

Major Student and Staff Profile Changes Since 2009 By Australia's Multi-Billion Dollar Universities

Professor Emeritus Frank Larkins
School of Chemistry
The University of Melbourne

Summary: The U5 group of universities – Sydney, Melbourne, New South Wales, Queensland and Monash – in their quest for revenue growth have all profoundly changed the balance of their student profiles between domestic to overseas students over the decade 2009 to 2018. They have also limited the growth of their staffing levels and shifted their profiles to a higher proportion of teaching-only, casual and non-academic staff. The changes that have occurred are reviewed in this paper.

The U5 research-intensive universities have collectively achieved record revenue and total assets increases of near 75% in dollars of the day over the decade, in part by increasing student load by 39% and constraining the staffing load growth to only 19%. They have shifted their student recruitment focus away from undergraduate and research students to postgraduate coursework recruiting, especially overseas students, to sustain significant revenue growth. Overseas students were responsible for 76% of student load growth over the past decade.

Staffing proportionally has been reduced and growth now lags well behind student growth. U5 academic staff growth over the decade was only 13.6% - well less than one half of the student load growth of 39.2%. Academic staff represented only 36.4% of all additional staff recruited, with the academic staff profile being dominated by teaching-only growth of 1645 FTE, net U5 zero growth in teaching and research staff and 751 FTE growth for research-only staff. Consequently, student-to-staff ratios have been adversely affected. The U5 group members have all transformed their operations over the past decade, in particular since 2014-15, in very similar ways that now differentiate them from the rest of the higher education system.

Educational services are Australia's third largest export and U5 universities have strong balance sheet, so by these measures institutions are making a significant contribution to the Australian economy; but at what long-term cost? There is a need for more policy discussions at the institutional governance level and at the national level as to how well the current U5 strategies are serving university and national community interests. The dialogue should include institutional financial vulnerability, domestic student participation, the quality of student educational experiences, staffing levels (especially the future role of teaching-and-research staff), the relevance of the teaching-research nexus concept, and the amount of new knowledge being created through research to sustain Australia's international competitiveness.

1. Introduction

The financial performance of five multi-billion dollar Australian universities was reviewed in a recent article (1). These universities - Sydney, Melbourne, New South Wales, Queensland and Monash – (designated the U5 group) in 2018 had combined revenues of \$11.8b using a total asset base of \$28.8b. The financial importance of the U5 group to Australia is well established. In 2018 they accounted for 35% of the total university sector asset base and revenue.

In this article the changing student and staff profiles for the U5 group over the decade 2009 to 2018 that have resulted from the revenue-raising strategies have been examined with reference to the other 34

universities (designated U34 group) and the whole university sector (designated U39 group). The U34 group does include the Go8 universities, Australian National University, Adelaide and Western Australia.

The primary student (2) and staff (3) data for the present analyses are sourced from Australian Government Department of Education databases. The domestic and overseas Effective Full Time Student Load (EFTSL) data for 2009 and 2018 are presented in Appendices 1 to 3 for the U5, U34 and U39 groups). The student load data for undergraduate, postgraduate coursework and research are shown. The small numbers for enabling and non-award courses have not been considered.

The Full Time Equivalent staff (FTE) data including casuals for the U5 group and other groups are shown in Appendices 4 to 6 segmented into academic and non-academic staff. The distribution of academic staff between teaching-only, research-only and teaching-and-research staff are shown in appendices 7 to 9. The academic and non-academic casual staff by function are shown in appendix 10.

2. Analyses of Student Data – U5, U34 and U39 University Groupings.

A summary of the EFTSL data for the U5, U34 and U39 university groupings is given in table 1.

Table 1. Student Load Enrolments for U5, U34 and All Universities (U39) in 2009 and 2018

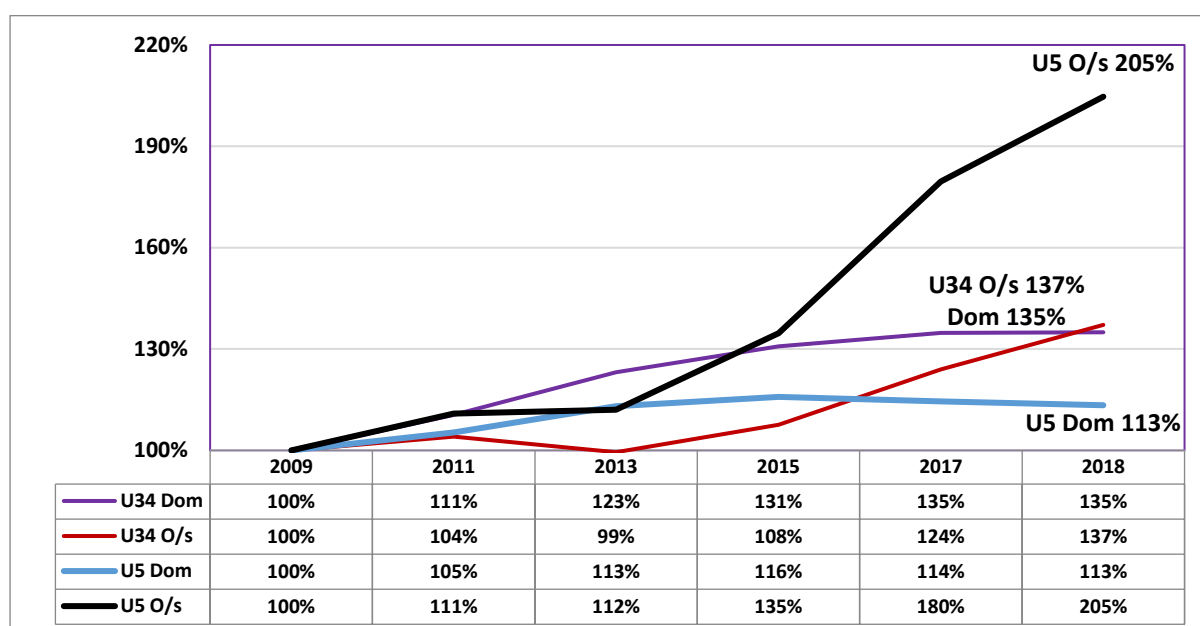
U5 EFTSL	All Students	Domestic	Overseas	U'grad	P'grad C'work	Research
2009	186,873	133,943	52,930	138,808	31,692	14,384
2018	260136	151788	108348	164394	76682	16946
Change 2018-09	73,263	17,845	55,418	25,586	44,990	2,562
% Change	39.2%	13.3%	104.7%	18.4%	142.0%	17.8%
U34 EFTSL						
2009	626,176	440,141	186,035	487,019	102,359	22,281
2018	849,168	594,019	255,149	640,635	159,959	28,937
Change 2018-09	222,992	153,878	69,114	153,616	57,600	6,656
% Change	35.6%	35.0%	37.2%	31.5%	56.3%	29.9%
U39 EFTSL						
2009	813,049	574,084	238,965	625,832	134,051	36,665
2018	1,109,303	745,807	363,496	805,029	236,641	45,883
Change 2018-09	296,254	171,723	124,531	179,197	102,590	9,218
% Change	36.4%	29.9%	52.1%	28.6%	76.5%	25.1%
U5 as % U39						
2009	23.0%	23.3%	22.1%	22.2%	23.6%	39.2%
2018	23.5%	20.4%	29.8%	20.4%	32.4%	36.9%
Change 2018-09	0.5%	-3.0%	7.7%	-1.8%	8.8%	-2.3%

The U5 group have increased their student load by 73,263 over the decade 2009 to 2018 – a 39% increase – corresponding to a small increase in the U5 proportion of the sector enrolled from 23% to 23.5% (table 1, column 2, rows 4, 5, 17 & 18). The U5 student growth was proportionally more than for the other 34 universities and the whole university sector at 35.6% and 36.4% respectively (table 1, column 2, rows 10, 15).

2.1 Domestic vs Overseas Student Recruitment

U5 domestic student growth at 13% lagged well behind the rest of the sector at 35%, such that the proportion of domestic student load in the U5 universities declined from 23% to 20% (table 1, column 3, rows 17 & 18). The spectacular increase for the U5 group was in enrolments of overseas students which more than doubled from 52,930 to 108,338 (105% increase or 55,418 EFTSL). The U34 group collectively reported growth in overseas students of 37%, similar to their domestic growth of 35%. Hence, the proportion of all overseas students in U5 institutions increased from 22% to 30% (table 1, column 4, rows 17 & 18). The percentage growth in domestic and overseas students for the U5 and U34 groups are shown in figure 1. The graph is based on the data in table 1 (column 3 and 4).

Figure 1. Percentage Growth in Domestic and Overseas Student Load for U5 and U34 Universities from 2009 to 2018



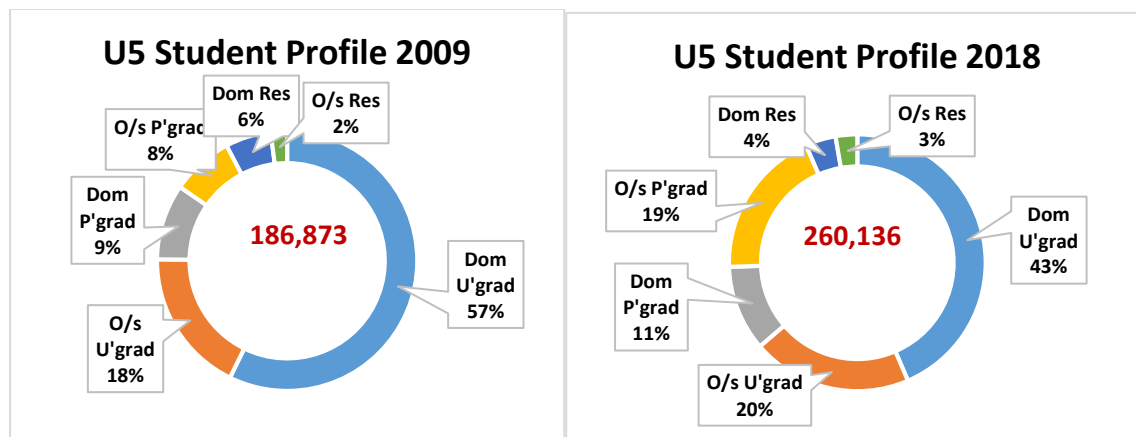
The very substantial deviation in proportional overseas student recruitment between the two groups has occurred since 2014-15 despite a strong U34 group performance in recruiting overseas students since 2013-14. Domestic student proportions have essentially flat-lined or decreased slightly since 2014-15. The U34 group collectively has a decade outcome of growing their domestic and overseas proportions at near the same order (domestic 35%, overseas 37%). There was a major bias in favour of domestic students up to around 2015 (domestic 31%, overseas 8%) then overseas recruitments accelerated. The difference is principally due to the focus on recruitment of undergraduate demand-driven domestic students in the early years of the decade.

