

2. International benchmarks

There are aspects of UK, Canadian and United States (US) university infrastructure funding programs discussed in this report in Chapter 7 that are worthy of further consideration in Australia. In particular, the programmes in Ontario and the UK that support research and innovation clearly assist universities in those places to be internationally competitive.

3. Better support for research infrastructure

- 3.1 If Australian universities are to maintain world class research undertaken in appropriate facilities there is a clear need for policy settings which provide appropriate direct funding for university research infrastructure, both transformative and at an operating level.
- 3.2 The Working Group notes and supports the appointment in mid-2015 of an eminent expert panel, chaired by Dr Ian Watt AO, to report on research funding arrangements including research infrastructure.
- 3.3 The Working Group endorses the following Principles advocated by the 2015 Research Infrastructure Review that examined national research facilities:
 - Principle I: Excellent research requires excellent infrastructure.
 - Principle II: Research infrastructure includes physical and human capital.
 - Principle V: Whenever funding is provided for research, set aside appropriate additional funding for infrastructure to support that research.

These principles should also drive the Government's approach to competitive research grant funding.

4. Victoria University

Victoria University has been attempting campus rationalisation over the last decade. Its future depends on this.

The University's success in implementing its plans depends upon active assistance from the Victorian Government and, perhaps, the Commonwealth to remove obstacles in its path.

The Victorian Government should commit formally to a partnership with Victoria University to assist in successful implementation of its campus consolidation and improvement plans.

Observations

1. Universities appear to have maintained the condition of their buildings over the period 2010 to 2013. In 2013, 70 per cent of building space for 27 reporting universities was in good or excellent condition. Nine per cent was in poor or very poor condition.
2. Universities appear to have improved the functionality of their buildings over the period 2010 to 2013. In 2013, around 68 per cent of building space for 18 reporting universities had good or excellent functionality. Eight per cent was rated as barely adequate or poor.
3. Most universities are managing their space effectively, with space per full time student equivalent being comparable with UK universities. However, a small number of universities appear to be maintaining more space than expected on the basis of their student loads and research outputs.
4. Consideration of university space needs solely in terms of student load overlooks the importance of research activity as a space driver. This has serious implications for capital investment.
5. The focus of increased investment by universities in infrastructure in the 2011-2013 triennium was on improving the quality and functionality of infrastructure rather than simply expanding floor space to accommodate more students or underpin growth in research activity.
6. 79 per cent of universities' \$10.6 billion investment in infrastructure in the 2011-2013 triennium came from operating surpluses, net of capital grants and after depreciation is added back.

7. Philanthropy experts spoke of the importance of university development offices both in developing alumni networks and as important drivers of university philanthropy. They also emphasised the collaborative way those offices work together in Australia, despite intense competition for the philanthropic dollar.
8. The issue of cross-subsidisation of research and research infrastructure from student fees went under the radar of students for many years but is now one of public recognition, particularly in the wake of the deregulation debate. The Working Group cautions against over-reliance on the assumption that students will accept any level of cross-subsidisation of research and research infrastructure from their tuition fees on the basis of it enhancing the prestige of their degrees.

Chapter 1: Introduction

1.1 Terms of reference

The Working Group has been charged with identifying:

- the actions required to set in place policy frameworks that will support institutions in creating high quality infrastructure;
- any impediments there might be to more strategic management of infrastructure; and
- opportunities for better employment of internal reserves and all available financing mechanisms, including capital markets, to support development of infrastructure.

The Working Group's full terms of reference are set out at Appendix 1.

The members of the Working Group are Emeritus Professor Denise Bradley AC and Mr Philip Marcus Clark AM. The then Chief Scientist for Australia, Professor Ian Chubb AC, attended a number of meetings of the Working Group.

1.2 The university sector

This report considers issues related to infrastructure sustainability in the Table A universities¹. This group of 37 institutions is numerically only a fraction of the 172 Tertiary Education Quality and Standards Agency (TEQSA) registered higher education providers, but dominates the sector in terms of numbers of students and degrees awarded. It is also the group of institutions most impacted by the progressive removal of Australian Government capital funding and by any future deregulation.

The Table A universities had a total enrolment of more than 1.2 million students in 2013 and a combined income of \$26 billion. They perform two thirds of the nation's basic research and nearly one third of its total research and development². They are a principal driver of the economy through the skills, knowledge and innovation they transfer to other sectors.

¹ The 'Table A universities' are those listed in Table A of Subdivision 16–B of the *Higher Education Support Act 2003*. They are also referred to as the 'public universities' in this report.

² Based on Australian Bureau of Statistics data for 2011-12 (government and private non-profit R&D and business R&D) and 2012 (higher education).

They are also a very significant direct contributor to the Australian economy. Education-services were Australia's fourth largest export in 2013-14³, behind iron ore, coal and natural gas. In calendar year 2014, the higher education sector generated \$11.7 billion in export income, which was 68.5 per cent of total on-shore international education earnings⁴.

The Table A universities employed 114,000 people in 2014.

1.3 Legislation and policy environment

Since the 1950s, when the Commonwealth established the Australian Universities Commission and began to make direct grants to universities, universities have effectively served the two masters of state and federal governments.

However, the principal pieces of legislation governing universities remain the individual state and territory acts that make them directly accountable to state and territory governments. These acts specify the activities that universities may engage in and the limits of their independence in decision making.

Both the university acts and state and territory planning legislation impact strongly on how universities develop and sustain their campuses, buildings and infrastructure.

This review has been conducted during a period of policy change and uncertainty:

- The decision to abolish the EIF, made in the 2014 Budget, left universities with minimal Commonwealth Government capital funding programmes for infrastructure.
- The outcome of proposals to shift some funding responsibility from Government to students, as put forward in the *Higher Education and Research Reform Bill 2014*, remains uncertain.
- Review of research funding, which has implications for research infrastructure, is also underway.
- Recent change in ministerial arrangements and responsibilities and the announcement that Innovation is to be a centrepiece of Government action.

All of these matters impact on the capacity of universities to plan, develop and maintain their buildings and other physical infrastructure.

³ Department of Foreign Affairs and Trade, 2015, *Australia's trade in goods and services 2013-14*, viewed 31 March 2015, <<http://www.dfat.gov.au/about-us/publications/trade-investment/australias-trade-in-goods-and-services/Pages/australias-trade-in-goods-and-services-2013-14.aspx#exports>>.

⁴ Department of Education and Training 2015. *Export income to Australia from international education activity in 2014*, June, <[https://internationaleducation.gov.au/research/Research Snapshots/Documents/Export%20Income%20CY2014.pdf](https://internationaleducation.gov.au/research/Research%20Snapshots/Documents/Export%20Income%20CY2014.pdf)>.

1.4 Research Infrastructure Review

The Minister for Education and Training commissioned the Research Infrastructure Review (RIR) in October 2014 to examine existing research infrastructure provisions and provide advice on the most appropriate long term arrangements for ongoing support.

The RIR reported to Government in September 2015.

The RIR's focus has been on National Research Infrastructure:

- national landmark research facilities—an identified group of large, nationally significant (and in some cases, internationally significant) facilities; and
- national networked (or collaborative) research facilities—facilities that involve significant collaboration on a national scale such as those funded through the National Collaborative Research Infrastructure Strategy (NCRIS).

Research infrastructure established within an institution and funded primarily from the institution's resources has been determined as out of scope by the RIR. It is a focus of this Review.

One of the recommendations of the RIR is the establishment of key principles ('Principles') to guide investment in National Research Infrastructure. Three of those Principles particularly apply also to university infrastructure:

- Principle I: Excellent research requires excellent infrastructure.
- Principle II: Research infrastructure includes physical and human capital.
- Principle V: Whenever funding is provided for research, set aside appropriate additional funding for infrastructure to support that research.

Chapter 2: Methodology

2.1 Consultations

The Higher Education Infrastructure Working Group consulted with:

- Capital markets—meetings with capital market experts and ratings agencies on:
 - the range of financial instruments potentially available to universities to finance capital investment
 - levels of financial market interest in universities
 - the level of knowledge of the sector
 - impediments that may limit the potential for universities to enter capital markets
 - the process for and benefits of universities obtaining a credit rating and its relationship to accessing funds from capital markets
 - project finance opportunities
 - opportunities for securitised real estate transactions.
- Philanthropy experts—on the role philanthropy might play in funding capital projects in universities.
- Universities—meetings with groups of vice-chancellors on universities' future needs and aspirations, and the challenges in developing and maintaining campuses with facilities to meet contemporary needs. In addition, some written comments on the underlying issues for particular universities were received.

2.2 Report on university finances

The Working Group determined from the outset that it needed a sound base for its examination of public university infrastructure funding and financing. To help it understand levels of capital investment by Australia's 37 public universities in recent years, the resulting extent and condition of the university estate, and how that investment had been financed, it engaged PhillipsKPA to undertake an independent desktop analysis for the three year period 2011-2013. The PhillipsKPA Report (PKPA Report) draws on published university financial statements and infrastructure data from annual surveys conducted by the Tertiary Education Facilities Management Association⁵ (TEFMA).

⁵ All Table A universities are currently members of TEFMA and participate in its annual Benchmarking and Environmental surveys. Because the surveys are voluntary, in any one year some institutions do not provide information for all data items, and one institution did not provide a return at all in 2013. Data for individual institutions are treated as confidential by TEFMA and made available to the Department of Education and Training on that basis. Therefore data for individual institutions are not identified in this report.

While some scepticism was expressed in consultations with the sector about some of the details of the PKPA Report and the comprehensiveness of the TEFMA data, the Report has provided a broad state of the sector picture that has been a valuable benchmark in discussions with vice-chancellors and others. The PKPA Report, with data for individual institutions de-identified, is at Appendix 2. It is cited extensively in this report.

2.3 International Comparisons

The Working Group examined approaches to university infrastructure financing and development in the UK, the US and Canada. The systems selected for comparison share the common feature of diversity in their revenue streams, with reliance on significant government support, student fees and other private funding.

Comparisons have not been made with systems in other European Union (EU) countries or Asian countries either because they are fundamentally dissimilar in ownership and management structures (e.g. European systems where university buildings are owned by the state or state real estate corporations) or because of insufficient publicly available information.

Chapter 3: University infrastructure

3.1 Components of university infrastructure

In a university, the term ‘infrastructure’ refers to any of the components set out in Table 1. For a research academic or manager, ‘infrastructure’ extends to any physical, non-physical and human resources needed to support people conducting research, including the entirety of specialised research support facilities.

Table 1 Meanings of ‘infrastructure’

Infrastructure components	Included in TEFMA data?	Included in financial statements as PPE?	Within HEIWG scope?
Land	No	Yes	Yes
Buildings	Yes	Yes	Yes
Fixed infrastructure*	Yes	Yes	Yes
IT equipment and services	No	Capitalised equipment only	Capitalised equipment only
Scientific equipment	No	Yes (excepting low cost items not capitalised)	Yes
Technical and administrative human capital supporting research	No	No	To the extent of the university physical assets associated with them
Research support facilities in their entirety	To the extent of the university buildings and fixed infrastructure associated with them	To the extent of the university physical assets associated with them	To the extent of the university physical assets associated with them

* For the purposes of this table, ‘fixed infrastructure’ refers to the university physical assets providing electricity, water, gas etc which are not embedded in buildings as well as campus facilities such as roads and footpaths. These things are simply classified by TEFMA as ‘infrastructure’. IT infrastructure is categorised separately, consistent with its functional and budget separation in universities.

The physical asset classes in Table 1 are not the entirety of PPE, as it appears in financial accounts. The range of physical assets capitalised and accounted for as PPE includes library holdings, motor vehicles and non-operational physical assets such as artworks.

In 2013, land and buildings, including construction in progress, represented 86 per cent of the book value of PPE for the sector as a whole. Additions to land, building and construction in progress accounted for 83 per cent of total additions in 2013⁶.

University buildings and space are commonly classified as non-residential and residential, with the latter being the student residential accommodation owned or leased by the university. This classification is important for estate management and financing as residential accommodation is overwhelmingly operated on a commercial basis.

⁶ Department of Education and Training estimates based on published financial statements.

The Working Group notes that the following categories have quite different infrastructure funding and financing considerations:

- Core university functions—buildings and space for core university teaching and learning, research, administrative and support activities
- Commercial/trading operations—dedicated buildings and spaces housing operations that can be run on a commercial basis, including:
 - student (and possibly staff) residential accommodation
 - food, beverage and hospitality operations
 - venues for professional and other short course training
 - leased retail and other services space
 - parking structures
 - space leased to external research organisations and other academic-related entities.

3.2 Scale

The scale of the total estate of the 37 Australian publicly funded universities is large. At the end of 2013, in total they had:

- Gross floor area (GFA): 11.0 million m²
- Usable floor area (UFA): 7.2 million m²
- Replacement value: \$45.5 billion

Box 1 provides a sense of the scale relative to other education and non-residential service sectors⁷.

The size of individual estates ranged from 59,000m² to 785,000m² of gross floor area.

Box 1 The university estate is large

The following table provides floor space estimates for 2009 in 'Net Lettable Area' (NLA) terms.

<i>Commercial sector</i>	<i>Floor area (million m²)*</i>
Stand-alone offices	36.6
Hotels	10.7
Retail (shopping centres)	18.3
Hospitals	12.4
Schools	39.2

⁷ Readers will note that the university Net Lettable Area estimate for 2009 in the box is larger than the UFA estimate in the body of the text. This anomaly results from the methodology used by the consultants to the Department of Climate Change and Energy Efficiency. They used actual GFA data for 17 universities only and estimated floor areas for other institutions on an assumed area per student basis. While this has led to a slightly inflated figure, we consider the comparison worthwhile because of the broad indication it gives of the comparative scale of the university sector.

3.3 Condition and functionality

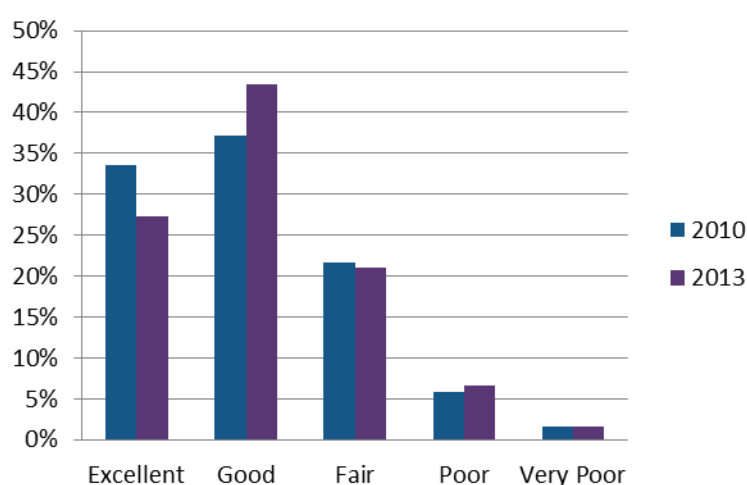
The challenge of maintaining the condition and functionality⁸ of estates of this size is formidable. Some universities have buildings one hundred or more years old, usually heritage listed. Across the sector, there are significant numbers of buildings constructed in the 1960s and 1970s now in need of refurbishment or replacement.

3.3.1 Building condition

Information on the condition of buildings is available from the TEFMA survey. Information is provided to TEFMA as the percentages of gross floor area in the following categories: excellent, good, fair, poor, very poor. For 2013, information was provided by 28 of the 37 public universities. Six of the 28 reporting universities reported that they had no space in poor or very poor condition, and two reported that more than 30 per cent of their space was in those states.

The level of condition audit undertaken by individual institutions may vary in any one year from desktop audit to detailed inspection and some institutions may not update their data every year. Nevertheless the aggregate picture provides the best available source of information on building condition across the sector.

Figure 1 University building condition 2010 and 2013



Source: Department of Education and Training using TEFMA data

Figure 1 compares the condition of the 27 universities that reported their condition in both 2010 and 2013. There was no marked change in overall condition over the period, suggesting that the 27 reporting universities maintained the overall condition of their estates rather than dramatically improving them over the 2011-2013 triennium.

⁸ The condition of a building reflects its maintenance relative to its original construction. Its functionality reflects the extent to which it meets contemporary needs and standards.

Information on maintenance backlogs provides another perspective on building condition⁹, by way of an estimate of the expenditure over and above on-going preventative and corrective maintenance that would be required merely to restore buildings and spaces to their original condition.

In 2013, 33 responding universities had an estimated total deferred maintenance of \$1.87 billion, with wide variation between institutions.

Deferred maintenance as a percentage of asset replacement value ranged from 16 per cent to 0.15 per cent, with the average figure being 3.9 per cent.

The 2000 McKinnon benchmarking manual regards good practice as backlog maintenance of less than 3 per cent, noting that the expense of remedying a backlog of maintenance of less than 10 per cent is manageable¹⁰.

Universities appear to have maintained the condition of their buildings over the period 2010 to 2013. In 2013, around 70 per cent of building space for 27 reporting universities was in good or excellent condition. Nine per cent was in poor or very poor condition.

3.3.2 Building functionality

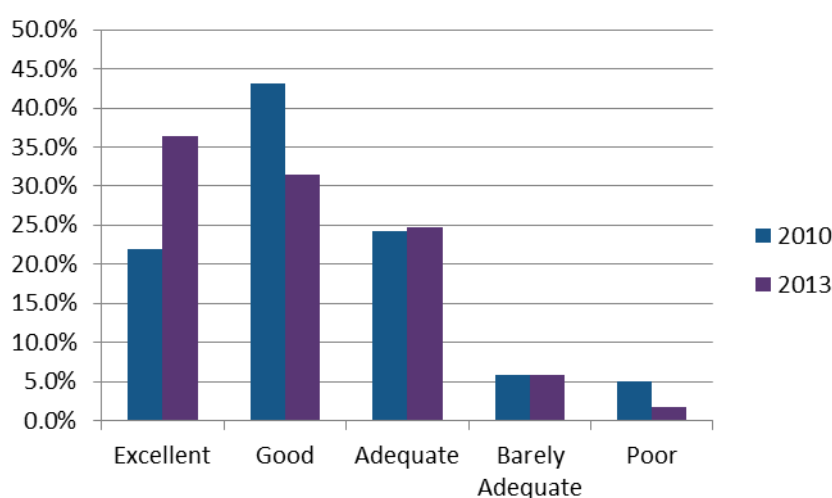
Information on functionality is also available from the TEFMA survey. Functionality is assessed relative to the ability of buildings and spaces to meet contemporary needs and standards. Like condition assessment, caution should be exercised in considering this information, particularly as functionality assessment requires an implicit weighting of quite diverse factors relating to the fit of spaces with contemporary pedagogical and other needs, environmental comfort, legislative compliance and aesthetics.

Of the 23 reporting universities, five rated all of their space as adequately functional or better, while four universities rated 30 per cent or more of their space as less than adequately functional.

⁹ Deferred (or backlog) maintenance is maintenance which should have been carried out in one financial year but is carried over to the next year or later years.

¹⁰ McKinnon KR, Walker SH and Davis D, 2000, Benchmarking: A Manual for Australian Universities, Australian Government Department of Education, Training and Youth Affairs.

Figure 2 University building functionality 2010 and 2013



Source: Department of Education and Training using TEFMA data

Figure 2 compares the condition of the 18 universities that reported their building functionality in both 2010 and 2013. The data indicate that these institutions, which together account for a little over one half of the sector floor space, maintained the proportion of their floor space having excellent or good functionality at more than 65 per cent, with a marked shift from good to excellent, and a decrease in space having poor functionality, over the 2011-2013 triennium.

An estimate of the cost of bringing all buildings to a good standard of functionality is provided by deferred refurbishment costs provided in the TEFMA survey. In 2013, deferred liabilities other than deferred maintenance¹¹ totalled \$2.2 billion (33 universities). As the methods and quality of assessment of liabilities vary widely the Working Group regards this figure as indicative.

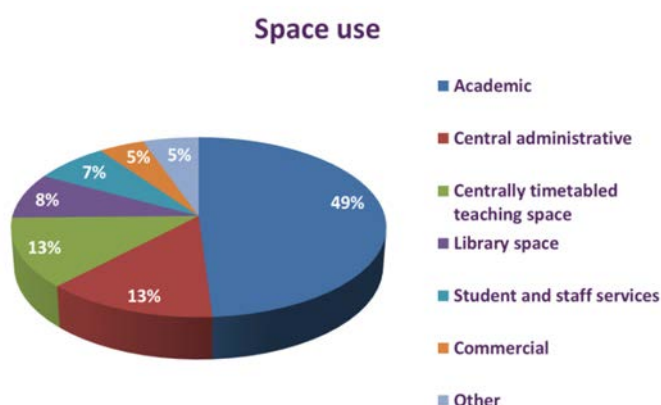
Universities appear to have improved the functionality of their buildings over the period 2010 to 2013. In 2013, around 68 per cent of building space for 18 reporting universities was in good or excellent condition. Eight per cent was rated as barely adequate or poor.

3.4 Space use and efficiency

Universities' use of non-residential space, based on the TEFMA space type breakdown, is set out in Figure 3. Academic space—largely the space devoted to the conduct of teaching and research, including academic office space—accounts for around one half of all space, or slightly less than two thirds when centrally timetabled teaching space is included. The breakdown varies between universities. Academic plus centrally timetabled teaching space varies between 55 per cent and 71 per cent of total space.

¹¹ The remaining categories of refurbishment (statutory), refurbishment (non-statutory), access and other (e.g. heritage) are together regarded as deferred refurbishment here.

Figure 3 Space use breakdown for Australian universities 2013



Source: Department of Education and Training, using TEFMA data for 21 universities

3.4.1 Space per student

University space is analysed and benchmarked in terms of space per student. The most relevant measure is floor area per onshore equivalent full time student load (EFTSL).

In 2013 the average GFA per onshore EFTSL was 13.3 m². UFA per onshore EFTSL was 8.7 m². However, individual institutions varied between less than 5 m²/onshore EFTSL and almost 20 m²/onshore EFTSL.

The average figure of 8.7 m² UFA/EFTSL is slightly higher than the comparable UK university average of around 8.1 m² of Net Internal Area/FTE student¹².

3.4.2 Space demands of research

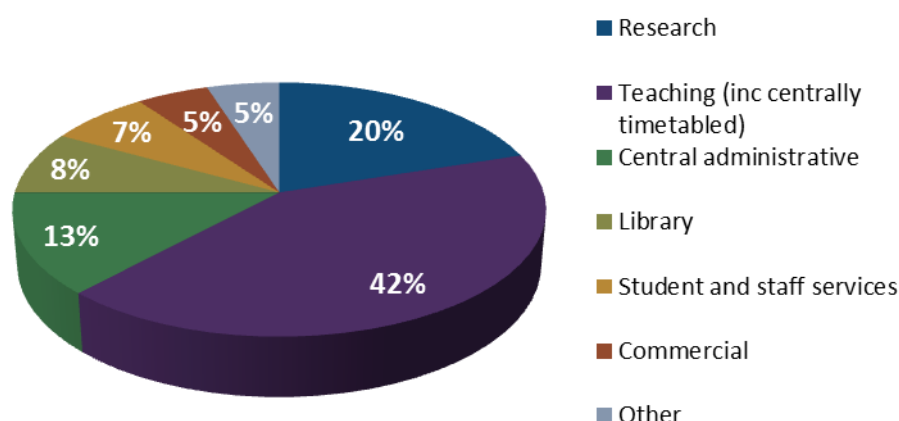
Although research is an important activity for universities, benchmarks of space use are often based solely on student load. Because of the absence of data on research space use in Australian universities, the Working Group has estimated research space demands using two approaches noted below.

In the UK, space allocation across universities has been estimated to be 40 per cent support, 40 per cent teaching space and 20 per cent research space¹³. The percentage of space for support is very similar to space use in Australian universities. Assuming the pattern of space use between teaching and research also holds for Australian universities, space use in Australian universities, with research space disaggregated is likely to be similar to that shown in Figure 4.

¹² Association of University Directors of Estates (AUDE), 2014, *Higher education estates statistics report 2014*, September 2014, <www.aude.ac.uk/documents/aude-he-estates-statistics-report-2014/>.

¹³ JM Consulting Ltd, 2006, *Future needs for capital funding in higher education*, report to HEFCE, <heer.qaa.ac.uk/SearchForSummaries/Summaries/Pages/IMF39.aspx>.

Figure 4 Space use breakdown with research space disaggregated



This estimate does not factor in teaching and research as drivers of support space needs.

If research activity is factored into the standard space per EFTSL benchmark, using weighted publication numbers as a proxy for research activity, space use is explained by the following equation^{14,15}:

$$\text{Total GFA (m2)} = 7.5 * [\text{onshore EFTSL}] + 79 * [\text{weighted research publications}]$$

The average requirement of 7.5 m² of GFA for each full-time student is consistent with the most space-efficient teaching focused universities¹⁶. However, the model suggests that around one half of the space in the most research intensive universities is either directly or indirectly supporting research.

3.4.3 Utilisation rates

TEFMA has established target benchmarks for utilisation rates^{17,18} of teaching spaces during scheduled teaching periods and a number of institutions report data for utilisation.

Utilisation rates are collected over a two week census not taking into account if rooms are used, for example, for a summer teaching session. Rates may be determined by physical audit of room use or by using room bookings and class enrolments: the latter routinely indicates higher than actual usage.

¹⁴ Analysis using TEFMA and Research Collection data for 2013 carried out by the Department of Education and Training.

¹⁵ This approach to space in effect allocates all space types between research and teaching, since it can be argued that the size of units such as, for example, financial services and human resources is a function of both work generated by teaching activities and work generated by research activities. For example, in the case of financial services, both research grants and student fees will generate financial management demands.

¹⁶ Source: Department of Education and Training, using TEFMA data for 21 universities

¹⁷ The utilisation rate is the product of the percentage of time a space is in use and the percentage of capacity used. The TEFMA target utilisation rate for lecture theatres and tutorial rooms is 56% (i.e. spaces in use 75% of standard hours and 75% of seats occupied). UK universities have a target rate of 49% (70% x 70%).

¹⁸ Tertiary Education Facilities Management Association (TEFMA), 2009, *Space Planning Guidelines*, Edition 3.

Because of the limitations of utilisation data, the Working Group did not attach high weight to it in attempting to assemble a sector-wide picture of space use, although utilisation rates are an invaluable internal performance indicator for asset management and planning. It is noted that average daytime utilisation rates in 2013 for 28 reporting Australian universities were 31 per cent for lecture theatres and 28 per cent for other general teaching spaces, with responses being based on both physical audit and booked use. These figures appear broadly comparable with a UK university median of 27 per cent for 2012-13¹⁹, although the reference does not make clear the hours included in the UK figure.

The Working Group also notes that a small number of universities have low utilisation rates, in a few cases less than 10 per cent. Unsurprisingly, these universities also have high space per student ratios. While the figures are strongly suggestive of inefficient space utilisation, the Working Group recognises that some newer universities in particular face difficulties in rationalising legacy building stock. That situation is likely to contribute to inefficient space utilisation as measured by simple indicators.

Most universities are managing their space effectively, with space per full-time student equivalent being comparable with UK universities. However, a small number of universities appear to be maintaining more space than expected on the basis of their student loads and research outputs.

3.5 Trends

Over the past decade, the footprint of the university estate has grown. In 2007, GFA was 9.5 million m². By 2013, this had increased by 15 per cent to 11.0 million m². Over the same period, higher education student load grew by 29 per cent from 726,000 to 938,000²⁰. Despite concerns expressed by the sector about its capacity to deal with the recent growth in student load it appears to have been accommodated through better asset management and changing education practice. Lack of space was not raised as an issue by universities during consultations.

Universities clearly increased the efficiency of their use of assets over the period 2007 to 2013, with a 10 per cent improvement in space per full time student, as set out in Table 2. The CE/CP ratio*, which has been used by consultants to the Higher Education Funding Council for England as an indicator of the performance of an organisation in terms of the return it generates relative to the size of its asset base, improved by slightly less than 6 per cent. This suggests that, despite high levels of investment in new building assets over the period and growth in total floor area, the sector is now better placed financially to sustainably manage its estate than it was some years ago.

¹⁹ University of Wolverhampton, 2015, *Space Utilisation*, <<http://www.wlv.ac.uk/about-us/internal-departments/central-timetabling/space-audits/space-utilisation/>>.

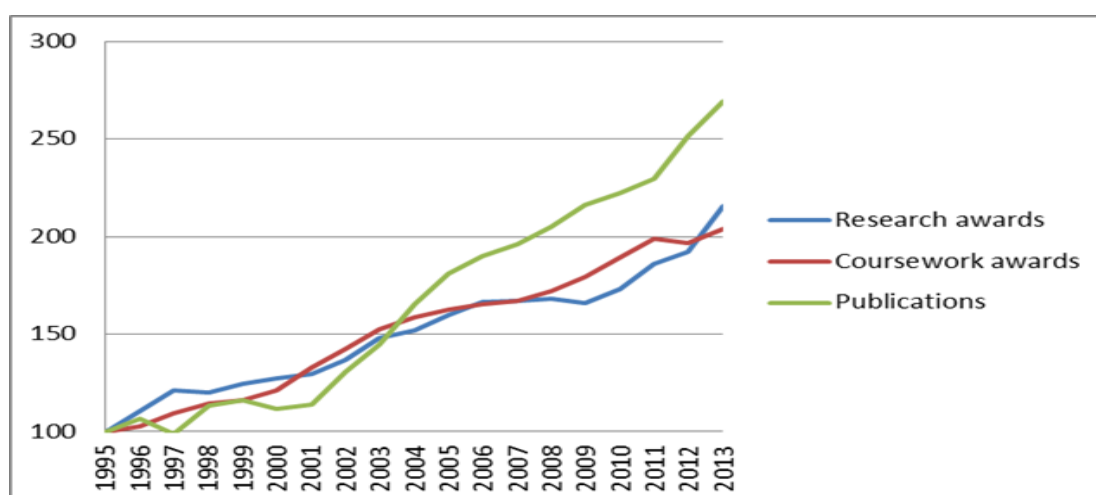
²⁰ These figures will not correspond directly with the data in Table 2 because 2007 data excludes two small universities and 2013 data excludes one of those universities. Further, the Table 2 ratios include the total operations of dual sector universities and are based on onshore students only.

Table 2 Asset use efficiency indicators, 2007 and 2013

	2007	2013	% change
GFA/EFTSL (m ²)	14.9	13.3	-10.7
UFA/EFTSL (m ²)	10.0	8.7	-13.0
CE/CP ratio*	1.88	1.77	5.9

* CE/CP ratio (cost of equity/cost of production ratio) is calculated by dividing asset replacement value by annual revenue from continuing operations.

Sector-wide, research intensity in Australian universities has increased over the past decade. Indices for increases in teaching, research training and research outputs, as measured by coursework awards, higher degree research awards and weighted research publications, over the period 1995 to 2013 are set out in Figure 5. This shows greater growth in research outputs than teaching and training outputs. It is likely that universities have supported this emphasis on research by directing an increasing proportion of resources, including space, to research.

Figure 5 Indicators of teaching, research training and research outputs, 1995-2013

Source: Department of Education and Training

This is supported by a recent analysis²¹, which suggested that research expenditure in 2012 represented 41 per cent of all Australian university capital and current expenditure outlays, compared with only 31 per cent in 2002. Over the same period discretionary income used to support research increased from \$1.26 billion to \$4.56 billion. Discretionary income is described as student fees, government funds other than direct research funds and investment income. Of the \$4.56 billion, around \$1 billion (22 per cent) was expended on new buildings and research equipment.

²¹Larkins FP, 2015, *Universities increased research investment to enhance reputation*, <<http://www.lhmartininstitute.edu.au/insights-blog/2015/03/205-universities-increased-research-investment-to-enhance-reputation>>

3.6 Conclusions

Overall, there are encouraging signs that sound management by universities and a period of consistent attention to bricks and mortar infrastructure has resulted in university campuses in relatively good shape, with the majority of building stock maintained and fit for purpose.

This is not to say that almost every campus does not have some buildings in need of either replacement or major refurbishment to achieve functional space and avoid large maintenance outlays. A very small number of universities now have large deferred liabilities. However, the averages do indicate that universities have been able to make the capital investment necessary to sustain and grow their operations.

Finally, it is clear that any consideration of university space needs solely in terms of student load overlooks the importance of research activity as a space driver. This has serious implications for capital funding, which are discussed later in the report.

Chapter 4: University infrastructure—funding requirements and funding sources

4.1 Introduction

This section of the Report examines the demand for university infrastructure, the sources of funding for that infrastructure over the 2011-2013 triennium and the viability of various funding sources into the future.

4.1.1 Demand for funding – university infrastructure spend 2011 to 2013

The 2011-2013 triennium provides insights into the demand for university infrastructure. In that triennium universities spent \$10.6 billion on new PPE.

A detailed breakdown of the \$10.6 billion PPE spend was not available to the Working Group. However, it is apparent from the net movements in PPE asset values shown in Table 3 that expenditure on buildings accounted for most PPE expenditure, with 71 per cent of the increase in PPE value being buildings and construction in progress.

Table 3 Net PPE movements, 2011-2013

	1 January 2011 (\$ billion)	31 December 2013 (\$ billion)	Movement (\$ billion)
Construction in progress	1.868	2.677	0.809
Land	5.998	6.592	0.594
Buildings	21.427	25.553	4.126
Infrastructure	0.431	1.217	0.786
Plant and equipment	1.659	2.189	0.530
Leasehold improvements	0.379	0.444	0.065
Leased plant and equipment	0.148	0.312	0.164
Library	1.070	0.879	-0.191
Other PPE	0.836	0.858	0.022
Total	33.816	40.723	6.907

Source: PhillipsKPA

The increase in book value of buildings and infrastructure, including construction in progress, over the triennium was 24 per cent. This was considerably more than the increase in footprint, with floor space only increasing by 5 per cent over the same period. It was also considerably more than the increase in total student load, which was 8 per cent.

This suggests that the focus of increased investment in the 2011-2013 triennium was on improving the quality and functionality of infrastructure rather than simply expanding floor space to accommodate more students or underpin growth in research activity.

4.1.2 Sources of funding 2011 to 2013

During the 2011-2013 triennium, universities²²:

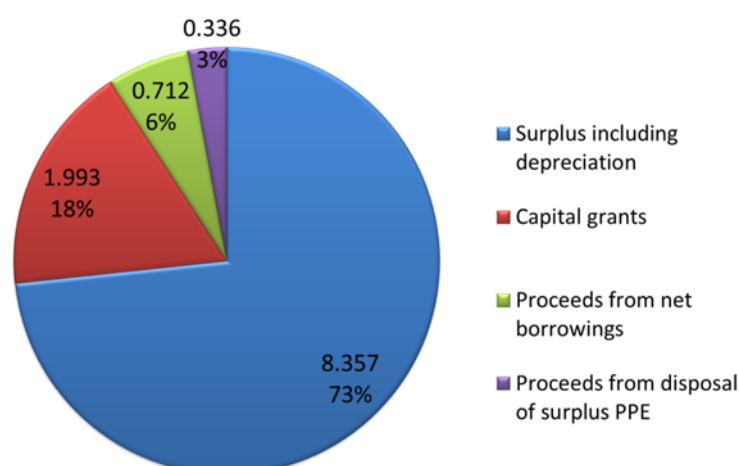
- reported \$10.3 billion in accrual surpluses after adding back depreciation expense (\$10.6 billion on a cash flow basis);
- received \$2.0 billion in capital grants from the Australian Government and state governments, accounting for less than 20 per cent of the investments in PPE over the triennium;
- spent \$10.6 billion on new PPE, 79 per cent of which was funded by surpluses including depreciation;
- accessed a range of external financing activities, primarily to accommodate timing issues associated with their investments in PPE; and
- with a few exceptions, were generally well placed to provide the resources for investment in infrastructure.

The analysis highlights the importance of policy settings that enable universities to generate sufficient operating surpluses to provide the resources for investment in infrastructure.

Financing of the gross movement of \$11.4 billion in PPE over the 2011-2013 triennium is shown in Figure 6. The gross movement is the sum of purchases of PPE (\$10.6 billion) and other movements, arising from revaluations, disposals, depreciation policy and so on (\$0.8 billion).

²² PhillipsKPA, 2014, *Review of University Finances for the Higher Education Infrastructure Working Group*, report at Appendix 2.

Figure 6 Financing gross movement in PPE 2011-2013 triennium (\$ billion)



Source: Department of Education and Training using PhillipsKPA data

Despite government investment in capital through several rounds of the EIF and low interest rates, it is clear that from 2011 to 2013 universities relied primarily on cash operating surpluses for the majority of their infrastructure investment.

Each of the sources of funding is examined in more detail below.

4.2 Operating surpluses

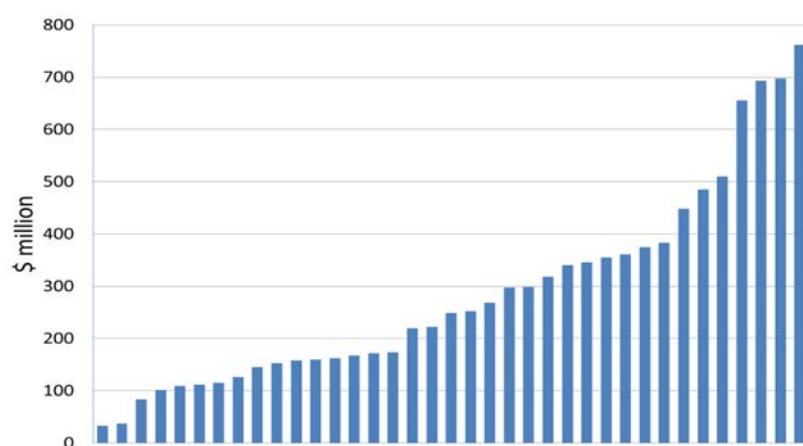
Both accrual analysis and cash flow analysis of university accounts over the period 2011-2013 demonstrate the sector has generally been able to generate sufficient financial resources from its operating activities including depreciation to deliver its infrastructure programs.

79 per cent of universities' \$10.6 billion investment in PPE in the 2011-2013 triennium came from operating surpluses net of capital grants after depreciation is added back.

The key issue for the Working Group is whether or not this position will be sustained, given the uncertainties surrounding the deregulation proposals and proposed Government funding cuts.

All institutions had cumulative positive operating cash flows over the 2011-2013 triennium but Figure 7 shows the widely differing capacity of institutions to generate significant surpluses from their operations.

Figure 7 Triennium operating cash flows 2011-2013 triennium

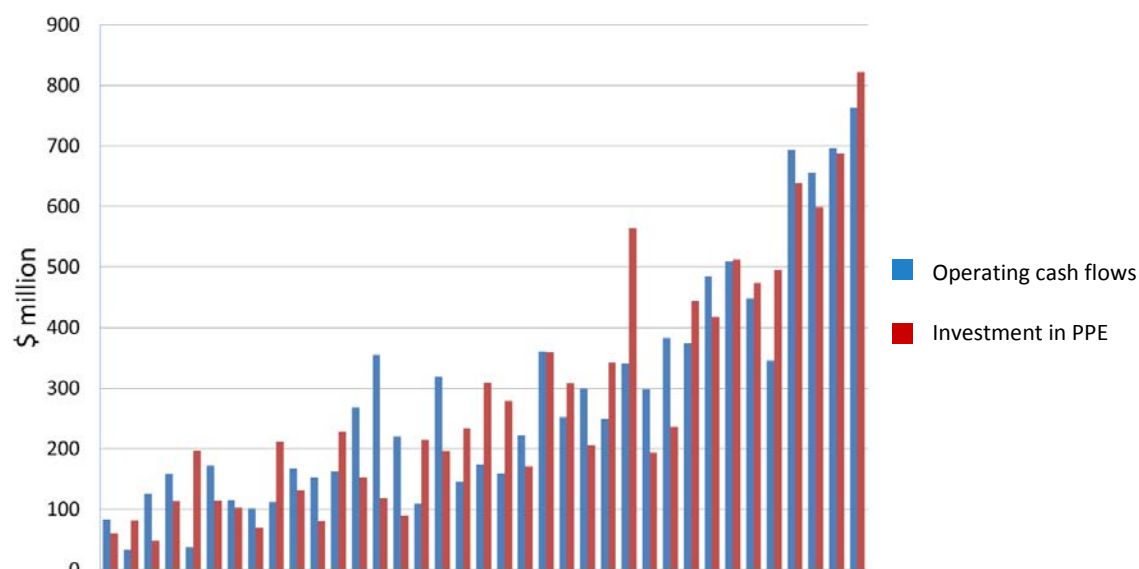


Source: Department of Education and Training using PhillipsKPA data

This is an important point. While most universities have been well placed to fund their infrastructure investments, there are a small number of institutions that have clearly struggled.

Figure 8 shows the match between operating cash flows and investments in PPE for each university.

