

# The International Standing of Australian Universities

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## Executive Summary

The world's finest universities have always been international in outlook, attracting academics and students from many countries. Globalisation has meant an increased demand from students, employers, and academics for indicators of the international standing of universities. Decisions about where to study, whom to employ, or where to seek professional expertise should be based on quantitative and qualitative information but it is often difficult for the decision maker to obtain this information directly. In this paper we meet this need by providing information on the international standing of 39 Australian universities.

We assume that there is a 'brand effect' for the university as a whole, while acknowledging that there are discipline effects as well: the ranking of a given discipline across universities may differ from the ranking of institutions as single entities. We postulate, however, that the variability in the quality of departments within an institution is falling as a result of the growth in interdisciplinary research and quality controls on departments and universities. Bad departments in good universities are becoming rarer.

Australia is a major contributor to world higher education. The OECD estimates that in 2002 around 1.90 million students were studying at the tertiary level outside their country of origin and Australia had the highest proportion of foreign students of any country. In absolute terms Australia ranked fourth behind only the United States, U.K. and Germany.

Within Australia there has been much discussion about the international standing of its universities. The discussion is often related back to funding issues. Is it possible under current funding arrangements for Australian universities to be high up in the international league tables? Are any Australian universities in the top 50 or top 100 in the world?

One answer to the last question has been provided by work done in the Institute of Higher Education at Shanghai Jiao Tong University (<http://ed.sjtu.edu.cn/rankinh.htm>). In the 2004 Shanghai study two Australian universities, ANU and Melbourne, were ranked in the range 50-100. Fourteen Australian universities were listed among the top 500 world universities.<sup>1</sup>

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<sup>1</sup> The list is all the Group of Eight universities plus Flinders, LaTrobe, Macquarie, Murdoch, Newcastle and Tasmania.

We approach the measurement of international standing from two directions. In one approach we survey CEOs of some of the world's best universities and deans of Australian universities for their perceptions of the international standing of Australian universities. The survey results provide us with a broad subjective measure of international standing; it is primarily a reputation measure. In the other approach we use published data which we combine into an index of current performance. The two approaches are linked in that we also asked those surveyed to provide us with the weights to combine the quantitative measures into a single index.

Measurement of standing is done both in absolute terms (where Australian universities stand *vis a vis* the world's best universities) and in relative terms within Australia.

### *Determinants of International Standing*

In the Shanghai study the international ranking of a university is determined by research performance and its importance as judged by citations. We extend this approach by adding a range of other measures of performance and by allowing for the discipline mix in institutions between laboratory-based disciplines and non-laboratory based. Attributes are grouped under the following six headings:

- (i) Quality/International standing of academic staff as measured by research output, citations, membership of learned academies, and success in obtaining research grants.
- (ii) Quality of graduate programs, particularly Ph.D. programs, as measured by student surveys, progression rates and successful completions.
- (iii) Quality of undergraduate entry as measured by Tertiary Entrance Scores
- (iv) Quality of undergraduate programs as measured by progression rates within the degree and to higher studies, student evaluations, and staff-student ratios.
- (v) Resources as measured by total revenue deflated by size of institution.
- (vi) Subjective assessment as obtained through a survey of educationists.

## *Survey Results*

Two sets of questionnaires were used: one for CEOs (vice-chancellors, presidents, rectors) of foreign universities in North America, Europe and Asia; one for Australian deans. The CEOs were asked to rate each Australian university in comparison with institutions in their continent using a 1 to 5 scale. Australian deans (and New Zealand vice-chancellors) were asked to rate against universities in the United States. The scales were calibrated using the results of the Shanghai study (for example, top 50 US = top 25 Europe = top 5 Asia = top 80 world.) Replies were received from 40 CEOs and 80 deans.

Foreign CEOs rated ANU and Melbourne highest: about half the respondents rated them as being equivalent to the top 50 US universities (top 80 world universities). Nearly one-third placed Sydney in this top grade. A clear majority placed Sydney, Queensland and New South Wales in the top 200 in the world, and about 50 per cent also placed Monash in this category. These results mirror those of the Shanghai study, except that in our results Monash replaces the University of Western Australia. In the recent Times Higher Education Supplement ratings ([www.thes.co.uk](http://www.thes.co.uk)), by comparison, fourteen Australian universities figured amongst the top 200.

Australian deans rated Australian universities, on average, one category higher than did foreign CEOs but the rank ordering was similar for the two groups.