2.2 Course Award Category Distributions 2009 and 2018

The course award distribution is also most revealing. The U5 group increased their undergraduate load by 18%, their postgraduate coursework load by 142% and their research student load by 18% (table 1, columns 5, 6, 7, row 5). This represents a major change in the student profile for the U5 group. Interestingly, the other 34 universities undergraduate and research student load increases at 32% and 30% were greater than for the U5 group (table 1, column 5 & 7, row 10). The U34 postgraduate coursework load increase of 56%, while substantial, is significantly less than the 142% growth for the

U5 group. The overall outcome was that in 2018 the U5 group had reduced the sector proportion of undergraduates they were educating by 1.8%, and research students by 2.3%. Their contribution to postgraduate coursework education increased by 8.8% (table 1, column 6, row 19) aided by an increase in domestic students at Melbourne because of the Melbourne model (table 3). A most telling statistic is that only 2,562 (27.8%) of the sector 9,218 EFTSL increase in research student load was in U5 universities. This outcome highlights how the so-called research-intensive U5 universities have collectively shifted their focus away from undergraduate and research students to postgraduate coursework recruiting, especially overseas students, to sustain significant revenue growth. The U5 group did increase their load over the decade in every category except domestic research (Appendix 3, column 7, row 11), however there was a substantial change in the load distribution. The changed U5 student load distribution from 2009 to 2018 is shown in figure 2.

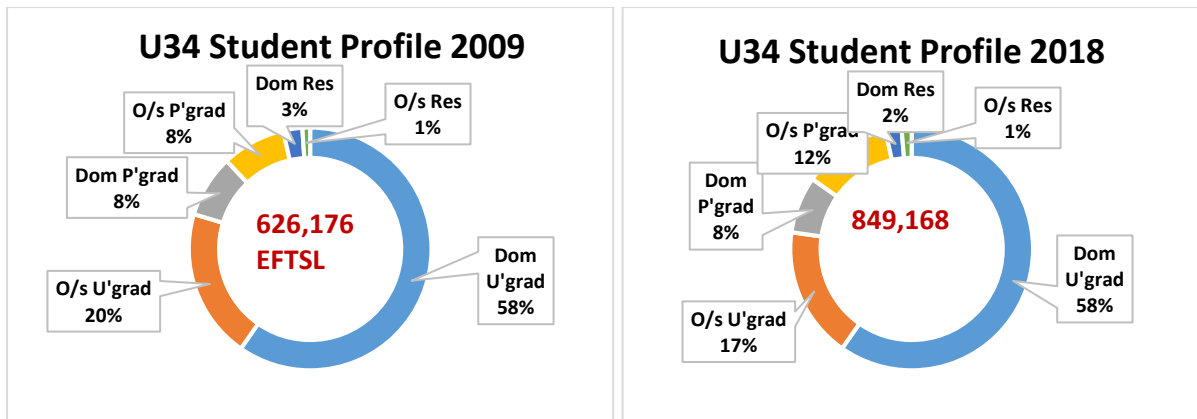
Figure 2. U5 Student Profiles in 2009 and 2018



The proportion of undergraduates has decreased from 75% in 2009 (57% domestic, 18% overseas) to 63% in 2018 (43% domestic, 20% overseas). Consequently, overseas students have increased as a proportion of undergraduate load from 24% to 32%. The postgraduate coursework changes are even more profound with the proportion of total load increasing from 17% in 2009 to 30% in 2018. Overseas students were 47% of this postgraduate load in 2009, but increased to 63% in 2018. This result is very significant in view of Australia's innovation agenda with research student load decreasing proportionally from 8% in 2009 to 7% in 2018. Overseas students represented 42% of the research load in 2018 compared with only 27% in 2009. It was highlighted in an earlier article (4) that the outcome is even more serious because more than two-thirds of domestic research students are part-time, while only 40 percent of overseas students are part-time. There has been very little discussion of the impact of these changes on the purpose and functioning of the Australian higher education system and the potential social and economic consequences of such major changes in only a decade. There is a good case for increased Commonwealth investment in full time domestic research students to improve timely completions with an increase rate of productive research outcomes.

The changes for the other 34 Australian universities, excluding the U5, are shown in figure 3 based on the data in appendices 2 and 3.

Figure 3. Student Profiles for 34 Australian Universities (U34), excluding the U5 Group, in 2009 and 2018

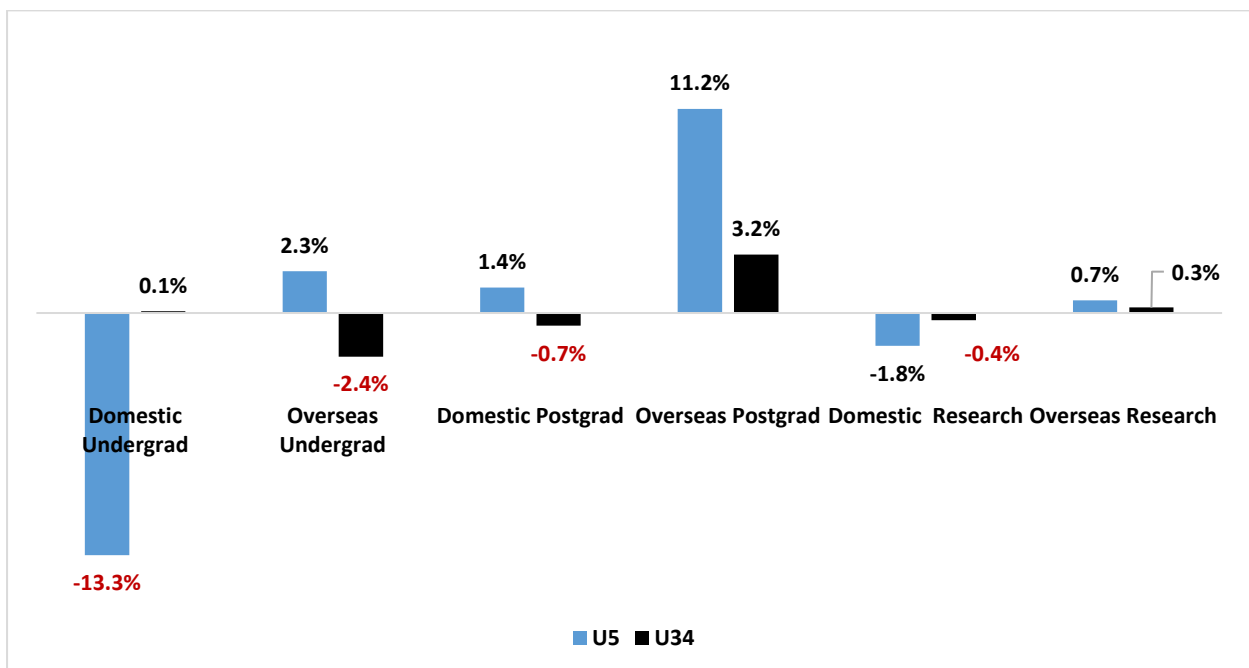


The changes for the 34 universities over the decade, excluding the U5 group, are much less notable. The proportion of undergraduate students actually increased slightly from 75% in 2009 (the same as the U5 group in 2009) to 78% in 2018. This increase was due to overseas students increasing from 17% to 20%. Postgraduate coursework student load increased from 16% to 20%, also because of overseas student enrolments, while research student load decreased from 4% to 3%. The profile changes are relatively minor when compared with the substantial changes for the U5 universities.

2.3 Course Award Category Profile Changes 2009 to 2018

To highlight the contrasting recruitment approaches for the U5 group and the other U34 institutions the difference between the student profiles for 2009 and 2018 are shown in figure 4 based on the data presented above in figures 2 and 3.

Figure 4. Changes in the Student Profile Proportional Percentage Distribution of U5 and U34 Universities from 2009 to 2018.



The graphics in figure 4 clearly indicate the changes in the strategic recruitment policies of the U5 group compared with the rest of the sector. The shift in emphasis to proportionally more overseas student recruitment has been more financially rewarding for the U5 compared with a relatively 'status quo'

approach of other universities. Revenue trends indicate that most of the changes have occurred in the past five years (1).

3. Student Profile Changes for the Individual U5 Universities

The data upon which the analyses in this section are based are presented in appendices 1, 2 and 3.

Table 2. Student Load Data for the U5 Group, 2018 Revenue and Changes from 2009.