Figure 8 Triennium operating cash flows vs investments in PPE 2011-2013 triennium



Source: Department of Education and Training using PhillipsKPA data

The Victorian Auditor-General uses net operating cash flow as a percentage of operating revenue net of large one-off transactions as an indicator of self-financing capacity. The self-financing risk assessment criteria used by the Victorian Auditor-General are shown in Table 4.

Table 4 Self-financing risk assessment for universities Victorian Auditor-General

Self-financing ratio	Assessment	Risk
Less than 10%	Insufficient cash from operations to fund new assets and asset renewal	High
10-20%	May not be generating sufficient cash from operations to fund new assets	Medium
More than 20%	Generating enough cash from operations to fund new assets	Low

4.3 Financial assets

Internal financing over the 2011-2013 triennium was not at the expense of financial assets.

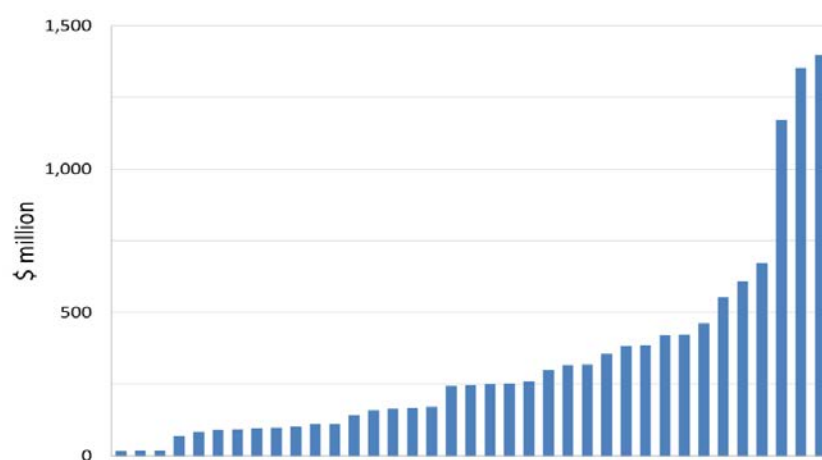
At the end of 2013 the sector held a total of \$12.1 billion in total financial assets and \$8.1 billion in net financial assets (see Box 2 for further detail).

As shown in Figure 9, only three institutions appear not to have significant financial assets. At the upper end of the scale, three universities have financial assets in excess of \$1 billion and a further three have financial assets in excess of \$500 million.

Box 2 Australian university financial assets

- Total financial assets increased from \$9.9 billion in 2011 to \$12.1 billion at the end of 2013.
- Net financial assets (i.e. after financial liabilities) increased from \$6.8 billion to \$8.1 billion at the end of 2013.
- Over the triennium, on a cash flow basis, cash holdings increased by \$0.5 billion, much of which is associated with the net borrowing activities of a small number of institutions.
- University financial statements do not fully disclose the extent to which total financial assets include unearned income (e.g. research grants), endowment funds, committed infrastructure investments, etc.
- Despite these caveats, the sector generally with a few exceptions remained highly liquid with significant cash reserves.

Figure 9 Australian universities financial assets at 31 December 2013



Source: Department of Education and Training using PhillipsKPA data

4.4 Capital Grants

The Australian Government's decision to abolish the EIF, announced in the May 2014 Budget, was the culmination of a long process of transfer of responsibility for capital funding for university infrastructure from Government to universities.

Government and state government capital grants funded approximately \$2.0 billion, or 19 per cent, of the university investment in PPE over the 2011-2013 triennium. As small as this contribution is, paradoxically, it is an unusually high level of government capital funding relative to the norm for the past 20 years and more.

Universities received grant income as they progressed projects for which funding was awarded on a progress payment basis, from several sources, including:

- the EIF funded Teaching and Learning Capital Fund, in 2009, \$500 million;
- the EIF competitive rounds
 - Round 1, 2008, \$580.5 million
 - Round 2, 2009, \$835 million
 - Round 3 and Sustainability Round, 2010, \$423 million;
- the EIF capital component of the Structural Adjustment Fund in 2011, \$207 million;
- the Regional Priorities funding round of the EIF in 2012, \$258 million; and
- state government co-investment contributions to EIF projects.

However, in this context, we note that:

- universities did not rely on HEEF or EIF funding for day to day infrastructure requirements—the focus was on large transformative projects;
- in nearly every case, universities made significant co-investments in HEEF/EIF projects; and
- the leverage impact of HEEF/EIF investments was very significant.

We note also that self-reliance is not uniform across the sector. Smaller regional universities, in particular, were more dependent on capital grants for infrastructure investment. As a result they will face particular challenges adjusting their operations to either accumulate the surpluses necessary to internally finance future infrastructure, particularly large scale building construction and renewal, or to service substantial debt. We discuss these challenges further in Section 8.4.

4.5 Capital markets

4.5.1 University borrowing activity, 2011-2013 trends

Analysis of university borrowing activity during the triennium shows²³:

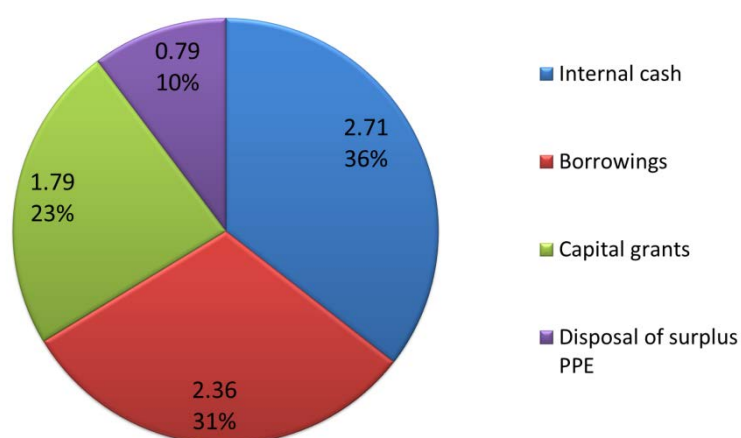
- most universities had some borrowing activity over the triennium;
- significant borrowings were limited to a small number of universities;
- for some institutions, the activity has been to pay down debt rather than take on new debt;
- the level of net new debt is relatively low;
- only 6 per cent (\$712 million) of gross movement in PPE was directly financed through net proceeds from borrowings.

The analysis includes finance leases and other debt obligations in borrowing.

As noted in Figure 6 \$712 million, or 6 per cent, of the investment in PPE over the 2011-2013 triennium was debt financed. Use of debt by Australian universities appears low relative to universities in counterpart systems in other countries. Figure 10 shows the breakdown for UK universities over a similar period, when 31 per cent of capital expenditure was debt financed.

²³ PhillipsKPA, 2014, *Review of University Finances for the Higher Education Infrastructure Working Group*, report at Appendix 2.

Figure 10 UK universities—breakdown of capital expenditure for 3 year period 2010 2011 to 2012 2013 (£ billion)



Source: Department of Education and Training using data from Higher Education Council for England 2014, *Financial health of the higher education sector 2013-14 to 2016-17 forecasts*, October 2014/26, Figure 16.

The Working Group was advised by rating agency Moody's that 12 US universities have over \$US 2 billion debt and public universities in the US have median debt of \$US 250 million, which equates to 55 per cent of operating revenues. This is higher than the average in Australian universities.

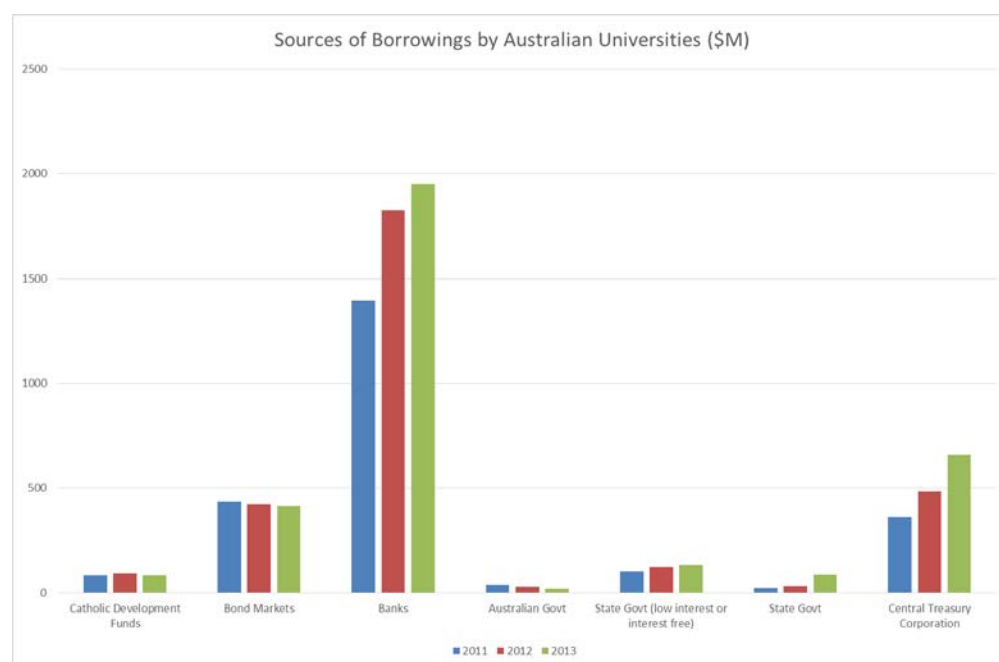
In this context it is important to note that the US offers favourable tax treatment to the university sector, including a zero tax rate for investors on certain interest payments received from public universities. There are similar tax based incentives in Canada and Singapore.

During the 2011-2013 triennium, banks were the most common source of external debt finance for infrastructure investment by the university sector, as shown in Figure 11.

Although growth in borrowing was primarily with the banking sector, several universities also accessed bond markets and others borrowed from state/territory central treasury corporations.

In consultations with universities we were advised that, during this period, borrowings were used primarily to manage timing issues associated with construction projects rather than being a primary source of finance for infrastructure. This confirms the analysis in the PKPA Report that the sector's use of debt appears, in the majority of cases, to have been at the margin and was likely to have been used to accommodate timing issues around cash flows, rather than being the primary source of infrastructure financing.

Figure 11 University borrowings by source



Source: PhillipsKPA

4.5.2 University borrowing capacity

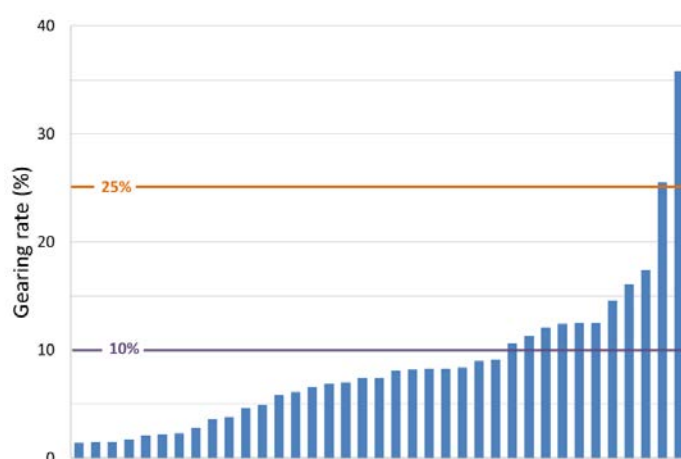
The capacity of Australian universities to undertake further borrowing can be explored through two benchmark ratios. These are:

- interest rate cover ratio where, using a benchmark of 4.0, it appears that with few exceptions the sector is well placed within the current policy settings to accommodate the costs of borrowing from their operating activities; and
- debt cover ratio of 1.5, where the analysis shows that universities which are generating adequate operating surpluses for their size have capacity to borrow to invest.

The majority of Australian universities had very low gearing ratios²⁴ at 31 December 2013, as shown in Figure 12. Only two universities had a gearing ratio exceeding 25 per cent and 26 of them had gearing ratios under 10 per cent.

²⁴ The gearing rate is the level of borrowings, including finance leases and other debt obligations, divided by net equity (total assets minus total liabilities).

Figure 12 University gearing rates at 31 December 2013



Source: Department of Education and Training using PhillipsKPA data.

Our consultations revealed that universities were very cautious about debt because:

- the constraints imposed by state and territory governments on university borrowing powers, which are examined in Section 5 of this Report, affect the speed and flexibility of any responses they might be able to make to financial shocks, internal or external; and
- there are numerous risks on the horizon while the deregulation debate remains unresolved.

The Working Group looked at international benchmarks for how much university debt is sustainable and reasonable.

A number of Canadian universities have included a benchmark of 'debt per full-time student equivalent' in their internal policy guidelines for borrowing.

- Dalhousie University has set an upper limit of debt of \$C12,500 to \$C13,500 per student FTE²⁵.
- The University of Guelph has set a debt metric of less than \$C10,000 per student FTE but emphasises that it is not a hard cap²⁶.

When this measure was applied to the Australian experience we saw that in 2013 only one Australian university was even close to the Canadian universities' limits and there were mitigating offsets in that case.

²⁵ Dalhousie University, 2014, *External Debt Policy*, 15 April 2014 <http://www.dal.ca/content/dam/dalhousie/pdf/university_secretariat/Board-of-Governors/External%20Debt%20Policy.pdf>.

²⁶ University of Guelph, 2014. *Capital Debt Policy*, 5 June 2014 <<https://www.uoguelph.ca/finance/policies-procedures/treasury-operationsinvestment-management-policies-and-procedures/capital-debt>>.

The Higher Education Funding Council for England has recently introduced a new financial commitments limit for approval of university borrowing. The limit is financial commitments exceeding five times an institution's earnings before interest, tax, depreciation and amortisation (EBITDA) averaged over six years²⁷. Financial commitments include loans, finance leases, Private Finance Initiative arrangements accounted for as loans or finance leases and repayable grants.

While the Working Group does not believe that there is any evidence of a need for Government intervention to cap university borrowing in Australia, it does believe that each Australian university should establish measures of debt affordability and impact appropriate to its circumstances as part of its financial performance indicators.

4.5.3 Bank debt

During the 2011-2013 triennium, banks were the most common source of external debt finance for infrastructure investment by the university sector, as shown in Figure 11.

As noted in the preceding section, at a sector level, it appears that borrowings are being used to manage timing issues associated with construction projects. They do not appear to be a primary source of finance in any university at present. Bank debt is well suited for this purpose. Pricing is very competitive in the current low interest rate environment and banks offer considerable flexibility in relation to repayment.

The Working Group consulted with two leading Australian banks, which are bankers for several universities. The takeaways from those meetings included:

- the university sector is a 'very bankable sector' (for the reasons mentioned in subsection 4.5.4 below);
- both the debt and securitised assets markets are looking for a strong new asset class and universities could fill that gap;
- universities are more difficult to deal with than corporates: issues mentioned included a 'pre-occupation' with probity, lack of delegation, conservative boards and councils and state government regulation; and
- the level of strategic financial skills in universities is improving, particularly in the larger capital city based universities.

Most Australian universities have ready access to bank debt.

4.5.4 Debt Capital Markets (DCM) Bonds

International and domestic bond markets provide a financing alternative to banks. The principal advantages of bonds over bank debt are lower debt costs and longer tenor, each of which is discussed below.

²⁷ Higher Education Funding Council for England, 2014, Memorandum of assurance and accountability between HEFCE and institutions, June 2014/12, Annex C: Financial commitments, <https://www.hefce.ac.uk/media/hefce/content/pubs/2014/201412/HEFCE2014_12.pdf>.

The principal disadvantage of bonds is lack of repayment flexibility and there are perceptions in the sector that bond transactions are complex and costly.

It is clear from our consultations with leading investment banks and rating agencies that:

- capital markets are liquid and investors are keen to engage with borrowers with long term secure income streams;
- there is an increasing level of interest in the university sector, both internationally and in Australia. Banks are keen to engage with the university sector on bond transactions although engagement has been limited to date;
- universities are attractive to the capital markets sector, with factors mentioned including:
 - strong, secure, long term cash flows
 - the perception that, although most university borrowings are not government guaranteed, a substantial proportion of universities' revenue is sourced from government payments, which significantly enhances their attractiveness and their credit ratings
 - for most universities, their strong balance sheets, richness of assets and low gearing
 - for most universities, well managed operations;
- university infrastructure projects offer right sized deals and repeat business; and
- the university sector is a new sector with significant scale at a time when there is surplus liquidity in the markets.

The factors which make universities attractive to investors also lead to comparatively high credit ratings for universities in Australia and overseas. The University of Melbourne (rated AA+) and the University of Sydney (rated Aa1) both have higher credit ratings than some Australian banks.

At present, an Australian university rated Aa1/AA could expect to issue bonds with an effective fully-swapped coupon interest rate below 4.0 per cent per annum. That compares favourably with current interest rates on a bank loan.

Most bank loans are made for periods up to 5 years, although in the current liquid capital markets bank loans for 7 years are being seen. Most bonds issued by universities have had tenors of 25 to 30 years, and the US has seen a handful of 100 year university bond issues²⁸.

²⁸ In 2011, Ohio State University (OSU), Massachusetts Institute of Technology and the University of Southern California all issued 100 year bonds. OSU's \$US500 million issue, rated Aa1/AA, had a nominal interest rate of 4.8 per cent (*Ohio State University Prices 'Century' Bond*, Wall Street Journal, 19 October 2011, <<http://www.wsj.com/articles/SB10001424052970203752604576641693067078706>>).

To participate in the bond markets, domestic or international, it is necessary for a borrower to be rated by a credit rating agency. While this is not a particularly difficult process, the bond markets are complex, and borrowers need to engage a suitably qualified financial advisor.

There appears to be a trend towards increasing use of bonds by Australian universities but the frequency of issues is low. Issues to date include:

- **Australian National University**—in 2004, issued \$115 million 25 year unsecured indexed annuities;
- **University of Wollongong**—in 2008, issued \$42.5 million 30 year unsecured indexed annuity; in 2010, issued \$20 million 25 year unsecured indexed annuity;
- **Macquarie University**—in 2010, issued \$250 million 10 year unsecured medium term notes, rated Aa2, coupon rate 6.75 per cent;
- **University of Sydney**—in 2014, issued \$200 million 7 year notes, rated Aa1;
- **University of Melbourne**—in 2014, issued \$250 million 7 year notes, rated AA+; and
- **University of Sydney** established a \$600 million bond issuance program in April 2015, rated Aa1, to invest in infrastructure and to refinance bank debt maturing in 2016²⁹.

In our consultations, several universities made the point that they have not been attracted to bonds because their financing requirements are relatively short term. There are usually very significant penalties for early repayment of bonds.

University activity in international bond markets is significant. Moody's have rated over 520 public and private universities in the US, 10 in Canada, four in the UK, two in Singapore and one in Mexico. As of November 2014 they had rated three universities in Australia and that number has already increased and is likely to further increase. Standard and Poor's confirmed similar numbers and trend.

Moody's advised that multiple factors are driving university bond issuance in the US, which is 'now in the mainstream'. Those factors include:

- increasing capital requirements;
- increasing ability to charge user fees for ancillary projects;
- liquid markets;
- declining government funding; and
- deregulation of the sector.

²⁹ Anonymous, 2014, *Aussie Universities Follow Yale, MIT in Tapping Bond Markets*, Australian Financial Review, 24 June 2014 <<http://www.afr.com/news/policy/education/aussie-universities-follow-yale-mit-in-tapping-bond-markets-20140624-j063p>>.

The Working Group has concluded that there are significant opportunities for most Australian universities to access the domestic and international bond markets, should they wish to do so.

4.5.5 Access to bond markets for small universities

Our consultations highlighted that capital market investor appetite for small issues is limited and the costs associated with a bond issue also lessen the attractiveness of smaller offerings. This places smaller universities at a disadvantage relative to large institutions. Smaller universities are also more likely to need to buy into the expertise needed to engage effectively with capital markets.

The Working Group notes that this size effect is not unique to universities. Small local government areas have faced the same problems and addressed them through borrowing aggregation or ‘financial federation’.

Box 3 A new financing model for local government

Australian local governments have historically used bank loans for their financing needs. However, bank borrowing has recently become more expensive for councils as a result of changes to banking rules.

This has led to the development of a new approach through the Local Government Funding Vehicle (LGFV). The LGFV is a trust that makes loans to councils while issuing bonds to finance them. The bonds and loans are issued on equivalent terms, with the bonds carrying an Aa2 credit rating. NAB is trust manager and trustee of the LGFV.

The LGFV made its first bond offer in November 2014 and is seeking to raise \$240 million in two tranches.

Similar collective local government financing vehicles have operated successfully in other countries for many years. Most recently, the New Zealand Local Government Funding Agency was incorporated in late 2011. By March 2015, the agency had issued \$4.8 billion in bonds, with its most recent issue having a coupon rate of 4.50 per cent for a 12 year term.³⁰

The Local Government Funding Vehicle (LGFV), which aggregates the borrowings of 30 Victorian local councils, provides a model for this. The operation of the LGFV, which issued Australia’s first municipal bonds in November 2014, is discussed in more detail in Box 3. A similar model to the LGFV could be used to issue bonds for small regional universities which agree to aggregate their borrowing needs. A sponsor, with some balance sheet capacity would be required, to take responsibility for the accuracy of the information provided. We were also advised that several US states have debt pool structures for their universities.

For this reason, we recommend that discussions are held between Commonwealth, state and territory governments on ways to improve the capacity of universities to manage their businesses include consideration of facilitation of ‘financial federations’.

³⁰ **Sources**

Anonymous, 2014, *A new funding model for local government*, NAB Business Research and Insights, 7 November 2014 <<http://business.nab.com.au/a-new-funding-model-for-local-government-8604/#>>.

Ernst & Young, 2013, *National financing authority for local government*, report for the Department of Regional Australia, Local Government, Arts and Sport, <[>](http://www.regional.gov.au/local/lgifr/files/national-financing-authority-for-local-government-options-assessment-20130416.pdf).

New Zealand Local Government Funding Agency, 2015, *Issuance*, viewed 19 March 2015, <[>](http://www.lgfa.co.nz/issuance#results).

4.5.6 Securitised real estate

A high proportion of commercial real estate assets in Australia is securitised. These securitised real estate assets are owned by property investment vehicles, often Real Estate Investment Trusts (REITs) that fund their property holdings through a mixture of equity and debt.

REITs may be listed or unlisted. They range from multi-billion dollar entities like Scentre Group, Westfield, Stockland, General Property Trust (GPT), Goodman and Vicinity to small private syndicates capitalised at less than \$50 million. REITs often specialise in one or more of the major asset classes: retail property, industrial property, office buildings, hotels, retirement villages, etc. REIT investors include institutional investors (e.g. sovereign funds, large superannuation funds and fund manager institutions) and retail investors and self-managed superannuation funds.

Australia is among the leading countries in the development of REITs and securitised real estate. The local market is deep with significant involvement from international investors.

Working Group members had a presentation from a leading investment bank at an EIF Advisory Board meeting. Investor appetite for a REIT specialising in high quality university assets in Australia was canvassed and the Board was advised that investors are looking for scale, risk diversification, quality borrowers and quality assets. There is certainly a sufficient pool of investment quality university real estate in Australian universities to provide scale and that includes some very high quality assets. All of the attributes that make the sector attractive to the DCM, which are detailed above, make it equally attractive as a securitised real estate proposition.

One area in the university sector where securitised real estate is playing a significant role is student accommodation. A recent Jones Lang LaSalle (JLL) research report³¹ identified Campus Living, UniLodge and Urbanest as major players. JLL's report suggested that there was a shortage of nearly 200,000 beds on the eastern seaboard. That is attracting interest from large international investors like Singapore's Wee Hur Holdings, which is planning a two stage development on its \$55 million site in Brisbane. Another major international operator, Scape, backed by Dutch pension fund APG, is developing a \$400 million student accommodation precinct in Melbourne near Royal Melbourne Institute of Technology and has recently acquired two sites in Brisbane's Southbank where it has plans for a \$160 million project.

The suggestion that securitised real estate may play a wider role has met a lukewarm reaction from some in the university sector. They see the benefits in having a significant alternative source of capital readily available for large infrastructure projects but are concerned about the cost of capital, issues around property ownership, and various technical matters.

³¹ JLL, 2015, *Australian Student Market Update 2015*, March 2015 <<http://www.jll.com.au/australia/en-au/Research/jll-australian-student-accommodation-market-update-2015.pdf?898e2374-5b1d-4eca-b660-79a7b8b81108>>

The relatively high cost of capital is an impediment but we think it is worth considering whether that issue could be addressed by provision of government seed capital.

Our discussions with capital market experts suggest that property ownership may not be a serious impediment to securitisation. There are numerous examples of securitised real estate transactions where property ownership reverts to the lessee (i.e. the university) on expiration of the lease.

Securitised real estate transactions can be complex but the potential benefits are significant. The Western Sydney University recently concluded a \$170 million landmark securitised real estate transaction with Charter Hall for its Parramatta campus. Also, as noted above, several universities have been involved in, or are considering, securitised transactions for student accommodation.

We think it is important that this avenue of opportunity be further explored. That should be done for the benefit of the whole university sector, hence our recommendation that Universities Australia be involved.

Recommendation 1.1

The Working Group recommends that the Government commission further work on securitising university real estate in Australia and that it involve Universities Australia in that work.

4.5.7 Project finance

Project finance is a loan structure where the financing and debt repayment are dependent on the internally generated cash flows of a project. This distinguishes it from other forms of financing where the lenders have recourse to other assets of the borrower and the risk of the cash flows failing to meet debt repayments rest with the borrower. In project financing transactions, the borrower is usually a special purpose vehicle³² and the lender and borrower share the risks of the project.

Project financing is predicated on robust, long term cash flows from a project. In the university context, project finance is likely to be more relevant for those university units that operate on a commercial basis. Student residential accommodation has been provided in some cases using this vehicle.

Project finance has the advantage of shifting some risk. The downside is the cost of capital, which reflects the risks taken on by the investor. The likely cost of capital will be of the order of 8 to 12 per cent per annum or higher, even in today's market.

³² A special purpose vehicle is a subsidiary company established to achieve a specific purpose with a legal status and asset/liability structure which isolates the parent company from risk.

Universities are only likely to use project finance for operating infrastructure (e.g. student accommodation) and commercial project transactions, where the higher cost of capital can be serviced.

4.5.8 Joint ventures and Public Private Partnerships (PPPs)

Joint ventures on university campuses have centred on PPPs which encompass a number of forms of project finance in which risk is shared between the university and one or more project partners. In PPPs, the private partner or partners may be responsible for the design, construction, finance, operation and maintenance of the service provided by the infrastructure and share in the risks. The private partner may also own the asset before it is transferred back to the public partner (the university) after an agreed period³³.

Universities have used PPPs in the form of Build-Own-Operate-Transfer (BOOT) arrangements for provision of new on campus student accommodation. Universities made use of the National Rental Affordability Scheme (NRAS) following its introduction in 2009, securing around 6,000 incentives³⁴, to build new student accommodation largely through BOOTs.

Service concession arrangements, in which the private partner operates and manages, with the university as lessor, have also been used.

Universities are more likely to use joint ventures and PPPs for commercial project transactions, where the higher cost of capital can be serviced.

4.5.9 Sale and leaseback

Sale-leaseback may be regarded as a specialised form of PPP or securitised real estate transaction whereby a university sells a property to a private partner, thus converting the value of the property into a liquid asset, and leases the property back over a fixed period. Depending on the arrangements agreed, ownership of the property may be transferred back to the university at the end of this period. Where sale-leaseback has been used extensively, the leaseback is often as a triple net lease (lessor pays for normal outgoings, management and maintenance/capital improvements).

A significant advantage of sale-leaseback arrangements for companies lies in tax deductible leasing payments. That may generally not apply in the case of universities with their corporate tax exempt status.

Sale-leaseback appears to have been little used by Australian universities. The Working Group is only aware of one example, Victoria University's sale-leaseback of a property in Flinders Street, Melbourne, in 2013.

³³ Productivity Commission, 2014, *Public Infrastructure*, Productivity Commission Inquiry report No 71, May 2014.

³⁴ National Rental Incentives were government payments to organisations to build and rent dwellings to low and moderate income households at 20 per cent or more below current market rates. Student accommodation 'capable of being lived in as a separate residence' was eligible, with the Australian Government incentive (one per dwelling) being around \$70,000 paid over 10 years plus a state/territory government in-kind or cash incentive.

Universities are unlikely to make great use of sale and leaseback because of their corporate tax exempt status and because of the high cost of capital involved.

4.6 Other funding sources

As noted above, the primary sources of funding for university infrastructure have been cash surpluses, capital grants from the Australian Government and, to a lesser extent, capital market transactions. There are a number of other mechanisms that have been used to finance or access infrastructure.

4.6.1 State and territory government funding

We address state and territory government funding more generally in Chapter 6. However, the states and territories make only a small contribution to university income (excepting dual sector universities and some NCRIS facilities) and capital funding is generally a small component of that contribution.

4.6.2 Sale of land

Sale of university land to fund new capital investment is a form of capital recycling which may provide benefits for universities, state governments and communities.

Some universities have campuses that either have a larger area than they will need for the foreseeable future or are unsustainable legacies of amalgamations.

The Working Group recognises that campus closure involves its own set of sensitivities including local communities' perceptions of loss of amenity and access. However these underutilised assets may have other uses that would provide funding for universities and contribute more effectively to local economies and communities.

For most universities, sale of land is constrained by state and territory government controls over disposal of land given in trust. State governments have customarily shown some unwillingness to work with universities to find solutions to legacy campuses because of political sensitivities. We discuss the issue of state controls further in Section 6.2.

4.6.3 Tenant funding

Some universities share building space with tenants who either provide up-front funding for part of the construction costs of a new building or commit to a long term tenancy, with their rent repayments contributing to servicing debt on the project. Two interesting examples are given in Box 4.

Box 3 Tenancies funding infrastructure

CSIRO provided \$17 million capital funding to Deakin University for the Australian Future Fibres Research and Innovation Centre, opened in 2013. Under the terms of the agreement, CSIRO has 50 year lease rights to a 5,000m² building and space in two other buildings in the project precinct for a peppercorn rent (with the capital contribution being treated as rental in advance). CSIRO will meet all normal outgoings, maintenance and the costs of periodic refurbishment over the period of the lease.

Macquarie University financed its up-front contribution to the cost of its \$120 million Hearing Hub building through a bank loan. A substantial proportion of building space is tenanted to entities involved in hearing research and services, with its anchor tenant, Australian Hearing Services, leasing around one quarter of the space. The project finances have been structured so that the rents will meet the debt and debt servicing costs.

4.7 Philanthropy

The Working Group was specifically requested to examine the potential for philanthropy to play an increasing role in funding infrastructure investment in Australian universities, thereby reducing dependence on untied Australian Government funds and student contributions and fees.

Despite publicity given to a number of large donations to universities in recent times, the role of philanthropy as a contributor to Australian university infrastructure funding starts at a relatively modest base.

According to a recent report, the total value of donations and bequests to Australian universities for all purposes in 2014 was \$576 million.

Worldwide, giving for university infrastructure purposes represents around 14 per cent of total philanthropy to universities. There is no comprehensive data on the purposes to which philanthropic income is directed in Australian universities, but there is reason to believe that this proportion holds true for Australia as well. The international trend is for large gifts to universities to support research or action directed to solving major social problems and to scholarships, rather than to infrastructure projects.

Assuming 14 per cent of all philanthropic donations to Australian universities was available for infrastructure expenditure in 2014, philanthropy funded about \$80 million of infrastructure investment, less than 2.5 per cent of the total amount spent on PPE.

However, there are also indirect benefits from university philanthropy for infrastructure funding. Strong institutional philanthropy programs do assist universities to increase their overall revenue and provide capacity to direct any savings from the outcomes of philanthropic bequests to other line items, including infrastructure investment.

The Working Group heard consistently from international philanthropy experts that the fundraising capacity of all but a few Australian universities was still relatively immature when compared with their US and UK counterparts. Those consulted also noted the positive changes in the UK philanthropy environment which followed the Thomas report on philanthropy in UK universities in 2004³⁵, giving encouragement that some form of concerted action by government and institutions might achieve similar outcomes in Australia.

The Working Group was made aware of the very successful matched funding programmes conducted in recent years in the UK, Hong Kong and Singapore. These programs were intended to boost overall philanthropic donations to universities by matching donors' contributions with government contributions. They were not specifically directed at infrastructure funding, but could have been. As a case in point, the UK has established the Research Partnership Investment Fund (RPIF) to operate alongside its matched funding

³⁵ The Thomas report recommended *inter alia* that the UK government provide seed funding, to be matched by the recipient universities, in the first instance to improve the fundraising capacity of universities which had attracted little philanthropy to that time. It suggested that might be followed by a matched funding scheme for a limited time. Both mechanisms were implemented, with the capability building funding being awarded in 2006 and the matched funding scheme running from 2008 to 2011.

program to attract funding from business and charities for specific research infrastructure projects. Rounds 1 to 4 of RPIF allocated over £500 million to 34 university research infrastructure projects, attracting over £1 billion of co-investment from business and charities – see Section 7.2 for further details.

In our consultations experts spoke of the importance of support for university development offices both in developing alumni networks and as important drivers of university philanthropy. They also emphasised the collaborative way those offices already work together in Australia, despite intense competition for the philanthropic dollar.

International philanthropy experts also mentioned the importance of ‘philanthropy champions’. These champions play an important role in the success of the US Ivy League university campaigns, which have been among the world’s most successful philanthropic programs over the years.

Finally, the Working Group notes that several large companies are providing funding to benefit universities through philanthropic arrangements with commercial overtones. These companies perceive advantages for both parties in visible corporate support for university activities and facilities. For a company, it is a demonstration of good corporate citizenship and, at the same time, exposes a large and possibly soon-to-be-affluent cohort to the company brand.

Based on international benchmarks, the Working Group believes there may be scope over time, through a concerted positive action program, to double total Australian philanthropic donations to universities to \$1 billion per annum. While this may be achievable, it may be more difficult to increase the percentage of total philanthropic donations directed to university infrastructure much above the 14 per cent mark, which, as noted, prevails in most countries. Nevertheless, that would still see philanthropic funding for university infrastructure at around \$150 million per annum, which is certainly worthwhile.

Accordingly, we believe there is a case for taking action to grow philanthropy and the Working Group has identified a role for the Government in that process.

Recommendation 2

The Working Group recommends that the Government commission a detailed review of options to increase philanthropic giving to Australian universities, including consideration of establishing a matched funding programme along the lines of successful programmes conducted internationally, including in the UK, Singapore and Hong Kong.

4.8 Conclusions

The \$10.6 billion investment made by universities over the 2011-2013 triennium appears to have been sufficient to improve the quality and functionality of their infrastructure.

It is striking that although this was a period of reasonable access to Government capital grants from a number of funding rounds of the EIF, less than 20 per cent of funding came from capital grants from Government. 79 per cent of the investment was funded by cash operating surpluses.

We believe that the continuing ability to generate sound operating surpluses lies at the heart of universities' capacity to make the infrastructure investments necessary to support high quality teaching, learning and research.

Funding shocks that increase risk and erode university operating results and balance sheets will reduce self-financing capacity. That may lead to forced reliance on borrowing if universities are to continue to make infrastructure investments. At the same time, institutions' capacity to borrow on favourable terms will be reduced if their balance sheets come under too much pressure from funding shocks.

Recommendation 3

The Australian Government should ensure that policy settings and the national regulatory environment for the higher education sector are developed and implemented in a manner that allows universities adequate time to respond in order to maintain financial stability.

Chapter 5: The role of government—the Commonwealth Government

5.1 Introduction

University operations are subject to many Commonwealth laws, reflecting the diversity of those operations, and may receive funding from a large number of Australian Government sources. However, the Working Group has given consideration only to the legislation and funding which impact materially on its remit.

Commonwealth legislation establishes what universities must be and the government funding levels they receive, as well as imposing requirements of quality and accountability.

The *Higher Education Support Act 2003* (HESA) remains the most important piece of legislation regulating universities, principally because most Australian Government funding support is provided through HESA.

The *Higher Education Standards Framework (Threshold Standards) 2011*, which is the basis for accreditation by TEQSA, establishes a threshold standard for infrastructure. It requires institutions to provide ‘safe, well-maintained physical and electronic resources and infrastructure sufficient to enable the achievement of its higher education objectives, across all its locations in Australia and overseas’.

The Standards Framework specifies what an institution must do to qualify as an Australian university. A higher education provider must undertake research and offer research training in at least three broad fields of study. Every university must provide the research infrastructure necessary to support its research.

5.2 Australian Government funding in perspective

Australian Government funding remains the dominant source of funding for the public universities. Sector-wide³⁶ in 2013, funding classified as Australian Government financial assistance was \$15.43 billion, or 59 per cent of total revenues from continuing operations of \$26.33 billion. Higher Education Loan Program (HELP) payments by the Australian Government provided a further \$4.44 billion of revenue. The only other income source of comparable magnitude was international student tuition fees, which provided \$4.29 billion. By comparison, state and local government assistance was \$0.65 billion and non-government grants \$0.38 billion.

³⁶ Amounts in this section are derived from the Adjusted Statement of Financial Performance published by the Department of Education and Training, which include monies paid to Bachelor Institute of Indigenous Tertiary Education and the University of Notre Dame Australia.

5.3 Base funding

Funding for Commonwealth supported domestic students, or base funding, is made up of:

- the Commonwealth contribution paid through the Commonwealth Grant Scheme (CGS); and
- the contributions which Commonwealth supported students must make, either through HECS-HELP or up-front payments.

This remains the largest single source of income for universities (\$10.8 billion in 2013). With the exception of upfront student contribution payments (\$0.6 billion in 2013), base funding is provided by the Australian Government, even though there is the expectation that most of the HECS-HELP payments will be repaid by students in the long term.

Base funding also remains the most important single source of income because of the absence of restrictions on its use. Base funding and international student fees are the only large revenue sources universities can use to fund infrastructure development—for both teaching and learning and research—through accumulated surpluses and debt servicing.

5.4 Research grant funding

The Australian Government funds university research through the following grant funding organisations and schemes:

- the Australian Research Council (ARC), which is administering grant schemes totalling \$790 million in 2015-16;
- the National Health and Medical Research Council (NHMRC), which is administering grant schemes totalling \$846 million in 2015-16; and
- a large number of special purpose competitive grants schemes administered by departments and agencies; e.g. Australian Antarctic Division, Australian Renewable Energy Agency (ARENA), which are usually open to a wide range of organisations conducting research and development, including universities. Despite their number, they make a small contribution relative to the ARC and NHMRC.

Australian Research Council

The most important of these organisations for universities is the Australian Research Council (ARC), which funds research in all fields. The ARC has a large number of programs and almost all share the common characteristics of:

- being awarded to individual researchers (but paid to the institution to administer); and
- covering the direct costs of research only.

Critically from the point of view of infrastructure, ARC grants do not cover:

- equipment, unless it is for the project only and not for broader use;
- capital works; and
- general infrastructure.

Funding rules are explicit that it is the responsibility of the recipient organisation to provide suitably equipped and furnished space for funded research to be carried out.

The ARC's one program to provide funding for research infrastructure, the Linkage, Infrastructure, Equipment and Facilities (LIEF) scheme, is allocated only \$30 million per year and therefore does not contribute significantly to research infrastructure costs.

National Health and Medical Research Council (NHMRC)

NHMRC grants are also open to non-university research organisations but around 80 per cent of the funding goes to universities. For example, of the \$580 million announced in October 2014, \$433 million went to universities. \$337 million of that funding was project grants, which may only be used for the direct costs of research. As for ARC grants, it is the university's responsibility to provide, equip and maintain laboratory space and general equipment.

The NHMRC does provide some infrastructure support to universities in the form of Equipment Grants. Funding is allocated on a pro rata basis according to institutions' share of the total funding awarded by the NHMRC. For 2013, \$6 million was allocated to universities and medical research institutes. The largest single grant was \$800,000, to The University of Melbourne.

5.5 Research Block Grants

Research block grants are to support costs of research and research training and to encourage universities to align their research with certain government policy objectives. The Working Group has focused its attention on the following grants, which are central to universities' capacity to support necessary research infrastructure at the institution level:

- Joint Research Engagement scheme (JRE)—for the support of soft infrastructure and maintenance of capital items, but not the purchase of them (\$353 million in 2015);
- Research Infrastructure Block Grants scheme (RIBG)—for equipment purchase and salaries of support staff, but not construction of buildings (\$240 million in 2015);
- Sustainable Research Excellence (SRE)—to help meet the indirect costs of research that are not eligible for funding under the rules of the ARC, NHMRC and other competitive grant schemes (\$193 million in 2015).

The SRE scheme is of particular interest because it was announced in 2009 with the explicit objective of bringing Government funding for the indirect costs of competitive grant funded research up to 50 cents in the dollar, from the 20 cents in dollar in 2010. However, the SRE has not grown as originally intended or budgeted, with cuts to it being made in 2012 and 2015 by successive governments.

