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Rankings and the RQF

Analysis of Shanghai Jiao Tong University Ranking of World Universities 2005

With 14 of its universities represented in the 2005 edition of the Top 500 Ranking of World Universities from the Shanghai Jiao Tong University (SJTU), Australia can be justifiably proud of the high international standing of its university research. Australia ranks 9th in the world for the number of its universities listed in the top 500, or top five per cent of world universities.

The SJTU rankings provide an annual scorecard allowing institutions making the list to assess their research performance against the very best. For instance, in a separately published article, the SJTU authors provide a portrait of the average university in the world top 20. These have 12.9 staff or alumni winning Nobel Prizes or Fields Medals for mathematics and 56.5 highly cited researchers. Even a combination of all Group of Eight universities (54 high citation scholars) falls short of the top 20 average, and with eight Nobel Laureates to its credit Australia as a nation cannot match the top 20 average.

Top 20 universities achieve their position as a result of combinations of history, geographical position, concentration of population, financial resources, and co-location with world leaders in commerce and industry. The enormous gap between the top 20 and others in the top 100 suggests that no Australian university could bridge this gap without an impossibly large injection of funds.

Universities in the top 100 can nonetheless aspire to higher ranked positions. For example, the University of Manchester (78th place in 2004) leapt to 53rd in 2005 due to the merger with UMIST, which was positioned at 267 in 2004. This demonstrates however that there are limits to what universities can achieve in the rarefied atmosphere of the top 100.

With two universities in the Top 100 and another two positioned in the next 50, Australia might realistically aspire to have four universities represented in the Top 100 over time and one in the top 50. One conclusion that can be drawn is that excessive concentration of national research funding at the top end will result in very marginal gains on world rankings – if that is indeed an objective of the Research Quality Framework (RQF).

By far the most significant outcomes of the 2005 SJTU rankings for Australian universities were further down the list among the upwardly mobile IRU Australia universities. The most spectacular improvement came from Macquarie University, which joined Monash University and the University of Adelaide in the 201-300 band. Calculations by the IRU Australia show that Macquarie moved up 49 places from 2004 while the University of Newcastle gained 45 places and now stands alone in the 301-400 band. The University of Tasmania has dropped into the 401-500 band to join La Trobe, Flinders and Murdoch – all three of which gained places within the band.

With IRU Australia universities gaining an additional 124 places in 2005, against the other nine universities listed losing 40 places, it appears that the options for rankings improvements might be more limited and more expensive once a university reaches the top 200. This underscores the importance of a research funding policy that is responsive to the upwardly mobile universities positioned between 201-500 and suggests to policy makers that concentration of research funding to a handful of universities might not be in the national interest.

Clearly though, no one wants national research policy to be rankings-driven – so what other interesting observations can be drawn from the SJTU exercise? The architects of the SJTU rankings use only five indicators of exceptional international standing – Nobel Prizes and Fields Medals (alumni and staff), high citations researchers, articles published in *Nature* and *Science*, articles indexed in Science Citation Index and Social Science Citation Index. The SJTU rankings provide us with an indication of outcomes if the RQF were based solely around indicators of the highest international research standing.

As an example, the leading 40 universities from the United Kingdom on the SJTU top 500 list contains 37 of the universities which received the top research funding allocations (2004-05) distributed as a result of the Research Assessment Exercise (RAE). What this shows is that, in institutional terms, the British RAE has achieved what it originally set out to achieve and that is to reward research, which is of the highest international standing.

However a recent report to the UK House of Commons provides a rather dismal assessment of the RAE funding model which sought to reward international excellence to the detriment of national excellence with a non-linear funding scale resulting, over time, in the closure of many nationally prominent research and teaching departments.

The UK has since realised that international standing does not always equate with research excellence and for the RAE 2008 has abolished the notorious funding “cliff edge” and moved to profiles which reward universities for the proportion of staff deemed to be in each band. This is designed to recognise both national and international excellence.

The Shanghai Jiao Tong rankings 2005 have clear implications for those engaged in strategies to advance Australia’s national research effort. In the context of the current development of a research quality framework, it seems Australia would be best served by a framework that acknowledges its depth of research excellence, one which focuses on national as well as international indicators, and one which taps the full potential of strong second tier universities which have the greatest potential for rapid upward mobility.

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The SJTU Ranking of World Universities 2005 is available at:
<http://ed.sjtu.edu.cn/rank/2005/ARWU2005Main.htm>