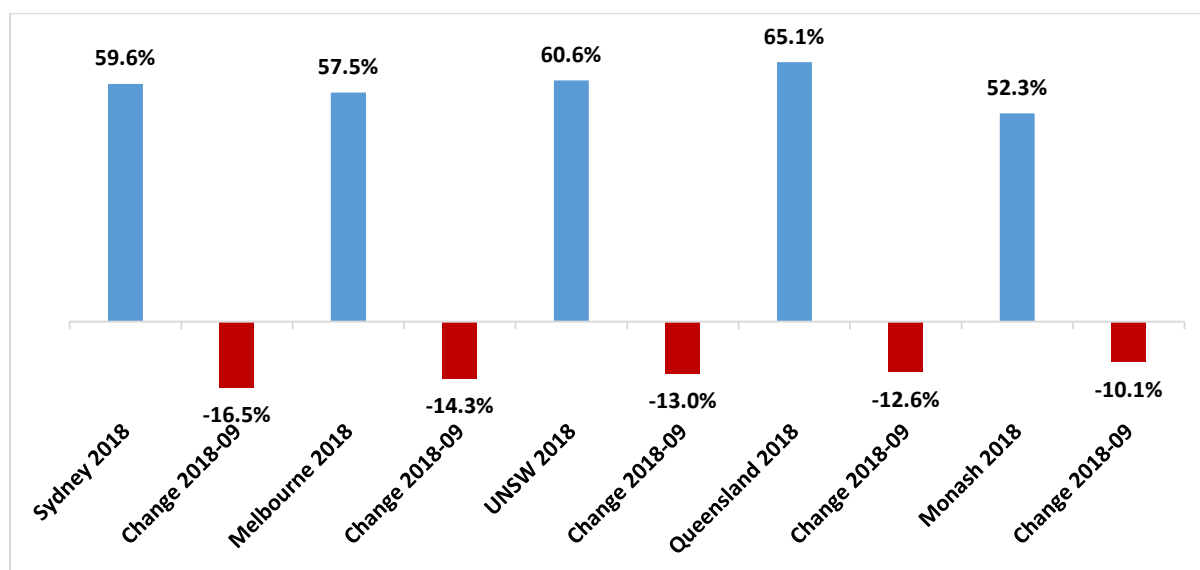
Student EFTSL	Sydney	Melbourne	New South Wales	Queensland	Monash
2018	51,425	52,675	46,761	42,200	67,074
Change 2018-09	12,602	16,748	12,916	10,153	20,843
% Change	32.5%	46.6%	38.2%	31.7%	45.1%
2018 Revenue	\$2,500.5m	\$2,661.6m	\$2,130.2m	\$1,969.4m	\$2,509.0m
Increase Dollars of the day	\$1,108.2m	\$1,179.5m	\$958.8m	\$709.7m	\$1,099.0m
% Revenue Increase Dollars of the Day	80%	80%	82%	56%	78%
% Revenue Increase in 2018 Dollars (ref 1)	42%	44%	46%	25%	43%

Monash is the U5 university with the highest student load in 2018, having increased its load by more than any other U5 university (20,843 EFTSL) since 2009. Melbourne however has had the highest percentage increase in students at 46.6% with Queensland reporting the lowest increase at 31.7%. Sydney is an interesting case, increasing its load over the decade by 32.5%, similar to Queensland, but reporting a major increase of 80% (\$1,108m) in revenue expressed in dollars of the day, while Queensland had a lower revenue increase of 56% (\$709.7m) for a similar student load increase. The differing outcomes reflect differences in the changing student profile and fees structures of the two institutions and other revenue-raising factors. As discussed in the earlier paper (1), four universities have had remarkably similar revenue growth over the decade with Queensland being the exception. While there are several components to university annual revenue raising, student fee income is a major component as highlighted in earlier papers (5,6,7).

3.1 Proportion of Domestic Students in 2018 and Change from 2009

The domestic proportion of the student load for 2018 and the change from 2009 for the U5 group members are shown in figure 5 based on the data in appendix 2 and 3.

Figure 5. Percentage 2018 Domestic student load for U5 universities and the changes compared with 2009.



All these universities have experienced a very significant reduction in the domestic proportion of their student load. The largest reduction has been for Sydney (16.5%) and the lowest for Monash (10.1%). Queensland has the highest domestic load. Expressed another way, Queensland has the lowest proportion of overseas students at 34.9% and Monash the highest proportion at 47.7% in 2018.

3.2 Distribution of Domestic and Overseas Students by Course Award Category

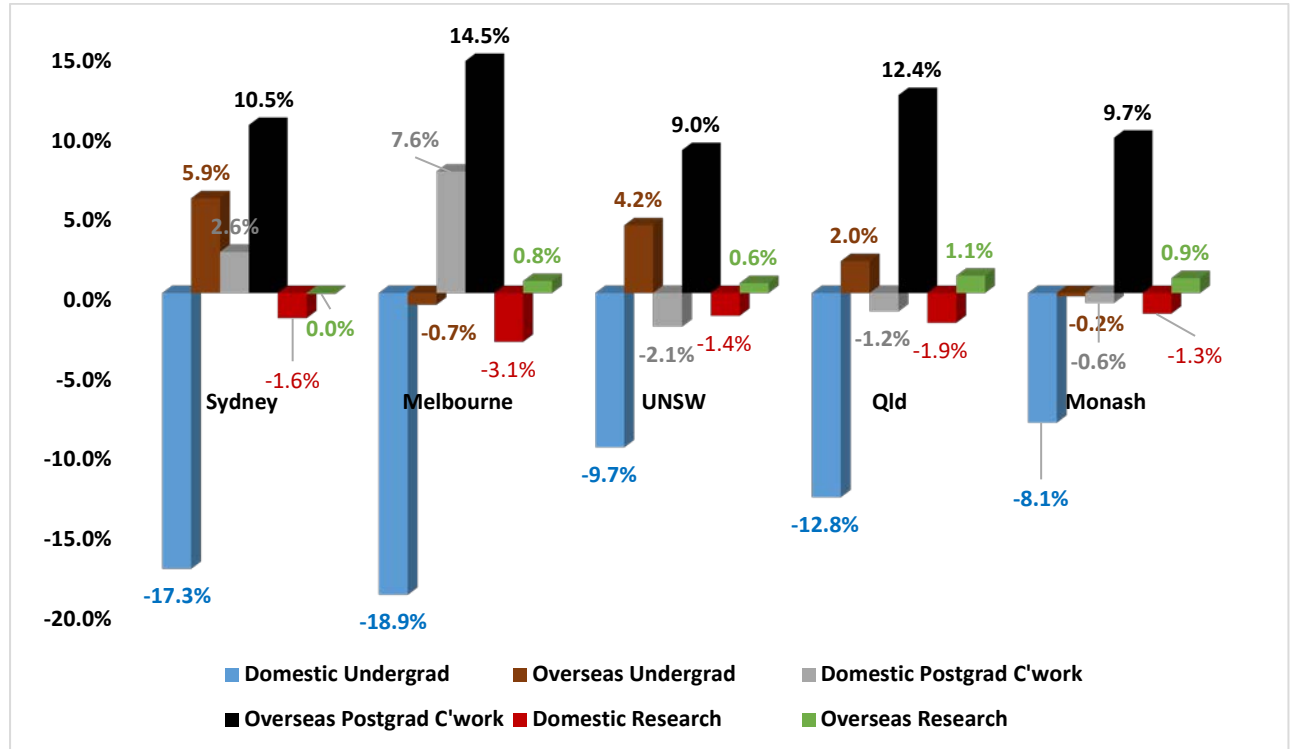
The distributions of the student load between undergraduate, postgraduate coursework and research for the U5 universities are shown in table 3. The results are obtained using the data in appendix 1.

Table 3. Percentage Distribution of Student Load by Course Category for the U5 Group in 2009 and 2018.

% Student EFTSL	Domestic Undergrad	Domestic Postgrad C'work	Domestic Research	Overseas Undergrad	Overseas Postgrad C'work	Overseas Research
Sydney 2009	60.0%	9.2%	6.7%	11.6%	9.7%	1.7%
Sydney 2018	42.7%	11.7%	5.1%	17.5%	20.2%	1.7%
Change 2018-09	-17.3%	2.6%	-1.6%	5.9%	10.5%	0.0%
Melbourne 2009	51.2%	13.6%	6.8%	18.5%	7.1%	2.0%
Melbourne 2018	32.4%	21.2%	3.8%	17.8%	21.6%	2.7%
Change 2018-09	-18.9%	7.6%	-3.1%	-0.7%	14.5%	0.8%
NSW 2009	58.8%	9.5%	5.1%	13.9%	8.3%	2.6%
NSW 2018	49.1%	7.3%	3.7%	18.1%	17.3%	3.2%
Change 2018-09	-9.7%	-2.1%	-1.4%	4.2%	9.0%	0.6%
Queensland 2009	65.1%	6.4%	6.1%	12.6%	6.3%	2.5%
Queensland 2018	52.4%	5.2%	4.3%	14.6%	18.7%	3.6%
Change 2018-09	-12.8%	-1.2%	-1.9%	2.0%	12.4%	1.1%
Monash 2009	50.2%	8.1%	3.9%	28.7%	6.8%	1.7%
Monash 2018	42.0%	7.5%	2.6%	28.5%	16.6%	2.6%
Change 2018-09	-8.1%	-0.6%	-1.3%	-0.2%	9.7%	0.9%

The percentage load changes from 2009 to 2018 presented in table 3 are shown graphically in figure 6. The changed student profile patterns for all these universities are very similar with major reductions in the proportion of domestic undergraduate students and substantial increases in overseas postgraduate students.

Figure 6 Percentage Student Load Profile Changes for U5 universities over a decade 2009 to 2018.



While all the U5 reported an increase in their overseas undergraduate numbers two institutions, Melbourne and Monash, decreased the student proportion in this category because of higher growth in other categories. Interestingly, with the exception of Melbourne who reported a substantial increase in domestic postgraduate coursework load, because of the introduction of ‘the Melbourne model’, the other four universities have small domestic changes. In three cases (NSW, Queensland and Monash) this led to a proportional decrease in their domestic profile as shown in figure 6. The dominant load and proportional growth for all the U5 group is overseas postgraduate coursework students, as clearly highlighted in figure 6. The overseas load growth (appendix 3 row 15) is very substantial, dominating the profile change. These profile realignments have profoundly changed the operational characteristics of some of Australia’s leading universities.