The inadequacy of Australian Government funding for the infrastructure necessary to carry out ARC, NHMRC and other Government funded research activity impacts significantly on university activities and finances as a whole, and particularly on students and their teaching and learning. We discuss this issue further in Chapter 8.

5.6 Capital funding

The Government's decision to abolish the EIF, announced in the May 2014 Budget, means that Government no longer provides dedicated funding for university physical infrastructure, with the minor exception of some research infrastructure funding provided for purposes other than buildings.

This section provides some background on how the Government's contribution to capital funding declined from being the dominant source in the 1980s to a minor component today and discusses the implications of that decline.

Pre-1994

Prior to 1994, Australian universities shared the funding regime that prevails in most developed countries. The Commonwealth, which has funding responsibility for public universities, provided an operating grant to meet operating expenses and capital funding for buildings and facilities.

The capital funding component was controlled centrally and granted for specific projects on the basis of institutional bids. As is customary in such funding environments, universities usually linked their capacity to develop new infrastructure facilities to their capacity to win government capital funding³⁷. Plant and equipment expenses were necessarily met from the operating grant even though they were capital items.

Capital Roll-in and Capital Development Pool (CDP)

In the wake of the radical suite of reforms enacted in 1990 by John Dawkins, then Minister for Education, including: the introduction of income contingent loans through the Higher Education Contribution Scheme (HECS); and conversion of Colleges of Advanced Education to universities, it was decided that universities should be able to determine their own infrastructure needs and expenditure.

To give effect to this decision, the so-called 'capital roll-in' incorporated the pre-existing central allocation of \$270 million for major capital works (less \$35 million for a CDP) into the operating grant. The roll-in to operating grants was intended to meet universities' maintenance, rehabilitation and refurbishment capital needs. It had the important effect of uncoupling funding and financing of major infrastructure investment from government decision making and grants.

The residual CDP was designed to complement the capital roll-in by providing some funding for new capital projects on a competitive basis. However, it remained a small contribution to the capital needs of universities over its lifetime until its abolition in 2012.

³⁷ The student contribution to infrastructure spending was low during this period. Because it was separate from operating funding, the Commonwealth met the total cost of the capital grants program and, in 1990, student contributions through the Higher Education Contribution Scheme (HECS) accounted for only slightly more than 20 per cent of base funding (the operating grant plus student contributions). Partly for this reason and partly because the operating grant was a single funding source intended to meet both teaching and research expenses, cross-subsidisation—which we discuss in section 8.3—was not an issue.

Research infrastructure funding

From 1990 to 2001, research infrastructure funding was provided by the so-called Research Quantum (RQ) that was paid as a component of the operating grant. In 2000, the Research Quantum was described as supporting the general 'fabric' of university research and research training activities including the use of office and laboratory space, library and information services, technical support, equipment and services.

The RQ was initially set at about 6 per cent of operating grants. It was a notional funding component only and did not limit the amount of the operating grant universities spent on research.

As funding for major capital works was rolled into operating grants, funding to support research was progressively rolled out. In 2002, the RQ was rolled out of the operating grant to become the Institutional Grants Scheme, which in turn became Joint Research Engagement scheme in 2009.

The addition of the SRE, also in 2009, resulted in the current funding arrangements, as discussed in Section 5.5.

Higher Education Endowment Fund (HEEF)

The HEEF was established in 2007. It was intended to serve a distinct purpose by supporting the large single investments needed to develop transformative, world-class teaching and research facilities at Australian universities. As such it was intended to be a complement to the CDP, in particular, which provided funding for smaller projects.

The HEEF was created out of Budget surpluses and \$6 billion was transferred into the HEEF fund, to be invested by the Future Fund on a mandate from the Government. The HEEF was capital preserved, so only earnings could be used to fund university infrastructure projects. The HEEF was intended to fund only university infrastructure.

This was an innovative step, providing a large perpetual endowment to provide sustained long term funding for university teaching and research infrastructure. The lead taken by Australia created considerable international interest.

One funding round of the HEEF was undertaken in 2008³⁸. It provided funding totalling \$580.5 million to 14 university teaching and research infrastructure projects.

Education Investment Fund (EIF)

The EIF was established as one of three Nation Building Funds in 2009. The balance of HEEF funds was transferred to the EIF, again to be invested by the Future Fund.

The EIF was not structured as a perpetual endowment fund and access to the capital to fund infrastructure projects was permitted. The EIF also extended funding eligibility to VET institutions, non-university higher education providers, and non-university research institutions.

³⁸ This funding round is also known as EIF Round 1 because funded projects were paid from the EIF.

The initial focus of both the HEEF and the EIF was to invest in large transformative projects to build a modern, productive, internationally competitive Australian economy by supporting world leading strategically focussed infrastructure investments that would transform the Australian tertiary education and research sectors.

One notable exception to this was the \$500 million of EIF funding channelled through the Teaching and Learning Capital Fund in late 2008, which supported 117 small to medium sized university infrastructure projects, as part of the Government's response to the Global Financial Crisis.

Over their lifetime, the HEEF and EIF provided over \$4 billion in infrastructure funding, with much of it going to universities. However the competitive processes and the focus (at least initially) on a small number of larger, transformative, world-class projects meant that universities could not rely on the funds to fully satisfy their infrastructure capital needs.

In summary, the framework for infrastructure funding and investment between 2007 and 2011 encompassed:

- internal funding for equipment purchases, small capital works and maintenance;
- CDP for medium sized infrastructure and other capital works;
- HEEF/EIF for large projects; and
- a policy commitment to improve the quantum of funds for research infrastructure.

However, the scale of investment needed to maintain and augment infrastructure sector-wide meant that government grants continued to play a relatively minor role in gross funding terms.

While the capital funding that the HEEF and EIF programs provided was significant in its own right, it is clear from our consultations and our experience as members of the EIF Advisory Board that the HEEF and EIF also had a very significant leverage impact.

Co-investment was one of the approval criteria for funding both HEEF and EIF projects, so most funded projects involved significant co-investment from the university sector, from the states and from industry and other sources. Many significant university infrastructure projects were undertaken with support from those funds that would probably not otherwise have been undertaken in the absence of government seed funding.

The HEEF and the EIF were particularly important in catalysing investment in world class research facilities for which, as outlined in this section, alternative relevant funding streams do not exist.

If Australian universities are to maintain world class research facilities, in particular, there is clear need for policy settings which provide appropriate direct funding for university research infrastructure, both transformative and at an operating level.

We discuss further the particular need for funding for transformative infrastructure projects in Section 8.2.

5.7 Asset Recycling Fund (ARF)

The *Asset Recycling Fund Bill 2014* establishes the Asset Recycling Initiative (ARI). The ARI provides an incentive for states and territories to privatise assets and use the proceeds to fund new infrastructure. The Australian Government will provide a financial incentive of 15 per cent of the assessed sale value of the asset sold which is to be used to fund new infrastructure.

The Bill is before Parliament but has been opposed in the Senate.

The Working Group notes that much of the language surrounding the ARF and the ARI refers to 'productivity-enhancing infrastructure' and similar. Some references suggest that that ARF and ARI application is restricted to economic infrastructure (e.g. roads, rail and ports), which excludes social infrastructure (e.g. education, health and community services).

It can clearly be demonstrated that most university infrastructure is productivity enhancing. Given the importance of universities to Australia's future economic well-being and the significant contribution they make to the nation's productivity and to job creation, the Working Group is of the view that universities should be eligible for funding under the ARI.

That would lead to two consequences which we think are highly desirable:

1. the ARI could be used to encourage divestment of underutilised university assets; and
2. universities, as state government agencies, would be eligible for the 15 per cent ARI incentive, provided they used those funds to develop new infrastructure.

Recommendation 1.2

The Working Group recommends that further specification of the Asset Recycling Fund (ARF) and Asset Recycling Initiative (ARI) make it clear and transparent that:

- i. the ARI may be used to encourage divestment of underutilised university assets; and
- ii. universities, as state government agencies, are eligible for the 15 per cent ARI incentive, provided they use those funds to develop new infrastructure.

Chapter 6: The role of government—the states and territories

6.1 State funding

Since the Commonwealth assumed responsibility for university funding in the 1950s, the funding role of state and territory governments has generally been limited to support of individual projects and NCRIS collaborative initiatives. One notable exception to this is the dual-sector universities, where state and territory governments (principally Victoria, the Northern Territory and more recently Queensland) fund VET.

In 2013, state, territory and local governments provided \$637 million to the 37 Table A universities. \$629 million went to the parent universities, with a further \$8 million going to other entities included in the consolidated accounts³⁹. The funding was 2.4 per cent of total revenue from ongoing operations. Where reported separately, local government funding was small and is not considered further here.

The \$637 million state and territory government funding included \$205 million paid to the five dual sector universities for vocational education. 88 per cent of funding was for non-capital purposes. Only 14 universities reported non-capital expenditure disaggregated into research and other funding, but, for those universities, 51 per cent of funding was for research. Where universities listed funding from individual state agencies, it was apparent that funding comes in the form of a large number of individual grants and payments, with income from health agencies and hospitals being prominent. For example, the University of Adelaide reported income of \$24 million from at least 24 different agencies. Its largest single reported state income source was the Royal Adelaide Hospital (\$5.46 million), followed by the Department of Further Education, Employment, Science and Technology (\$4.47 million).

Capital funding of \$34.8 million to the consolidated entities was 5.5 per cent of total state, territory and local government funding. The \$8.1 million paid to Deakin University by Regional Development Victoria in 2013 was easily the largest single capital grant.

Between them, the five dual sector universities received \$13.2 million, or 38 per cent of that total⁴⁰. Their capital funding was very largely part of state and territory-provided VET funding. Because 2013 was a year of transition in VET funding in Victoria, where four of the five dual sector universities are located, this capital funding is not representative of the current funding model for that state.

³⁹ Based on analysis by the Working Group of individual Table A university financial statements for 2013. The total of \$637 million differs slightly from the figure of \$0.65 billion cited in Chapter 5, which includes assistance to Batchelor Institute of Indigenous Tertiary Education and the University of Notre Dame Australia.

⁴⁰ In 2013, the five dual sector universities were Federation University Australia, RMIT University, Swinburne University of Technology, Victoria University and Charles Darwin University. On 1 July 2014 Central Queensland University became the sixth dual sector university.

In summary, state and territory funding for higher education, excluding funding for VET paid to the dual sector universities, was a little over \$400 million in 2013. Much of this reported income appears to be in the form of grants for specific projects, particularly research projects. As such, both the relatively low quantum of funds and the purposes for which they are granted mean that state and territory government funding will not contribute significantly to the infrastructure needs of universities unless those governments implement specific capital programs in the future.

The most striking recent example of capital investment by a state government is the large investment made by the Queensland government in the early 2000s into research facilities and other infrastructure as part of its 'Smart State' strategy.

The disproportionality between the limited financial support the states and territories provide to universities and the extent of state and territory governments' control over university operations is well recognised. As one state Treasury official was heard to remark: 'We own universities, we don't fund them'.

6.2 State regulation

While the Commonwealth is largely responsible for funding public universities, universities are established under state and territory legislation (with the exception of the Australian National University) and are subject to a range of controls over their operations under state law. Each university has its own act with the acts within a state jurisdiction mirroring each other, except in Western Australia. However, legislation differs considerably from state to state. Universities are also subject to differing provisions in other state and territory laws, for example planning legislation, which is discussed below.

In consultations, state government regulation emerged as a major impediment to efficient university asset management. The principal concerns, which are outlined below, relate to restrictive provisions in university acts and requirements imposed by state planning legislation.

Legislative requirements for borrowing

State regulation of borrowing by universities varies by state and, in the case of Western Australia, varies by university. Details are set out in Section 5.10.2 of the PKPA Report in Appendix 2.

This badly coordinated regulation needs to be addressed as a matter of urgency to create a level playing field and remove significant impediments to effective management of university infrastructure.

Constraints on use and disposal of land

Disposal of land held by universities in trust is subject to restriction in all states, generally requiring ministerial approval. In Western Australia, universities may not dispose of land, with reversion to the state if not used for university purposes. There is provision for exemption and the Working Group notes the successful outcome of Edith Cowan University's disposal of its Churchlands campus in 2006, which is mentioned below.

Discretion to ***lease land*** provided in trust to universities by state governments, which is the status of many university campuses, is generally restricted to leases of not more than 21 years. This length of lease does not accommodate some commercial arrangements, particularly for student accommodation. The Working Group was informed that James Cook University has had to apply to the Supreme Court of Queensland for approval of leases extending beyond 21 years for land and 30 years for buildings, a process which took many months and involved considerable expense.

Planning approval requirements

Restrictions on the nature of activities that may be carried out on university land also vary. Impediments in this regard may arise as a result of an ancillary use proposal being deemed to be outside the functions of a university, as specified in its act, or by it not coming within a range of uses specified in planning legislation or instruments.

Universities in a number of jurisdictions pointed to general costs and delays in the planning approval process. The New South Wales Vice-Chancellors' Committee has argued over several years that a number of aspects of the NSW planning assessment and approval process are inappropriate for the unique features of university campuses. The Committee has proposed a number of reforms, including definition of a university as a public authority, allowing them to use less onerous 'exempt development' and 'development without consent' provisions available to those authorities. It is the Working Group's view that these suggestions merit further consideration.

Some success stories

We noted the general level of concern expressed about the role of state governments and their agencies, but some universities have had considerable success in recent years in both leveraging their physical assets and better aligning their physical presence with community demand for services. We note in particular:

- approval of Macquarie University's Concept Plan by the New South Wales Government in 2009. That approval covered development, within agreed precincts, of 400,000m² for commercial use, 61,200m² for academic use, 3,450 student accommodation beds and associated infrastructure, car parking and landscaping on the university's main campus at Ryde.
- Edith Cowan University's disposal of its Churchlands campus in 2006. The former campus site was transformed into a contemporary residential node of mixed density, with proceeds from the redevelopment used to fund the advancement of educational facilities through expansion of the Joondalup and Mount Lawley campuses.
- Queensland University of Technology's (QUT) trade of its Carseldine campus for freehold title at Gardens Point (see Box 5).

Box 4 QUT land trade

Until 2007, QUT operated a campus at Carseldine, approximately 15 kilometres north of the Brisbane CBD. Changing student demand and a strategy to focus teaching on its two inner city campuses led the University to cease teaching at the campus in 2008. The 45 hectares of campus land was held by QUT as a Deed of Grant in Trust for Educational Purposes. QUT had constructed, maintained and operated all of the improvements on the land.

QUT and the Queensland Government agreed a deal in which the University surrendered its rights to the Deed of Grant in Trust for Carseldine and transferred the site improvements to the State. In return, the government agreed to extract the section of the Education Reserve on which QUT's Gardens Point campus stood and make it available at commercial value to the University as freehold land.

QUT benefitted from the deal by gaining the flexibility to derive commercial income from multi-purpose buildings at Gardens Point; something that was not possible under the Education Reserve's restrictive conditions on non-university uses. The State benefitted by securing a site at no direct cost for decentralisation of public sector employees.

Victoria University

Victoria University has been attempting campus rationalisation over the last decade. Its future depends on this.

At its peak, the University had 12 campuses, with higher education being offered at seven of them, all within a 30-40 minute drive of the main campus at Footscray Park. This fragmentation has been a major cause of administrative costs annually in the order of \$40-50 million higher than comparable institutions. That figure would in itself fund an extensive capital works program.

Victoria University has recently ceased operating on three campuses but as yet has been unable to dispose of two of them. This inability to reshape its physical structure leaves it with a formidable problem as at 2015.

The University is in the midst of a process, which commenced in 2010, of seeking to achieve asset sales in the order of \$100 million plus to contribute in part to the cost of campus consolidation and redevelopment, along with possible borrowings and any grants it is able to obtain.

The program includes a multi-purpose partnership with Maribyrnong City Council to establish Footscray as a University Town.

Because of its high cost structure, and exacerbated by the severity of changes to VET funding arrangements in Victoria over recent years, the University has not generated the level of operating surpluses necessary for reinvestment in infrastructure, a situation confirmed by our analysis.

We commend the University for taking the first steps towards a very necessary campus restructure, vital for effective delivery of higher education in the western suburbs of Melbourne. However, we believe the University's success in implementing its plans depends upon active assistance from the Victorian Government and, perhaps, the Commonwealth to remove the obstacles in its path.

We are of the view that the Victorian Government should commit formally to a partnership with Victoria University to assist in successful implementation of its campus consolidation and improvement plans.

Regulation of the composition of university governing bodies

A number of universities cited the power of state governments to prescribe the composition of university councils and to make appointments to councils as a significant issue.

Financial skills and experience must be a core competency of all university governing bodies. The Working Group was alerted to concerns about the financial and commercial transaction skill sets of some elected members and Ministerial appointments in particular. This may hamper the capacity of the governing bodies on which they serve to make effective decisions necessary to manage their universities' estates and may put those universities at a disadvantage in the current competitive environment.

6.3 Conclusion

Most of the state and territory regulation issues brought to the Working Group's attention are not specific to particular jurisdictions, but some are. Wherever they are located in Australia, universities face some significant regulatory barriers to managing their businesses and maximising the value of their land and building assets. Many of these regulatory barriers are legacies of the past and serve no useful purpose.

Universities are under increasing pressure to diversify their revenue base as levels of untied government funding diminish. Unnecessary regulatory barriers make this task more difficult.

We heard of several instances where universities were unable to implement, or were unreasonably delayed in implementing, sensible initiatives because of legislative provisions limiting their independence in areas of finance, asset management and governance.

We recommend the following actions to promote a greater degree of independence, so universities can manage their assets more effectively.

Recommendation 4

The Working Group recommends that the Australian Government work with state and territory governments to find ways to improve the capacity of universities to manage their businesses. They should aim to:

- i. remove unnecessary requirements for Ministerial or Treasury approval to borrow;
- ii. remove unnecessary constraints on or approvals required to dispose of land or campuses;
- iii. rationalise planning approval requirements for universities;
- iv. ensure requirements about the composition of governing bodies allow them to have a clear majority of members competent to make decisions about major investments; and
- v. facilitate 'financial federations', for example syndicated loan and bond facilities for

those universities that do not have the scale or financial standing to effectively engage with the capital markets.

Chapter 7: International benchmarks

7.1 Introduction

Australia can learn from good practice elsewhere

This section examines some of the approaches to higher education infrastructure funding that have been adopted in systems which have features in common with Australia and include institutions with which Australian universities are likely to benchmark. The countries selected include some of Australia's principal competitors in the international education market.

The three examples of capital funding systems outlined in the following sections demonstrate the differences between jurisdictions in the policy objectives driving capital funding and the philosophies underlying allocation between institutions. In all cases, government capital funding does not meet all the capital expenditure needs of recipient universities, but a significant proportion is being directly funded by government.

Aspirations that Australian universities advance in world rankings are made more difficult when publicly-funded universities such as the University of Toronto (ranked 19 in the 2015-16 Times Higher Education World University Rankings) receive considerable government assistance not available to our universities to make capital investments to support innovation and excellence, particularly in research.

A significant proportion of capital investment in comparable higher education systems is being funded directly by government.

7.2 United Kingdom

7.2.1 Higher Education Funding Council for England (HEFCE) funding

The UK government, through the HEFCE, is providing £603 million in capital funding for English universities, as shown in Table 5.

That is 15 per cent of the £4.0 billion HEFCE will allocate in 2015-16.

The announced levels of funding for 2014-15 and 2015-16 have increased significantly but are still less than they were in 2009-10. There was a sharp decline in following years as a consequence of the UK government's 2010 Spending Review⁴¹.

⁴¹ Universities UK 2013. *The funding environment for universities: an assessment*, <<http://www.universitiesuk.ac.uk/highereducation/Documents/2013/FundingEnvironmentForUniversities.pdf>>.

Table 5 Capital funding English universities 2015-16

	Funding (£ million)
UK Research Partnership Investment Fund (RPIF)	100
Research Capital Investment Fund (RCIF)	194
Teaching Capital Investment Fund (TCIF)	90
STEM teaching capital	200
Joint Information Systems Committee (JISC)	19
Total	603

Source: HEFCE 2015. *Guide to funding 2015-16*, March 2015/04

7.2.2 UK Research Partnership Investment Fund (RPIF)

The UK's RPIF makes available at least £100 million annually for new buildings, major refurbishment and purchase of high cost equipment, subject to bids having double matching private funding. Amounts ranging from £10 to £35 million are available for individual projects. Four funding rounds have been held since 2012 (see Box 6).

Box 5 UK Research Partnership Investment Fund (RPIF)

Rounds 1 to 4 of the RPIF allocated over £500 million to 34 projects, attracting over £1 billion of investment from business and charities.

In one of the largest projects, Imperial College London (ICL) received £35 million RPIF funding to establish a new Research and Translation Hub as the centrepiece of its Imperial West Campus. As well as bringing together ICL researchers from different disciplines focusing on advanced materials, the hub will offer accommodation for enterprises of all sizes, spin-off companies and large international universities. The hub has also received £90 million funding from Voreda Capital and £25 million from ICL itself.

The University of Warwick received £15 million RPIF funding to establish a National Automotive Innovation Centre at the university. Jaguar Land Rover and Tata Motors European Technical Centre are co-investors in the £92 million project. The project aims to contribute to making a recent resurgence in the British automotive industry sustainable. The project partners envisage a ten times return on investment through value added from exploitation of research outputs in new and improved products, processes and services.

£11.6 million has gone to the University of Surrey's 5G Innovation Centre, which will research advanced technologies for a future 5G network. The new centre at Surrey's Guildford campus will house 150 researchers and around 100 research students. A consortium of 12 mobile network operators, infrastructure and tools providers, media and communications organisations and the UK's communications regulator are providing more than £30 million towards the Centre.

7.3 Canada - Ontario

In Canada, provincial governments have principal funding responsibility for universities. We have examined Ontario in particular, which has a public university system approximately one half the size of Australia's. The highly ranked University of Toronto is part of the Ontario system.

7.3.1 Knowledge Infrastructure Program (KIP)

Ontario universities have received substantial capital funding in recent years from both federal and provincial governments. In the decade 2005-2014, they received \$2.3 billion in capital funding, with almost one half of that being through the KIP, which was announced in 2009. The KIP was a two year \$1.5 billion program for colleges and universities to modernise facilities and boost long term research and skills training capacity, which was part of the Canadian government's stimulus package.

However, since the KIP, general capital funding for universities has been limited to an annual appropriation of \$17.3 million through the Facilities Renewal Program⁴².

7.3.2 Research infrastructure funding

The Ontario Government, through the Ontario Research Fund—Research Infrastructure program, and the Canada Foundation for Innovation (a Canadian Government funded initiative) both have substantial competitive research infrastructure grant programs. The Ontario program has three components, which align with funds within the national program:

- Large Infrastructure— covers the costs of building/renovating and equipping facilities to conduct collaborative academic research;
- Small Infrastructure— covers the costs of acquiring/renewing research equipment (e.g. specimens, scientific collections, computer software, information databases); and
- College-Industry Innovation— covers the costs of building, renovating and equipping research facilities to promote college-industry partnerships (participation from private-sector partners is essential).

Both the Ontario Government and federal government provide up to 40 per cent of the eligible costs of funded projects, although not all projects are funded by both bodies.

Since 2004 the Ontario Government has contributed \$C917 million through the Research Infrastructure program towards more than 2,000 capital projects in Ontario universities, non-profit medical research institutes and hospitals having a total project value of \$C3.02 billion⁴³. Canada Foundation for Innovation support would be additional to the provincial funding.

The 2015 Large Infrastructure round provided Ontario Government funding of \$C125 million towards 49 capital infrastructure projects. The University of Ottawa and its affiliated medical research institutes, leading recipients, received \$26.9 million provincial funding for six infrastructure projects. Five also received federal funding totalling \$C28.5 million.

⁴² Council of Ontario Universities, 2014, *Ontario Universities Facilities Condition Assessment Program*, report prepared by the Task Force of Senior Administrative Officers and the Ontario Association of Physical Plant Administrators, December 2014 <<http://cou.on.ca/publications/reports/pdfs/ontario-university-facilities-condition-assessment>>.

⁴³ Department of Education and Training estimate, based on Ontario Research Fund data from <<https://www.ontario.ca/data/ontario-research-fund-research-infrastructure-program>>.

7.3.3 Infrastructure Ontario

The provincial government also offers capital assistance through Infrastructure Ontario, which operates a loans program from which Ontario agencies, including universities, may also borrow over repayment terms of up to 30 years.

At 16 March 2015, Infrastructure Ontario was offering a fixed rate of 3.05 to 3.15 per cent to universities over a 30 year term⁴⁴.

This facility has been used by small universities, but in 2012 universities accounted for only 5 per cent of lending. For example, Nipissing University, a small public university with revenue of \$C80 million a year and long term debt of \$C35 million, borrowed \$C2.3 million in 2008 and \$C4 million in 2010, in the form of debentures, over terms of 25 years and 15 years respectively⁴⁵.

7.4 US - Ohio

The Ohio state-funded higher education system is typical of many American states, having an internationally regarded flagship university, 13 other universities of varying research intensity, and community colleges.

Over the two fiscal years 2013-14, the state provided \$US400 million capital funding to state-funded higher education institutions⁴⁶ and has budgeted a further \$US454 million over 2015 and 2016⁴⁷. High priority is given over the 2015-16 biennium to maintaining and preserving existing infrastructure, with almost all the recommended funding being for capital maintenance and refurbishment.

7.5 Conclusion

We cannot state categorically that the current Australian situation is unique, but the Working Group is not aware of any other national or state/provincial government having principal responsibility for university funding which does not provide some form of material capital funding. Some systems, particularly American state and Canadian provincial systems, have not provided capital funding for periods, but this has been ascribable to budget exigency rather than policy or principle.

⁴⁴ Infrastructure Ontario 2015, *Lending Rates: Universities and Affiliated Colleges*, viewed 17 March 2015, <www.infrastructureontario.ca/Templates/RateForm.aspx?ekfrm=2147483942&langtype=1033§or=uni>.

⁴⁵ Nipissing University, *Financial Statements: Year ended April 30, 2014*, <<http://www.nipissingu.ca/departments/vpa/finance/budgets-reports-and-plans/Documents/NipUfinal2014FS.PDF>>.

⁴⁶ Ohio Office of Management and Budget, *Capital Improvements*, Mid-Biennium Review, <http://www.obm.ohio.gov/Budget/capital/doc/fy-13-14/stateagencies/Gov-Capital-Bill_Fact-Sheet.pdf>.

⁴⁷ Ohio Office of Management and Budget, *Capital Budget Bill*, <http://www.obm.ohio.gov/Budget/capital/doc/fy-15-16/CapitalBudget_FactSheet.pdf>.

Receiving funding for core infrastructure refurbishment, as in the case of Ohio, gives universities the potential to invest their operating surpluses in innovative new projects. Alternatively, directing capital funding significantly towards research, collaboration and innovation, as in Ontario and the UK, reduces the tension for institutions between renewal of core facilities and provision of infrastructure for flagship projects and the need for cross-subsidisation.

The Working Group considers there are aspects of each of these international university infrastructure funding programs which are worthy of further consideration in Australia.

Chapter 8: Some key issues

8.1 Underfunding of the indirect costs of research

A number of reviews and studies in recent years have examined the issue of the full costs (direct and indirect) of research.

The 2008 Review of the National Innovation System, *Venturous Australia*, recommended that the Australian Government adopt the principle of fully funding the costs of university research activities and implement this through adjustments in funding to block and competitive grant schemes. It also recommended that the Australian Government look to overseas and other government investigations (see below) for evidence of the full costs of university research, including the UK Government's transparent approach to costing (TRAC), developed as part of its 1999 Transparency Review⁴⁸.

In 2008, the Allen Consulting Group's preliminary work on the costs associated with university research indicated a potential gap existed between the full costs of research and funding (both competitive grants and supporting block grants) of between 30 and 40 per cent. In 2009, Allen Consulting Group continued its work and identified \$1.104 billion in indirect costs for the Australian university sector for 2008-09 in funding the gap.

Drawing on the Allen Consulting Group's analyses, the 2008 Review of Australian Higher Education recommended that the Australian Government increase the total funding allocation of the Research Infrastructure Block Grants scheme by about \$300 million a year, representing an increase from 20 cents to 50 cents in the dollar for each dollar provided through competitive grants⁴⁹. A number of studies since 2008 have confirmed that indirect costs are not less than 50 cents in the competitive dollar.

Most submissions to the 2011 Lomax-Smith Base Funding Review supported the continuation of base capability in research within the single base funding source. Many submissions also noted that cross-subsidisation of research is a necessity, with the base funding arrangements allowing universities to develop new areas of research specialisation. The Review suggested that 6 to 10 per cent of base funding could reasonably be associated with activities relating to the maintenance of base research capability⁵⁰.

The Research Infrastructure Review has reported that both international and Australian benchmarks suggest that the funding required for research infrastructure capital items and operating costs are between 8 per cent and 10 per cent of total research outlays.

⁴⁸ Cutler T, 2008, *Venturous Australia: building strength in innovation*, report to the Department of Innovation, Industry, Science and Research.

⁴⁹ Bradley D, Noonan P, Nugent H and Scales B, 2008, *Review of Australian Higher Education: Final report*, December, Department of Education, Employment and Workplace Relations.

⁵⁰ Lomax-Smith J, Watson L and Webster B, 2011, *Higher Education Base Funding Review: Final Report*, October.

So much has been written on the indirect costs of research over the past few years that there is little that the Working Group can add. However, while the total costs of research and the funding shortfall have been analysed in great detail, those analyses have not until recently led to detailed consideration of the financial impact on teaching and student fees of the cross-subsidisation which is the inevitable consequence of that shortfall. We address this subject in Section 8.3.

The Working Group also notes that consideration of research infrastructure funding appears to have often taken buildings and space as a given. In fact, buildings and space are a large component of costs.

So there are two distinct dimensions to problems in research infrastructure funding:

- the quantum of funds provided through research block grants and other relevant mechanisms, such as the LIEF program, are inadequate to meet equipment and soft infrastructure indirect costs (i.e. there are programs in place but they are inadequately funded); and
- the complete absence of funds and a funding program for research building construction, refurbishment and associated capital works.

The Working Group notes and supports the appointment in mid-2015 of an eminent expert panel, chaired by Dr Ian Watt AO, to report on research funding arrangements including research infrastructure. That review is timely because the existing arrangements do not seem to be working particularly well.

The Working Group endorses the following Principles advocated by the 2015 Research Infrastructure Review that examined national research facilities:

- **Principle I: Excellent research requires excellent infrastructure.**
- **Principle II: Research infrastructure includes physical and human capital.**
- **Principle V: Whenever funding is provided for research, set aside appropriate additional funding for infrastructure to support that research.**

These principles should drive institutional research infrastructure funding as well as driving national research infrastructure funding.

8.2 Transformative infrastructure

Since the announcement in 2014 of the abolition of the EIF, there has been no identifiable funding source, competitive or otherwise, for the building fabric necessary to accommodate teaching and research activity.

There is strong argument for some form of public funding for large investments in bricks and mortar that will transform capacity in the university sector. This is particularly so for research facilities, given the specific exclusion of building works from research infrastructure programs and the fact that the benefits of research are often for the public as a whole. This is different from education benefits, which include substantial private benefits.

From 2008, the EIF provided significant funding for buildings for research infrastructure through its competitive rounds. University projects specifically identified as research in EIF rounds 2 and 3, including the sustainability round, received a total of more than \$400 million in funding. In addition, a significant number of the university construction projects funded through the competitive rounds had a large research and research training component. The EIF did not provide operational funding: this had to be found elsewhere in universities' budgets.

The Working Group considers it likely that the benefits of the investment by the governments of the day in the HEEF and EIF programs will already be beginning to become apparent in both teaching and research. However, HEEF/EIF has not been subject to rigorous evaluation and it is important that such evaluation take place to ensure that any successor scheme is designed to maximise the public return on investment.

Recommendation 5

The Australian Government should consider the need for and benefits of transformative infrastructure in the university sector for both teaching and research. The Working Group recommends that the Government:

- i. conduct a detailed analysis of the economic impact and other outcomes for the nation and for universities of HEEF and EIF investments; and
- ii. based on the analysis, develop a long term plan to provide adequate funding for transformative institutional research infrastructure and teaching facilities, with co-investment and collaboration as prerequisites.

The Working Group notes that the UK's Research Partnership Investment Fund is an attractive potential model for government investment as it encourages linkage with industry—recognised as a particular weakness in Australia⁵¹—and leverages external co-investment.

⁵¹ Office of the Chief Scientist, 2014, *Science, Technology, Engineering and Mathematics: Australia's Future*, Australian Government, p10.

A scheme along the lines of the Research Partnership Investment Fund would be a tangible contributor to the Australian Government's strategy, as expressed in its Draft National Strategy for International Education⁵², to:

work with industry and researchers on a plan to focus the Government's investment in research, including through the Commonwealth Science Council, sharpening incentives for collaboration between research and industry, ensuring research training adequately prepares researchers, and supporting world-class research infrastructure.

8.3 Significant risk in the cross-subsidisation model

8.3.1 Introduction

The Working Group did not set out to address cross-subsidisation but it quickly became apparent that it is impossible to ignore an issue of such profound importance in any consideration of the capacity of the sector to make adequate investment in infrastructure in coming years. It was an issue that figured prominently in discussions with vice-chancellors.

Universities have made clear to the Working Group in consultations that they have responded to research infrastructure underfunding by increasing reliance on the long standing practice of cross-subsidising research and research infrastructure from fees paid by international or domestic students. The reasons given for this are that research is a core function of a university and investment in good research supported by appropriate research infrastructure attracts world class academics, enhances a university's reputation and increases the perceived value of its degrees.

8.3.2 The extent of research cross-subsidisation

In 2012, universities spent \$9.61 billion on research. Labour costs were by far the largest single research expenditure, at \$3.89 billion⁵³. \$1.03 billion of research expenditure was capital—\$732 million for land and buildings and \$299 million for physical research infrastructure.

Of that \$9.61 billion research expenditure:

- \$5.34 billion, or 56 per cent, came from general university funds;
- the Australian Government provided \$1.62 billion in competitive research grants and \$1.45 billion in other research funding, a total of \$3.07 billion or 32 per cent; and
- the remaining \$1.20 billion came from other sources.

⁵² Australian Government, 2015, Draft National Strategy for International Education, April 2015, <<https://internationaleducation.gov.au/International-network/Australia/InternationalStrategy/Documents/Draft%20National%20Strategy%20for%20International%20Education.pdf>>.

⁵³ All research expenditure and funding data are from the Australian Bureau of Statistics 2014, *8111.0 — Research and Experimental Development, Higher Education Organisations, Australia, 2012*, Summary tables.

That \$5.34 billion from general university funds was 21 per cent of the total university revenues, excluding VET revenues, of \$24.63 billion for 2012⁵⁴.

Our conclusion that cross-subsidisation of research and research infrastructure is taking place to the tune of around \$5 billion per year is a finding supported by Larkins⁵⁵, who estimated the cross-subsidy to be \$4.56 billion in 2012, taking into account both the ABS survey data and income information reported in the Higher Education Research Data Collection.

8.3.3 The role of student fees in cross-subsidisation

Total university revenues for 2012 are summarised in Table 6 below, with student-derived income highlighted. These figures put the \$5 billion research cross-subsidy into context.

Table 6 Breakdown of university revenues 2012

	\$ billion
Australian Government Grants*	10.99
Other miscellaneous revenues	4.46
STUDENT-DERIVED INCOME	
Domestic student contribution**	4.27
International student fees	4.13
Student fees and charges***	0.78
TOTAL STUDENT-DERIVED INCOME	9.18
Total, excluding VET	24.63

* Includes Commonwealth Grant Scheme and Other Grants (\$6.35 billion), Research Block Grants (\$1.37 billion), ARC grants (\$0.77 billion), EIF and other capital grants (\$0.54 billion), other (\$1.96 billion).

** HELP payments plus upfront contributions.

*** 'Other fees and charges' less 'Fee Paying Overseas Students' and 'Other Fees and Charges'.

As government grants decrease and student derived income increases, the nexus between student fees and cross-subsidisation of research will become very apparent.

There appears to be considerable demand inelasticity in the sector, as a result of HECS-HELP, but recent developments suggest there is less price inelasticity. It is reasonable to expect that students will focus on value for money as most of them expect to repay HECS-HELP loans at some stage.

⁵⁴ All university-wide financial data in this section are from Department of Education and Training financial statements data.

⁵⁵ Larkins FP, 2015, *Australian Universities Increase Their Discretionary Research Investment To Enhance Reputational Competitiveness*, LH Martin Institute, <http://www.lhmartininstitute.edu.au/userfiles/files/FLarkins_Higher_Education_Research_18-HERD_March15.pdf>.

The issue of cross-subsidisation of research and research infrastructure went under the radar of students for many years but is now one of public recognition, particularly in the wake of the deregulation debate. The Working Group cautions against over-reliance on the assumption that students will accept any level of cross-subsidisation of research and research infrastructure from their tuition fees on the basis of it enhancing the prestige of their degrees.

We believe there is potential for significant consumer backlash, from both domestic students and from international students and their families, if they are asked to pay higher fees that in their minds bear little relationship to resources directed to their education.

Moreover, if student fees as a source of revenue reduce dramatically for some reason, so will the funding for cross-subsidisation. Clearly this could have a profound effect on Australia's research performance. In that context, we note that there are numerous risks associated with the quantum of international student fees that are beyond the control of universities or the Australian Government.

8.4 Universities which are struggling

Smaller universities are likely to be at a two-fold disadvantage relative to larger institutions in terms of their capacity to make the on-going investment necessary to maintain and renew their infrastructure:

- on average, smaller institutions are less financially robust, and less able to consistently generate the surplus cash flows necessary to finance and fund medium to large infrastructure projects; and
- they have less capacity to access the capital markets and to secure finance on the most favourable terms.

The first of these disadvantages arises from a number of factors going beyond size itself. Size itself may be a contributing factor in terms of economies of scale but small universities also tend to be regional, with higher than average low socioeconomic status (SES) enrolments and lower than average full fee paying student enrolments. In addition, many have inherited sub-standard and inappropriate building stock and campuses from the mergers that brought them into existence.

We noted in Section 4.4 that smaller regional universities, in particular, were more dependent on capital grants for large infrastructure projects. They benefitted strongly from both Structural Adjustment Fund and EIF Regional Priorities Round funding.

These universities are also characterised by small operating surpluses and significantly less capacity to service substantial debt. Some of them are moving ahead with some quality large scale infrastructure as a result of EIF, but they will face particular challenges adjusting their operations to either accumulate the surpluses necessary to internally finance future infrastructure, particularly large scale building construction and renewal, or to service substantial debt.

The Working Group consultations have identified a few examples of pressing need to rationalise campuses. Central metropolitan universities have the scale and, thus, the resources necessary to cope with campus rationalisation. On the other hand, some suburban and regional universities have no realistic prospect of amassing significant surpluses or developing balance sheets that allow them, acting alone, to effectively access capital markets.

Our recommendation that ‘financial federations’ be considered as a means of assisting universities that do not have the scale or financial standing to effectively engage with capital markets has the potential to go some way to improving those universities’ capacity to effectively access the capital markets to make adequate investment in infrastructure development and renewal. However, it alone will not address the difficulties faced by these universities as they attempt to develop major facilities and undertake campus restructuring to reduce costs and improve their financial sustainability.

Appendix 1: Terms of reference

Background

The new deregulated higher education environment will present new opportunities for the higher education sector. Individual institutions' responses to the new funding landscape will inevitably differ as they seek to chart the most advantageous course for their particular circumstances. This will include how they prioritise their investment in teaching and research infrastructure. The Higher Education Infrastructure Working Group (the Working Group) will identify:

- the actions required to set in place policy frameworks that will support institutions in creating high quality infrastructure,
- any impediments there might be to more strategic management of infrastructure,
- opportunities for better employment of internal reserves and all available financing mechanisms, including capital markets, to support development of infrastructure.

Scope of the Working Group

Within this broad framework, the Working Group's specific Terms of Reference are:

- Investigate and report on:
 - anticipated demand for and supply of infrastructure investment across the higher education sector over the short to medium term, having regard to:
 - renewal of existing infrastructure
 - construction of new building stock
 - 'transformative' infrastructure initiatives
 - nationally significant collaborative research infrastructure
 - the internal and external sources of funding available to higher education institutions, the factors affecting funding streams and the extent to which future infrastructure development is likely to be dependent on external financing and the feasibility of this dependency in different contexts
 - the current regulatory, governance and policy impediments to the strategic funding and management of infrastructure in the higher education sector.
- Investigate and report on:
 - the range of options available to the higher education sector to obtain finance for infrastructure development, including from capital markets, and the use of each to date
 - the potential scope for their use in the new policy context
 - the advantages and disadvantages of each in particular circumstances.
- The more innovative options to be assessed will include, but not be limited to, loans, bond issues, and public-private partnerships such as build-own-operate-transfer and sale leaseback/ lease-leaseback arrangements.
- With specific reference to major national collaborative research infrastructure, investigate and report on the feasibility of financing new infrastructure through capital markets or other mechanisms, as well as options for meeting the costs of loan repayments.
- Investigate and report on the role, current extent and potential contribution of philanthropy to infrastructure funding.