Australian deans and New Zealand vice-chancellors were also asked to rank the top 10 Australian universities in order using as the criteria “international standing”. The top five rankings here were, in order, Melbourne, ANU, Sydney, Queensland and New South Wales.

Given that the Group of Eight universities define their mission as being research intensive universities it is not surprising that when we combine all the survey results they fill the top positions. The ordering is: Melbourne, ANU, Sydney, Queensland, New South Wales, Monash, Western Australia, and Adelaide.

All respondents were also asked what weights they would place on our six groupings of attributes when measuring international standing. A remarkable finding emerged: the average weights were almost identical for the foreign CEOs and Australian deans. They are as follows:

- 40 %: quality/international standing of staff
- 16 %: quality of graduate programs
- 11 %: quality of undergraduate entry
- 14 %: quality of undergraduate programs
- 11 %: resource levels
- 8%: opinions of educationists

### *Quantitative Findings*

The ratings for each of our six categories are combined into a single rating using the weights obtained from our surveys. Because there is some overlap between the categories (a necessary condition for a good PhD program is quality staff, resource levels feed into other categories and so on) it is not appropriate to dwell on results for individual categories. In addition, in all categories the variables have been chosen using as the criteria, “international standing”. Nevertheless, we note that the spread of scores is much greater for “standing of staff” than it is for the other quantitative variables. The newer universities are disadvantaged in measuring the quality of staff because we use a decade of research performance.

It is an open question as to how we should allow for size of institution in rating universities. All our measures except for the international standing of staff and PhD completions are expressed as ratios, which allow for the size of institutions. We calculate two quantitative series: one using levels for research and research training, the other deflates these variables by size of institution. The quantitative series in which there is no deflation by size of institution is the more highly correlated with the rankings obtained from the surveys.

We then explore the issue further and combine the two quantitative series by weighting them in a manner which maximizes the (rank) correlation between this combined series and the ranking obtained from the surveys. The weights so calculated are 0.84 for the ‘levels’ ranking and 0.16 for the ranking which is adjusted for institutional size. The combined quantitative series gives us our preferred series which we label the *Melbourne Institute Index of International Standing of Australian Universities*. This index uses quantitative data, incorporates and is modified by the survey results, and makes some allowance for size of institution.

The rankings in the Index follow the groupings of Australian universities: all members of the Group of Eight (Go8), followed by all members of the Innovative Research Universities Australia (IRUA), the Australian Technology Network (ATN), and the New Generation Universities (NGU). ANU and Melbourne share top honours, followed by Sydney, then Queensland and New South Wales, followed by Monash, Western Australia, and Adelaide. The top ranked universities in each of the other groupings are: Flinders (IRUA), Curtin and Queensland University of Technology (ATN), and Canberra (NGU). Interestingly, the highest-ranked fourteen universities are the same fourteen universities (though with some differences in ordering) as appear in the 2004 Shanghai list of the top 500 Australian universities.

## Melbourne Institute Index of the International Standing of Australian Universities

Group	University	Index	Ranking
Go8	Australian National University	100	1
Go8	University of Melbourne	100	1
Go8	University of Sydney	95	3
Go8	University of Queensland	87	4
Go8	University of New South Wales	85	5
Go8	Monash University	76	6
Go8	University of Western Australia	76	6
Go8	University of Adelaide	70	8
IRUA	Flinders University of South Australia	56	9
IRUA	LaTrobe University	55	10
IRUA	Macquarie University	54	11
	University of Tasmania	53	12
IRUA	University of Newcastle	52	13
IRUA	Murdoch University	51	14
	University of Wollongong	50	15
ATN	Curtin University of Technology	49	16
IRUA	Griffith University	49	16
ATN	Queensland University of Technology	49	16
	Deakin University	47	19
	University of New England	47	19
ATN	University of Technology, Sydney	47	19
	James Cook University	46	22
	Swinburne University of Technology	46	22
ATN	University of South Australia	44	24
ATN	RMIT University	43	25
NGU	University of Canberra	42	26
	Charles Darwin University	41	27
NGU	Edith Cowan University	41	27
NGU	Victoria University	41	27
	Charles Sturt University	39	30
NGU	Southern Cross University	39	30
NGU	University of Western Sydney	39	30
NGU	University of Ballarat	38	33
NGU	Australian Catholic University	37	34
NGU	Central Queensland University	37	34
NGU	University of Southern Queensland	36	36
	University of Notre Dame, Australia	32	37
NGU	University of the Sunshine Coast	32	37

Go8 = Group of Eight

IRUA = Innovative Research Universities Australia

ATN = Australian Technology Network

NGU = New Generation Universities