The trend in research student load should be of national concern. Four U5 universities – Melbourne, UNSW, Queensland and Monash - actually decreased the number of domestic research students (appendix 2, row 11) as well as their profile proportion. In Melbourne’s case the decrease (-3.1%) is substantially more than for the other universities. The introduction of the Melbourne Model has been a notable contributory factor, with a negative impact on domestic demand to undertake research degrees at Melbourne from those students who have completed postgraduate coursework studies. Sydney was the only U5 member to increase its domestic research student load. The increase was a very modest 30 EFTSL. All these research-intensive universities, including Sydney, decreased the proportion of their profile attributed to research student, while increasing their dependence on overseas students to undertake more of their research activities (compare appendix 3, rows 11 and 16). Economic factors, including limited employment opportunities for researchers in Australia, have influenced student choices.

4. Analyses of Staff Data – U5, U34 and U39 University Groupings

The full time equivalent (FTE) staffing data for universities expressed as all staff, academic staff, and non-academic staff for 2009 and 2018 are presented in appendices 4.1 (2009) and 4.2 (2018). The data include full-time, fractional time and casual staff. The information is provided for each of the U5 universities and collectively for the U5, U34 and U39 groups. The percentage of academic staff for both years are also shown in column 5. The data is sourced from the Department of Education website (3).

The 2009 data, published in 2011, includes the actual casual staff identified by function – Teaching Only (TO), Research Only (RO), Teaching and Research (T&R) and Other (Non-Academic). The 2018 staff data has only an estimate of total casuals, not identified by function. However, for most universities the number provided is very similar to the 2017 actual numbers published in 2019. Therefore, for the present analysis the 2018 estimates have been pro-rated by function according to the 2017 distribution. Based on the corrections made for previous years, it is likely that the actual casual numbers for 2018 will have a very similar distribution, but probably be marginally higher in number than the original estimates provided.

4.1 Academic and Non-Academic Staff Distributions

For the U5 universities, in 2009 Monash had the highest number of total FTE staff (7441) and academic staff (3762 FTE) (appendix 4.1, row 6) and Melbourne the highest number of non-academic staff (3700 FTE). By 2018 Melbourne had the highest number of staff (8987 FTE) and the highest number of academic staff (4587 FTE) (appendix 4.2, row 3). Monash had the highest number of non-academic staff in 2018 (4858 FTE). In 2009 U5 universities employed 32.4% of the staff in the university system, but by 2018 the proportion had reduced to 30.8% (Row 10, appendix 4.2). The 2018 data and the changes since 2009 are presented in table 4.

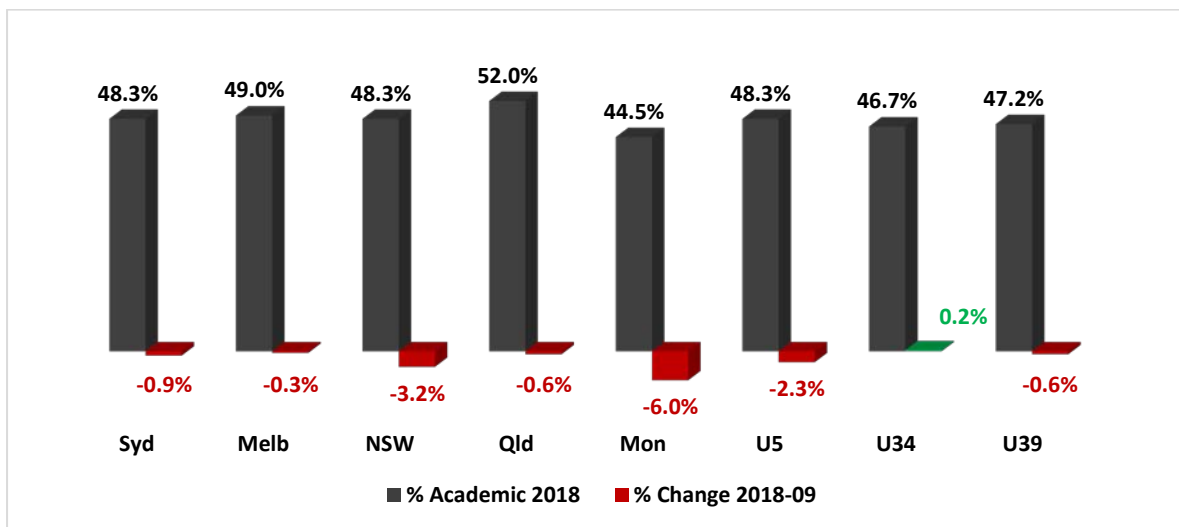
Table 4. Academic and Non-Academic Staff including Casuals for U5, U34 and U39 Universities – 2018 and Changes from 2009.

FTE All Staff 2018	Sydney	Melbourne	New South Wales	Queensland	Monash	U5 Total	U34 Total	U39 Total
Academic	4212	4401	3516	3944	3898	19971	43468	63439
Additional Academic Staff from 2009	709	805	437	310	136	2397	9768	12165
% Academic Change	20.2%	22.4%	14.2%	8.5%	3.6%	13.6%	29.0%	23.7%
Non - Academic	4512	4587	3765	3646	4858	21368	49577	70945
Additional Non-Academic from 2009.	889	887	868	368	1179	4191	10807	14998
% Non-Academic Change	24.5%	24.0%	30.0%	11.2%	32.0%	24.4%	27.9%	26.8%

All U5 universities increased non-academic staff numbers over the decade by more than academic staff (compare table 4, rows 3 and 6) with Monash making the most substantial changes (rows 6 and 7, 1179 FTE, 32%). Interestingly, U5 universities collectively increased their academic FTE staff by only 13.6% over the decade (a range from Melbourne 22.4% to Monash 3.6%) and their non-academic staff by 24.4%. The U34 universities collectively increased their academic staff by 29.0% and their non-academic staff by 27.9%, both outcomes are more than the U5 increases and largely retained the balance between the two classifications. The magnitudes of staff increases are most significant recognising that over the same decade U5 universities increased student load by 39.2% and the U34 universities by 35.6% (appendix 3, row 3).

The percentages of staff classified as academic for 2018 are shown in figure 7 along with the proportional change since 2009. Three of the U5 universities – UNSW, Queensland and Monash had more than 50% of their staff classified as academic in 2009 (Appendix 4.1 column 5); however, by 2018 Queensland was the only U5 university with more than 50% of staff classified as academic. As shown in figure 7 and appendix 5, column 5 all U5 universities had decreased their proportion of academic staff by 2018. By contrast, U34 universities increased their proportion of academic staff marginally by 0.2% compared to the U5 result of -2.3%.

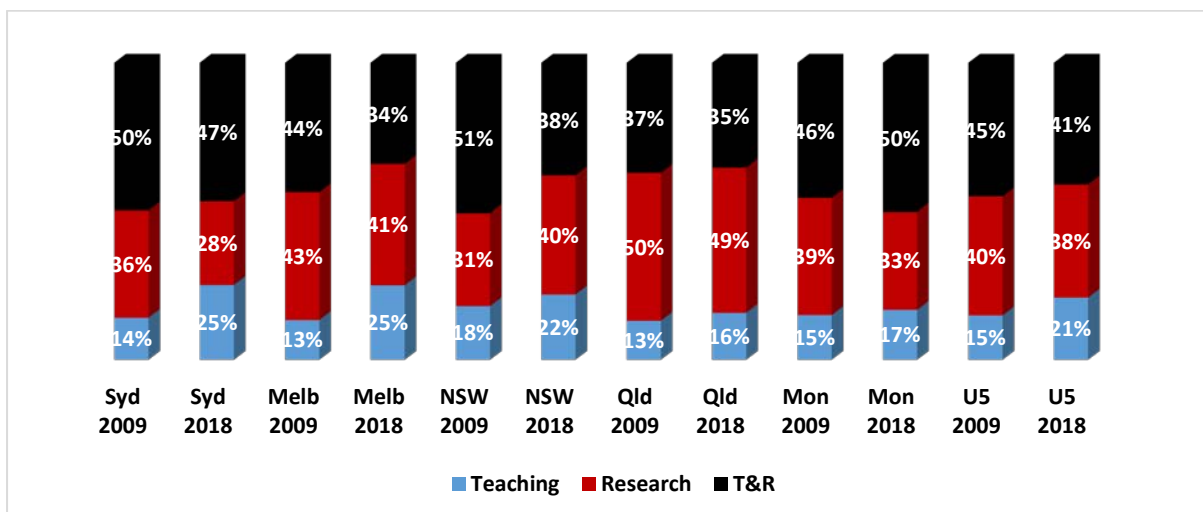
Figure 7. Percentage of Staff Classified as Academic in 2018 and the Change since 2009.