The Working Group will report to the Minister for Education within 12 months on the options available to ensure high quality teaching and research infrastructure, including recommendations as to how greater uptake of beneficial options might be achieved.

The Working Group will be supported by the Research and Higher Education Infrastructure Branch of the Department of Education. The Working Group is not a review but it may elect to meet with, and seek, the advice of stakeholders from time to time.



Australian Government

Department of Education and Training

**REVIEW OF UNIVERSITY
FINANCES FOR THE HIGHER
EDUCATION
INFRASTRUCTURE
WORKING GROUP**

**Report Undertaken by PhillipsKPA on behalf of
the Department of Education and Training**

Final Report

2014

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1 This project

1.1 Purpose and scope

This project has been commissioned to inform the activities of the Higher Education Infrastructure Working Group (HEIWG) which has been established by the Minister for Education to advise the Government on the options available to the higher education sector to ensure the creation of high quality teaching and research infrastructure in the new deregulated higher education environment.

This project is focused specifically on analysis of the existing finances and infrastructure of Australia's 37 public universities. While the HEIWG has been asked to look to the future, the explicit purpose of this project is to provide a foundation for that work by analysing the current state of university infrastructure and in particular current factors relating to the financing of university infrastructure.

As part of that analysis the project has identified a set of institutions with specific characteristics which make them appropriate for more detailed case studies as the work of the HEIWG proceeds.

1.2 The structure of this report

Reflecting the purpose of the project, this report is structured as follows:

- Overview of the scale of infrastructure in Australia's universities
- Overview of the state of infrastructure in Australia's universities
- Overview of the context for infrastructure funding and financing
- Overview of approaches to infrastructure funding and financing
- Analysis of the current financial capacity of Australia's public universities to invest in infrastructure
- Other approaches to infrastructure funding and access
- Summary and recommended case studies.



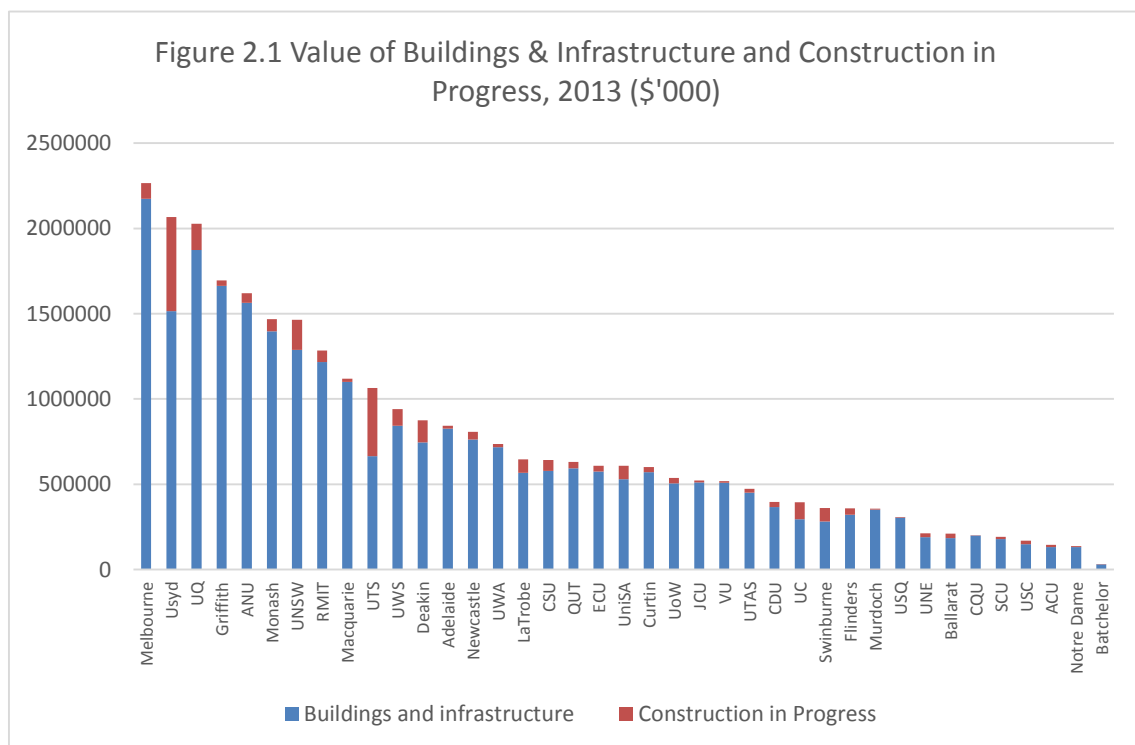
2 Overview of the scale of university infrastructure

2.1 Book value

The total book value of property, plant and equipment (PPE) as recorded in the 2013 university annual reports was \$40.8 billion.

This total includes the value of land. Land is owned and accessed under a wide range of different conditions across the sector, including freehold, leases of different types, and rights of access under varying conditions. University occupied land is therefore valued in different ways. If land is excluded the total 2013 book value of PPE was \$34.2 billion. This included \$26.9 billion categorised as 'buildings and infrastructure' and \$2.7 billion for construction in progress.

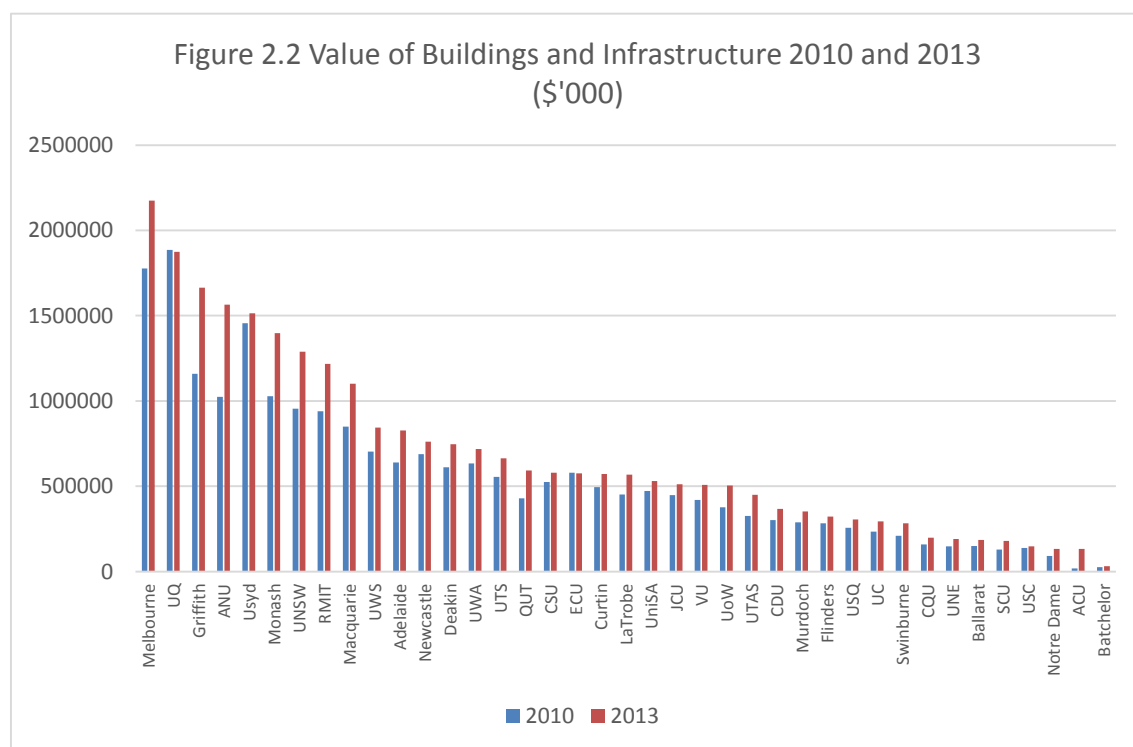
Figure 2.1 shows the value of buildings and infrastructure, plus construction in progress for each university in 2013. The largest combined total value is recorded for the University of Melbourne (\$2,266m), the smallest for the University of Notre Dame (\$138m). The sector mean was \$777m (excluding Batchelor). In 2013 the largest ratios of construction in progress to buildings and infrastructure were at UTS, Sydney and Canberra.



The largest total values of buildings and infrastructure are generally reported for the larger, research intensive universities, but it is notable that Griffith University is in fourth position on this measure. Griffith has multiple, large campuses and has undertaken a sustained program of infrastructure development over the last decade or more, especially at its Gold Coast campus, in line with its rapid growth in student numbers and the population expansion in South East Queensland.

The value of all categories of university PPE has increased significantly in recent years. The nominal value of PPE in total rose 21% from \$33.8 billion in 2010 to \$40.8 billion in 2013. Buildings and infrastructure specifically rose 23% from \$21.9 billion in 2010 to \$26.9 billion in 2013. Construction in progress rose 43% from \$1.9 billion to \$2.7 billion.

Figure 2.2 shows the nominal value of buildings and infrastructure in each year for each university.



***Note:** The low value shown for the Australian Catholic University is a result of the particular arrangements that ACU has with the Catholic Church. Under the terms of the trust deeds between the University and the owners of the properties held in trust, the Trustees of the Roman Catholic Church for the Archdioceses of Brisbane, Canberra and Goulburn, Melbourne and Sydney, the University has a right to occupy the properties in perpetuity if used for educational purposes. This right is recorded in the accounts as an intangible asset and enhancements to those properties are recorded as improvements to the intangible right to occupy the buildings. Only the value of freehold buildings is shown in Figure 2.2.*



Figure 2.3 shows the reported change in nominal value of buildings and infrastructure at each university between 2010 and 2013. Five universities recorded increases in excess of \$300 million: ANU (\$540m), Griffith (\$505m), Melbourne (\$398m), Monash (\$370m) and UNSW (\$335). Two universities, Queensland and Edith Cowan, recorded falls in the value of buildings and infrastructure over this period, which is likely to reflect the divestment of campuses. The average increase across the sector from 2010 to 2013 was \$128.4 million.

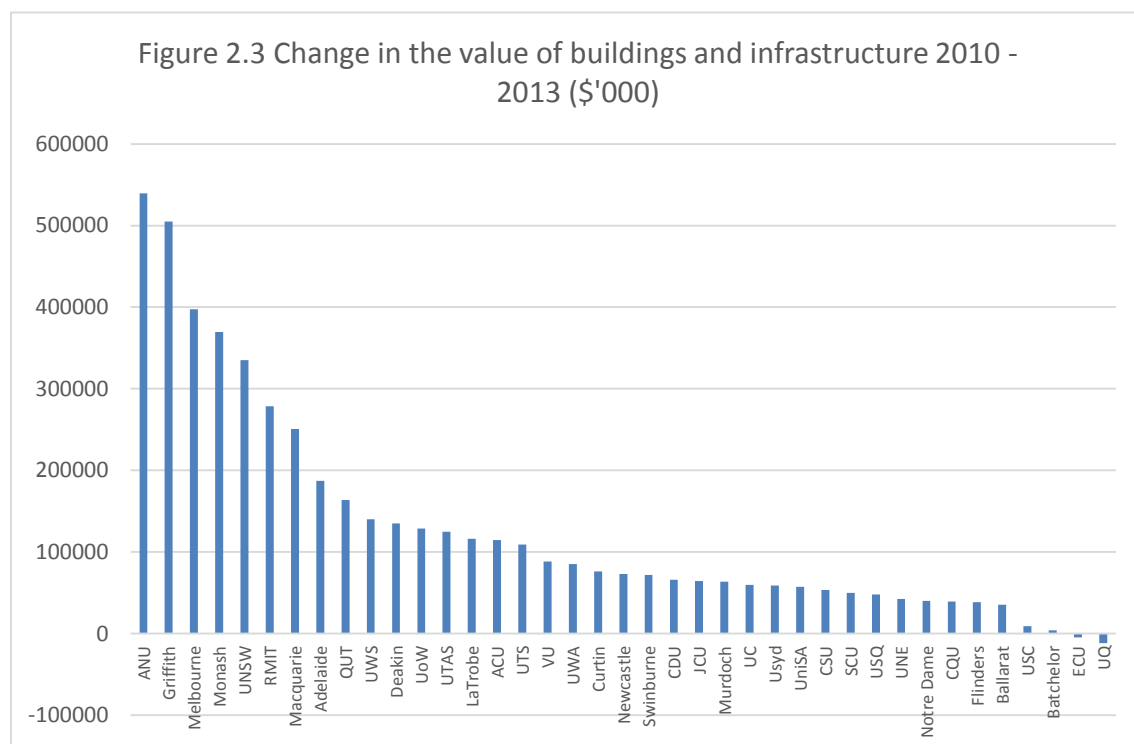


Figure 2.4 shows the percentage change in the nominal value of buildings and infrastructure at each university between 2010 and 2013. The unusual figure for ACU reflects the low figure in 2010 for the particular reasons noted above. The average change across the sector, excluding ACU, was 24%. This is a rapid and major increase in only a short period. It compares with growth in total university student load of 8% (14% for domestic students) over the same period.



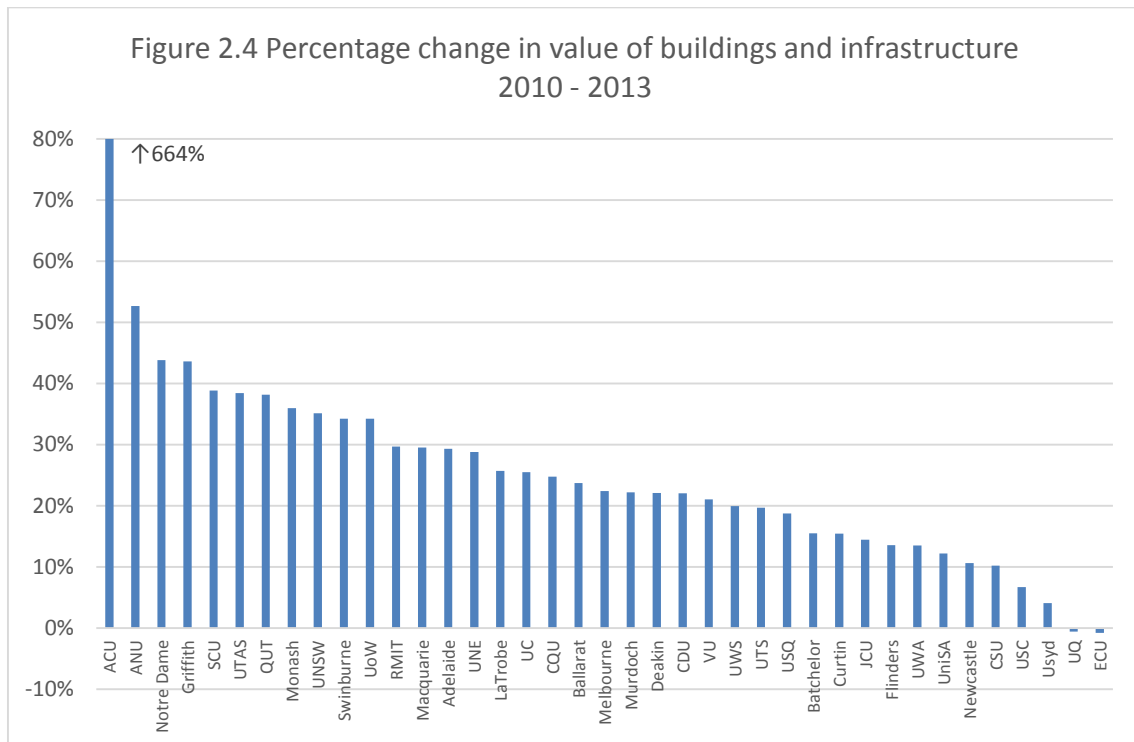
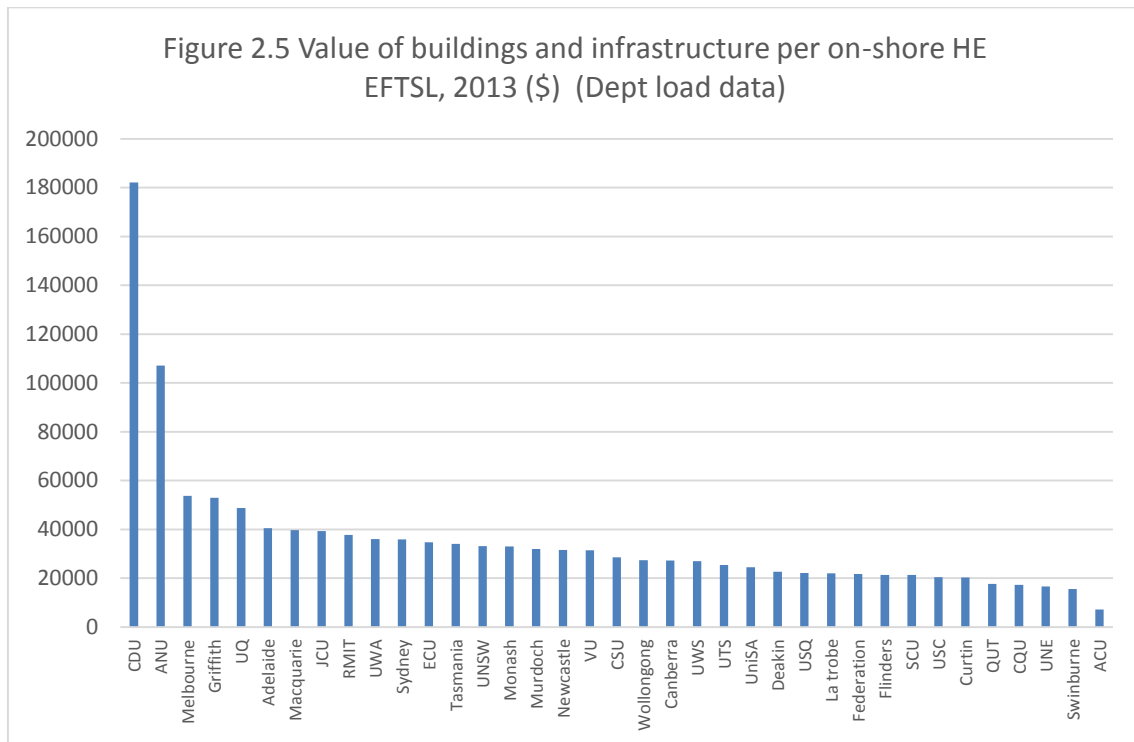


Figure 2.5 shows the 2013 value of buildings and infrastructure on a per-student basis. The denominator chosen is higher education, on-shore student load (EFTSL). This excludes non-higher education load, which means that it excludes vocational education and training students at the dual-sector universities (CDU, RMIT, VU, Swinburne and Federation). It also excludes all off-shore students. It includes on-shore higher education students who may be studying on line or in mixed mode.

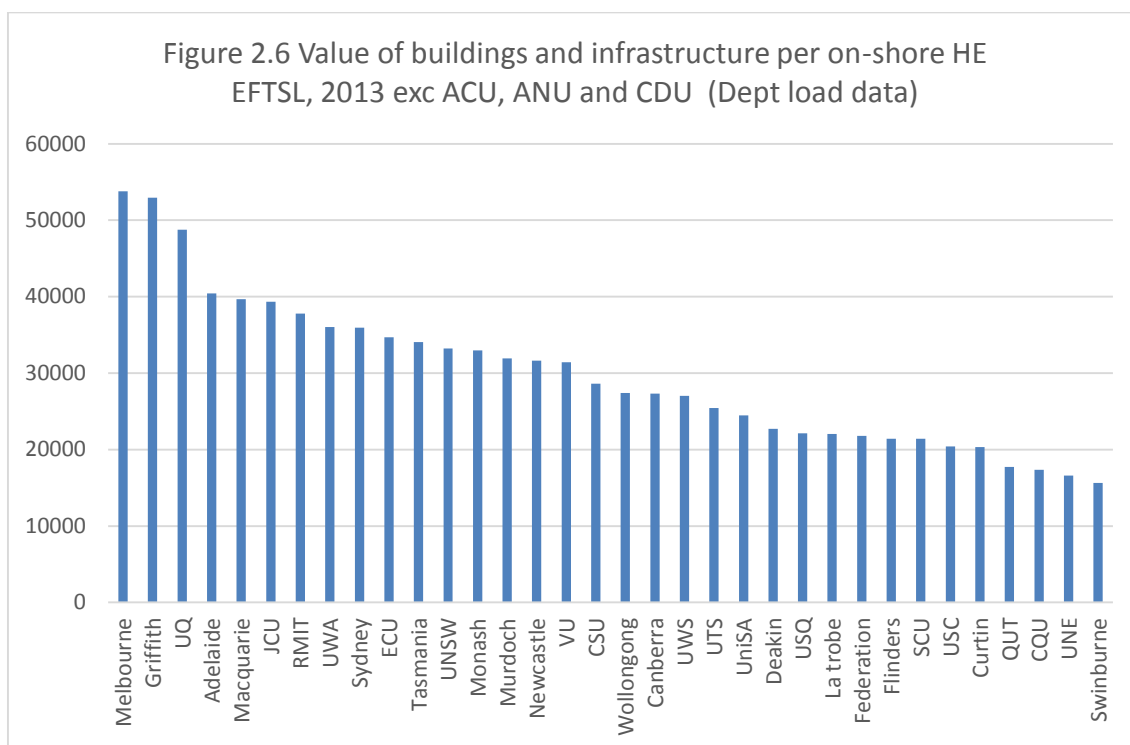




Two universities stand out in Figure 2.5: CDU and ANU. In ANU's case this is explained by the scale of its research infrastructure relative to its student load. This is also a factor at CDU, but CDU also has extensive campus facilities with relatively few higher education students (it has a slightly larger enrolment of VET students). The low figure for ACU reflects the factors described previously.

If those three universities are excluded the value of buildings and infrastructure per higher education, on-shore EFTSL ranges from \$53,762 at Melbourne to \$15,626 at Swinburne (see figure 2.6). The average across this subset of universities is \$29,831.





While the Go8 universities all feature in the top half of the distribution on this measure, other institutions, including Griffith, Macquarie, JCU and ECU also record high values per EFTSL, reflecting major recent campus developments relative to their student populations.

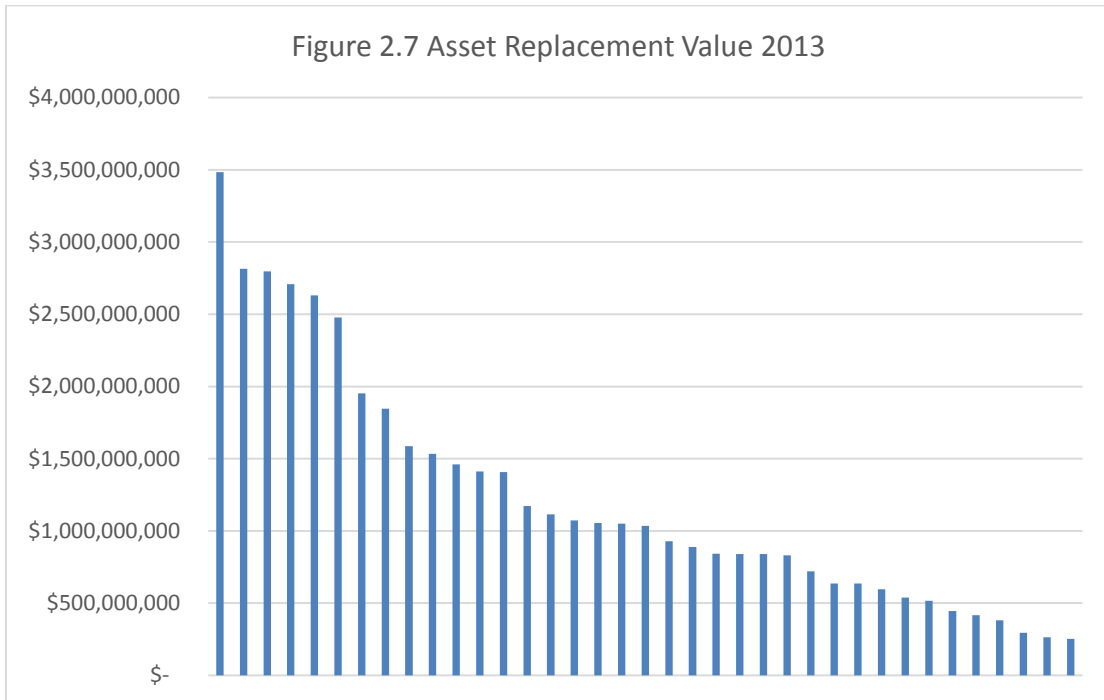
2.2 Asset replacement value

Another measure of the value of university infrastructure is the asset replacement value (ARV) which is reported in the annual surveys conducted by the Tertiary Education Facilities Management Association (TEFMA). The ARV for buildings, fixed equipment and infrastructure is defined as the best estimate of the current cost of designing, constructing and equipping for its original use, a new facility providing equal service potential as the original asset and which meets currently accepted standards of construction and also complies with all contemporary environmental and other regulatory requirements.

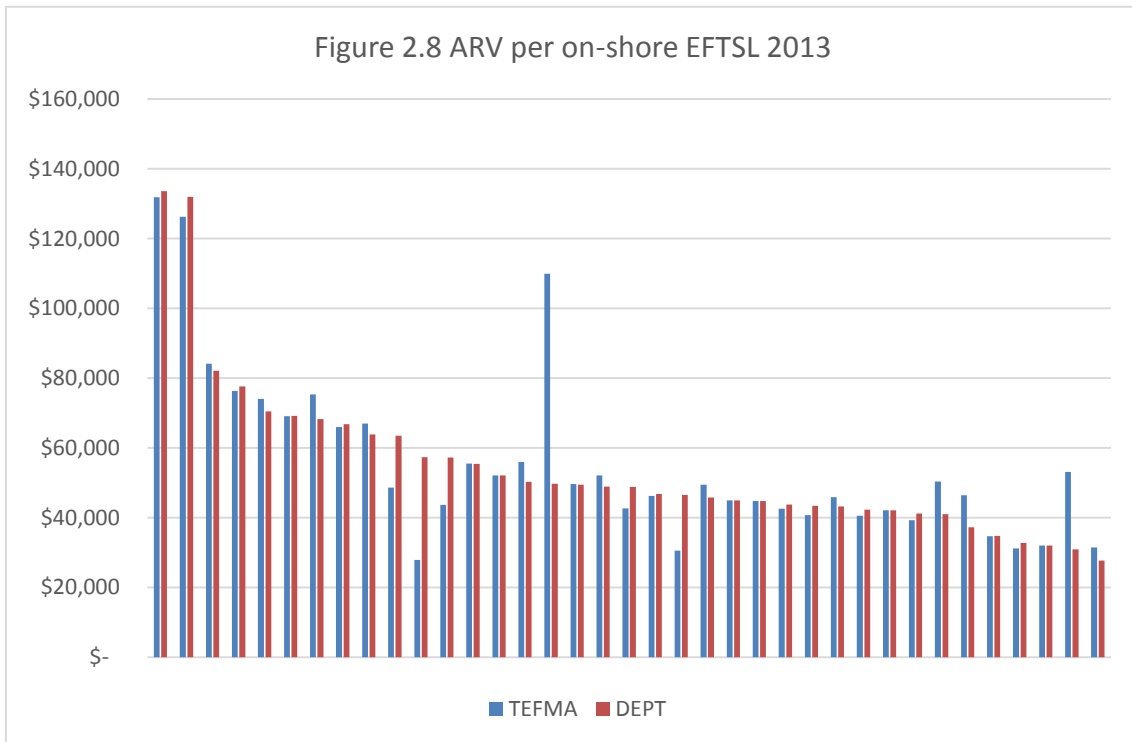
In 2013 the total reported ARV (buildings and infrastructure) was \$45.5 billion (compared with \$26.9 billion book value). The distribution of ARV by university is shown in Figure 2.7.

Individual universities are not identified in this report for any of the data sourced from TEFMA, in accordance with the agreed protocols.





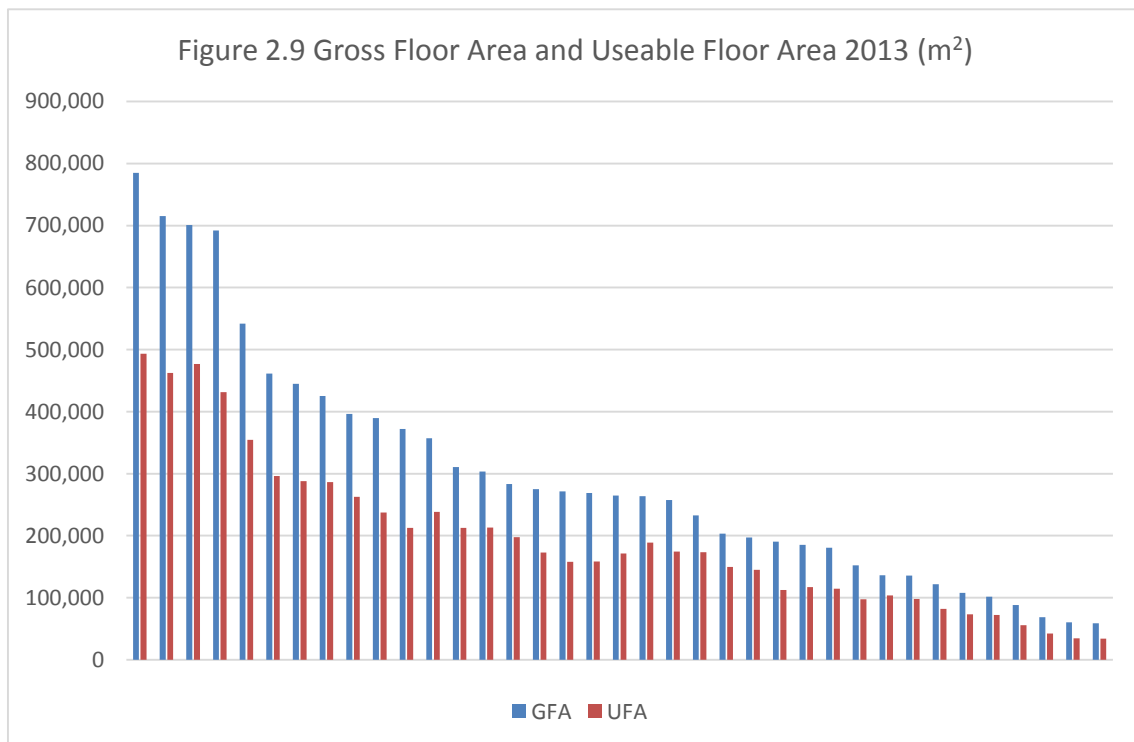
Respondents to the TEFMA survey also provide data on student load for the campuses that are included in their survey returns. There are some issues in interpreting these data for a small number of institutions, so in calculating the ARV per EFTSL we have used both the TEFMA numbers and data supplied by the Department for higher education on-shore student load. The results are shown in Figure 2.8.



2.3 Floor area

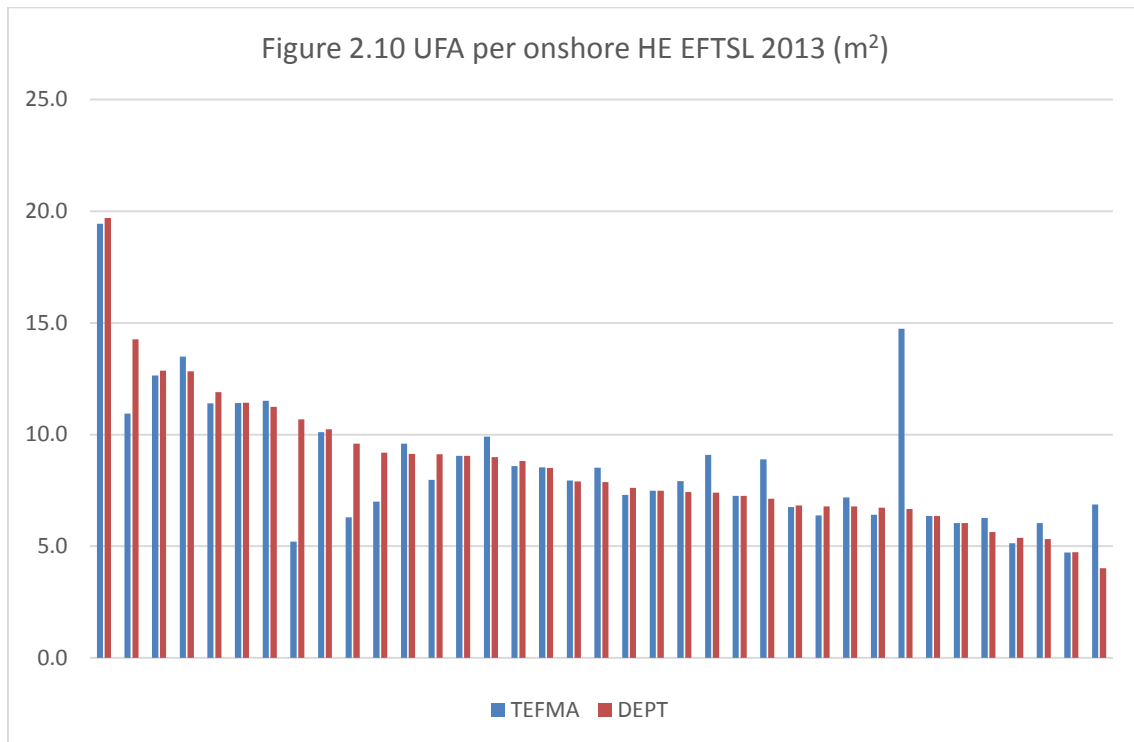
The scale of infrastructure can also be gauged by analysis of the floor area of spaces owned or used by the university for university purposes. The TEFMA surveys capture estimates of Gross Floor Area (GFA) and Useable Floor Area (UFA). GFA includes all covered areas (both enclosed and unenclosed) used for university purposes. UFA is fully enclosed covered area less common use areas (such as corridors), service areas (such as plant rooms), and non-habitable areas.

The total reported GFA for the TEFMA universities in 2013 was 11 million square metres, or 11 square kilometres. The total UFA was 7.2 million square metres. The distribution of floor area by university is shown in Figure 2.9.



The distribution of floor area relative to on-shore higher education student load is shown in Figure 2.10 (again using both Departmental and TEFMA survey load data).



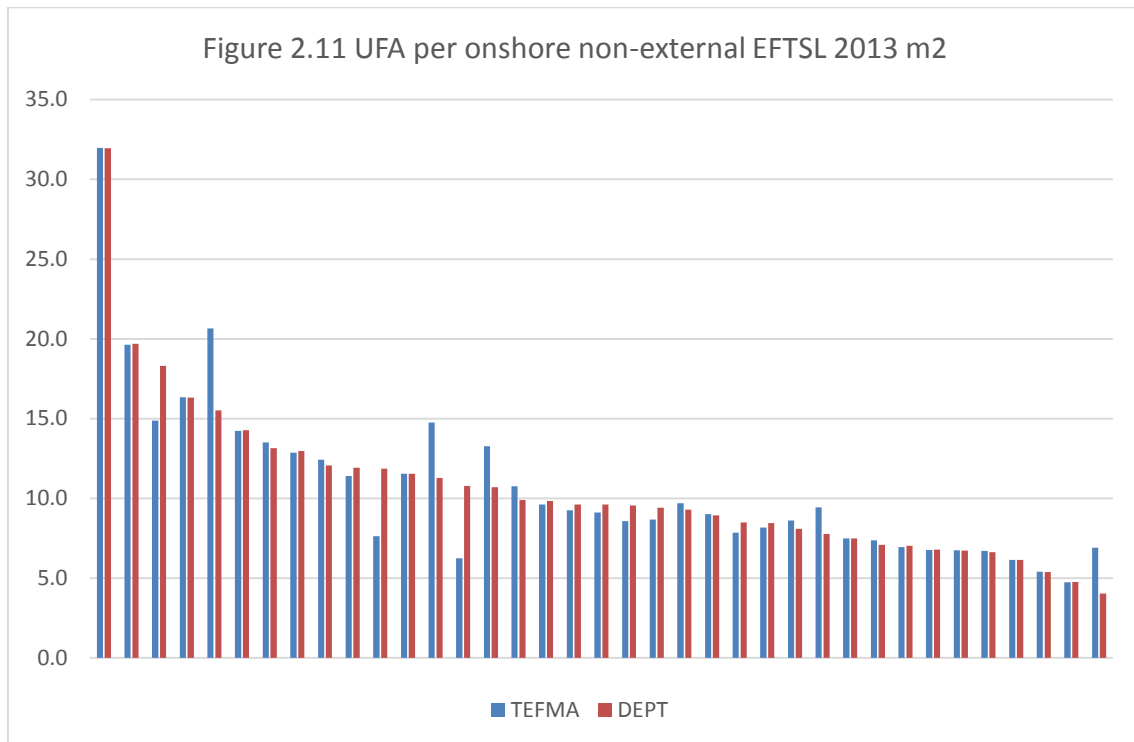


As would be expected, universities with relatively large floor areas allocated for research purposes tend to have higher ratios of floor area to student load. Dual sector universities record quite high ratios of UFA to higher education on-shore student load, but these dual sector universities of course also accommodate VET students and staff.

The median UFA per on-shore HE EFTSL is 7.9 square metres (using Departmental load data). Five universities fell below 6 square metres on this measure in 2013.

The picture changes somewhat if we exclude 'external' students from the calculation (including only students classified as internal or mixed-mode). Universities with high proportions of external students, as well as research intensive universities, generally have the highest ratios of UFA to non-external student load (see Figure 2.11).

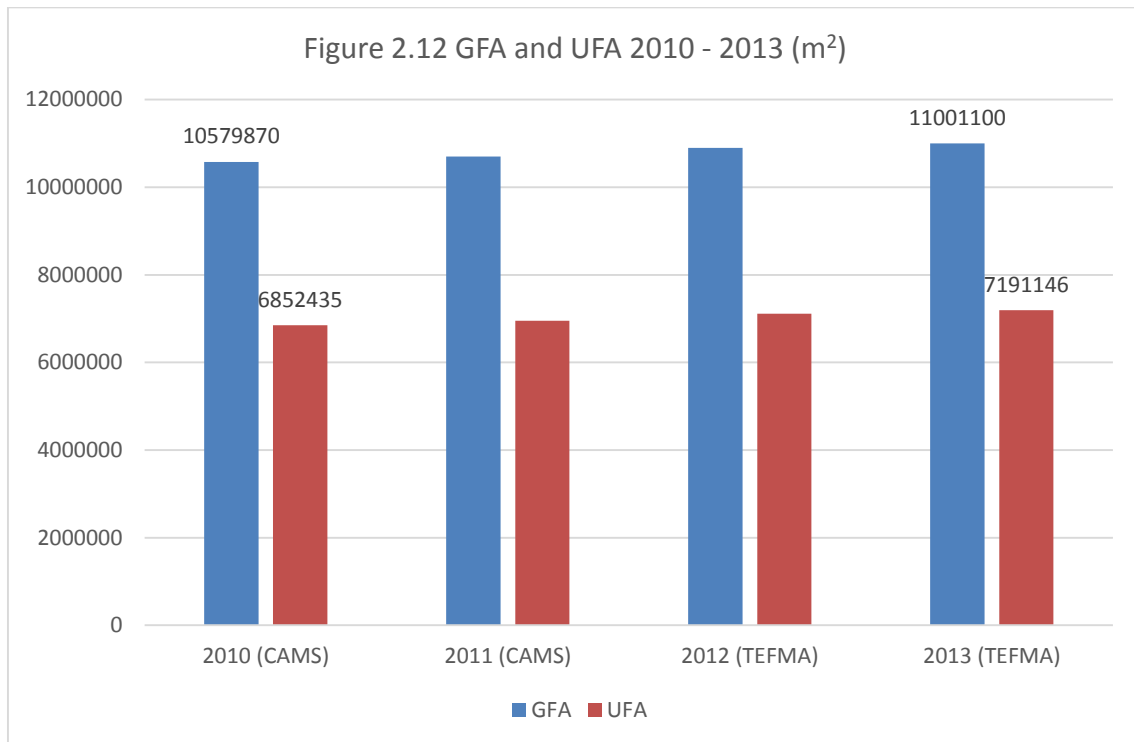




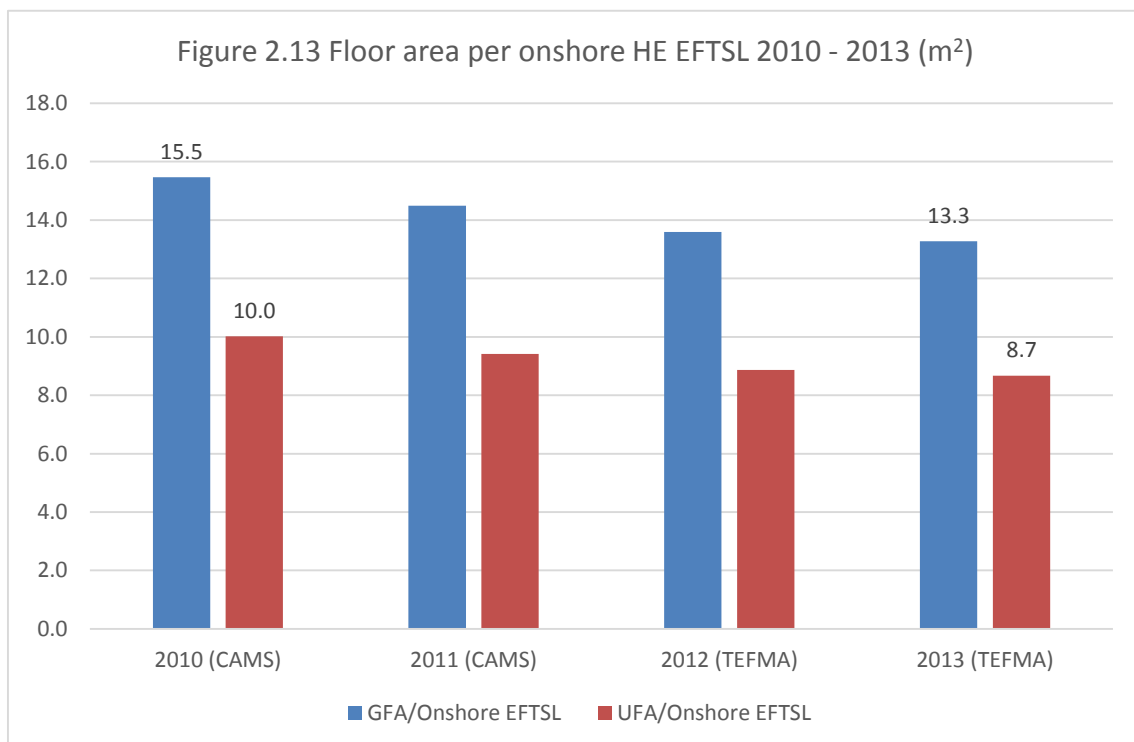
Total floor area across the system has increased in recent years, but not as quickly as student load.

