

# Ranking Australian Universities: Controlling for Scope

## *Executive Summary*

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In Australia, the procedures for allocating both the Research Quantum Fund and the Learning & Teaching Performance Fund both recognize that patterns of research and teaching vary across disciplines. National or international rankings of universities, however, typically use aggregate data that ignore the scope of research and teaching undertaken with an institution. Existing data banks that are used in, for example, the research rankings produced at Shanghai Jiao Tong University, favour universities that are strong in medicine and science. Measures of performance in learning and teaching can also show different patterns across disciplines.

In principle, a university should be evaluated on the basis of whether it is good at what it does. There is sufficient diversity in discipline coverage in Australian universities to warrant controlling for scope when evaluating performance -- for example, only about one-third of public universities have a medical faculty. A measure of scope is the percentage of academic staff in different discipline groups. Table 1 contains an index of specialisation defined as the standard deviation of staff shares from the national average shares in each discipline, standardized to give the most specialised university a score of 100. The most specialised university is Sunshine Coast followed by Swinburne and Australian Catholic University. The universities that are closest to the national average are James Cook, Curtin and Monash.

In each discipline, institutions are ranked according to their performance both in research and in learning, training and teaching. The broad criterion used for choosing measures is 'international academic standing'. The research measures used are publications and citations, success in national competitive grants, membership of academies and doctoral completions. The measures used for teaching are entrance scores, retention rates, progression rates (including to postgraduate degrees), student satisfaction levels and resource levels.

Overall rankings are obtained by using a weighted average of the discipline rankings, where the weights reflect the scope of the institution. In research, the weights used are the relative number of academic staff in each discipline; in teaching, student numbers are used as weights.

Controlling for scope in research performance narrows the gap between the GO8 and other universities. The greatest improvement in ranking occurs for UTS and UWS.

Overall in research, ANU is ranked first followed by Melbourne, Sydney and Queensland in that order. If scope is ignored Melbourne is first ranked followed by Sydney, Queensland and ANU in that order.

Measures of teaching performance controlling for scope show much less dispersion than do the research measures. ANU is ranked first, followed by Melbourne and UWA. ANU dominates in resources per student and progression rates to postgraduate study.

An overall measure of standing is obtained by averaging the results for research and teaching. While allowing for scope does reduce the dispersion in the *rating* scores, for only a few universities does it significantly affect institutional *rankings* using as the criterion 'international academic standing'. Rankings for all universities are given in Table 2.

At the top end of the rankings allowance for scope moves ANU to first place but the ordering of the other GO8 universities remains unchanged. The rankings of some of the more technologically oriented universities, particularly QUT, are improved when controlled for scope.

The ratings of the more specialised universities are not greatly affected when scope is allowed for. This finding reflects the fact that Australia does not possess outstanding specialist institutions, such as the London School of Economics, the Swiss Federal Institute of Science, and the Indian Institute of Science.

It remains an open question as to whether controlling for scope would change institutional rankings more if we used a finer discipline breakdown or could obtain better data on research output in the social sciences and humanities.

**Table 1: Specialisation Index: Degree of Departure from National Staff Distribution Across Disciplines**

Rank	University	Index
1	USC	100.0
2	Swinburne	76.3
3	ACU	70.0
4	Flinders	62.3
5	Canberra	59.9
6	ECU	56.2
7	ANU	55.0
8	UNE	54.7
9	Macquarie	54.4
10	SCU	48.8
11	CDU	47.8
12	Ballarat	46.3
13	Victoria	43.8
13	CSU	43.8
15	UTS	40.5
16	CQU	40.4
17	RMIT	39.0
18	USQ	38.3
19	UniSA	35.6
20	Wollongong	35.3
21	Adelaide	33.3
22	Murdoch	32.2
22	UWA	32.2
24	Deakin	31.2
25	Sydney	31.0
26	Queensland	30.2
27	UWS	28.5
28	QUT	27.4
29	La Trobe	26.0
30	Griffith	25.0
31	UNSW	24.9
32	Melbourne	24.6
33	Tasmania	23.5
34	Newcastle	22.6
35	Monash	22.0
36	Curtin	20.6
37	JCU	19.4

If university has same distribution of staff across disciplines as national average then index is zero. High values indicate greater departure from national average.

**Table 2: Index of the International Standing of Australian Public Universities**

<i>Allowing for Scope</i>			<i>Research Unadjusted for Scope</i>		
Rank	University	Index	Rank	University	Index
1	ANU	100	1	Melbourne	100
2	Melbourne	95	2	Sydney	98
3	Sydney	93	3	ANU	93
4	Queensland	84	4	Queensland	88
5	UNSW	81	5	UNSW	80
6	Monash	75	6	Monash	79
7	UWA	68	7	UWA	72
8	Adelaide	63	8	Adelaide	65
9	Macquarie	56	9	Macquarie	55
10	QUT	53	10	La Trobe	52
11	La Trobe	52	10	Tasmania	52
11	Wollongong	52	12	Newcastle	51
13	Newcastle	51	12	Wollongong	51
14	Tasmania	50	14	Griffith	49
14	Griffith	50	14	Curtin	49
16	UTS	49	16	QUT	48
17	Curtin	48	16	Murdoch	48
17	Flinders	48	16	Flinders	48
19	Murdoch	47	16	UTS	48
20	RMIT	46	20	JCU	46
20	UniSA	46	21	UniSA	45
22	Deakin	45	21	RMIT	45
22	UNE	45	23	Deakin	44
24	UWS	44	23	UNE	44
24	JCU	44	25	Swinburne	43
26	Swinburne	43	26	UWS	42
27	SCU	41	26	Victoria	42
27	Canberra	41	26	Canberra	42
29	Victoria	40	29	SCU	40
29	ACU	40	29	CSU	40
29	CSU	40	31	ACU	39
32	USQ	38	31	Ballarat	39
32	Ballarat	38	31	USC	39
32	USC	38	31	USQ	39
35	ECU	37	35	ECU	35
36	CDU	30	36	CDU	31
36	CQU	30	36	CQU	31