4.2 Academic Staff Distribution by Function

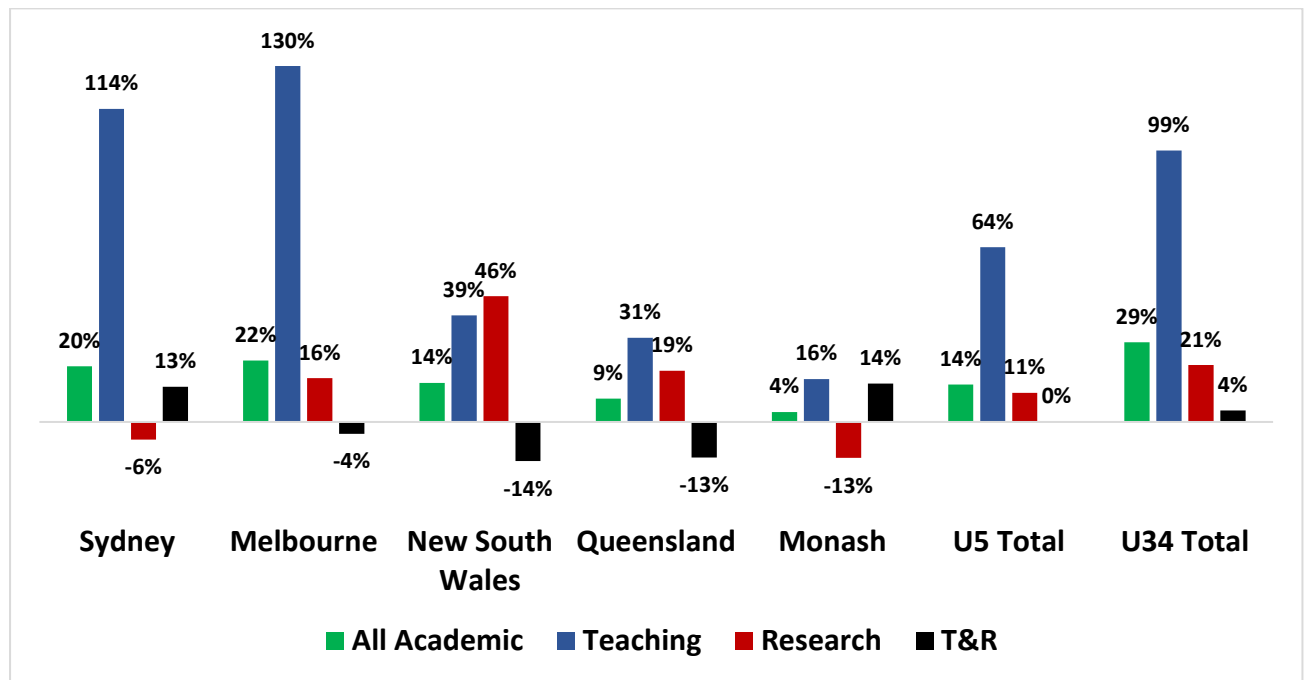
The number of TO, RO and T&R staff are presented in appendices 7.1 for 2009 and 7.2 for 2018. Among the U5 group Melbourne had the most TO staff (1107 FTE) in 2018, Queensland the most RO staff (2145 FTE) and Sydney the most T&R staff (1964 FTE). The proportion of staff by function for the U5 group is shown in figure 8.

Figure 8. Percentage Academic Staff Distribution by Function 2009 and 2018



T&R staff were the largest group for Sydney and Monash in 2018. Monash was the only U5 university to increase its T&R proportion - from 46% to 50%. RO staff were the largest proportion for Melbourne, New South Wales and Queensland. The changes in FTE numbers from 2009 to 2018 are given in Appendix 8 along with the percentage changes over the decade in appendix 9. The data presented in appendix 9 are shown graphically in figure 9.

Figure 9. Percentage Change in FTE by Academic Function 2009 to 2018

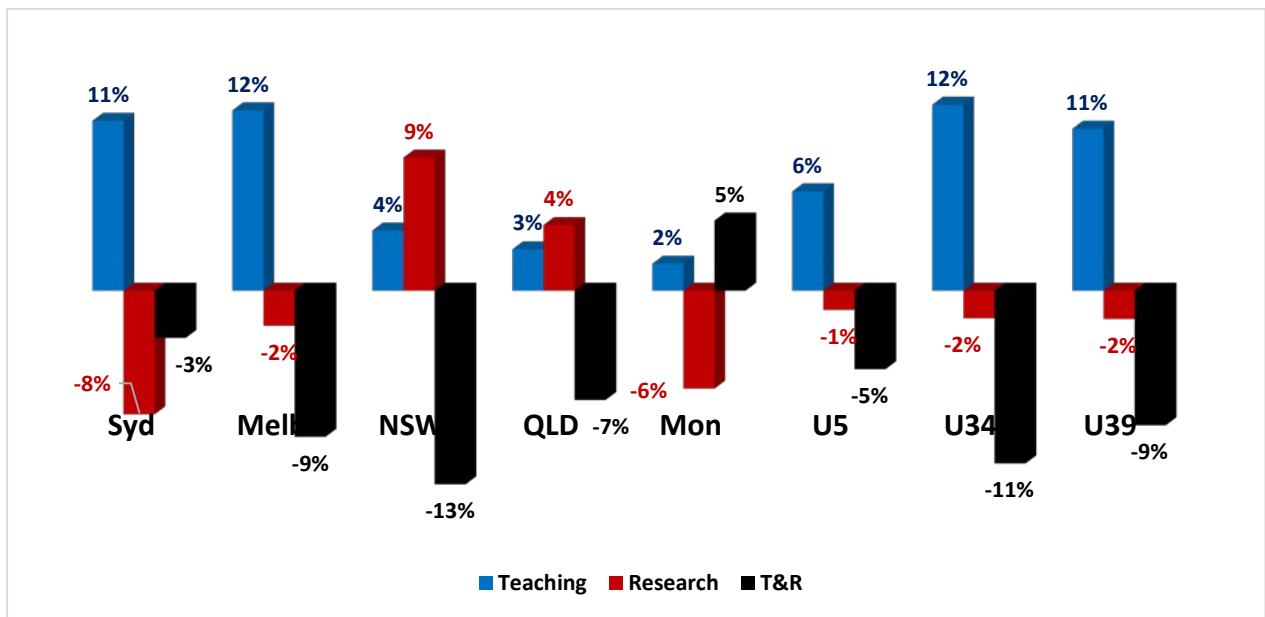


All the U5 increased the number of academic staff employed in 2018 compared with 2009, as discussed above. TO FTE numbers for Melbourne (130%) and Sydney (114%) more than doubled (appendix 9, column 3). The U5 group collectively increased TO staff by 64% compared with 99% for the U34 group. Clearly, the trend for most universities has been to substantially increase their TO staff numbers. By contrast, there was no T&R staff growth for the U5 group (appendix 9, column 5) with New South Wales (-222 FTE, -14%), Queensland (-175 FTE, -13%) and Melbourne (-67 FTE, -4%) actually decreasing their T&R numbers, while Sydney (224 FTE, 13%) and Monash (240 FTE, 14%) reported substantial increases. For the U34 group T&R staff increased by only 4% compared with a 99% increase in TO staff (appendix 9, row 10). These major changes highlight the policies of many universities to proportionally reduce the central importance of T&R staff in delivering teaching and learning programs.

RO staff for the U5 group, acknowledged as research intensive universities, increased by a modest 11%; less than for the other 34 universities, who collectively reported a 21% increase (appendix 9, column 4). Sydney (-82 FTE, -6%) and Monash (-194 FTE, -13%) decreased their number of RO staff over the decade. NSW (442 FTE, 46%), Melbourne (247 FTE, 16%) and Queensland (338 FTE, 19%) all increased their RO staff principally at the cost of T&R staff numbers in favour of teaching-only staff. Of the 2270 additional research-only staff in 2018 compared with 2009 (appendices 7.1 & 7.2) only 751 FTE (33%) were employed by U5 members.

It is clearly evident from a review of the data in figures 8 and 9 that there have been substantial changes in the staff profiles for all the U5 universities. These changes are best illustrated by a plot of the percentage changes in the distributions by function as presented in figure 10.

Figure 10. Changes in Academic Staff Distributions by Function from 2009 to 2018.

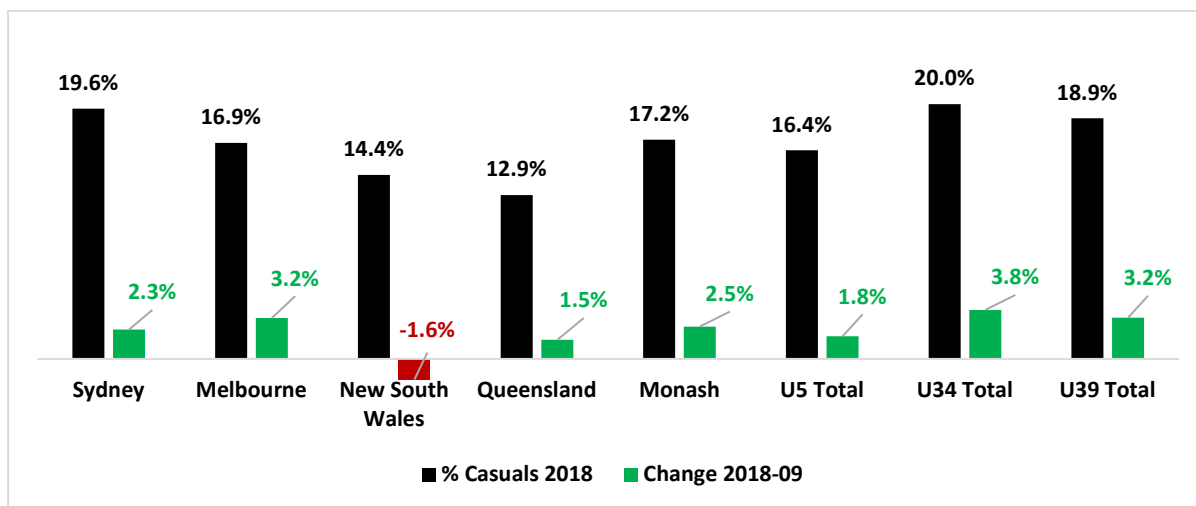


Some of the U5 group have substantially increased the proportion of their staff employed as TO staff. For Sydney (11%) and Melbourne (12%) this has occurred through the proportional reduction of both RO and T&R staff. Sydney’s main reduction has been for RO staff (-8%) while for Melbourne the reduction has been for T&R staff (-9%). New South Wales has reported the largest reduction in T&R staff (-13%) with a significant increase in RO staff (9%) and a smaller increase in TO staff (4%). Queensland like NSW has increased its proportion of TO staff (3%) and RO staff (4%) to the detriment of T&R staff (-6%). Monash is an interesting case, increasing both the TO (2%) and T&R proportions (5%) to the detriment of its RO proportion at -6%. Figure 10 provides valuable insight into the staffing policies of the U5 group. For the U34 group the proportional switch from T&R staff (-11%) to TO staff (12%) is most evident with only a small decrease (-2%) in the RO staff proportion.