Figure 2.12 shows GFA and UFA recorded in the Capital Asset Management Survey (CAMS) for 2010 and 2011 and the TEFMA surveys for 2012 and 2013.





While the data may not be perfectly comparable across the years, the apparent increase in floor area is around 5%. Over the same period domestic HE student load rose by 14%. Correspondingly floor area per on-shore EFTSL fell, from 15.5m² to 13.3m² for GFA and from 10.0 m² to 8.7 m² for UFA, shown in Figure 2.13.



The growth in floor area of around 5% compares with the increase in the nominal book value of buildings and infrastructure of 23% over the same period noted in section 2.1. This is consistent with our experience that the focus of the increased investment has been not so much on expanding floor space, but on improving the quality of infrastructure, refurbishing and reconfiguring teaching spaces to reflect changes in the mode of teaching and learning, and on expanding and upgrading research infrastructure.

These trends are also evident in the changing patterns of utilisation of space discussed in the next section.

2.4 Utilisation rates

One measure of the degree of pressure on university infrastructure is the utilisation rate which is a combined measure of how many people use a room relative to its capacity (room occupancy) and the frequency with which the room is used (room frequency).

Of course, utilisation rates vary depending on the time of day and the type of space. Figures 2.14, 2.15, 2.16 and 2.17 show day time (8.00am to 5.00pm) and night time (5.00pm to 9.30pm) utilisation rates for lecture theatres, teaching space, computer labs and specialist labs, as reported in the 2013 TEFMA survey. Only 28 universities provided data for this part of the survey.

It should also be noted that these data need to be treated with some caution because they are derived from different processes (in some cases relying on booked use figures, in others the result of physical audits) conducted in different years (2012 and 2013) for different universities.

It is also worth noting that exclusion from the data collection of the period from 9.30pm to 8.00am means that it does not capture the increasing use of certain forms of infrastructure such as libraries and learning commons on a 24/7 basis.



Figure 2.14 Lecture theatre utilisation rates 2012 or 2013 (=room occupancy*room frequency)

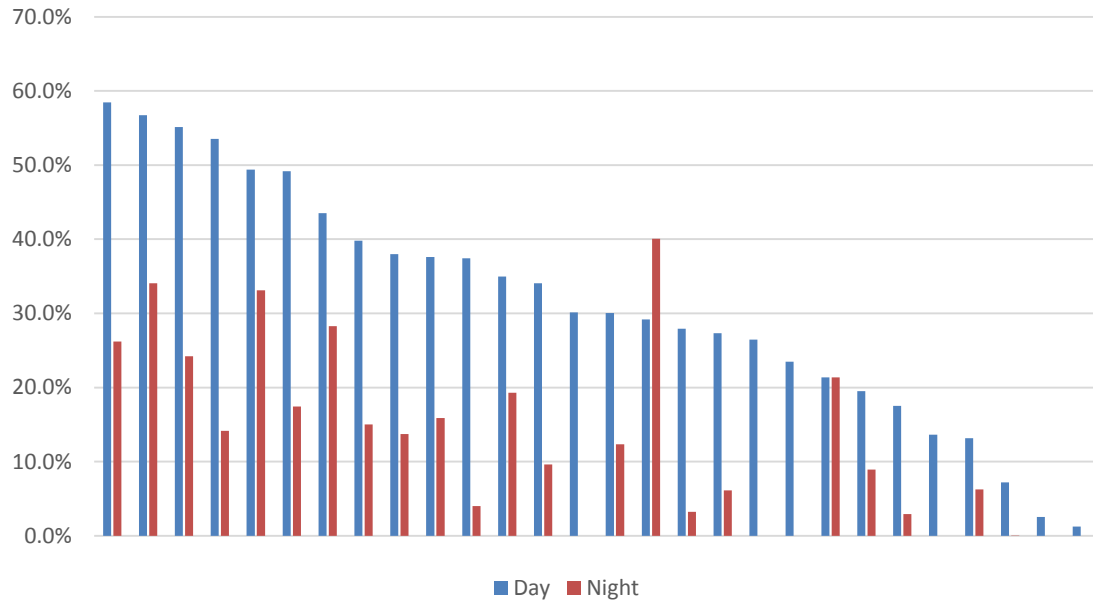


Figure 2.15 Teaching space utilisation rates 2012 or 2013 (=room occupancy*room frequency)

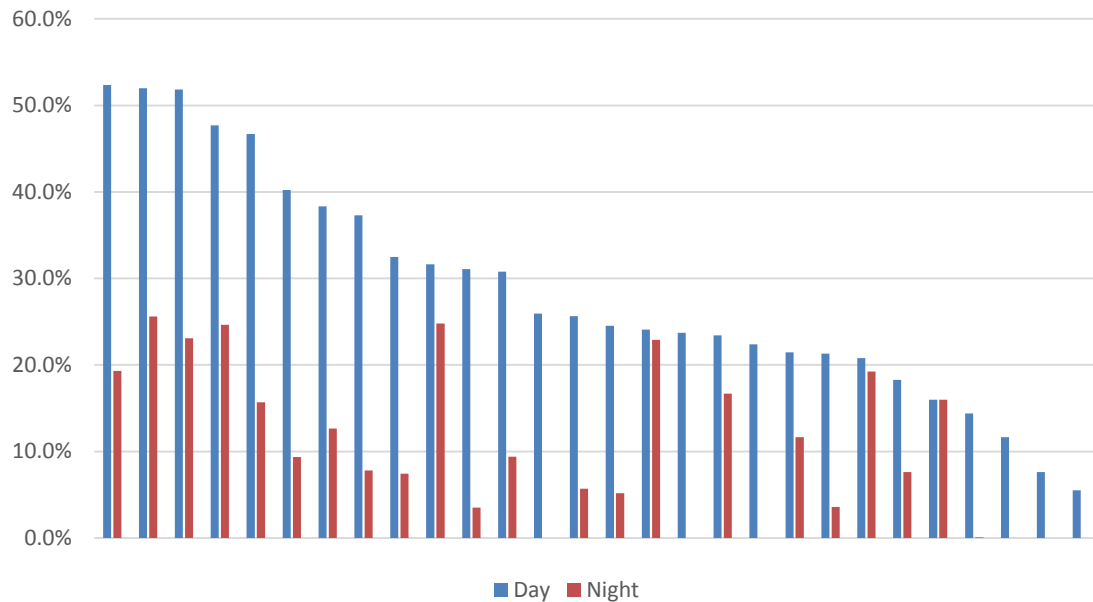


Figure 2.16 Computer Labs utilisation rates 2012 or 2013 (=room occupancy*room frequency)

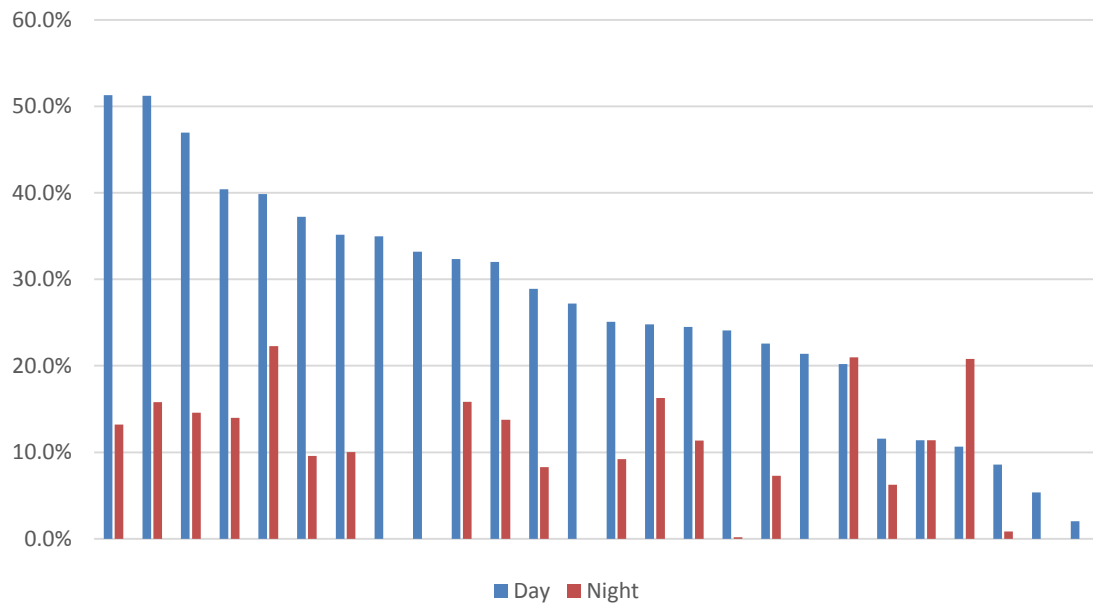
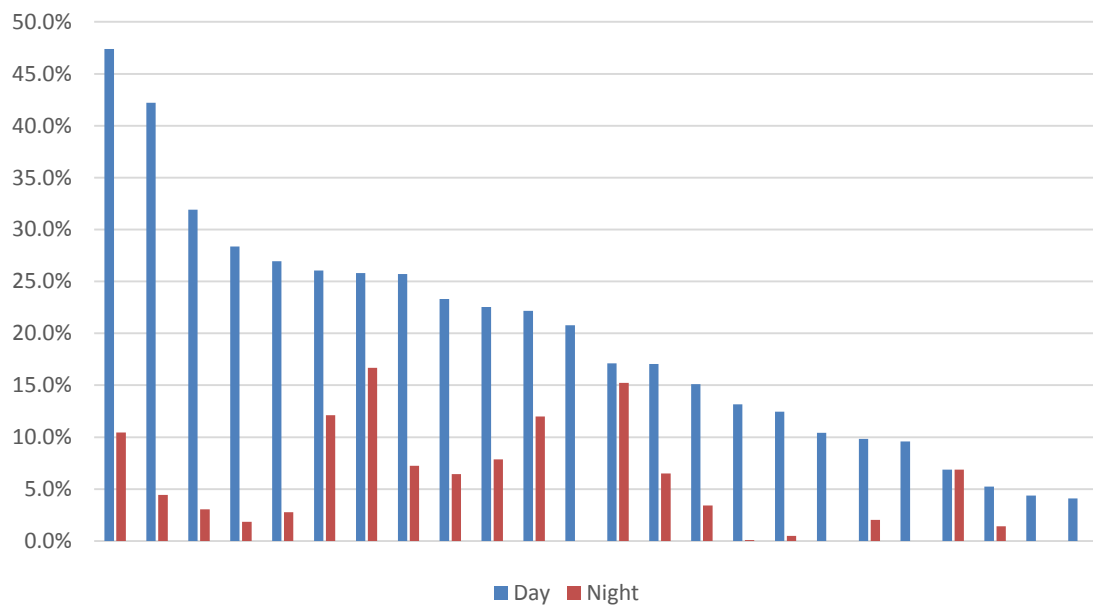


Figure 2.17 Specialist Labs utilisation rates 2012 or 2013 (=room occupancy*room frequency)

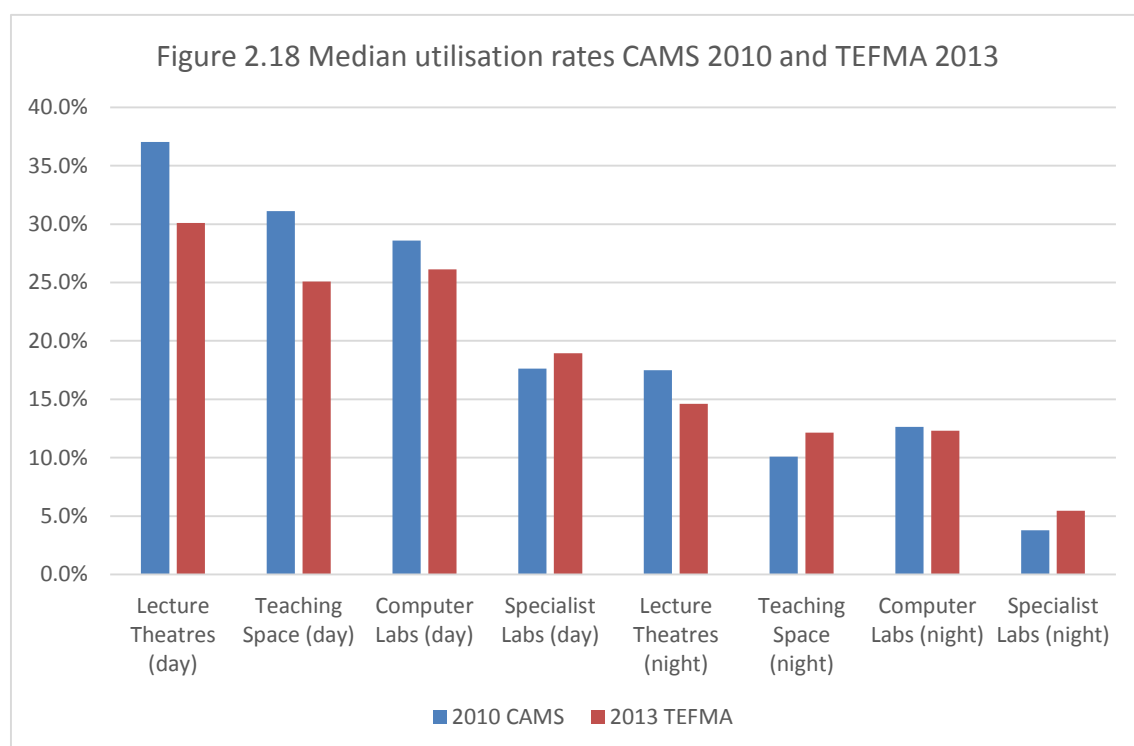


The highest utilisation rates on average are for lecture theatres, teaching spaces and computer labs during the day, but only in a very few instances do utilisation rates exceed 50%, and day time figures around 30% are more common, even for the most heavily utilised types of space.

These charts do not show any clear pattern in utilisation rates by type of university.

Despite the fact that floor area did not grow as quickly as student load, median utilisation rates during the day appear to have fallen between 2010 and 2013 for lecture theatres, teaching spaces and computer labs. The largest fall was for lecture theatres. There has been a small increase in utilisation rates for teaching spaces at night. These changes are consistent with the anecdotal evidence that fewer students are attending lectures and spending time on campus, especially during the day.

There has been some increase in the median utilisation rates for specialist laboratories. (See Figure 2.18).



3 Overview of the state of university infrastructure

3.1 Condition of non-residential buildings

The TEFMA survey captures information from respondent universities on the condition of their non-residential buildings.

This information also needs to be treated with some caution because it relies on judgements by different individuals, is derived from different processes (in some cases through desk audits, in others from detailed audits) conducted over different periods in different years (in most cases during 2011, 2012 or 2013 but as early as 2008 for one institution¹). Only 28 universities provided this information for the 2013 TEFMA survey.

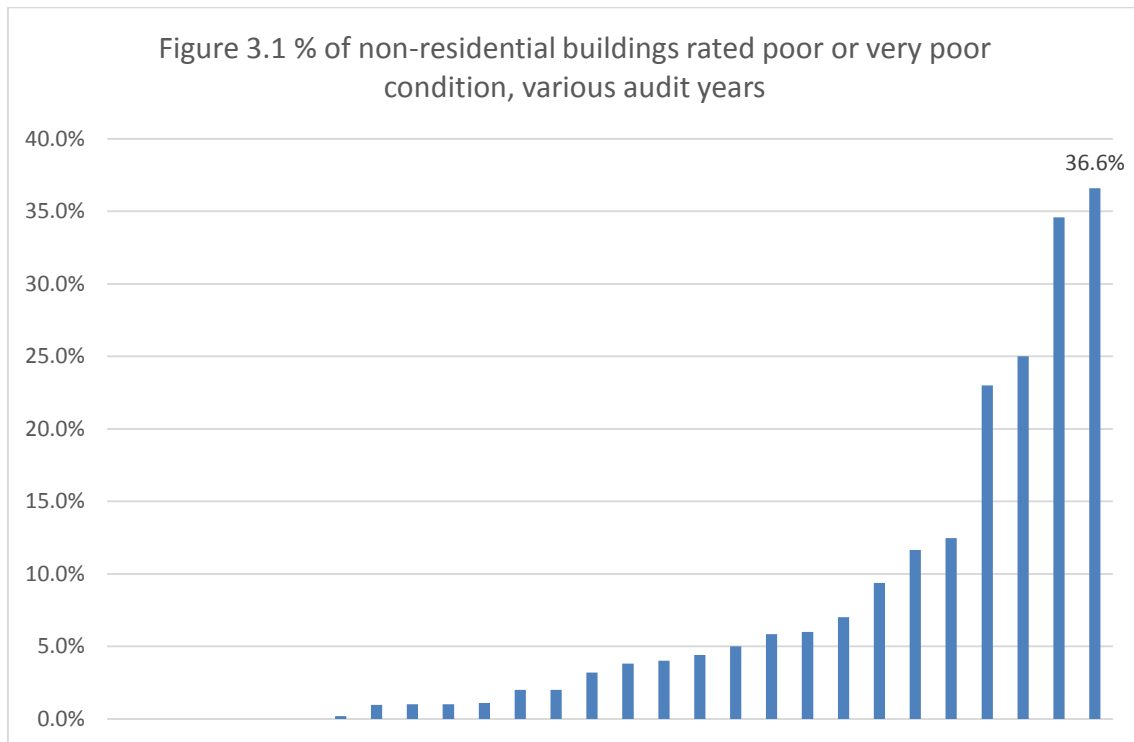
The categories of building condition are as follows:

Excellent	Asset has no defects; condition and appearance are as new.
Good	Asset exhibits superficial wear and tear, minor defects, minor signs of deterioration to surface finishes; does not require major maintenance; no major defects exist.
Fair	Asset is in average condition; deteriorated surfaces require attention; services are functional, but require attention; backlog maintenance work exists.
Poor	Asset has deteriorated badly; serious structural problems; general appearance is poor with eroded protective coatings; elements are defective, services are frequently failing; and a significant number of major defects exist.
Very poor	Asset has failed; is not operational and is unfit for occupancy or normal use.

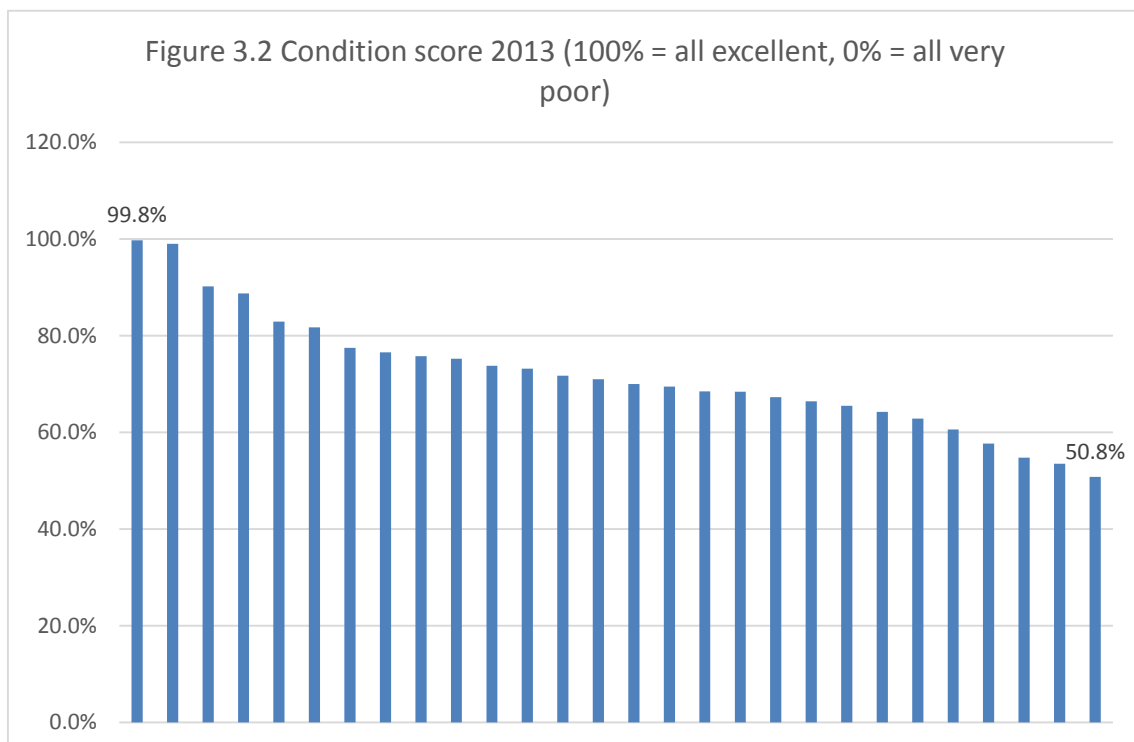
Across the 28 universities there is a wide spread of reported building conditions. Six universities reported that they had no buildings in poor or very poor condition, while two reported that more than 30% of their buildings were in those states. (See Figure 3.1.)

¹ Universities with facilities condition audits conducted before 2011 are: CQU (2008), Curtin, SCU and Wollongong (2009), ACU and Flinders (2010)





The overall reported condition of a university's buildings can be converted to a single 'condition score' which would allocate a score of 100% if all of the institution's facilities were rated as in excellent condition, down to 0% if they were all rated as very poor. The distribution of condition scores derived from the 2013 TEFMA survey is shown in Figure 3.2.



On this simple aggregate measure, the condition scores ranged from 99.8% to 50.8%, with a median value of 70.5%.

3.2 Functionality of buildings

23 universities provided an assessment of the functionality of their non-residential buildings for the 2013 TEFMA survey. Functionality is defined as the ability of the rooms/areas to meet the identified function and business needs of the users.

Once again, this information also needs to be treated with caution because it relies on judgements by different individuals, is derived from different types of audit processes conducted over different periods in different years (in most cases during 2011, 2012 or 2013²).

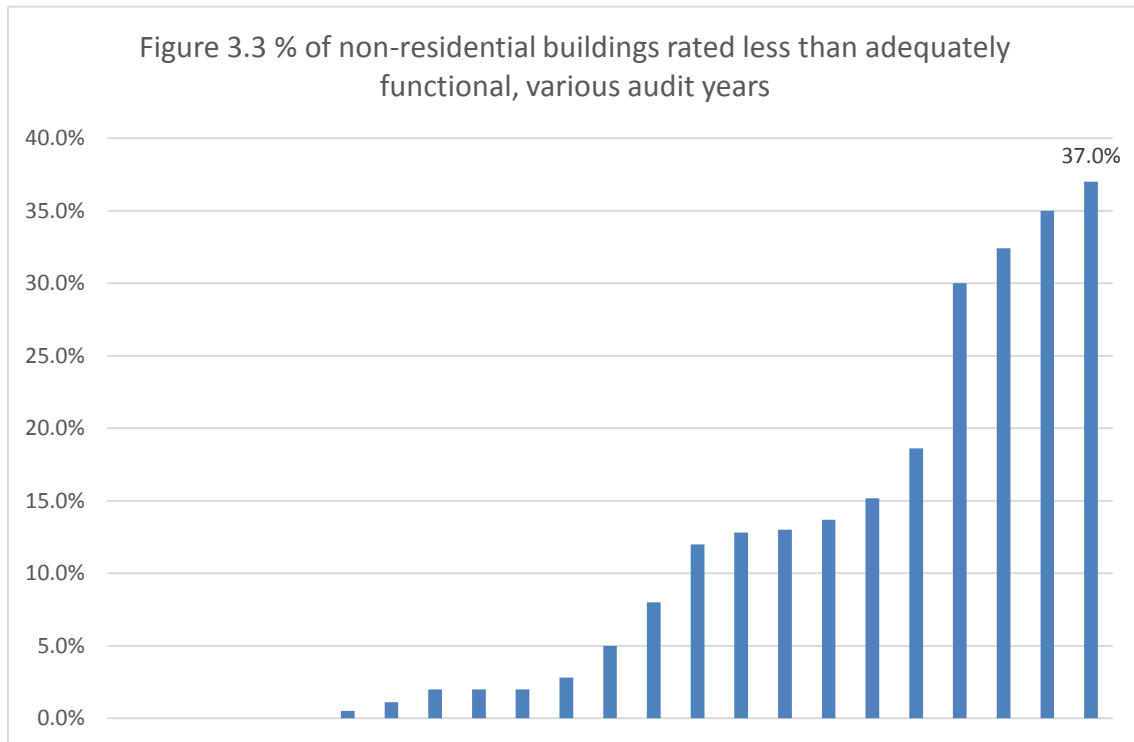
The categories of building functionality are as follows:

Excellent	<ul style="list-style-type: none"> • The room/area functionality always meets the targeted spatial relationships/provision/environmental comfort standards for the space sub-type. • Legislative compliance is always met. • Building aesthetics are excellent.
Good	<ul style="list-style-type: none"> • The room/area functionality mostly meets the targeted spatial relationships/provision/environmental comfort standards for the space sub-type. • Legislative compliance is always met. • Building aesthetics are good
Adequate	<ul style="list-style-type: none"> • The room/area functionality always meets the minimum spatial relationships/provision/environmental comfort standards for the space sub-type. • Legislative compliance is always met. • Building aesthetics are adequate.
Barely adequate	<ul style="list-style-type: none"> • The room/area functionality mostly meets the minimum spatial relationships/provision/environmental comfort standards for the space sub-type. • Legislative compliance is mostly met. • Building aesthetics are barely adequate.
Poor	<ul style="list-style-type: none"> • The room/area functionality rarely meets the minimum spatial relationships/provision/environmental comfort standards for the space sub-type. • Legislative compliance is rarely met. • Building aesthetics are poor.

² Universities with facilities function audits conducted before 2011 are: CQU and Curtin (2008), SCU and Wollongong (2009), and Flinders (2010)

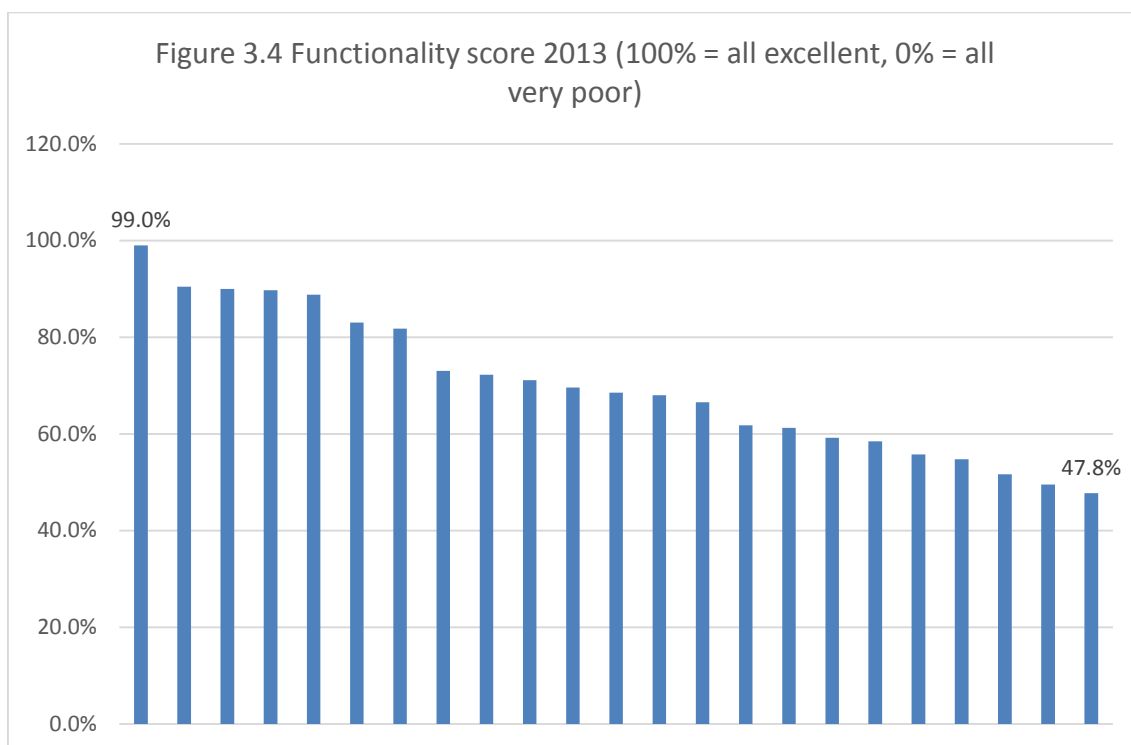


There is a wide range of reported levels of functionality. Five universities rated 0% of their non-residential building space as less than adequately functional. Four universities rated 30% or more of their building space as less than adequately functional. (See Figure 3.3)



The overall reported functionality of a university's buildings can be converted to a single 'functionality score' in the same way as described above for the 'condition score', i.e. a score of 100% if the functionality of all of the institution's buildings was rated as excellent, down to 0% if it was rated as poor in all cases. The distribution of functionality scores derived from the 2013 TEFMA survey is shown in Figure 3.4.





The functionality scores range from 99% to 47.8%. Seven universities had functionality scores above 80% while two had scores below 50%. The median functionality score was 68.5%.

3.3 Deferred liabilities

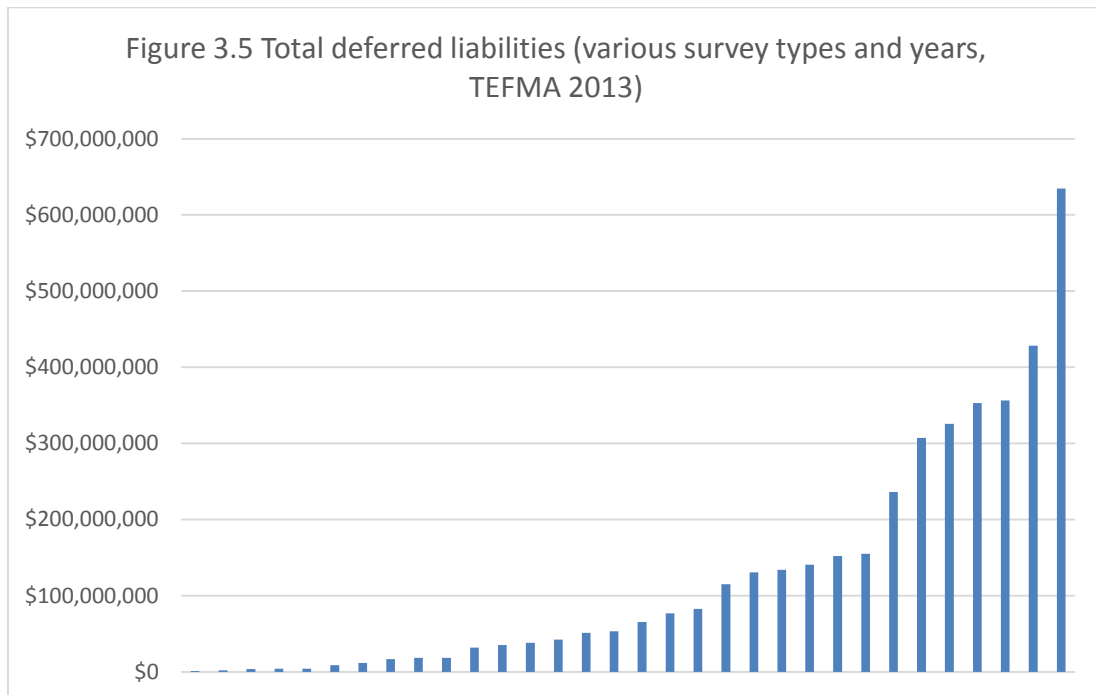
Another lens on the state of university infrastructure is provided by the extent of backlog liabilities³. In the 2013 TEFMA survey, 32 universities reported their backlog liabilities in five categories: maintenance, refurbishment (statutory), refurbishment (non-statutory), access, and other (e.g. heritage). The sum of these categories is reported as 'total deferred liabilities'.

Again there are some problems with these data, relating to the interpretation, classification and assessment of liabilities and the different survey types and years that are used. The data summarised here should therefore be regarded as indicative only.

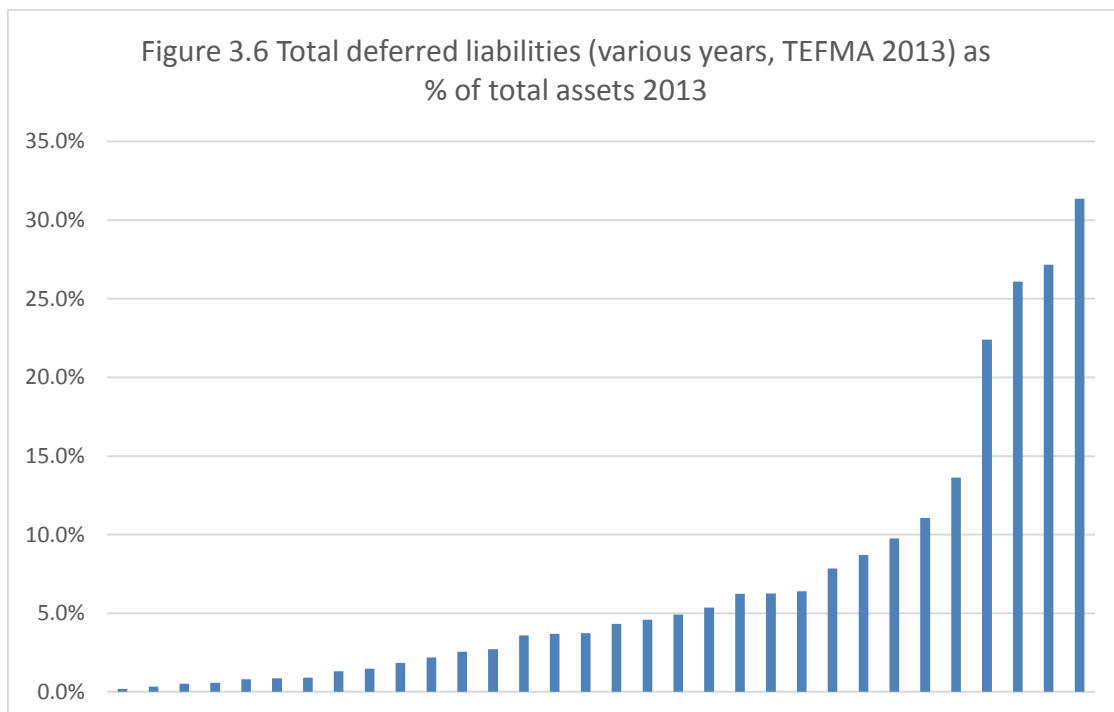
Total deferred liabilities from the 2013 TEFMA survey range from \$1.4 million to \$634.5 million. The average was \$126.2 million and the median was \$59.4 million. (See Figure 3.5.)

³ Backlog liabilities refer to works due to be carried out but which have not been carried out because of shortage of funds or availability of parts.





We can scale these estimates to the size of the universities in different ways. Figure 3.6 shows the ratio of total deferred liabilities reported in the 2013 TEFMA survey to total 2013 assets for each university. (Note: this excludes assets held in controlled entities.)



On this measure four universities recorded a ratio of deferred liabilities to total assets in excess of 20%. The median value for the 32 universities was 4%.



4 Overview of the context for infrastructure funding and financing

4.1 Context

Before moving into the analysis of the current financial capacity of Australia's universities to invest in infrastructure, it is worth noting briefly some important points about the operating context over the period of the analysis (2011 to 2013).

During this period there was a rapid increase in domestic student enrolments, although the rate of growth in international student enrolments stalled or declined. Overall there was significant net growth in student numbers, continuing a long-running trend with clear implications for infrastructure requirements.

The strong growth in domestic enrolments was driven by a number of systemic factors, not least of which was the pursuit by universities of increased revenue to meet operational costs and generate funds for investment in infrastructure for both teaching and research. The introduction of demand driven funding for domestic undergraduate students provided a new opportunity to grow numbers and revenue in an environment in which maximum student fees remained capped.

This period also saw continuing changes in the modes of teaching and learning, associated with the continuing trends towards more on-line and blended learning, decreasing use of large lectures, and declining time spent on campus on average by students. Lying behind these trends are major educational, technological and social changes, including the rising proportion of students who work while studying: the most recent Universities Australia survey of student finances found that in 2012 more than 80 per cent of full time undergraduates had a job to support themselves while studying and worked on average 16 hours a week during semesters.

Accordingly there was a shift away from large lecture theatre delivery towards the use of more flexible learning spaces and multi-use areas such as learning commons. As noted in section 3, these changes saw universities investing in electronic infrastructure and reconfiguration of teaching infrastructure, rather than simply in expansion of floor space.

At the same time all universities have sought to increase their research performance, requiring substantial additional investment in research infrastructure. The Australian system of research infrastructure funding does not fund the full cost of infrastructure associated with Commonwealth competitive research grants, despite some steps in this direction, so universities have been required to fund part of these infrastructure costs from their other sources of revenue, including domestic and international student fees. In addition the costs of research infrastructure have tended to rise ahead of other forms of expenditure as a result of the increasing sophistication of research equipment and facilities, especially at the leading edge in laboratory based disciplines.



Some of the costs of infrastructure were met by identified capital grants from Commonwealth and state governments, although as the analysis in section 5 will show, these sources were less significant overall than might be expected. Of much greater significance was the cash that universities were able to generate from operating surpluses and their provision for depreciation.

Nonetheless, capital grant programs, notably the EIF, provided important additional resources and provided a stimulus and lever for investment in larger projects. This reflects the original logic of the policy shift in the 1990s to roll the major and minor capital grants programs into universities' operating grants, thereby enhancing institutions' capacity to plan and finance their own infrastructure development, while retaining a small number of centrally administered capital grant schemes to stimulate and support specific infrastructure projects. This was considered an important element of policy, especially for smaller universities whose own capacity to fund major infrastructure developments is limited by their scale.

4.2 Sources of funding and access to infrastructure

In this context, over the 2011 to 2013 triennium universities used a range of mechanisms to fund or otherwise gain access to infrastructure. The core mechanisms included:

- Internal cash flow generation
- Borrowing and Bonds
- Commonwealth Government Capital Grants
 - Including for research infrastructure
- Other sources of funding
 - Including philanthropy and bequests, university foundations and reserve funds, and commercialisation of university research.

University capacity to finance infrastructure through such core mechanisms is discussed in [section 5](#) of this report.