4.3 Academic and Non-Academic Casual Staff by Function.

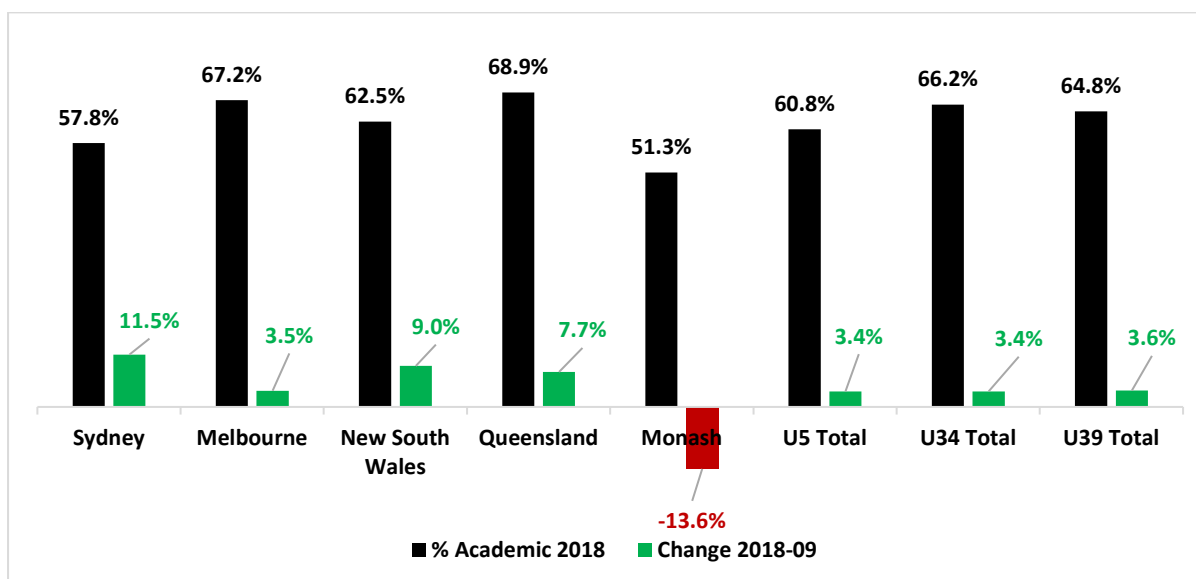
The casual non-academic staff and academic staff - identified as TO, T&R, RO staff - for 2009 and 2018 are given in appendices 10.1 and 10.2 respectively. As previously noted, the 2018 casuals are distributed by function in the proportions for the actual 2017 casuals. All the U5 group except NSW have increased the proportion of staff employed as casuals (compare column 8, appendices 10.1 and 10.2). The outcomes are shown in figure 11. The increases for the U5 group from 14.6% in 2009 to 16.4% in 2018 are not as great as for the other 34 universities with 20% of all staff as casuals in 2018, an increase from 16.1% in 2009.

Figure 11. Percentage of Casuals among All Staff employed in 2018 and the increases since 2009.



All the U5 group had more casuals as academic staff than non-academic staff 2018 (compare column 9, appendices 10.1 and 10.2). The outcomes are presented in figure 12. Monash was the only U5 university not to increase its proportion of casuals being employed as academics in 2018. In 2018 U5 universities employed 60.8% of all casuals as academic staff.

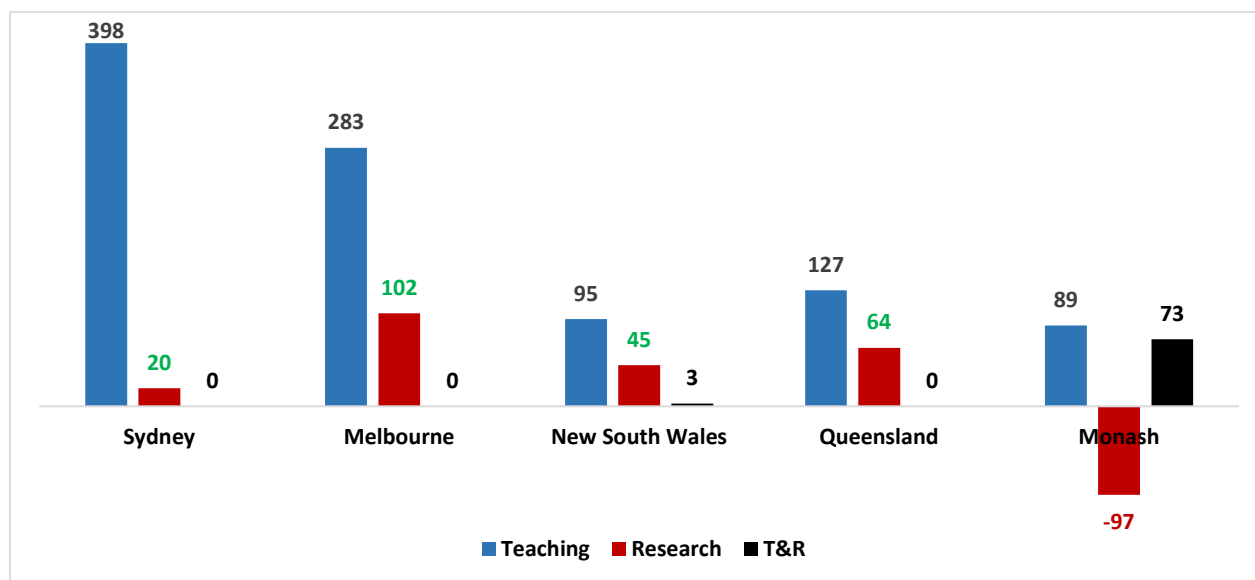
Figure 12. Percentage of all Casuals who were employed as Academic staff in 2018 and the change since 2009.



Most of the increases in academic casuals have been for teaching-only staff as shown in figure 13. Sydney with an increase of 398 FTE and Melbourne at 283 FTE account for much of the growth in academic casuals. Research-only casual staff increases have been significant for four of these universities with Melbourne reporting the largest increase at 102 FTE. Monash is the exception decreasing their research-only casuals by 97 FTE and increasing their T&R FTE casual numbers by 73 FTE. Monash is the only university to report having any significant numbers of T&R casual staff.

It is expected that most RO casual staff will be employed on externally sourced grant funding, often for a limited period of time.

Figure 13. Change in Teaching Only, Research Only and Teaching and Research Academic FTE Casuals from 2009 to 2018



A comparison of the increase of academic staff including casuals by function in appendix 8 with the academic casuals shown in figure 13 reveals that a high proportion of the new TO staff were casuals rather than full or fractional-time employees. The data are provided in table 5.

Table 5. Percentage of all additional Teaching Only Staff employed in 2018 that were Casuals

Sydney	Melbourne	New South Wales	Queensland	Monash
70%	45%	44%	86%	100%

For Sydney, Queensland and Monash more than 50 percent of the increase in teaching-only staff were casuals. The impact of this recruitment policy on teaching programs is a matter that warrants further examination.

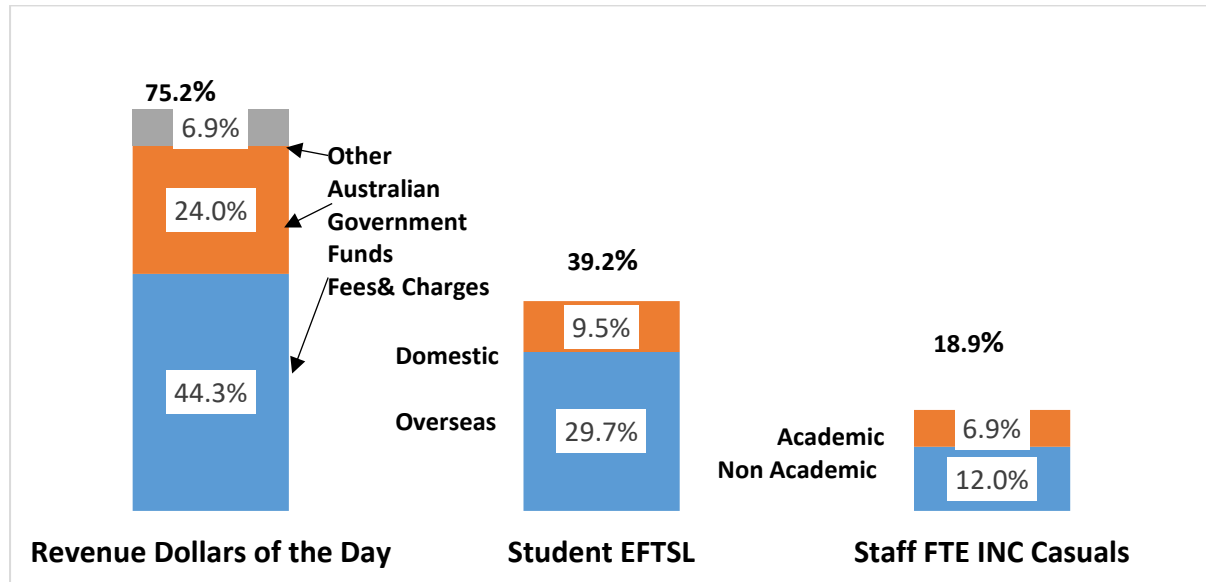
5. Concluding Overview

The U5 group of universities are a major part of the Australian Higher Education system accounting for 35% of the system revenue and asset base in 2018. They have all transformed their operations over the past decade, in particular since 2014-15, in very similar ways that now differentiate them from most of the rest of the higher education system. All the U5 group along with ANU now rank in the top 100 universities on the research-oriented Shanghai Academic Ranking of World Universities (8). They have all improved their international ranking on the metrics used since 2009. However, their standing on the Times Higher Education top 100 rankings, with an increased emphasis on teaching, has been more varied with Monash and New South Wales being the only two institutions to improve their international rankings compared with a decade ago (9).