Universities also used a range of other approaches, including:

- Build Own Operate Transfer (BOOT) schemes
- Service Concession Arrangements (BOT) (private sector builds or refurbishes, operates and transfers)
- Finance leases (private sector operates and manages, university as lessor)



- Other Public Private Partnership (PPP) type arrangements
- Unincorporated joint venture arrangements
- Triple net lease (university responsible for all costs relating to asset for duration of lease (e.g. insurance, taxes, maintenance) in addition to rental)
- 3rd party tenants (e.g. independent research institutes) make capital contribution
- Sale of land and infrastructure.

These approaches, with examples, are discussed in [section 6](#).



5 Analysis of the current financial capacity of Australia's public universities to invest in infrastructure

5.1 Approach to assessing financial capacity

The assessment involved a review of the 2011, 2012 and 2013 Annual Reports for all higher education institutions. The analysis focused on the parent entity financials not the consolidated group accounts although these were reviewed where inter-entity dealings assisted the analysis.

The analysis involved assessing both accrual accounting and cash flow financial data. Despite some minor consistency issues between the two data sets the analysis remains comparable. Variations in accounting practices between institutions have some impact on the comparative analysis however the effect on the analysis and conclusions is immaterial.

A fixed three year analysis may have some unavoidable limitations due to timing issues given that institutions infrastructure investment plans are typically between 5 and 10 years.

5.2 Sector level financial capacity

The level of investment in property, plant and equipment and the way in which it has been financed for the sector is shown in Tables 5.1 and 5.2 and Figures 5.1 and 5.2.

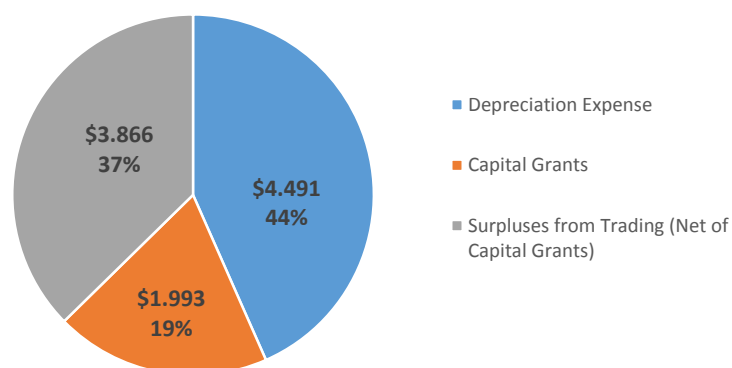
In summary, during the 2011 – 2013 triennium universities:

- Reported \$10.3 billion in accrual surpluses after adding back depreciation expense (\$10.6 billion on a cash flow basis)
- Received \$1.9 billion in capital grants from the Commonwealth and State Governments, accounting for less than 20% of the investments in PPE over the triennium
- Spent \$10.6 billion on new Property, Plant & Equipment
- Used a range of financing activities primarily to accommodate timing issues associated with their investments in PPE
- With a few exceptions were generally well placed to provide the resources for investment in infrastructure.



The analysis highlights the importance for universities of generating sufficient operating surpluses to provide the resources for investment in infrastructure.

Figure 5.1 Triennium Surpluses - Accrual Accounting
2011 to 2013 - \$'billion



Total accrual surpluses of \$10.349 billion after adding back depreciation
(\$8.357 billion net of capital grants)

Table 5.1 Property, Plant & Equipment movements over the 2011 – 13 triennium

	\$billion
Opening Balance 1 January 2011	33.816
Closing Balance 31 December 2013	40.723
Movement in Accounting Value	6.907
Add back Triennium Depreciation	4.491
Gross Movement	11.398
Purchases of PPE	10.568
Other Movements (e.g. revaluations, disposals, depreciation policies etc.)	0.83



Figure 5.2 Financing Gross Movement in PPE - 2011 to 2013 Triennium

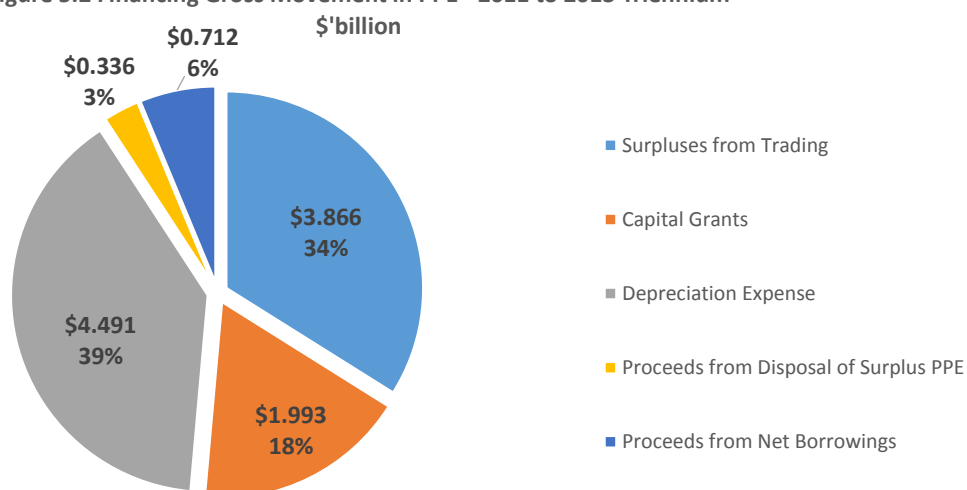


Table 5.2 Net Property, Plant & Equipment Movements over Triennium

	01-Jan-11	31-Dec-13	Movement
	\$'billion	\$'billion	\$'billion
Construction in Progress	1.868	2.677	0.809
Land	5.998	6.592	0.594
Buildings	21.427	25.553	4.126
Infrastructure	0.431	1.217	0.786
Plant and Equipment	1.659	2.189	0.53
Leasehold Improvements	0.379	0.444	0.065
Leased Plant and Equipment	0.148	0.312	0.164
Library	1.07	0.879	-0.191
Other Property, Plant and Equipment	0.836	0.858	0.022
Total	33.816	40.723	6.907

Over the triennium PPE increased in value by 20% from \$33.8 billion to \$40.7 billion.

The sector average rate of depreciation is 4% implying an average asset replacement cycle of 25 years which is considered reasonable given the differing useful lives of assets within PPE portfolios.

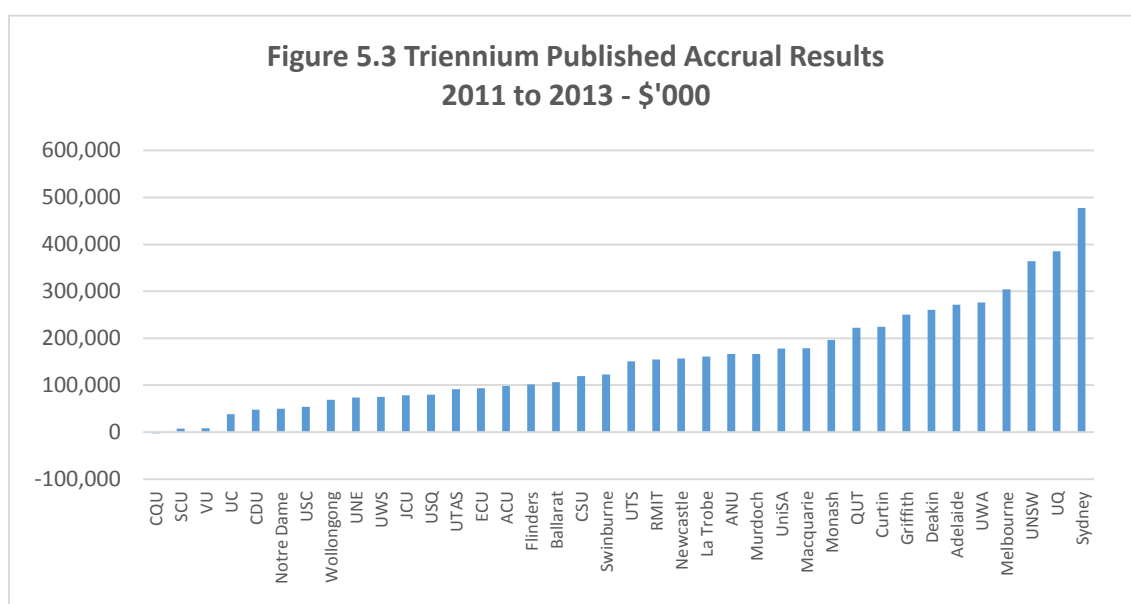
During the same period asset disposals netted \$336 million – less than 1% of the starting value of total PPE. This implies a low rate of asset recycling indicating the sector continues to add to the asset base rather than retiring sub-optimal assets.



5.3 University financial performance

Universities have a financial year closing on 31 December and are required to prepare financial statements in accordance with accounting standards issued and amended from time to time by the Australian Accounting Standards Board and annual financial reporting guidelines issued by the Department of Education. Draft financial statements are required to be submitted for audit to relevant Auditors General and university financial statements are audited in accordance with auditing standards issued by the Auditing and Assurance Standards Board. Once final audit sign off is received from the respective Auditor General, universities are required to publish their financial statements on their websites. This compliance regime for university financial performance enables strong reliance to be placed on their published results in assessing financial performance over time and allows for meaningful comparisons to be made between universities across Australia.

Figure 5.3 shows the aggregate accrual accounting surpluses (or deficits) over the 2011 to 2013 triennium. This is the 'headline' result that includes all revenues (including capital grants) and expenditures accounted for by universities within the triennium. The figure shows a general pattern of the bigger institutions making much larger surpluses tapering down to the smaller institutions at the other end of the scale where the surpluses tend to be quite small. Only one university, Central Queensland University, recorded an aggregate deficit over the triennium however this was relatively small at a total of \$3.030 million.

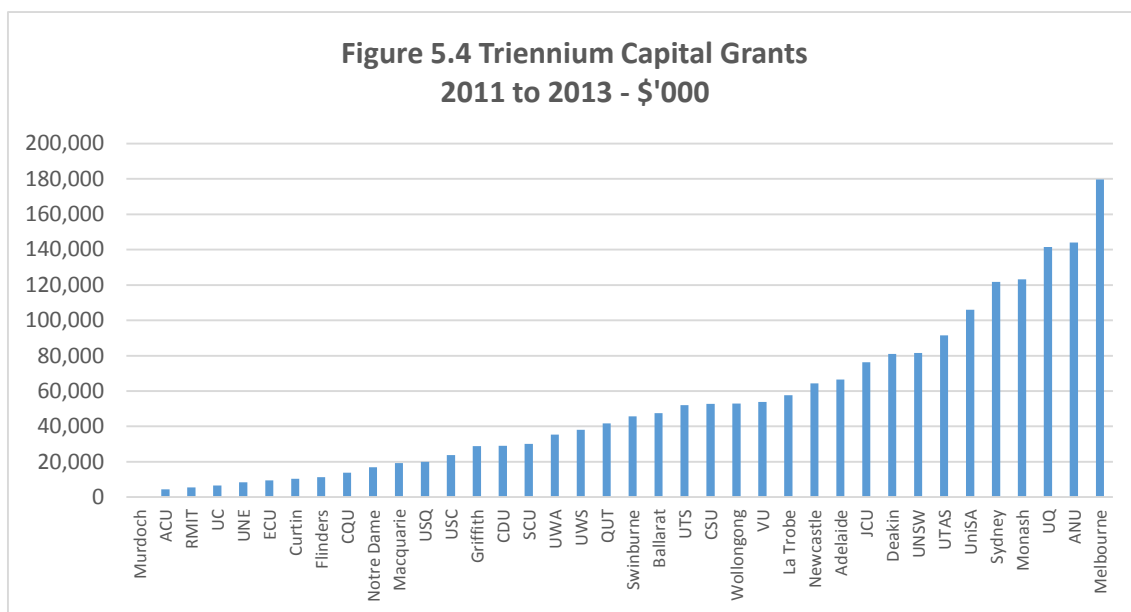


While Figure 5.3 is useful in providing a summary of the published financial results of universities, the results need to be adjusted for this analysis to remove the different level of capital grants received by universities during the triennium. Australian Accounting Standards require universities to report capital grants as revenue in the year of receipt when the funding may have been received for a major building project that may take several years to complete. Once completed the building will be depreciated over its useful life which could be up to 60



years and this creates distortion in assessing university financial statements if not taken into consideration.

The total of capital grants received from the Commonwealth and State and Territory Governments over the triennium is shown in Figure 5.4. Again this shows the larger, more research intensive institutions receiving much larger grants than the smaller institutions and it is of note that one institution, Murdoch, did not receive any capital grants in the period under review.

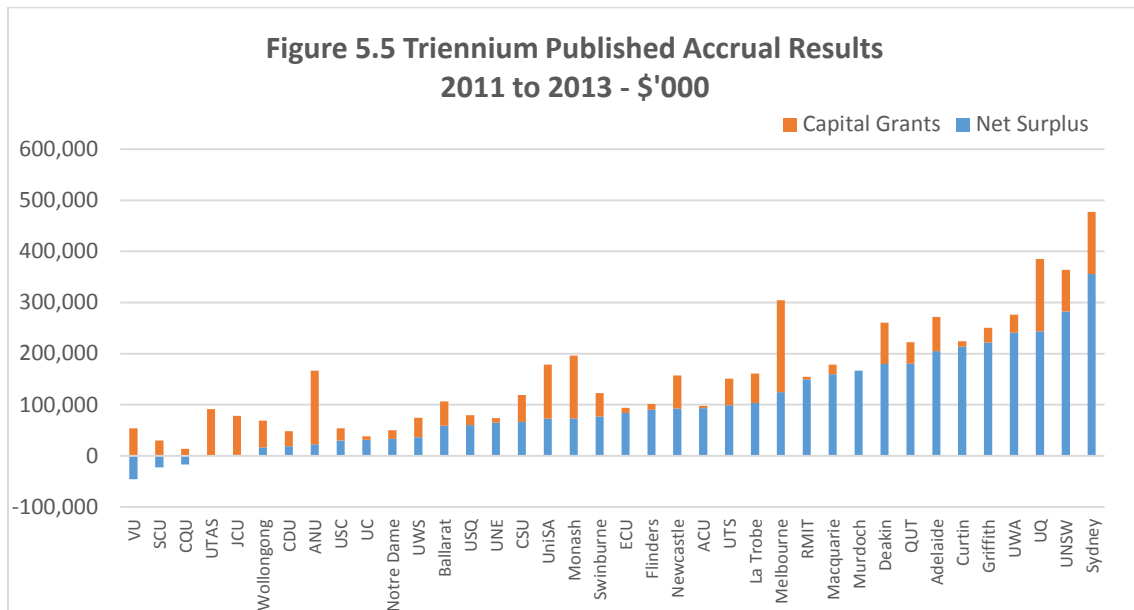


In Figure 5.5 we see the combination of the accrual result net of capital grants and the effect that capital grants have had on the published financial statements of universities. The 'net surplus' could be considered to be the underlying surplus of universities and while there will be issues associated with the timing of grants, particularly research grants, the triennium review enables robust conclusions to be drawn from the analysis.

As the figure shows, adjusting for capital grants identifies lower net surpluses in all universities other than Murdoch. Broadly half the sector generated cumulative net surpluses of \$100 million or more over the triennium and around two thirds generated at least \$50 million in net surpluses.

In most instances the level of net surpluses is likely to reflect university strategies and the intended balance between investing in operating costs versus investing in infrastructure. In a small number of cases the adverse conditions under which some institutions have operated is likely to be a key factor in their weaker financial performance.



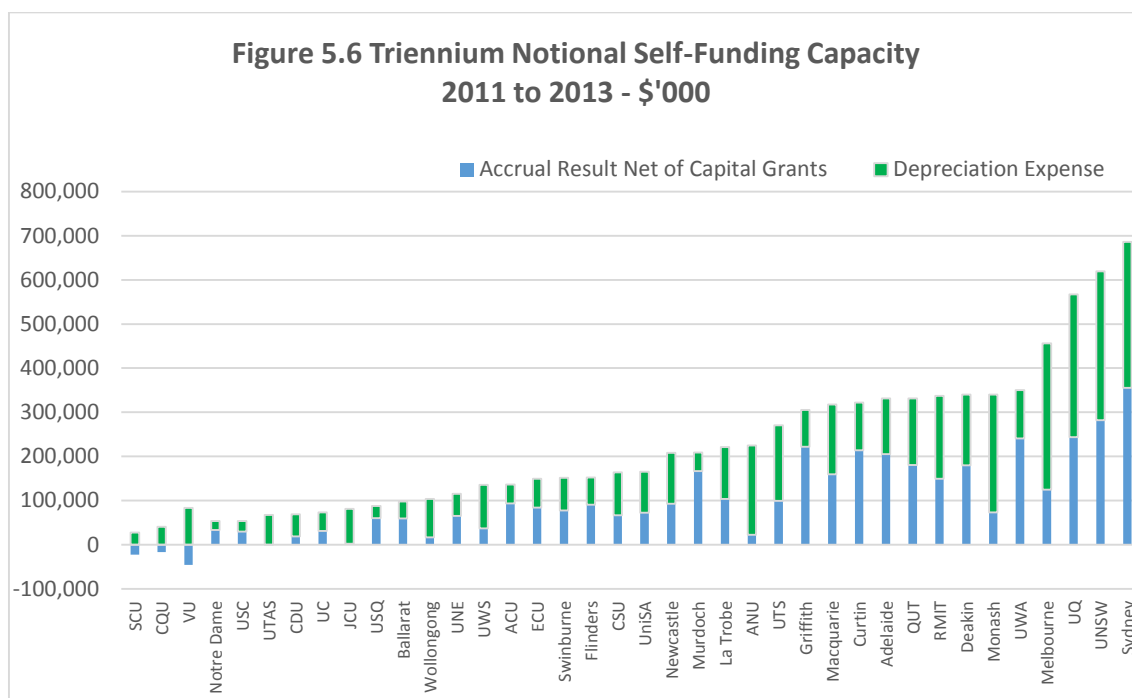


Capital grants are usually provided for specific projects so it was useful for the analysis to include an understanding of universities' capacity to 'self-fund' investments in infrastructure. To do this we have taken the net surplus (net of capital grants) and added depreciation expense. Depreciation reduces the published accrual result and reflects the accounting practice of matching the expenditure on assets over their useful life whereas the cash outlays would typically be upfront. It has the important impact of generating internal resources for investment.

The combination of adjusted accrual result and depreciation has been called the 'Notional Self-Funding Capacity' and is effectively an accrual accounting view of an institution's own capacity to invest in infrastructure over the triennium. As Figure 5.6 shows, around two thirds of universities generated a minimum \$100 million in capacity over the triennium to invest in infrastructure. The larger, research intensive universities were again dominant in generating significant capacity as the chart shows.

This is an important chart in that it shows the self-generated capacity to fund infrastructure. While universities have used other forms of financing over the triennium as will be shown later in the report, very significant 'Notional Self-Funding Capacity' has been generated across the sector.





5.4 Financial assets

We also analysed the level of financial assets universities held over the triennium as this too is an indicator of capacity to invest in infrastructure. This analysis looked at whether there had been an accumulation of financial assets for potential future investment or a reduction of previously accumulated financial assets through subsequent investment in infrastructure. Timing issues may have some impact on the analysis over the triennium, but this is not considered to be so material that it would affect the conclusions.

In summary, the analysis reveals:

- Total financial assets increased from \$9.9 billion in 2011 to \$12.1 billion at the end of 2013.
- Net financial assets (i.e. after financial liabilities) increased from \$6.8 billion to \$8.1 billion at the end of 2013.
- Over the triennium, on a cash flow basis, cash holdings increased by \$0.5 billion, much of which is associated with the net borrowing activities of a small number of institutions.
- University financial statements do not fully disclose the extent to which total financial assets comprise unspent grants, endowment funds, planned infrastructure investments and the like.



- Despite these caveats the sector generally, with a few exceptions, remained highly liquid with significant cash reserves.

At the end of 2013 the sector held a total of \$12.1 billion in financial assets, up from \$11.0 billion at the end of 2012. These are liquid assets and show again that, with the exception of some smaller institutions, the majority of universities are in a strong position. While for some institutions their philanthropic or endowment funds are a significant component of their financial assets and ANU's total figure reflects its superannuation obligations, the overall scale of financial assets shown in Figure 5.7 indicates that substantial capacity exists within the sector for investment in infrastructure.

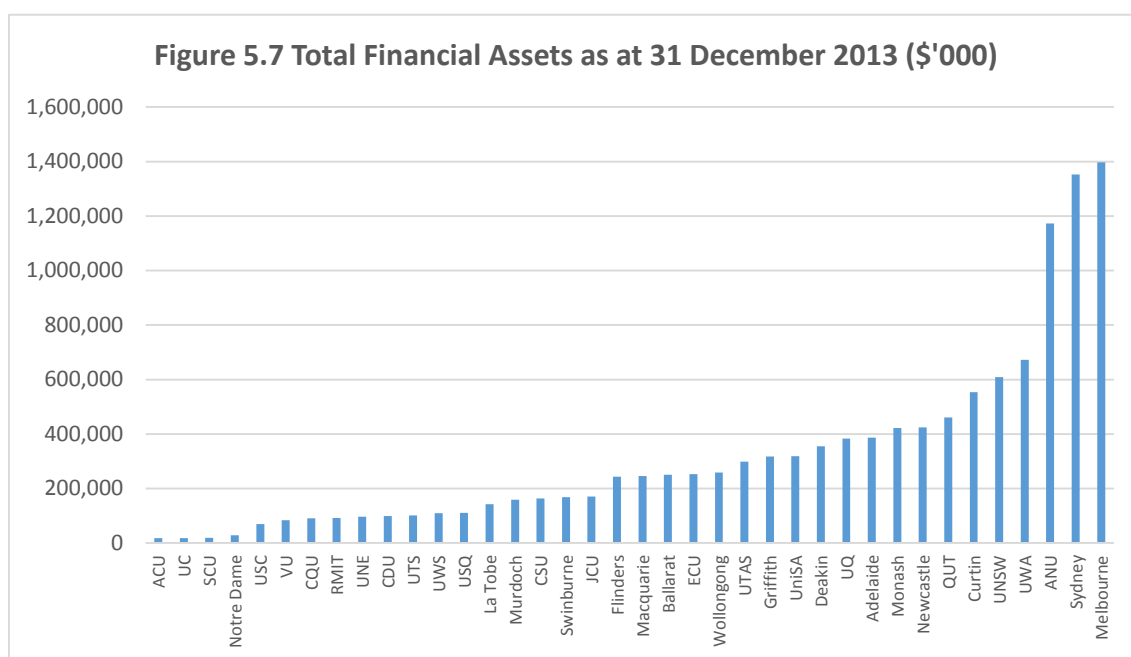
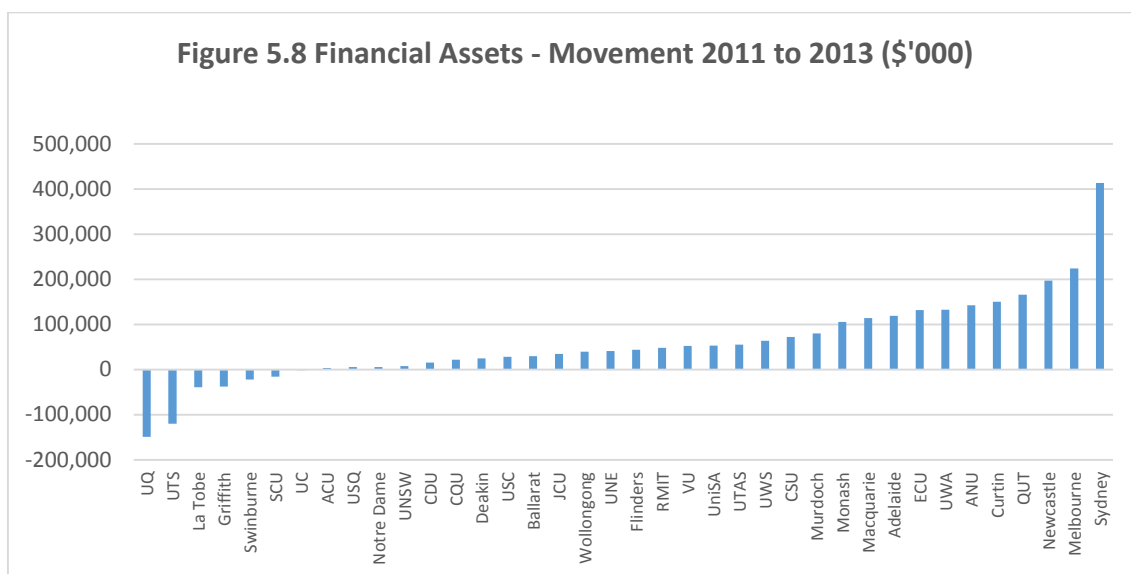
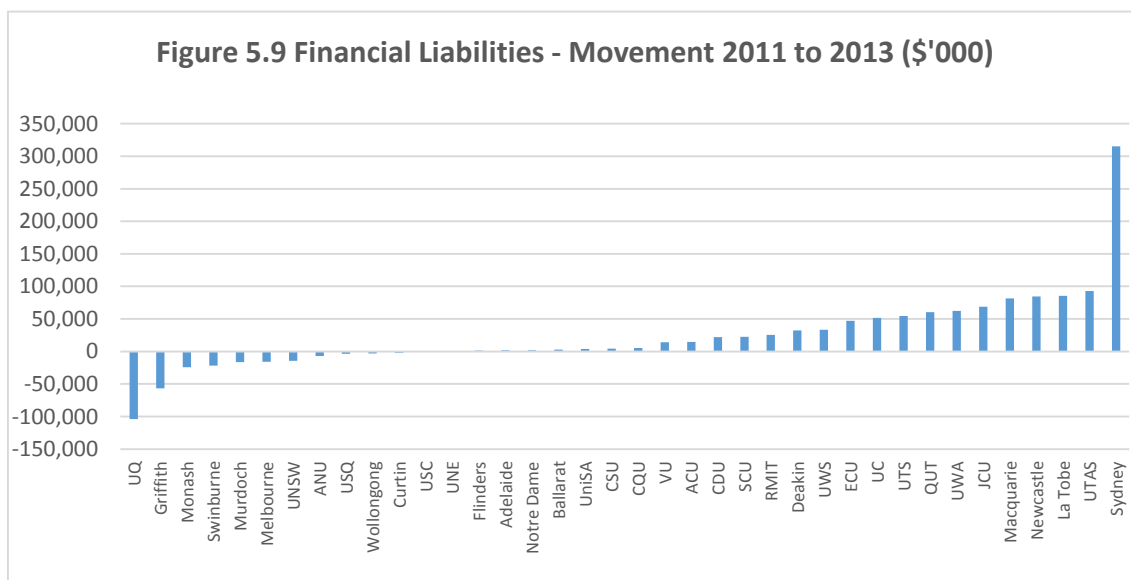


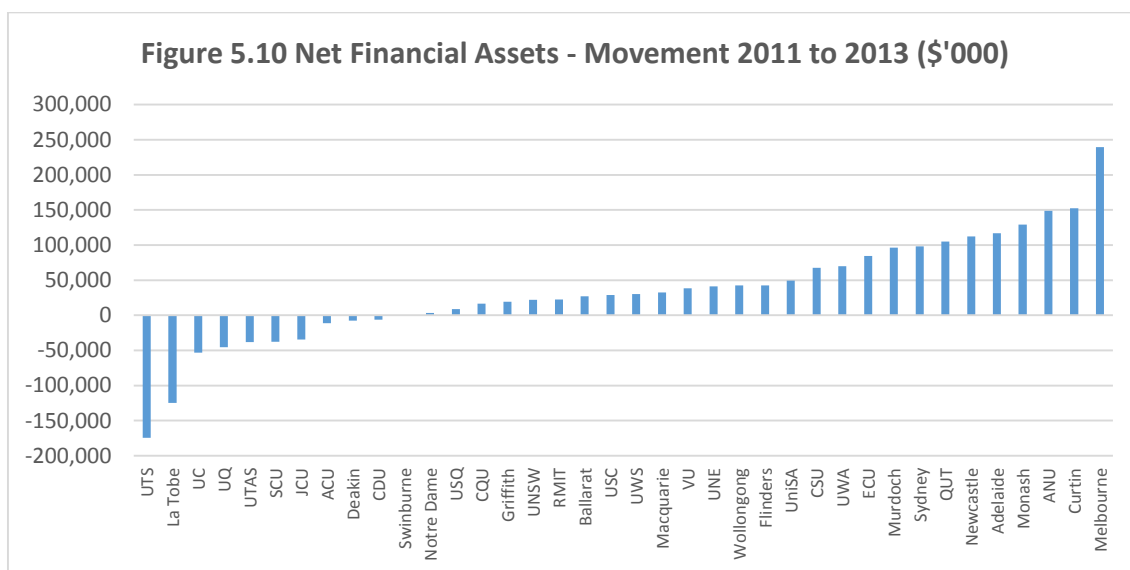
Figure 5.8 sets out the movement in financial assets and shows that with a few exceptions, which typically relate to the timing of building projects, the sector generally has been increasing its holdings of financial assets. For some universities such as Sydney this increase reflects net borrowing activity (see section 5.8) whereas for others, such as Curtin and Newcastle, it reflects an increase in their financial asset base potentially in advance of an upcoming infrastructure program.





The financial assets analysis must of course be complemented by an analysis of financial liabilities. Figure 5.9 shows that the movement in financial liabilities was minimal across the sector with the exception of the University of Sydney's borrowing activity. Figure 5.10 shows that the majority of institutions have been accumulating financial assets. The few universities that have reduced financial assets have done so because of the timing of infrastructure programs and/or low operating surpluses.





These figures again confirm the strong financial position of the sector generally and while there are exceptions these tend to be those institutions that are not delivering sufficient operating surpluses.

5.5 Cash flow analysis

Previous analyses have used the accrual accounting results of universities. A further analysis was undertaken using their cash flow statements to determine whether the outcomes using this method provided a view consistent with that of the accrual accounting analysis. Full details are provided in Appendix A.

The cash flow analysis does not include depreciation expense and therefore represents the inward and outward flows of cash over the year and, in this case, the triennium. Cash flow statements separate an organisation's cash flows into three separate categories: cash flows from operating activities, investing activities, and financing activities. As its name suggests, the first category identifies the cash flows generated by universities from their ongoing operational activities. Investing activities comprise investments in physical property, plant and equipment and other assets such as intangible assets. Investing activities also include institutions' treasury functions, i.e. the management of their financial assets, along with inter-entity transactions between universities and their subsidiary entities. Financing activities includes the in and out flows of cash from borrowings and finance leases. The main financing activity over the triennium related to borrowings.

The cash flow analysis provides a useful alternative view of the means by which institutions have resourced their investments in property, plant and equipment over the triennium. Figure 5.11 clearly shows that universities have been generating sufficient cash from their ongoing operating activities to invest in property, plant and equipment. The \$0.053 billion difference between cash generated and invested is minor compared to the total expenditure on property, plant and equipment of around \$10.6 billion.



The analysis further supports the general conclusion that the sector's use of its cash reserves and its accessing of the capital markets appear in the majority of cases to have been at the margin and were likely to have been used to accommodate timing issues around cash flows rather than being the major source of infrastructure financing.

**Figure 5.11 Triennium Cash Flows - Operating Activities v Investment in PPE
2011 to 2013 (\$'billion)**

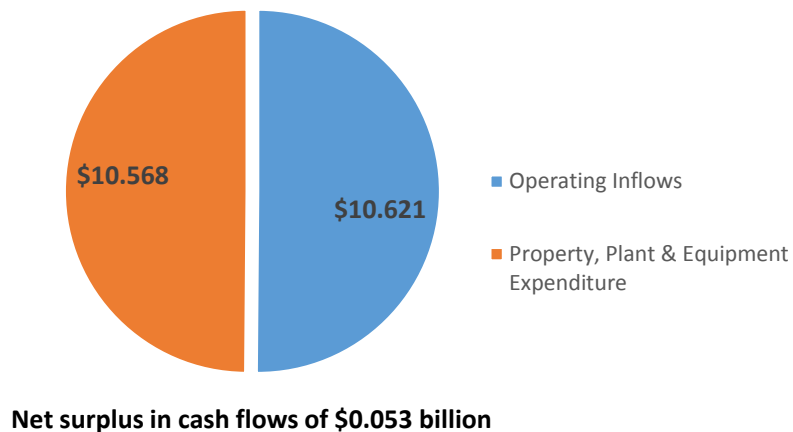
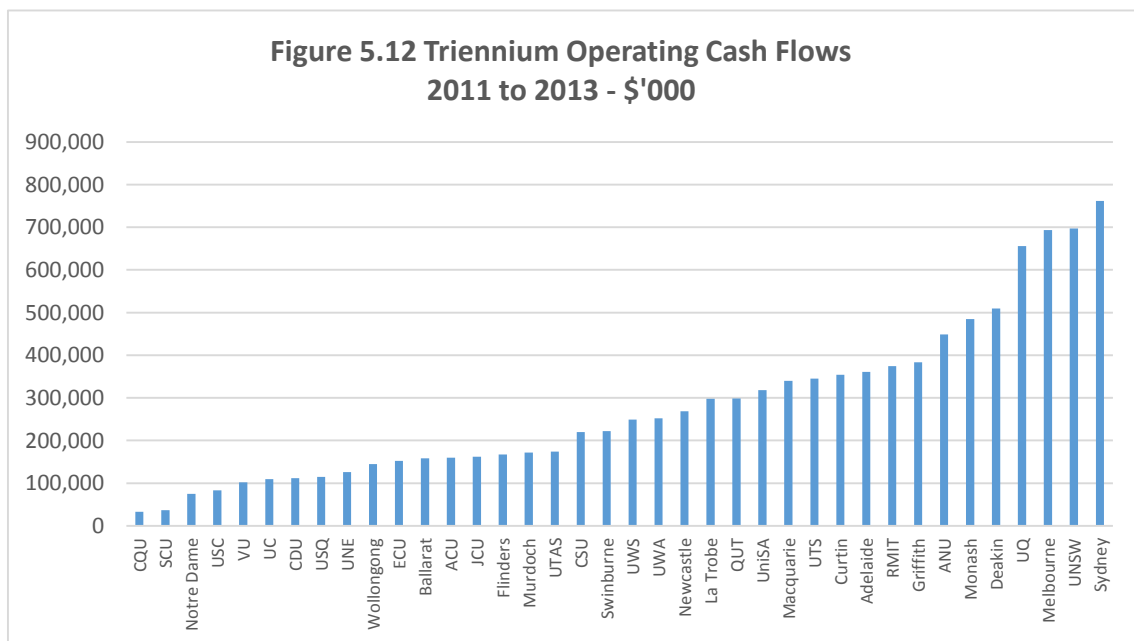


Figure 5.12 shows the cumulative operating cash flows over the triennium. Once again it shows the larger institutions generating strong cash flows from their operations. Figure 5.13, which shows the level of cash expenditure on property, plant and equipment, indicates a similar pattern to the cash generated with institutions generally sitting around similar positions on both scales.



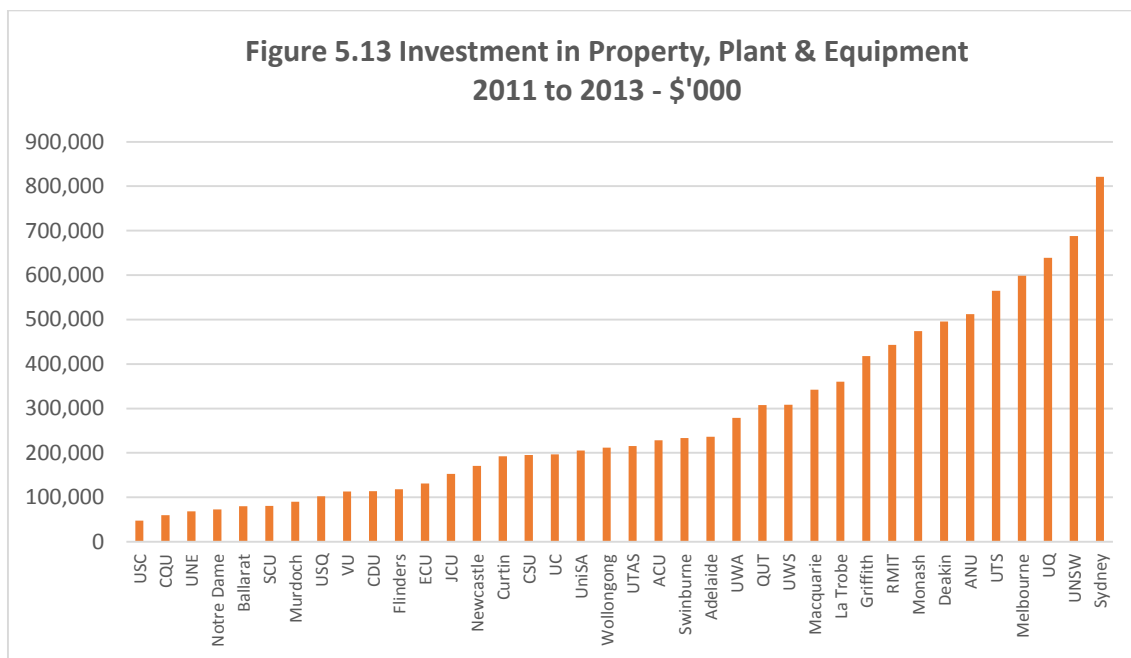
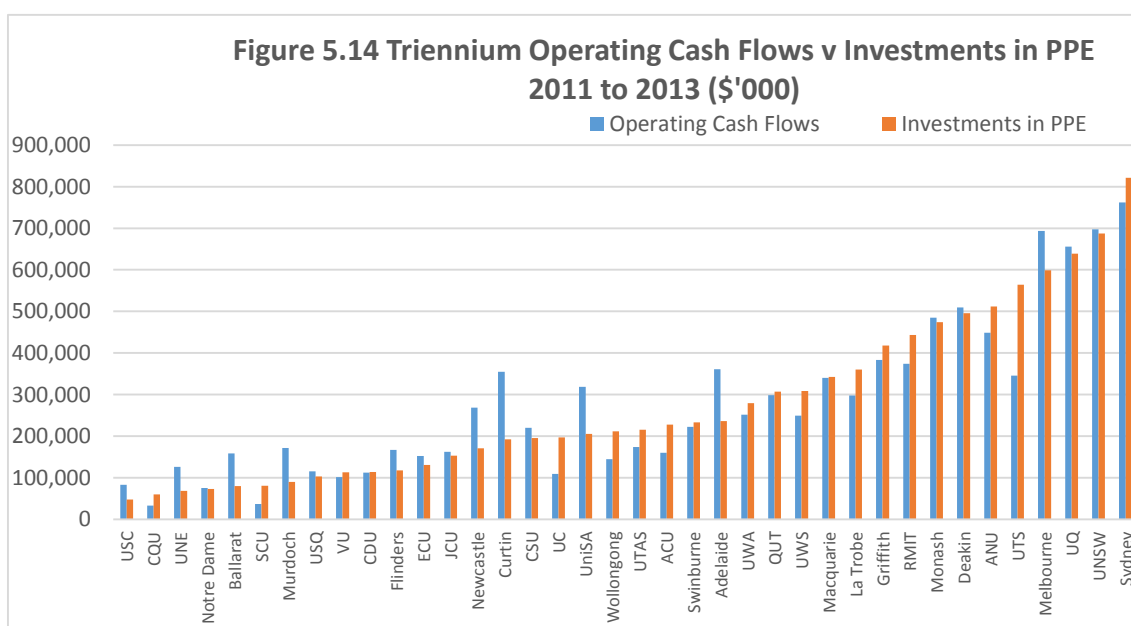


Figure 5.14 is perhaps the best diagrammatical representation of the link between cash generated from operating activities and investment in property, plant and equipment. For most universities it shows a close equivalence between cash generated from operations and expenditure on PPE. For some universities the comparison may be affected by timing issues, i.e. the three year period used in this analysis may not align well with their pattern of infrastructure expenditure. For example, the 2013 UTS Annual Report notes that some \$428 million in building works have been contracted for after the end of the 2013 year. There are a number of other institutions such as Adelaide, UniSA, Curtin and Newcastle where the mismatch may indicate those universities are in the preparatory phases of an infrastructure program or, alternatively, are stockpiling cash reserves.



In summary, the cash flow analysis confirms the key messages from the accrual analysis. The sector generally has shown the capacity to generate sufficient financial resources from its operating activities including depreciation to deliver its infrastructure programs over the triennium, with Government capital grants contributing a further 18% of funding and 6% coming from net borrowings.

Of course these analyses are historical, based on the years 2011, 2012 and 2013. They do not predict future infrastructure requirements or financing needs.

5.6 Level of borrowing

The analysis so far has focussed on internal capacity of institutions to either generate the resources for investment in infrastructure or to access their existing reserves. The major additional source of financing investment (other than Government grants) is borrowings. The next analysis, therefore, looks at the current level of borrowings across the sector and compares this to each institution's net equity which is its total assets minus its total liabilities. This is known as the rate of gearing and benchmark levels of 10% and 25% have been chosen for the analysis. Both these levels would be considered conservative by general commercial standards.

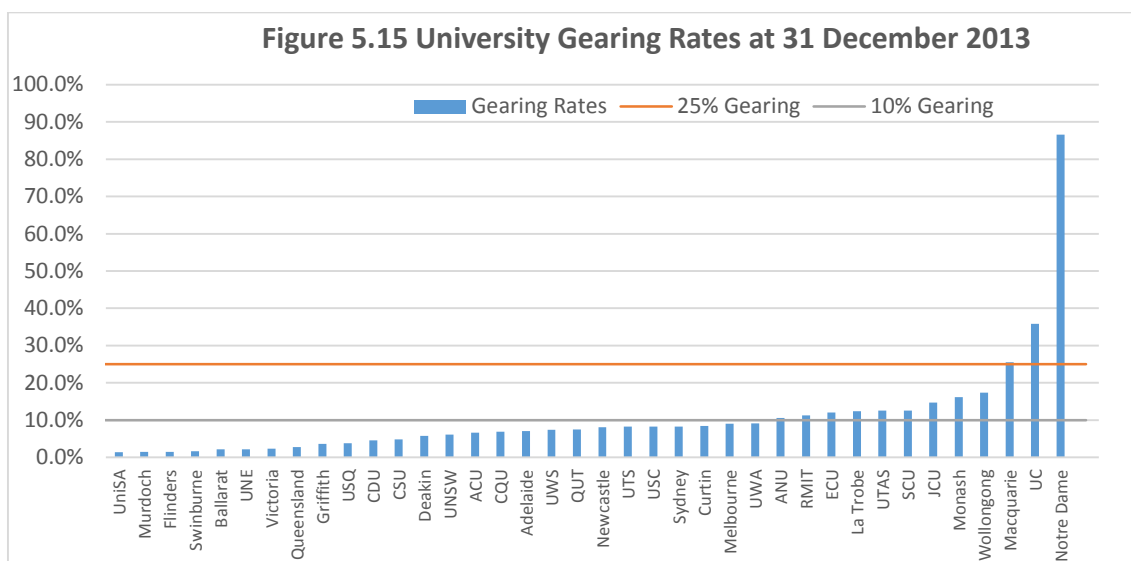
In this analysis, borrowings includes finance leases and other debt obligations.

The gearing levels for all universities are shown in Figure 5.15. Only three universities had gearing rates of 25% or more as at 31 December 2013. In Notre Dame's case the figure reflects structural issues associated with its relationship with the Catholic Church. The University of Canberra's debt level mainly reflects borrowings provided by the ACT Government for student accommodation (over some of which the ACT Government holds first mortgages).

Macquarie has a benchmark gearing rate of 25% which has arisen from its development activities on the campus and surrounds, including the construction of a hospital. The next highest gearing is Wollongong at 17% which relates to its financing of student accommodation using long term bonds and capital works on its main campus and the Innovation Campus.

The chart shows that all institutions have used some form of debt financing but the majority have very low gearing rates in comparison to general commercial standards. It can be inferred that the level of operating surpluses being generated and the level of financial reserves held by institutions together with Government capital grants appear to be sufficient to meet their infrastructure needs. As a result, at a sector level, borrowings are being used primarily to manage timing issues associated with construction projects rather than being a major primary source of finance for infrastructure.





Further information on the levels and sources of borrowing is provided in section 5.10 below.

5.7 Further borrowing capacity

With their low gearing levels universities may in future seek to utilise more borrowings as a method of financing infrastructure. This section considers their capacity to undertake further borrowings.

To assess the borrowing capacity of the sector two common benchmark measures were applied:

- An interest cover ratio of 4; and
- A debt cover ratio of 1.5.

Both the benchmarks were set at conservative levels.

Both measures use Earnings Before Interest & Taxes (EBIT) calculated after excluding capital grants. Depreciation has already been identified as a major source of funding for investment in property, plant and equipment and Earnings Before Interest, Taxes & Depreciation Allowance (EBITDA) was therefore not used.

Over the triennium 12 universities received no proceeds from borrowing, eight of them made repayments on borrowings in place before the triennium started, and therefore the remaining four had no borrowing activity at all over the triennium.

The analysis indicates that the sector has strong borrowing capacity with only a small number of exceptions. In summary it shows that:

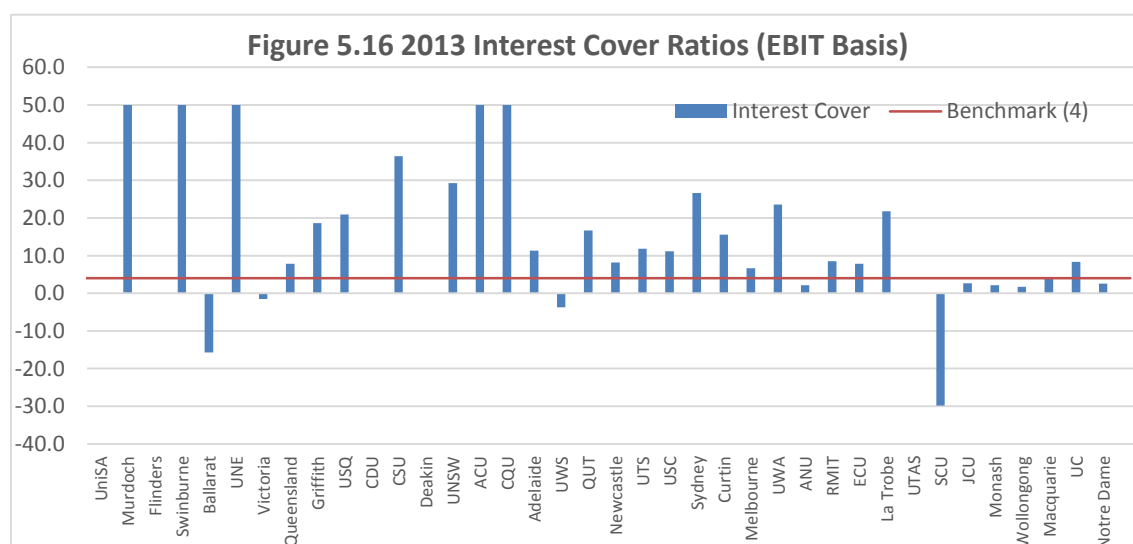
- The majority of institutions met or exceeded the benchmark interest cover ratio of 4.



- The majority of institutions also met or exceeded the benchmark debt cover ratio of 1.5.
- Those institutions that didn't meet the benchmarks (e.g. SCU & VU) were in that position because of low operating surpluses rather than high interest costs.

Interest cover ratios for each university in 2013 are shown in Figure 5.16. The ratios have been capped at a maximum of 50 for presentation purposes only as there were a number of institutions that far exceeded that level. The nature of university financing agreements will also have some impact on this measure as there are examples of where debt facilities are in place but no interest expense has been accounted for in the income statement. This leads to the conclusion that some institutions may be capitalising the interest costs against the specific projects rather than have them affect their published financial results. This is permissible under Australian Accounting Standards.

With a few exceptions the sector seems generally well placed to accommodate the costs of borrowings from their operating activities.



Capacity to service debt repayments is shown in Figure 5.17 which has again been capped at 50. The picture is similar to that for the Interest Cover Ratio. The analysis again shows that those institutions which are generating adequate operating surpluses for their size have the capacity to invest. While depreciation expense is a core factor in providing resources for infrastructure unless institutions are able to generate more than this in surpluses they are effectively limited to only replacing their existing stock of property, plant and equipment. This is unlikely to be adequate given changes in technology, pedagogical practices and areas of emerging research.



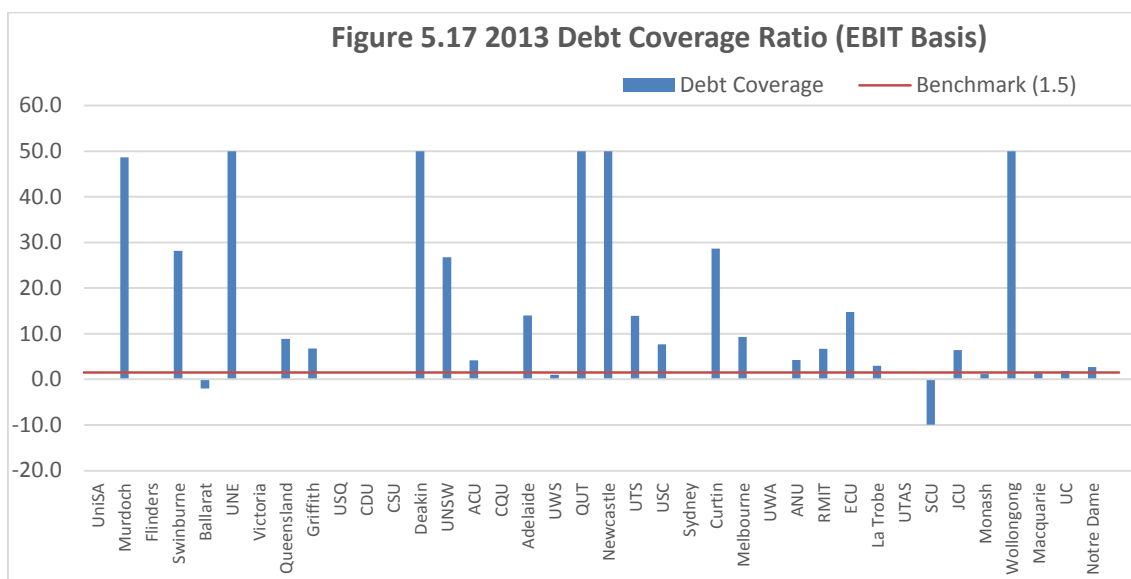
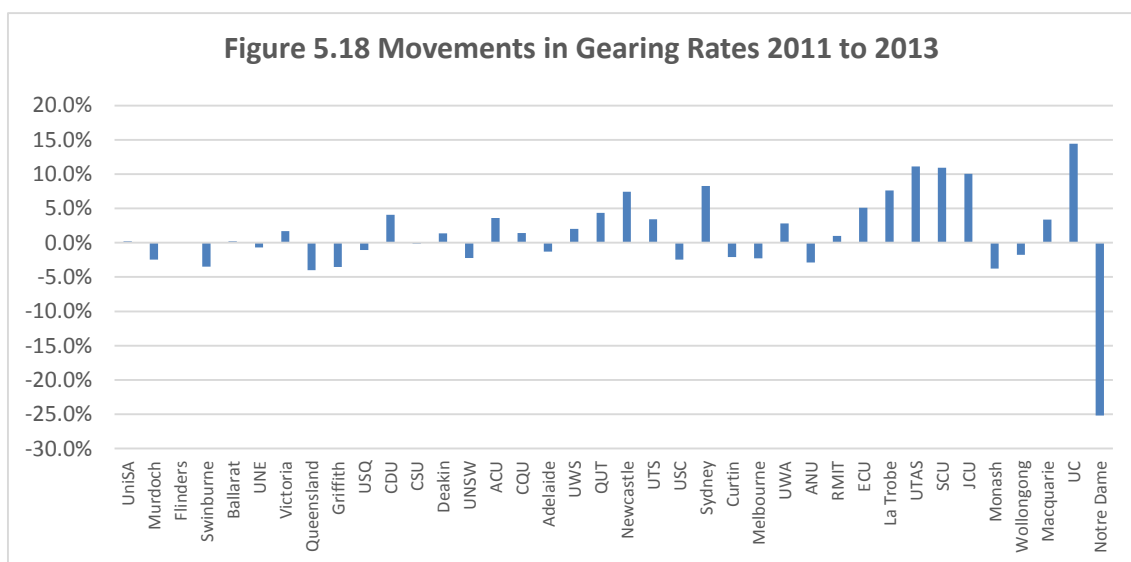


Figure 5.18 shows an analysis of the movements in gearing rates over the triennium. Notre Dame is an outlier due to the capitalisation of just under \$28 million worth of building assets which has created a corresponding increase of 31% in equity where the level of debt remained broadly consistent over the triennium. The high figure for the University of Canberra is explained by its debt facilities around student accommodation. With those two exceptions it is apparent that the movement in gearing levels for other universities is small. A number of institutions have actually been reducing their level of gearing rather than increasing it over the triennium.



5.8 Summary

The gearing rates and debt and interest cover ratios have been incorporated into a 'heat map' style table (Table 5.3) to enable easy visual comparison of the metrics across the sector. The table also demonstrates valuable consistency with the other financial analysis which gives comfort in the accuracy of the evaluations of university financial statements over the triennium.

Table 5.3 Financial Capacity Summary

University	Gearing			Interest Cover ratio			Debt Coverage Ratio		
	Total Interest Bearing Liabilities basis			EBIT basis			EBIT basis		
	2011	2012	2013	2011	2012	2013	2011	2012	2013
ACU	3.0%	8.9%	6.6%	26.7	525.6	92.0	94.9	374.2	4.2
ANU	13.5%	11.6%	10.6%	0.7	2.0	2.2	15.9	6.5	4.2
Adelaide	8.3%	7.9%	7.0%	-	10.7	11.3	-	13.4	14.0
Federation	1.9%	1.7%	2.1%	116.9	272.8	-15.7	43.0	77.6	-2.0
CQU	5.5%	4.0%	6.9%	-149.5	-135.0	100.4	-	-	-
CDU	0.5%	2.0%	4.6%	-	-	-	-	-	-
CSU	5.0%	5.6%	4.9%	3.8	10.8	36.4	-	10.4	-
Curtin	10.5%	9.7%	8.4%	18.6	18.5	15.5	43.7	17.1	28.6
Deakin	4.4%	4.9%	5.8%	-	-	-	7441.0	6957.1	7205.1
ECU	7.0%	12.1%	12.1%	10.3	7.5	7.9	1.7	13.4	14.8
Flinders	1.4%	1.3%	1.5%	-	-	-	-	-	-
Griffith	7.2%	4.4%	3.6%	14.6	15.5	18.6	8.7	6.2	6.8
JCU	4.6%	6.8%	14.6%	0.0	0.3	2.7	1.0	1.3	6.4
La Trobe	4.8%	13.0%	12.4%	14.5	11.0	21.7	9.3	5.2	3.0
Macquarie	22.1%	29.7%	25.5%	2.9	3.0	4.1	77.4	71.1	1.6
Melbourne	11.2%	9.8%	9.0%	3.3	1.9	6.6	5.1	2.5	9.3
Monash	19.9%	16.8%	16.1%	4.1	1.5	2.1	1.7	1.3	1.2
Murdoch	3.9%	1.7%	1.5%	25.9	67.5	76.7	44.2	97.5	48.6
Newcastle	0.6%	8.9%	8.1%	29.4	12.9	8.2	2.2	115.1	268.3
QUT	3.1%	6.1%	7.4%	18.4	33.0	16.7	-	115.9	59.7
RMIT	10.3%	13.9%	11.3%	12.3	6.6	8.5	2.6	8.5	6.7
SCU	1.6%	1.8%	12.5%	-	-	-29.8	-	-	-9.9
Swinburne	5.2%	2.1%	1.7%	41.0	8.4	296.7	282.7	1.3	28.2
Sydney	0.0%	3.3%	8.3%	-	22.2	26.7	-	-	-
Canberra	21.4%	24.6%	35.8%	5.5	7.6	8.3	-	29.1	1.8
UNE	2.9%	2.3%	2.2%	948.2	5975.4	13029.0	91.7	-	284.2
UniSA	1.2%	1.2%	1.4%	-	-	-	-	-	-
UNSW	8.3%	8.0%	6.1%	28.7	18.5	29.2	36.0	20.4	26.7
UQ	6.8%	6.9%	2.8%	11.5	2.9	7.8	11.6	3.6	8.8
USC	10.7%	8.0%	8.3%	8.5	14.1	11.1	6.9	5.1	7.7
USQ	4.9%	4.2%	3.8%	-	28.7	20.9	-	-	-
Tasmania	1.4%	0.9%	12.5%	-	-	-	-	-	-
UTS	4.8%	4.6%	8.2%	8.0	10.3	11.9	7.5	9.1	13.9
UWA	6.3%	8.3%	9.1%	10.6	22.3	23.5	-	-	-
UWS	5.3%	6.5%	7.4%	-	15.4	-3.7	1.1	1.1	1.0
VU	0.6%	1.2%	2.3%	-	-158.3	-1.5	-2031.8	-2246.4	-0.1
Wollongong	19.2%	21.4%	17.4%	1.6	2.9	1.7	528.0	2.0	54.9

Gearing	
25% and more	
22.5- 24.9%	
20.0-22.4%	
17.5-19.9%	
15.0-17.4%	
12.5-14.9%	
10.0-12.4%	
7.5-9.9%	
5.0-7.4%	
less than 5%	

Interest Cover Ratio	
less than 4	
4-4.9	
5-5.9	
6-6.9	
7-7.9	
8-8.9	
9-9.9	
10-10.9	
11-11.9	
12 and more	

Debt Coverage Ratio	
less than 1.5	
1.5-2.4	
2.5-3.4	
3.5-4.4	
4.5-5.4	
5.5-6.4	
6.5-7.4	
7.5-8.4	
8.5-9.4	
9.5 and more	



Table 5.3 has been distilled to provide a smaller table of those institutions with high gearing and/or low interest cover in 2013. While not a definitive assessment of these institutions financial capacity, Table 5.4 shows the set of institutions that have some exposure beyond the level of the benchmark metrics chosen for the analysis.

Table 5.4 High gearing and/or low interest cover 2013

UNIVERSITY (sorted by 2013 gearing rate)	Gearing			Interest Cover ratio			Adjusted Operating Surplus		
	Total Interest Bearing Liabs basis			EBIT basis			as a % of Revenue		
	2011	2012	2013	2011	2012	2013	2011	2012.0	2013
University of Notre Dame	111.8%	108.4%	86.6%	2.7	2.1	2.6	11.4%	5.6%	7.2%
Unlversity of Canberra	21.4%	24.6%	35.8%	5.5	7.6	8.3	2.9%	5.5%	5.6%
Macquarie University	22.1%	29.7%	25.5%	2.9	3.0	4.1	7.4%	6.2%	9.0%
University of Wollongong	19.2%	21.4%	17.4%	1.6	2.9	1.7	0.8%	1.9%	0.7%
Monash University	19.9%	16.8%	16.1%	4.1	4.1	2.1	3.0%	0.6%	1.2%
James Cook University	4.6%	6.8%	14.6%	0.0	0.0	2.7	-0.5%	-0.3%	1.2%
Southern Cross University	1.6%	1.8%	12.5%	-	-	-29.8	-1.8%	-3.0%	-7.5%
Australian National University	13.5%	11.6%	10.6%	0.7	2.0	2.2	-0.6%	1.6%	1.3%
University of Western Sydney	5.3%	6.5%	7.4%	-	15.4	-3.7	2.1%	5.7%	-1.3%
Victoria University	0.6%	1.2%	2.3%	-		-1.5	-2.3%	-7.7%	-0.4%
University of Ballarat	1.9%	1.7%	2.1%	116.9	116.9	-15.7	9.5%	16.3%	-0.8%
High Gearing is taken to be more than 25%									
Low Interest Cover Ratio is taken to be less than 4 (EBIT Basis).									

5.9 Consolidated accounts analysis

To gain a more complete picture of the position of the universities listed in Table 5.4, we expanded the analysis to the consolidated accounts which include subsidiary and controlled entities. The results are shown in Table 5.5.



Table 5.5 Consolidated view for six unis with gearing over 10% for uni only

UNIVERSITY	INTEREST COVER RATIO (EBIT basis)	GEARING RATE	RATIO OF CASH AND FINANCIAL ASSETS TO BORROWINGS AND ADVANCES
Monash			
Uni only	2.1	16.1%	
Consolidated	3.6 (4.1*)	14.4%	1.6
ANU			
Uni only	2.2	10.6%	
Consolidated	2.3	15.2%	3.5
Macquarie			
Uni only	4.1	25.5%	
Consolidated	3.9	25.8%	0.6
Wollongong			
Uni only	1.7	17.4%	
Consolidated	3.0	16.8%	2.2
Canberra			
Uni only	8.3	35.8%	
Consolidated	9.1	35.2%	0.2
JCU			
Uni only	2.7	14.6%	
Consolidated	3.9	17.4%	1.6
<p><i>*Note: Monash's consolidated interest cover ratio was 4.1 after adding back losses from deconsolidation of the South African campus</i></p>			

In a number of cases the consolidated figures change the situation somewhat from the parent only figures. The differences for each university are as follows:

- **Monash** – gearing drops to 14.4% and interest cover goes up to 4.1. Cash and financial assets are 1.6 times borrowings and advances.
- **ANU** – gearing goes up to 15.2% with no real change in interest cover. Cash and financial assets are 3.5 times borrowings and advances.
- **Macquarie** – no significant change in gearing or interest cover. Cash and financial assets are 60% of borrowings and advances.
- **Wollongong** – Gearing drops marginally but interest cover jumps from 1.7 to 3.0. Cash and financial assets are 2.2 times borrowings and advances.
- **Canberra** – no material change but note the very high interest cover ratio.
- **James Cook** – Gearing increases, interest cover ratio goes to 3.9. Cash and financial assets are 1.6 times borrowing and advances.



- **Southern Cross** – not in table because difference between Consolidated accounts and parents accounts is not material.
- **Notre Dame** - only have one set of figures for itself i.e. no consolidation.
- **ACU's** balance sheet shows intangible rights to occupy Church owned properties in perpetuity if used for educational purposes.

The other 3 universities have gearing below 10% but negative interest cover ratios because they have operating losses.

5.10 Infrastructure borrowing practices

5.10.1 Borrowing activity across the triennium

As shown earlier in Figure 5.2, net borrowings has only accounted for 6% of property, plant and equipment financing. However it is instructive to analyse this in more detail. This analysis reveals that:

- The majority of institutions had some borrowing activity over the triennium.
- Significant borrowings have been limited to a small number of institutions.
- For some institutions, the activity has been to pay down debt rather than take on new debt facilities.
- The level of new net debt is relatively low (however the limitations of a 3 year time frame may mask the complete picture).
- Overall, net borrowings represents less than 38% of gross borrowings over the triennium.

Figure 5.19 shows the totals for university borrowings over the triennium.



Figure 5.19 Triennium Borrowings
2011 to 2013 - \$'billion

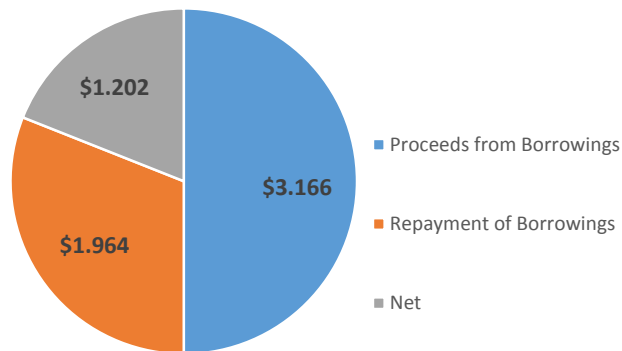
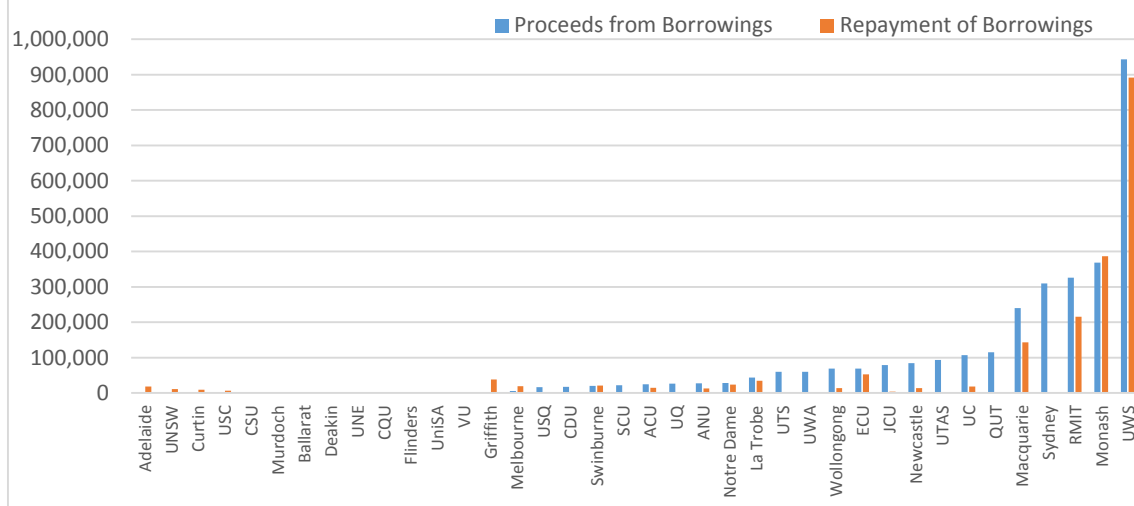


Figure 5.20 incorporates both proceeds from borrowings and repayment of borrowings for each university. UWS has the largest amount borrowed and the largest amount repaid resulting in a very small net borrowing over the triennium. Sydney's borrowings reflect an increase of \$200 million in debt over 2013 (with a further large debt issue undertaken in early 2014 which is not contained in this analysis). Many institutions have engaged in very small borrowings and this reinforces earlier observations about debt facilities being used to manage timing issues associated with infrastructure programs.

Figure 5.20 Triennium Borrowing Activity
2011 to 2013 - \$'000



5.10.2 University borrowing powers

The borrowing activities of universities show distinctly different patterns across the states and territories. In part this reflects different state government provisions regulating university borrowing powers.

Most Australian public universities' borrowing powers under state/territory statute have generally required, and continue to require, approval of a borrowing by the Treasurer or the Governor on the recommendation of the Treasurer.

In August this year, the New South Wales Parliament passed significant regulatory reforms relating to, inter alia, financial management, land dealings, revenue generation and commercial activities of NSW universities. In particular, these reforms removed the requirement for the Governor, on the recommendation of the Treasurer, to approve a borrowing by a NSW university.

Summarised below are the various borrowing powers of universities on a state/territory basis.

New South Wales

- Universities are vested with the power to borrow money.

Victoria

- Universities require the Treasurer's approval after consultation with Minister.

Queensland

- Universities require Treasurer's approval to borrow.
- If a university borrows from Queensland Treasury Corporation, the Treasurer is taken to have guaranteed the university's obligations under the borrowing to make payments.

South Australia

- Universities require the consent of the Treasurer.

Western Australia

- UWA is required to submit loan proposals to be guaranteed by the Treasurer to the Treasurer for the Governor's approval and the Treasurer must approve final negotiated terms and conditions of the loan.
- Curtin requires the Governor's approval which is conditional on the university having first received the Treasurer's approval. Such borrowings are guaranteed by the Treasurer.



- Murdoch requires the Governor's approval, upon the recommendation of the Treasurer. Any Treasurer's guarantee requires the approval of the Governor.
- Edith Cowan requires the Treasurer's approval and the Treasurer may guarantee such borrowings.
- Notre Dame is an independent body and has the power to borrow and give security as it thinks fit.

Tasmania

- The University requires the Treasurer's approval to borrow.

Australian Capital Territory

- The University of Canberra's power to borrow is subject to such overall limits (amount and period) as determined by the Treasurer and each individual borrowing requires the Treasurer's approval.

Commonwealth Government

- ANU's power to borrow is subject to such overall limits (amount and period) as determined by the Minister for Finance.

Northern Territory

- Charles Darwin University may obtain advances from the Treasurer, an overdraft from an Authorised Deposit-taking Institution or from any other person.
- Batchelor Institute may obtain advances from the Treasurer or an overdraft from an Authorised Deposit-taking Institution. Any other loan must be approved by the Treasurer.

Other universities

- The ACU, while recognised as a university by NSW, Victorian and Queensland legislation, is a company limited by guarantee and its broad borrowing powers as set out in its constitution reside with the Senate of the ACU.
- Bond University Limited is a company limited by guarantee with its own articles of association. The Bond University Act 1987, section 3, recognises that in the discharge of its functions, the university company has and may exercise within the limits of its financial resources the powers conferred on it by its memorandum of association. Section 11 recognises the independence of the university company in the provision of education within Bond University.

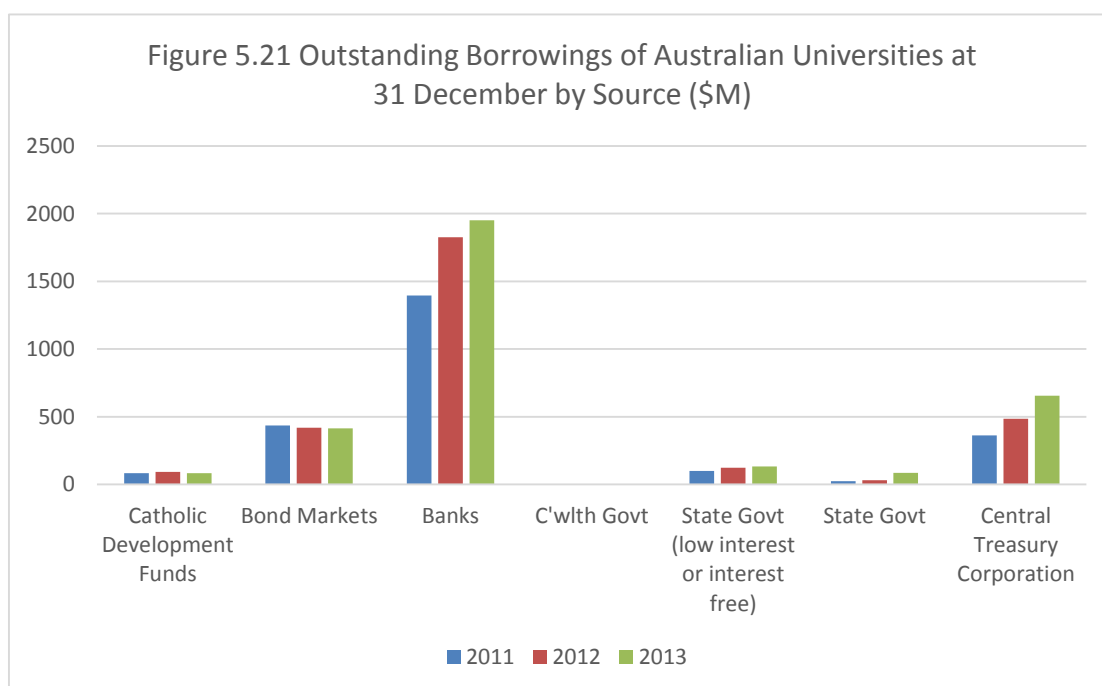


5.10.3 Sources of borrowing over the 2011 – 2013 triennium

This section presents an overview of the sources of outstanding borrowings as reported in university annual financial statements for 2011, 2012 and 2013, excluding overdraft facilities, credit card facilities and financing of insurance premiums.

Figure 5.21 shows that during this period, borrowing liabilities were primarily to the banking sector, followed by state/territory central treasury corporations and the capital markets. Other sources of outstanding borrowing liabilities, comprising less than 10% of the overall borrowing liabilities of the sector, were to state governments directly, on both commercial and non-commercial terms, and catholic development funds.

During the period 2011 to 2013, the sector growth in outstanding borrowing liabilities was primarily contained to the banking sector and state/territory central treasury corporations.



When considered at a state/territory level, differences in past approaches to borrowings start to emerge.

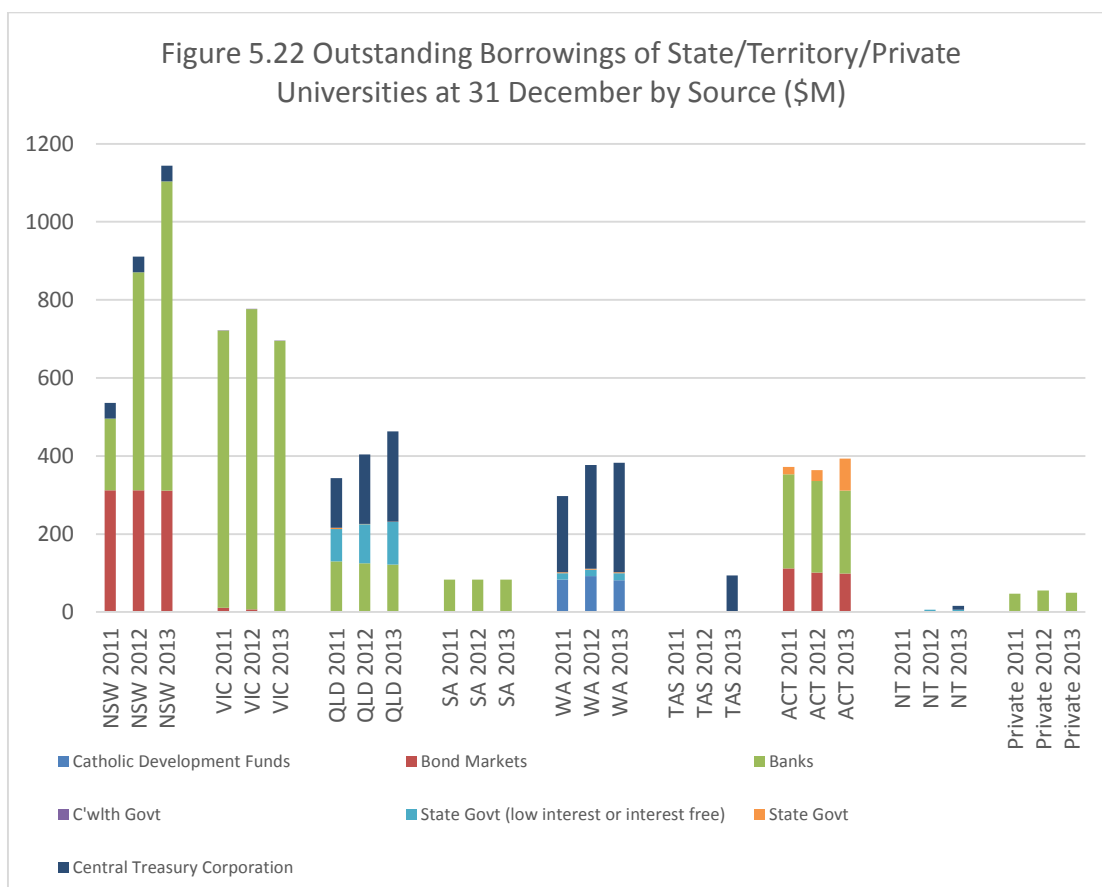
Figure 5.22 shows that:

- With the exception of Tasmanian, WA and NT universities, all other universities had exposure to bank borrowings
- Over the analysis period, the borrowing liabilities of South Australian and private universities and almost all Victorian universities were exclusively to banks



- Queensland, Western Australia, Tasmania and Northern Territory universities have accessed loans from government central treasury corporations
- The ACT does not have a central borrowing corporation; Canberra University's outstanding borrowings owed directly to the government increased over the snapshot period
- Outstanding bond market liabilities reflect the following bond issues:
 - ANU – In 2004, issued \$115m 25 year unsecured indexed annuities
 - Wollongong
 - In 2008, issued \$42.5m 30 year unsecured indexed annuity
 - In 2010, issued \$20m 25 year unsecured indexed annuity
 - Macquarie – In 2010, issued \$250m 10 year unsecured Medium Term Notes, rated AA2
 - La Trobe – secured fixed rate bond issue matured June 2014 relating to financing arrangements for a private medical centre constructed on university land (\$3 million outstanding at 31 December 2013)
- With the exception of the University of Sunshine Coast, Queensland universities accessed state government interest free loans under the state's 'Smart State' initiative and/or 'Innovation Building Fund'
- Charles Darwin was provided with an interest free loan by the Northern Territory Government
- The Western Australian Government provided a low interest loan facility to Notre Dame
- Outstanding borrowing liabilities to catholic development funds are confined to Notre Dame.





5.10.4 Bond Markets 2014

Following the global financial crisis, the major Australian banks were downgraded by the rating agencies. This has created a situation where some Australian universities are now rated higher than the major Australian banks and are able to directly access the corporate bond market at similar yield spreads to the major Australian banks.

2014 saw both Sydney and Melbourne universities directly access the corporate bond market.

Sydney established a \$600 million bond program in April, rated Aa1, with \$200 million in 7 year fixed interest bonds issued to date. The proceeds are for refinancing bank debt and to fund new infrastructure.

Melbourne issued \$250 million in 7 year bonds in June 2014, rated AA+. The proceeds are for refinancing existing debt and for core self-sustaining infrastructure projects, e.g. student accommodation.

Both universities have higher credit ratings than major Australian banks (Aa2/AA-).



6 Other approaches to infrastructure funding and access

6.1 Types of approaches

A limited review of different types of approaches to financing or accessing infrastructure was undertaken primarily from information contained in the university financial statements for 2011, 2012 and 2013 and as such it is not a comprehensive survey.

Types of approaches include:

- Build Own Operate Transfer (BOOT)
- Service Concession Arrangements (BOT) (private sector builds or refurbishes, operates & transfers)
- Finance leases (private sector operates and manages, university as lessor)
- Other Public Private Partnership (PPP) type arrangements
- Unincorporated joint venture arrangements
- Triple net lease (university responsible for all costs relating to asset for duration of lease (e.g. insurance, taxes, maintenance) in addition to rental)
- 3rd party tenants (e.g. independent research institutes) make capital contribution
- Sale of land and infrastructure.

6.2 Examples: student accommodation on university land

Private sector participation in the provision of student accommodation has continued to evolve over the last decade and is now a relatively mature market. There are many variants in the structuring of these long term arrangements and they extend to both new and existing student accommodation.

Examples include:

- BOOT
 - 30 to 49 year BOOT arrangements for new student accommodation – Griffith, UNSW, Sydney



- At the end of the concession period the accommodation has reached the end of its useful life and transfers to the university at no cost or for an estimated immaterial amount.
- Service Concession Agreement (BOT) – Edith Cowan
 - 38 year service concession agreement
 - Private sector construction, operation and maintenance of accommodation (part funded by NRAS grant) and refurbishment and operation of existing accommodation
 - Private operator retains all rental income as compensation for capital works
 - University has control of assets which are recognised on its balance sheet.
- Service Concession Agreement (BOT) – Macquarie
 - In 2006, entered 30 year agreement
 - Private sector to build, manage & operate accommodation
 - Accommodation reverts to university at end of concession agreement.
- Finance leases – the University of Canberra, as lessor
 - In 2007, 30 year fund, construct & manage PPP for new accommodation.
 - Land leased at peppercorn rental
 - University receives annuity of 13.65% residence fees (finance lease receivable)
 - Building transfer at no cost at end of period
 - In 2009, 30 year maintain, operate & refurbish PPP for existing accommodation.
 - Land leased to private sector.
 - University receives annuity of 13.65% residence fees (finance lease receivable)
 - Building transfer at no cost at end of period
- Finance Lease – Macquarie University, as lessor
 - In 2006, 30 year finance lease with private sector to manage and operate existing student accommodation



- Accommodation reverts to university at end of agreement, written down value of accommodation is nil
- Finance Lease - UWS, as lessor
 - 40 year term, private sector management of student accommodation
- Reversal of BOOT arrangements
 - In 2011, ANU subsidiaries, via a step acquisition, took 100% control of previous 2005 and 2007 40 year BOOT arrangements (part of the City West precinct development) for student accommodation, resulting in an increase of \$128 million in borrowings at consolidated level
 - The student accommodation continues to be operated by private sector
 - ANU is also ceasing involvement through its 2005 joint venture with the private sector in a commercial office block development as part of City West precinct development. It is understood that the proposed City West precinct development has been impacted by changed economic conditions.

6.3 Other examples of PPPs

UWA, Curtin and Edith Cowan

- The Community Clinical School at the Joondalup Health Campus, which serves as a teaching and learning facility, was completed in 2013 through a jointly funded PPP between UWA, Ramsey Health Care, Commonwealth Government, Curtin and Edith Cowan universities.

La Trobe

- Under a joint venture arrangement between La Trobe University (25%) and Department of Environment and Primary Industries (75%), formed to construct, manage and operate a biosciences research centre on university land, a 25 year build-operate-maintain contract was entered into with a private sector company.
- During 2012 and 2013 the university made advance payments in total of \$23.95 million towards paying off its finance lease liability.

QUT

- QUT has entered a joint venture arrangement with University of Queensland, Mater Medical Research Institute and Queensland Health (each having equal holdings through a unit trust) for the Translational Research Institute Facility.