The combined U5 revenues in 2018 at \$11.8 billion was \$5.1 billion more than in 2009 – a 75% increase in dollars of the day. Some 59% of the additional revenue (\$2.98 billion) came from fees and charges, 32% from the Australian Government (\$1.61 billion) and 9% from other sources, including donations, consultancies and investment income. Revenue was earned on a total asset base of \$28.8 billion. Sydney, Melbourne and New South Wales achieved an 80% increase in revenue (table 2). The lower

performance of Queensland has been discussed in the previous article (1). Major changes in the student and staff profiles of these universities have contributed to the U5 revenue outcomes. The results are summarised in figure 14.

Figure 14. Profile Changes from the U5 Group for 2018 in Comparison to 2009



A 39% increase in EFTSL has been achieved through with 76% of the growth coming from overseas student recruitment (table 1, figure 1). Melbourne and Monash reported student growth of more than 45%. Consequently, four of the U5 universities had 40% or more of their student load as overseas students in 2018 (Queensland was the exception). In 2009 universities, other than Monash, had less than 30% of their students from overseas (figure 5). These outcomes highlight the changed student recruitment approaches of the U5 group.

The U5 proportional student profile was clearly illustrated by the data presented in figure 4 with a 14% reduction in the proportion of domestic students over the decade. The major reduction was in domestic undergraduate students (-13.3%) with the significant growth being in overseas postgraduate coursework students (11.2%). The decline in the proportion of research students by 1.1% (domestic -1.8%, overseas +0.7%) is of concern for Australia’s future competitiveness in international innovation agenda. The very different collective response of the U34 group with a reduction of only 1% in the proportion of domestic students is in sharp contrast.

The similarity of the student profile changes for the individual U5 universities (figure 6) is most noteworthy. They have implemented a student recruitment agenda to proportionally increase overseas postgraduate coursework students in preference to domestic undergraduates. No U5 university increased their proportion of research students, with Melbourne reporting the largest proportional decline in research students at -2.3%.

The proportional increase in FTE staff including casuals at 18.9% for the U5 group was much less than the increase in student EFTSL at 39% (figure 13). The discrepancy is even more significant because the academic component of the increase was only 6.9%. This was because only 36.4% of the net additional staff recruited were academics (appendix 5). Consequently, all U5 universities decreased the proportion of academic staff (figure 7).

The changes in the distribution of academic staff by function differed significantly among the U5 group (appendices 8, 9, figure 10). Sydney and Melbourne reduced their proportion of T&R and RO staff in favour of increased TO staff. New South Wales and Queensland increased their TO and RO staff in

preference to T&R staff, while Monash elected to increase their TO and T&R staff while decreasing the proportion of RO staff.

All the U5 group increased the percentage of staff employed as casuals in 2018 compared with 2009 with the exception of New South Wales (figure 11). The percentage of casuals employed as academic staff increased for all the U5 members with the exception on Monash (figure 12). This growth was principally for TO staff (figure 13) with the universities other than Monash increasing the number of RO casuals. Monash was the only university to employ a significant number of T&R casuals.

These staff profile changes have implications for the delivery of educational programs. One benchmark of performance is the student-to-academic staff ratio. There are various ways to calculate this parameter as shown by the data presented in appendix 11. This topic warrants a separate discussion. Using one conventional ratio of all EFTSL students to all FTE academic staff the U5 group have a deteriorating performance from 2009 to 2018, as shown in table 6. The numbers are lower than for the U34 group principally because of the benefit provided from the inclusion of RO staff.

Table 6. Student to Academic Staff Ratios for 2009 and 2018.

All Academic staff	Sydney	Melbourne	New South Wales	Queensland	Monash	U5	U34
2009	11.1	10.0	11.0	8.8	12.3	10.6	18.6
2018	12.2	12.0	13.3	10.7	17.2	13.0	19.5
Change 2018-09	1.1	2.0	2.3	1.9	4.9	2.4	1.0

The U5 group have strong balance sheets and they are making a significant contribution to Australia's balance of trade through the educational exports they generate; but what are the potential long-term costs of the profile changes? There is a need for more policy discussions at both the institutional governance level and the national level as to how well the current U5 strategies are serving university and national community interests. The dialogue should include institutional financial vulnerability, domestic student participation, the quality of student educational experiences, staffing levels (especially the role of T&R staff), the relevance of a teaching-research nexus, and the amount of new knowledge being created to sustain Australia's international competitiveness.

6. References

1. Larkins F. P., <https://melbourne-cshe.unimelb.edu.au/lh-martin-institute/news/decade-financial-performances-of-five-multi-billion-dollar-australian-universities-2009-to-2018>
9 December 2019
2. Australian Government Department of Education, Student Data,
<https://www.education.gov.au/student-data>
3. Australian Government Department of Education, Staff Data,
<https://www.education.gov.au/staff-data>
4. Larkins F. P., <https://melbourne-cshe.unimelb.edu.au/lh-martin-institute/news/increased-dependency-on-overseas-research-students-highlights-a-national-policy-failing> 24 January 2019
5. Larkins F. P. and Marshman I., <https://franklarkins.files.wordpress.com/2018/11/a22-aus-higher-education-policy-analysis-financial-performance-2014-flarkins-imarshman-feb2016.pdf>
6. Larkins F. P. and Marshman I., <https://franklarkins.files.wordpress.com/2018/11/a23-aus-higher-education-policy-analysis-overseas-students-recruitment-flarkins-imarshman-mar2016.pdf>

7. Larkins F. P., and Marshman I., https://franklarkins.files.wordpress.com/2018/11/a25-domestic-student-load-financing-trends-flarkins-imarshman_jul2016.pdf
8. Shanghai, Academic Ranking of World Universities, 2019, <http://www.shanghairanking.com/ARWU2009.html#>
9. THE World University Rankings, <https://www.timeshighereducation.com/world-university-rankings/2018/world-ranking>

Acknowledgement: I thank Professors William Locke and Leo Goedegebuure for their most valuable advice and assistance in preparing this article.

Professor Frank Larkins is a former Deputy Vice Chancellor at the University of Melbourne. His articles on Australian Higher Education Policies and Performances may be found on the CSHE website at <https://melbourne-cshe.unimelb.edu.au/lh-martin-institute> or at <https://franklarkins.wordpress.com>

Appendix 1 All Students, Domestic and International Student Load Enrolments for 2009 and 2018

2009 Student EFTSL	Sydney	Melbourne	New South Wales	Queensland	Monash	U5 Total	U34 Total	U 39 Total
All Students								
Total	38823	35927	33845	32047	46231	186873	626176	813049
Undergraduate	27785	25070	24580	24928	36450	138813	487019	625832
Postgrad C'work	7303	7416	6017	4066	6890	31692	102359	134051
Research	3261	3173	2594	2757	2599	14384	22281	36665
Domestic								
Total	29553	25786	24879	24901	28824	133943	440141	574084
Undergraduate	23286	18412	19891	20877	23191	105657	364865	470522
Postgrad C'work	3555	4872	3200	2037	3736	17400	50572	67972
Research	2592	2458	1728	1963	1813	10554	15822	26376
Overseas								
Total	9270	10141	8966	7146	17407	52930	186035	238965
Undergraduate	4499	6658	4689	4051	13259	33156	122154	155310
Postgrad C'work	3748	2544	2817	2029	3154	14292	51787	66079
Research	669	715	866	794	786	3830	6459	10289

2018 Student EFTSL	Sydney	Melbourne	New South Wales	Queensland	Monash	U5 Total	U34 Total	All 39 Unis U 39 Total
All Students								
Total	51,425	52,675	46,761	42,200	67,074	260135	849168	1,109,303
Undergraduate	30978	26418	31426	28272	47300	164394	640635	805029
Postgrad C'work	16413	22544	11513	10103	16109	76682	159959	236641
Research	3483	3436	3206	3297	3524	16946	28937	45883
Domestic								
Total	30,663	30,288	28,314	27,471	35,052	151788	594019	745,807
Undergraduate	21967	17044	22965	22095	28199	112270	495653	607923
Postgrad C'work	6033	11152	3434	2197	5003	27819	62636	90455
Research	2622	1992	1720	1794	1762	9890	17662	27552
Overseas								
Total	20,762	22,387	18,447	14,729	32,022	108,347	255149	363,496
Undergraduate	9,011	9,374	8,461	6,177	19,101	52,124	144982	197,106
Postgrad C'work	10,380	11,392	8,079	7,906	11,106	48,863	97323	146,186
Research	861	1,444	1,486	1,503	1,762	7,056	11275	18,331

Appendix 2 Changes in Student Load (EFTSL) from 2009 to 2018

Change 2018-09	Sydney	Melbourne	New South Wales	Queensland	Monash	U5 Total	U34 Total	U39 Total
All Students								
Total	12,602	16,748	12,916	10,153	20,843	73,262	222,992	296,254
Undergraduate	3,193	1,348	6,846	3,344	10,850	25,581	153,616	179,197
Postgrad C'work	9,110	15,128	5,496	6,037	9,219	44,990	57,600	102,590
Research	222	263	612	540	925	2,562	6,656	9,218
Domestic								
Total	1,110	4,502	3,435	2,570	6,228	17,845	153,878	171,723
Undergraduate	-1,319	-1,368	3,074	1,218	5,008	6,613	130,788	137,401
Postgrad C'work	2,478	6,280	234	160	1,267	10,419	12,064	22,483
Research	30	-466	-8	-169	-51	-664	1,840	1,176
Overseas								
Total	11,492	12,246	9,481	7,583	14,615	55,417	69,114	124,531
Undergraduate	4,512	2,716	3,772	2,126	5,842	18,968	22,828	41,796
Postgrad C'work	6,632	8,848	5,262	5,877	7,952	34,571	45,536	80,107
Research	192	729	620	709	976	3,226	4,816	8,042

Appendix 3 Percentage Change in Student Load from 2009 to 2018

Change 2018-09	Sydney	Melbourne	New South Wales	Queensland	Monash	U5 Total	U34 Total	U39 Total
All Students								
Total	32.5%	46.6%	38.2%	31.7%	45.1%	39.2%	35.6%	36.4%
Undergraduate	11.5%	5.4%	27.9%	13.4%	29.8%	18.4%	31.5%	28.6%
Postgrad C'work	124.7%	204.0%	91.3%	148.5%	133.8%	142.0%	56.3%	76.5%
Research	6.8%	8.3%	23.6%	19.6%	35.6%	17.8%	29.9%	25.1%
Domestic								
Total	3.8%	17.5%	13.8%	10.3%	21.6%	13.3%	35.0%	29.9%
Undergraduate	-5.7%	-7.4%	15.5%	5.8%	21.6%	6.3%	35.8%	29.2%
Postgrad C'work	69.7%	128.9%	7.3%	7.9%	33.9%	59.9%	23.9%	33.1%
Research	1.2%	-19.0%	-0.5%	-8.6%	-2.8%	-6.3%	11.6%	4.5%
Overseas								
Total	124.0%	120.8%	105.7%	106.1%	84.0%	104.7%	37.2%	52.1%
Undergraduate	100.3%	40.8%	80.4%	52.5%	44.1%	57.2%	18.7%	26.9%
Postgrad C'work	176.9%	347.8%	186.8%	289.7%	252.1%	241.9%	87.9%	121.2%
Research	28.7%	102.0%	71.6%	89.3%	124.2%	84.2%	74.6%	78.2%

Appendix 4 Full Time, Fractional Time and Casual Academic and Non-Academic Staff as Full Time Equivalent (FTE)

Appendix 4.1 Year 2009

FTE All Staff 2009	All Staff	Academic	Non Academic	% Academic
Sydney	7126	3503	3623	49.2%
Melbourne	7296	3596	3700	49.3%
New South Wales	5976	3079	2897	51.5%
Queensland	6912	3634	3278	52.6%
Monash	7441	3762	3679	50.6%
U5 Total	34751	17574	17177	50.6%
U34 Total	72470	33700	38770	46.5%
U39 Total	107221	51274	55947	47.8%
U5 % U39	32.4%	34.3%	30.7%	

Appendix 4.2 Year 2018

FTE All Staff 2018	All Staff	Academic	Non Academic	% Academic
Sydney	8725	4212	4512	48.3%
Melbourne	8987	4401	4587	49.0%
New South Wales	7281	3516	3765	48.3%
Queensland	7589	3944	3646	52.0%
Monash	8754	3898	4858	44.5%
U5 Total	41336	19971	21368	48.3%
U34 Total	93012	43468	49577	46.7%
U39 Total	134348	63439	70945	47.2%
U5 % U39	30.8%	31.5%	30.1%	

Appendix 5 Change in FTE Staff 2009 to 2018

Change 2018-09	All Staff	Academic	Non Academic	% Academic
Sydney	1599	709	889	-0.9%
Melbourne	1691	805	887	-0.3%
New South Wales	1305	437	868	-3.2%
Queensland	677	310	368	-0.6%
Monash	1313	136	1179	-6.0%
U5 Total	6585	2397	4191	-2.3%
U34 Total	20542	9768	10807	0.2%
U39 Total	27127	12165	14998	-0.6%

Appendix 6 Percentage Change in FTE Staff 2009 to 2018

% Change 2018-09	All Staff	Academic	Non Academic
Sydney	22.4%	20.2%	24.5%
Melbourne	23.2%	22.4%	24.0%
New South Wales	21.8%	14.2%	30.0%
Queensland	9.8%	8.5%	11.2%
Monash	17.6%	3.6%	32.0%
U5 Total	18.9%	13.6%	24.4%
U34 Total	28.3%	29.0%	27.9%
U39 Total	25.3%	23.7%	26.8%

Appendix 7 Distribution of Academic Staff by Function – Teaching Only, Research Only, Teaching and Research in Full Time Equivalent including Casuals

Appendix 7.1 Year 2009

FTE All Staff	Academic	Teaching	Research	Teaching &
2009	All	Only	Only	Research
Sydney	3503	497	1266	1740
Melbourne	3596	482	1547	1567
New South Wales	3079	558	965	1556
Queensland	3634	479	1807	1348
Monash	3762	568	1482	1712
U5 Total	17574	2584	7067	7923
U34 Total	33700	7533	7333	18834
U39 Total	51274	10117	14400	26757
U5 % U39	34.3%	25.5%	49.1%	29.6%

Appendix 7.2 Year 2018

FTE All Staff	Academic	Teaching	Research	Teaching &
2018	All	Only	Only	Research
Sydney	4212	1064	1184	1964
Melbourne	4401	1107	1794	1500
New South Wales	3516	775	1407	1334
Queensland	3944	626	2145	1173
Monash	3898	657	1288	1952
U5 Total	19971	4229	7818	7923
U34 Total	43468	14985	8852	19632
U39 Total	63439	19214	16670	27555
U5%U39	31.5%	22.0%	46.9%	28.8%

Appendix 8 Change in FTE by Academic Function 2009 to 2018

Change	Academic	Teaching	Research	Teaching &
2018-09	All	Only	Only	Research
Sydney	709	567	-82	224
Melbourne	805	625	247	-67
New South Wales	437	217	442	-222
Queensland	310	147	338	-175
Monash	136	89	-194	240
U5 Total	2397	1645	751	0
U34 Total	9768	7452	1519	798
U39 Total	12165	9097	2270	798

Appendix 9 Percentage Change in FTE by Academic Function 2009 to 2018

% Change	Academic	Teaching	Research	Teaching &
2018-09	All	Only	Only	Research
Sydney	20.2%	114.1%	-6.5%	12.9%
Melbourne	22.4%	129.7%	16.0%	-4.3%
New South Wales	14.2%	38.9%	45.8%	-14.3%
Queensland	8.5%	30.7%	18.7%	-13.0%
Monash	3.6%	15.7%	-13.1%	14.0%
U5 Total	13.6%	63.7%	10.6%	0.0%
U34 Total	29.0%	98.9%	20.7%	4.2%
U39 Total	23.7%	89.9%	15.8%	3.0%

Appendix 10 Academic and Non-Academic Casual Staff by Function

Appendix 10.1 Year 2009 Casuals

FTE Staff	Teaching	Research	Teaching &	Academic	Non-	ALL	Casuals	Casuals	% Acad
Casual 2009	Only	Only	Research		Academic			All Staff	Casual
Sydney	497	75	0	572	663	1235		17.3%	46.3%
Melbourne	465	173	0	638	364	1002		13.7%	63.7%
New South Wales	512	1	0	513	445	958		16.0%	53.5%
Queensland	324	157	0	481	305	786		11.4%	61.2%
Monash	568	140	0	708	383	1091		14.7%	64.9%
U5 Total	2366	546	0	2912	2160	5072		14.6%	57.4%
U34 Total	6587	761	147	7348	4355	11703		16.1%	62.8%
U39 Total	8953	1307	147	10260	6515	16775		15.6%	61.2%

Appendix 10.2 Year 2018 Casuals

FTE Staff	Teaching	Research	Teaching &	Academic	Non-	ALL	Casuals %	% Acad	% Change
Casual 2018	Only	Only	Research		Academic		All Staff	Casual	Acad 2018-9
Sydney	895	95	0	990	723	1713	19.6%	57.8%	11.5%
Melbourne	748	275	0	1023	499	1522	16.9%	67.2%	3.5%
New South Wales	607	46	3	656	394	1050	14.4%	62.5%	9.0%
Queensland	451	221	0	672	304	976	12.9%	68.9%	7.7%
Monash	657	43	73	773	733	1506	17.2%	51.3%	-13.6%
U5 Total	3358	680	76	4114	2653	6767	16.4%	60.8%	3.4%
U34 Total	11201	637	469	12307	6287	18594	20.0%	66.2%	3.4%
U39 Total	14559	1317	545	16421	8940	25361	18.9%	64.8%	3.6%

Appendix 11 Various Approaches to Determining the Student-to-Staff Ratios

	Sydney	Melbourne	UNSW	Queensland	Monash	U5	U34	U39
1. All Student EFTSL/ All Academic staff FTE	2009 11.1	10.0	11.0	8.8	12.3	10.6	18.6	15.9
	2018 12.2	12.0	13.3	10.7	17.2	13.0	19.5	17.5
Change 2018-09	1.1	2.0	2.3	1.9	4.9	2.4	1.0	1.6
2. All Student EFTSL/ (TO+T&R Staff) FTE	2009 17.4	17.5	16.0	17.5	20.3	17.8	23.7	22.0
	2018 17.0	20.2	22.2	23.5	25.7	21.4	24.5	23.7
Change 2009-18	-0.4	2.7	6.2	5.9	5.4	3.6	0.8	1.7
3. (All - Research Students) EFTSL/ (TO+T&R) FTE 2009	2009 15.9	16.0	14.8	16.0	19.1	16.4	22.9	21.1
	2018 15.8	18.9	20.7	21.6	24.4	20.0	24.5	22.7
Change 2009-18	-0.1	2.9	5.9	5.6	5.2	3.6	1.6	1.6