- QUT has a licence agreement, originally valued at \$25 million, to occupy the research building for 30 years with an option for a further 20 years at peppercorn rental. QUT makes an ongoing contribution to operational costs.

UNSW

- In 2006 UNSW established a triple net lease over an Anzac Parade property, with the following features:
 - UNSW granted a 99 year ground lease to private sector for \$41 million
 - UNSW leased back property for 25 years plus 10 + 10 year options.
 - UNSW responsible for outgoings, management and capital expenditure/maintenance
 - UNSW rent payments are treated as loan repayments – PV \$40.2 million at 31 December 2013
 - The building is carried in accordance with the UNSW accounting policy for property, plant and equipment.

Melbourne

The University of Melbourne received contributions from 3rd party institutes towards the construction of the Neuroscience Building, which was completed in 2011, in exchange for the right to occupy space at a peppercorn rental for 42 years. The capital contributions received by the university have been treated as rental in advance.

6.4 Examples: land and infrastructure sales

Charles Darwin University – Residential subdivision and sale of surplus land

- In 2012, Charles Darwin entered into a joint control agreement with a private sector developer for the residential development of 806 lots on university land valued at \$24m.
- Charles Darwin provided a mortgage over the land in favour of the bank as security for monies owed by the developer. At 31 December 2013, bank loans to developer totalled \$1.8m.

UWS – Residential subdivision and sale of surplus land

- UWS has entered a partnership with a NSW government authority to develop 122 hectares of land at Campbelltown campus by way of residential subdivision into some 850 lots



- Land sales will commence in 2014 and extend over 7 to 10 years to provide for significant academic expansion, as well as generate funds for teaching & research
- UWS had contributed \$16m of land to the jointly controlled operations at 31 December 2013
- UWS has determined this land unsuitable for its expansion.

Victoria University – Consolidation of properties

- In 2011, Victoria University sold its Flinders Street car park for \$28.2 million
- In 2013, Victoria University sold its 300 Flinders Street campus for \$48.5 million and entered a 6 year leaseback at an annual rental of \$1.26 million
- In October 2014, Victoria University sold 301 Flinders Street for \$23.6 million, having originally purchased this property in 1998 for \$4.8 million, and entered 6 year leaseback
- VU plans to build 32 level tower at a city site it purchased for \$3.1 million in 2001, with expected completion date of 2020.



7 Summary and recommended case studies

7.1 Summary of key points

Key points arising from the various analyses include the following:

- There has been strong recent investment in infrastructure across most of the sector
 - five universities increased the book value of buildings and infrastructure by more than \$300m between 2010 and 2013
- Total floor area grew by about 5%, but fell per student
- Utilisation rates are generally stable or falling, especially for lecture theatres and teaching spaces during the day
- There is a wide spread in reported condition and functionality of buildings
- During the 2011 – 2013 triennium, with few exceptions, universities were well placed financially to invest in infrastructure
- Investments in Property, Plant & Equipment have generally been funded through surpluses generated from operations
- Capital grants from the Commonwealth and State Governments account for less than 20% of the investments in PPE over the triennium
- Financing has been used primarily to accommodate timing issues rather than being the major means of investment in infrastructure
- The major source of investment financing has been through banks rather than other means such as the capital markets
- Universities are also employing a range of other approaches to fund or otherwise gain access to infrastructure.

7.2 Suggested case studies

Our terms of reference included the following element:

“Drawing on these findings, the consultant will identify a set of institutions that will serve as case studies for the purposes of the working group’s initial consultation processes ... (and) will also outline the rationale for the nomination of each institution chosen as a case study”



The main criteria we considered in identifying possible case study institutions were:

- Reported state of infrastructure
- Financial capacity to invest in infrastructure
- Evidence of successful and/or innovative approaches to the financing of infrastructure.

Drawing on these indicators and the information we have compiled on current and recent approaches to infrastructure development, we suggest the following universities for possible case studies by the HEIWG.

7.2.1 Curtin

- Strong on all summary indicators
- Condition and functionality very good
- Night time utilisation rates similar to day time
- Operating cash flow in excess of investment
- Accrued net result greater than depreciation
- Strong debt cover and interest cover
- Borrowed from central treasury corporation
- Adding to investment base
- Growth in financial assets
- Low reliance on capital grants
- Strong in international markets
- Reports significant progress in transformation of physical spaces for digital/online learning
- ATN university

7.2.2 Tasmania

- Reported poor condition and low functionality
- High deferred liabilities
- Low rates for utilisation of lecture theatres and teaching spaces



- Relatively high space allocations per student
- Significant capital grants circa \$90 million
- Surplus roughly equivalent to capital grants
- Investments in PPE exceeded operating cash flows
- Decrease in net financial assets
- Borrowings from State Treasury corporation
- Low % of revenue from international student fees
- Good case study of university reliant on capital grants with significant infrastructure challenges
- Non-aligned university

7.2.3 Macquarie

- Poor condition score (no data on functionality)
- High lecture theatre and teaching space utilisation (high % of face to face teaching?)
- High gearing but interest and debt cover within range
- Low ratio of cash and financial assets to borrowing advances
- The lowest level of net financial assets at -\$148 million
- Low level of capital grants relative to net surplus
- 50/50 split between depreciation and accrued result net of capital grants
- Significant international student revenue
- Innovation in private hospital and student accommodation
- Borrowings through private sector - bond markets, banks
- BOOT & finance lease structures for student accommodation
- Initial investment in private hospital, circa \$120 million, now written down to \$20.25 million
- Non-aligned university



7.2.4 Sydney

- No data on condition, functionality or utilisation rates
- Relatively high deferred liabilities (in \$ terms, somewhat above median relative to total assets)
- Relatively low gearing, under 10
- Strong interest rate cover
- Capital grants \$121 million over triennium, lower than Monash, Melbourne, ANU & Queensland (comparison to Go8)
- Traditionally borrowed from banks
- Large bond facility established 2014
- Plans for significant development of Camperdown/Darlington campus
- Go8 university

7.2.5 RMIT

- Low condition score
- High % of buildings rated poor or very poor condition
- High deferred liabilities
- Below average utilisation rates
- Low gearing and good levels of interest cover
- Third largest borrower but 75% used to repay debt
- Significant international student revenue
- ATN university

7.2.6 JCU

- Average condition score, low % of buildings rated poor or very poor condition
- But low functionality and high deferred liabilities
- High day time utilisation of lecture theatres and teaching spaces
- Above average gearing



- Poor interest cover
- All campuses in non-capital city locations
- IRU university

7.2.7 USQ and SCU

- Two RUN universities operating in thin markets with different infrastructure financing profiles

USQ

- Better than average condition and functionality scores, low deferred liabilities
- Very low utilisation rates (most students off-campus)
- Low gearing
- Strong interest cover
- Operating cashflow exceeded investment in PPE
- Received \$20 million capital grants during triennium

SCU

- Lower than average condition and functionality scores
- Low interest cover and debt coverage reflecting operating deficit (net of capital grants) over the triennium
- Lowest notional self-funding capacity 2011- 2013
- Received \$30 million capital grants during triennium

7.3 Other possible case studies

7.3.1 UWS

- In a region of 2 million people forecast to grow by another 1 million over the next 20 years
- No data on condition or functionality, but low deferred liabilities
- Relatively low gearing



- Low interest cover in 2013 and low debt cover over the triennium
- Current self-financing capacity is towards the lower end but greatest borrowing activity in the sector over the triennium
- Relatively low international student fee revenue
- 2013 financial statements show a reduction of \$100 million in value of buildings after allowing for asset revaluations (associated with the transfer of their student accommodation operations?)
- Potential challenges dealing with infrastructure given forecast growth in population and research aspirations
- Strong reliance on land sales and development

7.3.2 Griffith

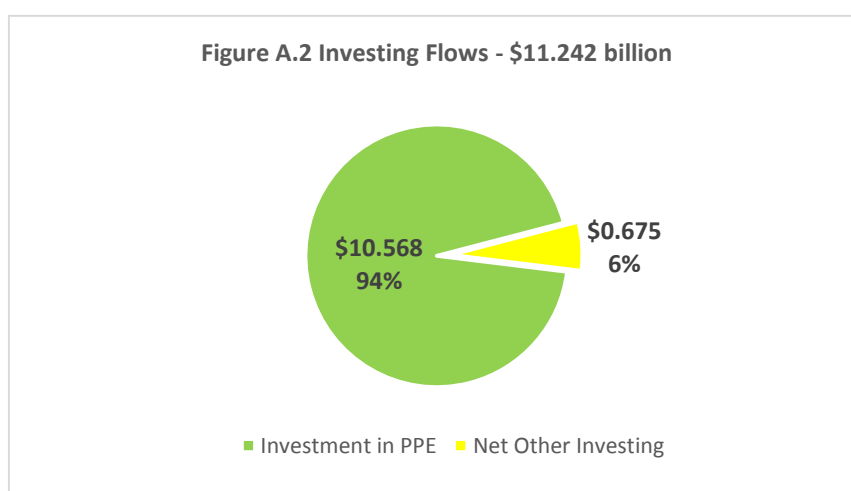
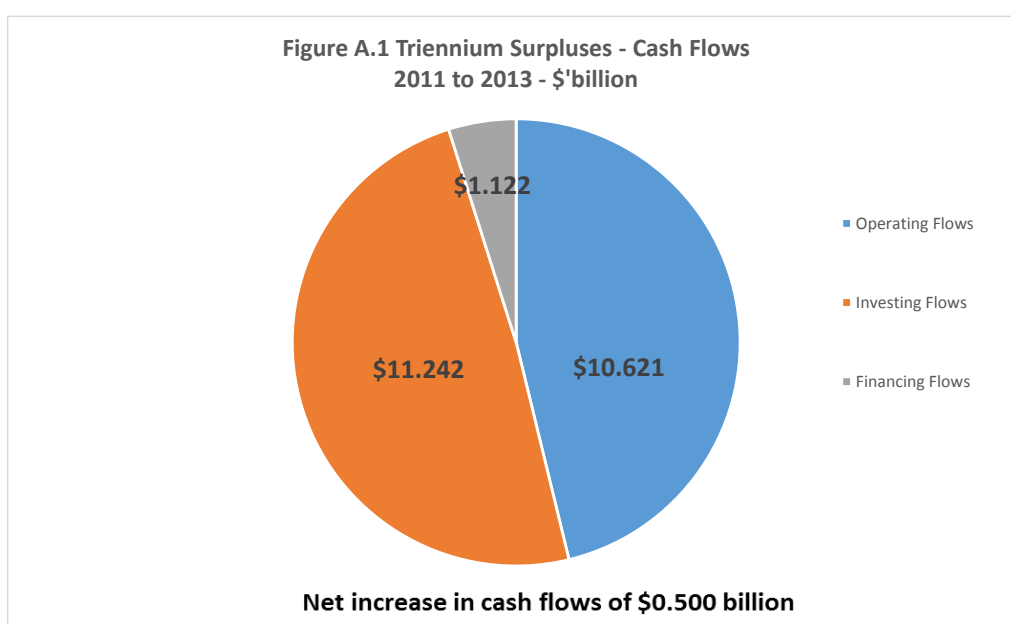
- High % of buildings rated poor or very poor condition, but average condition score overall, reflecting new infrastructure development and refurbishment
- 2nd highest book value of buildings and infrastructure in 2013 (after Melbourne)
- 2nd highest increase in value of buildings and infrastructure 2010 – 2013 (\$505 million)
- Low gearing
- Strong interest cover, average or slightly better debt coverage ratio
- Modest capital grants
- Major infrastructure developments largely financed from operating surpluses
- IRU uni.



8 Appendix A Cash flow analysis

The cash flow analysis looked at the information reported in university financial statements over the 2011 to 2013 triennium that had been prepared in accordance with Australian Accounting Standard AASB 107 – Statement of Cash Flows issued by the Australian Accounting Standards Board.

Over the triennium the sector generated \$10.621 in cash from operating activities, invested \$11.242 billion in property, plant and equipment and net financial assets and sourced a net \$1.122 billion in borrowings. On a cash basis this saw an increase in cash holdings at a sector level of \$0.500 billion. (See figure A.1 and A.2)



Of the \$11.242 billion invested by the sector over the triennium the greatest proportion was invested in property, plant and equipment at \$10.568 billion with the residual coming from other net investing activities including university treasury functions.

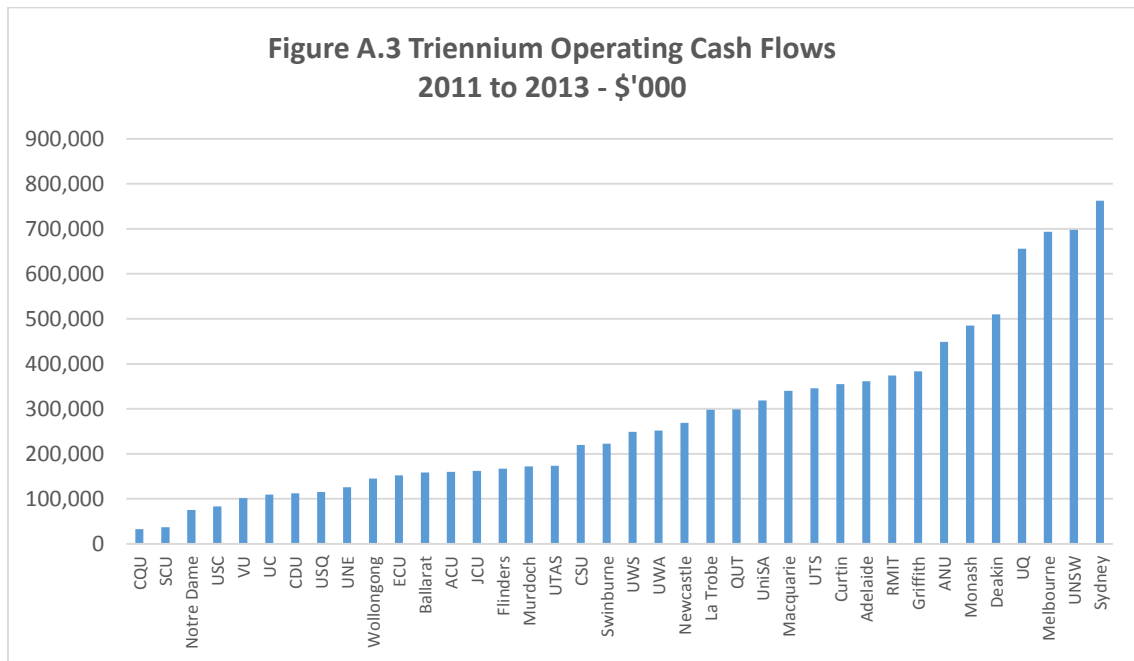
Table A.1 reconciles movement in cash from each source and over each year. It shows that the main increase in cash reserves for universities occurred in the 2012 financial year primarily from financing activities which was likely to be associated with a number of institutions' infrastructure programs.

Table A.1 Cash movements by year

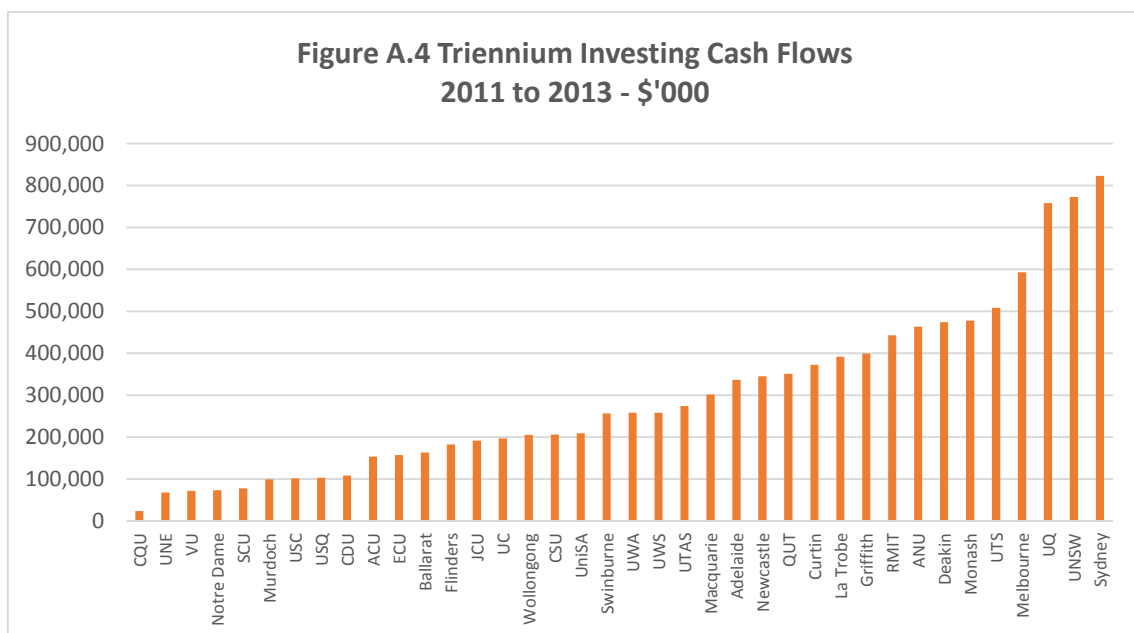
	2011	2012	2013	Cumulative
	\$'billion	\$'billion	\$'billion	\$'billion
Opening Cash Position	3.134	3.172	3.644	3.134
Proceeds from Operating Activities	3.572	3.740	3.309	10.621
Proceeds from Investing Activities	-3.691	-3.846	-3.705	-11.242
Proceeds from Financing Activities	0.157	0.578	0.387	1.122
Closing Cash Position	3.172	3.644	3.634	3.634
Cash Movement Over Year	0.038	0.472	-0.010	0.500

Over the triennium operating activities generated over \$10.6 billion for universities. Figure A.3 below shows the impact of the larger universities' ability to generate significant surpluses from their operations.

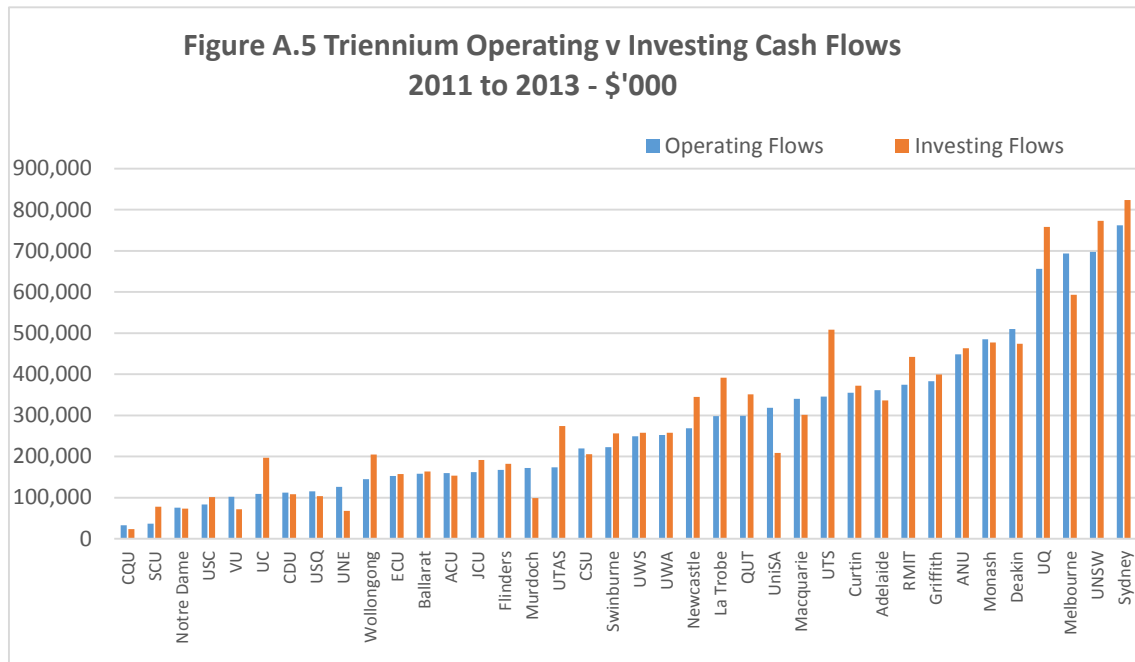




Investing cash flows include investment in property, plant and equipment; inter-entity dealings between universities and their subsidiaries; and the effects of university treasury functions. Treasury functions include movements of cash between bank accounts, various investment types such as term deposits, bonds and managed funds. As discussed above, the majority of activity in investing cash flows was associated with acquisition of property, plant and equipment. Proceeds from disposal of surplus assets is included also however the amount was quite small at just over \$0.336 billion or 3% of total activity. Again, the larger institutions feature at the top end of the scale, as would be expected. (See Figure A.4)



The next chart (Figure A.5) shows the mix of cash flows generated from operating activities versus cash invested into property, plant and equipment and other investing activities. This chart shows a generally close match between cash generated by universities and that invested. Note that the surplus cash between these two activities of \$0.621 billion would be managed by universities as part of their normal liquidity management functions.



The cash flows from financing activities shows the net impact from borrowings and finance leases although the effect of finance leases was immaterial over the triennium. Apart from Sydney University's borrowing activities the main point illustrated in the next chart (Figure A.6) is that net borrowing activities were generally quite small (noting that the timing aspect of infrastructure programs is likely to have had an impact). The chart shows again that generally the sector has not used capital markets as a primary source of financing infrastructure other than perhaps to deal with program timing issues.



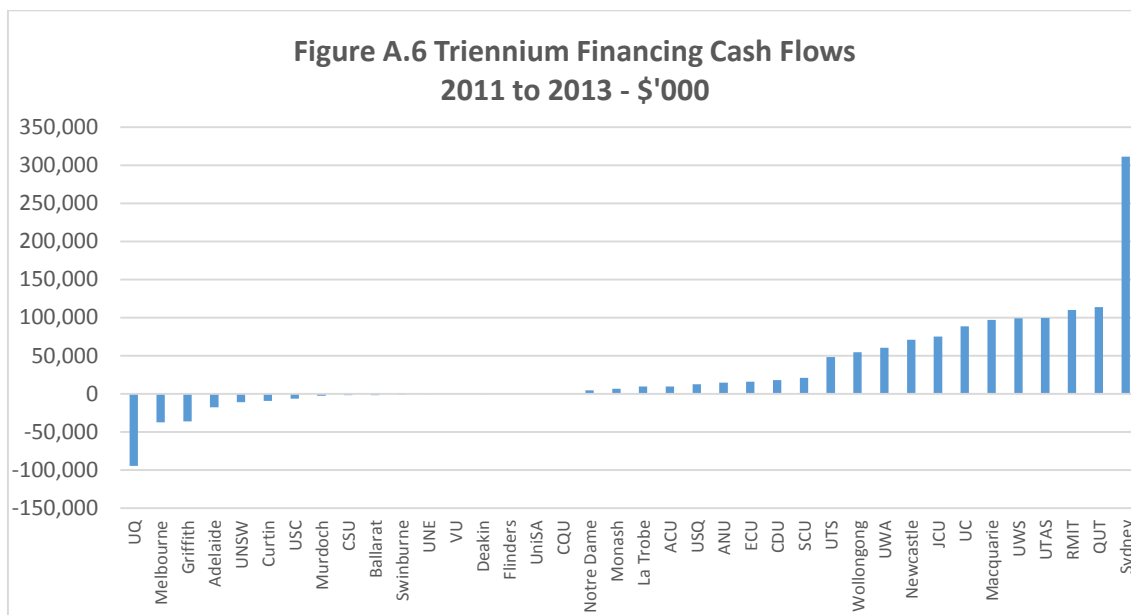
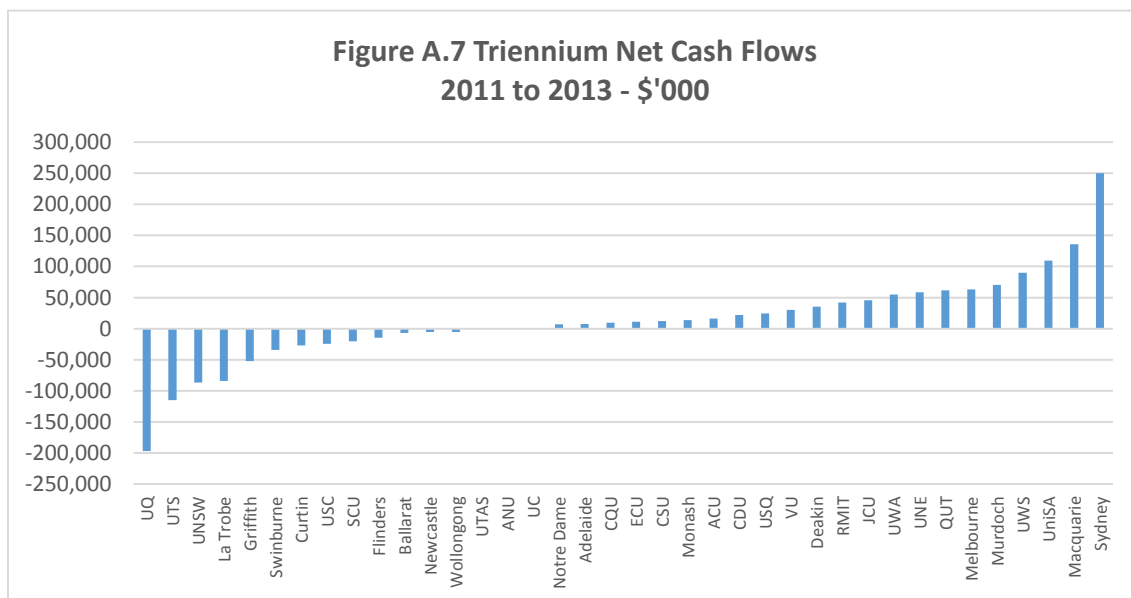


Figure A.7 shows net cash flows from the movement of cash from all university activities and indicates that while some universities have been consuming cash for infrastructure programs others appear to be generating it in advance of possible programs of infrastructure investment. There are also examples of universities paying down debt facilities, including in Queensland where the State Government provided significant borrowings to universities.



9 Glossary and definitions

The description, acronym (if any) and definition of the term (where applicable) are listed below. Terms which are underlined in red are terms used in definitions/descriptions of other terms.

Asset Replacement Value

ARV

The Asset Replacement Value (ARV) for buildings, fixed equipment, service and systems is the best estimate of current cost of designing, constructing and equipping for its original use, a new facility providing equal service potential as the original asset and which meets current accepted standards for construction and also complies with all contemporary environmental and other regulatory requirements. The ARV is the sum of ARV Buildings and ARV Infrastructure.

Source: TEFMA Guidelines for Completing the 2011 Benchmark Survey

ARV Buildings

ARV Buildings includes the cost of all building services and associated plant, finishes and built-in furniture but not the cost of relocating into the building (Note: exclude the cost of loose furniture and soft furnishings). The cost excludes all equipment other than that required for the normal functioning of the building. Costs associated with laboratory, scientific and loose equipment are not included in the cost. The cost includes all fees, approvals and other incidental expenditure associated with construction and initial occupation but excludes those costs normally included in the Insured Value such as demolition, site clearing and the provision of temporary accommodation.

Source: TEFMA Guidelines for Completing the 2011 Benchmark Survey

ARV Infrastructure

Infrastructure is defined as the in-ground services (i.e. electrical, water, gas, sewage, stormwater, etc.) which support normal building operations plus above ground external assets such as street-lighting, roads and footpaths, signage etc. Do not include infrastructure that is maintained from landscaping budgets (e.g. sports fields, soft landscaping, unsealed car parks and the like) or infrastructure associated with student housing.

Source: TEFMA Guidelines for Completing the 2011 Benchmark Survey



Backlog Maintenance

BM

Backlog Maintenance (BM) is maintenance which was due to be carried out in the reported financial year but which was not carried out because of shortage of funds or availability of parts.

Backlog maintenance for the year should be added to the institution's Backlog Maintenance Register and carried forward.

Capital Asset Management Survey

CAMS

The Capital Asset Management Survey is an annual data collection managed by the Higher Education Division of the Department of Industry, Innovation, Science, Research and Tertiary Education.

Capital expenditure

Capital expenditure is the expenditure by the university for the purchase or improvement of capital assets.

Capital income

Capital income is the funds received for the purchase, sale or disposal of a capital item.

Capital maintenance expenditure

Capital maintenance expenditure is expenditure used to preserve the investment in capital.

Common Use Areas

Common Use Areas include corridors which are defined by partitions but do not include passages and secondary circulation areas which are part of open plan spaces.

Source: TEFMA Guidelines for Completing the 2011 Benchmark Survey



Facilities audit (TEFMA)

The TEFMA categorisations of levels of audit detail are described below. All three levels will provide results for condition and function to varying levels of detail.

Level One - Desktop Review (Desktop)

Conducting a Level One audit draws on data and building floor plans which already exist, possibly in many places and in different forms. This level can include, and benefits greatly from interviewing those persons responsible for regularly maintaining the building elements.

Level Two - Site Assessment (Walk Through)

This approach is based on a visual site inspection of samples of the various elements of the estate. This level would make use of available building data and drawings, combined with the visual inspection of a suitable sample of components of the estate. Different space types may require greater sample sizes depending on the variability of rooms. For example, a greater number of visual inspections may be required for laboratories (say 80% per floor) compared to offices (20% per floor). This audit level would also involve interviewing those persons responsible for regularly maintaining the building elements, and by noting the comments of the building's users.

Level Three - Detailed Examination (Crawl Through)

This level audit encompasses the Level Two site assessment, plus a detailed assessment of the parts making up each building element. Where the Level Two assessment only considered roofing, this level includes a greater level of detail, including roof cladding, gutters, downpipes and penetrations. Where the maintenance had been costed for a total system (e.g. air handling), this level of inspection will quantify and cost the replacement ducting, controls and motors (allowing for the practicalities of available access conditions, etc.).

This method may require the engagement of several consultants, such as engineers and building specialists.

Source: TEFMA Facilities Audit Guideline, May 2010



Fully Enclosed Covered Area **FECA**

Fully Enclosed Covered Area is the sum of all fully enclosed covered areas at all building levels, including basements (except unexcavated portions), floored roof spaces and attics, garages, penthouses, enclosed porches and attached enclosed covered ways alongside buildings, equipment rooms, lift shafts, vertical ducts, staircases and any other fully enclosed spaces and useable areas of the building, computed by measuring from the normal inside face of exterior walls but ignoring any projections such as plinths, columns, piers and the like which project from the normal inside face of exterior walls. It shall not include open courts, light wells, connecting or isolated covered ways and net open areas of upper portions of rooms, lobbies, halls, interstitial spaces and the like, which extend through the storey being computed.

Note: atriums and light wells are only measured at the base level. Do not include the area of the non-existent floor slab at upper levels.

Source: TEFMA Guidelines for Completing the 2011 Benchmark Survey

Gross Floor Area

GFA

The sum of the Fully Enclosed Covered Area and the Unenclosed Covered Area.

Unit of measure is square metres (m²).

Note: include all spaces owned or used by the university for university purposes. Do not include space held for investment purposes or non-university purposes (e.g. investment real estate, Shopping Centres, Technology Parks [where the tenants rent space for research activities not related to the institution's teaching and research activities. If you share Technology Park facilities with commercial tenants you may choose to include your space on a pro-rata basis provided you include the commensurate operating costs]). As a general rule, space leased to others should be excluded unless it is associated with the primary functions of the University. Therefore, include space leased to banks, post offices, cafes, bookshops, newsagents, hairdressers, food outlets, etc. if the primary function of these commercial operations is to



support teaching, research and the community service obligations of the institution.

Source: TEFMA Guidelines for Completing the 2011 Benchmark Survey

Maintenance All actions necessary for retaining an item or asset in or restoring it to its original condition. Include maintenance of locks and keys, maintenance of infrastructure (e.g. underground services, above ground hydrants, power transformers, pumping equipment etc.), roads, pathways, external swimming pools, paved areas, maintenance of electronic security and access control systems, fixed external furniture, retaining walls, guard rails, water features etc. and external cleaning of buildings. Exclude pest control and window cleaning and the cost of grounds maintenance activities. Include the cost of cleaning kitchen extraction systems/hoods and replacing filters.

Non-habitable Areas Non-habitable Area is the area occupied by internal columns and other structural supports, internal walls and permanent partitions, service ducts and the like.

Room frequency Room frequency is the number of hours the room is in use during the audit period, divided by the number of hours that the room is available for use during the audit period.

Room Frequency = Hours used / Hours available.

Room occupancy Room occupancy represents the average number of students in the room when the room is in use, compared to the total room capacity.

*Room occupancy = Total students / (Capacity * Hours used)*

Total students = total number of students counted in the room over the audit period.

Capacity = the maximum number of students the room can hold, usually based on the number of seats in the room.



Hours used = the number of hours the room was in use during the audit period.

Note: Room occupancy is independent of room frequency.

Service Areas

Service areas are spaces for equipment to service buildings, i.e. plant rooms

Tertiary Education Facilities Management Association

TEFMA

The Australasian Tertiary Education Facilities Management Association (TEFMA) was established in October 2003 as an independent association of facilities managers operating in the tertiary education sector of Australia, New Zealand, Hong Kong and Singapore.

Unenclosed Covered Area

UCA

Unenclosed Covered Area is the sum of all such areas at all building floor levels, including roofed balconies, open verandahs, porches and porticos, attached open covered ways alongside buildings, undercrofts and usable space under buildings, unenclosed access galleries (including ground floor) and any other trafficable covered areas of the building which are not totally enclosed by full height walls, computed by measuring the area between the enclosing walls or balustrade (i.e. from the inside face of the UCA excluding the wall or balustrade thickness). When the covering element (i.e. roof or upper floor) is supported by columns, is cantilevered or is suspended, or any combination of these, the measurements shall be taken to the edge of the paving or to the edge of the cover, whichever is the lesser. UCA shall not include eaves, overhangs, sun shading, awnings and the like where these do not relate to clearly defined trafficable covered areas, nor shall it include connecting or isolated covered ways.

New building space (m² GFA) that comes into service during the reporting period should be included in the total GFA figure.

Unit of measurement is square metres (m²).

Source: TEFMA Guidelines for Completing the 2011 Benchmark Survey



Usable Floor Area

UFA

Usable Floor Area will normally be computed by calculating the FECA and deducting Common Use Areas, Service Areas, and Non-habitable Areas.

Note: in some cases the UFA may include some external covered areas which relate to the Primary Function of the building. **Examples:** a covered external play area is a Primary Functional requirement of a Child Care Centre and should be included although it is not part of the FECA. Similarly, an open but roofed hydraulics modelling laboratory associated with Civil Engineering should be counted as part of the UFA. Foyers of large lecture theatres should be treated as UFA.

New building space (m^2 UFA) that comes into service during the reporting period should be included in the total UFA figure.

Unit of measurement is square metres (m^2).

Source: TEFMA Guidelines for Completing the 2011 Benchmark Survey



10 Disclaimer

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Appendix 3: Consultations

From May 2014 to March 2015 the Higher Education Infrastructure Working Group undertook the following consultations:

University Sector

During March and April 2015 the Working Group undertook consultations with Universities Australia and with Vice-Chancellors of the following Australian universities:

Universities Australia	Ms Belinda Robinson	Chief Executive
	Ms Anne-Marie Lansdown	Deputy Chief Executive
	Mr Mark Warburton	Principal Analyst
	Mr Peter Rodeley	Executive Officer

Group of Eight:

Monash University	Professor Margaret Gardner AO	Vice-Chancellor
Australian National University	Professor Ian Young AO	Vice-Chancellor and President
The University of Adelaide	Professor Warren Bebbington	Vice-Chancellor and President
The University of Melbourne	Professor Glyn Davis AC	Vice-Chancellor
The University of New South Wales	Professor Ian Jacobs	Vice-Chancellor and President
The University of Queensland	Professor Peter Høj	Vice-Chancellor and President
The University of Sydney	Professor Stephen Garton	Provost and Deputy Vice-Chancellor
The University of Western Australia	Professor Paul Johnson	Vice-Chancellor

Regional Universities Network:

Regional Universities Network	Dr Caroline Perkins	Executive Director
Central Queensland University	Professor Scott Bowman	Vice-Chancellor and President
Federation University Australia	Professor David Battersby	Vice-Chancellor and President
Southern Cross University	Professor Peter Lee	Vice-Chancellor
The University of New England	Professor Annabelle Duncan	Vice-Chancellor and President
University of Southern Queensland	Professor Jan Thomas	Vice-Chancellor and President
University of the Sunshine Coast	Professor Birgit Lohmann	Acting Vice-Chancellor

Innovative Research Universities:

Innovative Research Universities	Mr Conor King	Executive Director
Charles Darwin University	Professor Simon Maddocks	Vice-Chancellor
Griffith University	Professor Ian O'Connor	Vice-Chancellor and President
James Cook University	Professor Sandra Harding	Vice-Chancellor and President
James Cook University	Dr Ryl Harrison	Higher Education Policy Advisor
La Trobe University	Professor John Dewar	Vice-Chancellor and President

Australian Technology Network:

Australian Technology Network	Ms Renee Hindmarsh	Executive Director
Curtin University	Professor Deborah Terry	Vice-Chancellor
Queensland University of Technology	Professor Carol Dickenson	Senior Deputy Vice-Chancellor
Royal Melbourne Institute of Technology	Mr Martin Bean CBE	Vice-Chancellor and President
University of South Australia	Professor Allan Evans	Provost and Chief Academic Officer
University of Technology Sydney	Professor Attila Brungs	Vice-Chancellor and President

Non-aligned universities:

Australian Catholic University	Professor Gregory Craven	Vice-Chancellor
Bond University	Professor Tim Brailsford	Vice-Chancellor and President
Charles Sturt University	Professor Andrew Vann	Vice-Chancellor and President
Deakin University	Professor Jane den Hollander	Vice-Chancellor and President
Edith Cowan University	Professor Arshad Omari	Acting Vice-Chancellor and President
Swinburne University of Technology	Professor Linda Kristjanson	Vice-Chancellor and President
The University of Notre Dame Australia	Mr Peter Tranter	Chief Operating Officer
The University of Newcastle	Professor Caroline McMillen	Vice-Chancellor and President
University of Tasmania	Professor Mike Calford	Provost and Deputy Vice-Chancellor (International)
University of Tasmania	Professor David Sadler	Deputy Vice-Chancellor (Students and Education)
University of Wollongong	Professor Paul Wellings CBE	Vice-Chancellor
Victoria University	Professor Peter Dawkins	Vice-Chancellor and President
Western Sydney University	Professor Barney Glover	Vice-Chancellor and President

In addition, the University of Canberra provided a written submission to the Working Group.

Philanthropy Experts

In December 2014, the Working Group consulted with the following experts in higher education philanthropy:

Queensland University of Technology	Professor Myles McGregor-Lowndes	Director
Australian Centre of Philanthropy and Non Profit Studies (ACPNS)		
The University of Melbourne	Ms Sue Cunningham	Vice-Principal (Advancement)
The University of Melbourne	Mr Siôn Lutley	Executive Director (Advancement)
The University of Queensland	Ms Clare Pullar	Pro Vice-Chancellor (Advancement)

Finance Sector

During late 2014, the Working Group undertook a series of meetings with the following capital market experts:

AMP Capital	Stephen Dunne	Chief Executive Officer
AMP Capital Officer, Property	Adam Tindall	Director and Chief Investment
Commonwealth Bank	Graeme Ross	Managing Director, Global Head of Real Estate, Institutional Banking and Markets
Commonwealth Bank Health, Education and Banking and Markets	Emmanuel Alfieris	Executive Director, Government, Social Infrastructure, Institutional
Commonwealth Bank Estate, Institutional Banking and	Darren Beatty	Director, Institutional Real Markets
Independent Consultant	Peter J Wills, AC	
JP Morgan Products Group	Sofie Sullivan-Becaus	Executive Director, Securitized
JP Morgan Markets	Natalie Vanstone	Managing Director, Debt Capital
JP Morgan Syndicated and	Jay Hipolito	Executive Director, Head of Leveraged Finance
JP Morgan	Alan Kelly	Analyst, Debt Capital Markets
Moody's Investor Service Officer,	Debra Roane	Vice President – Senior Credit Sub-Sovereign Group
Moody's Investor Service Relationship Management	Philip Christie	Vice President – Head of Australia/New Zealand
NAB Institutional Community Business,	Andrew Loveridge	Head of Government and Institutional Banking
NAB Institutional Debt Markets,	Steve Lambert	Executive General Manager, Products and Markets
NAB Institutional Specialised Organisations,	James Waddell	Director, Non Rated and Debt Market
UBS Investment Bank Banking Australasia	Peter Crossing	Vice Chairman, Investment
UBS Investment Bank	Ian Richards	Executive Director
University of Wollongong Smart Infrastructure Facility	Garry Bowditch	Chief Executive Officer