

Rankings: Marketing Mana or Menace?

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Abstract

This paper and conference session examine global university ranking and the implications for New Zealand Institutions. Global rankings commenced only in 2003, but they are already much present in public discussion, government thinking, marketing strategies, and university development strategies. There are two principal rankings systems, each covering universities as a whole and also most of the principal broad fields of study. These are issued annually by the Shanghai Jiao Tong University Institute of Higher Education, which focuses only on research performance; and the Times Higher, which provide a hierarchy of the 'world's best universities' according to a composite set of criteria. The paper is in three main sections. First it reports on where New Zealand higher education sits in the world, according to comparative educational indicators. This provides a backdrop against which the rankings data, and the larger strategic problem of New Zealand's global position that is entailed in them, are considered. The position of New Zealand is similar to that of Australia: stronger in school standards than in tertiary participation rates, a successful exporter despite recent fluctuations, though tucked into a specialized and vulnerable first degree niche in the global market, the basis for comprehensive research provision but under-investment in research, which prevents the strongest universities from becoming more globally competitive. Second, the paper looks at the way the two main global rankings systems work and how New Zealand performs under each. Third, the paper considers responses to the rankings, in three areas: 1) how New Zealand can do better under the existing rankings; (2) technical and policy problems of the existing rankings, and alternative approaches to the process of international comparison; and (3) the larger question of strategies for improving the global standing and effectiveness of tertiary education in New Zealand.

Note: In the paper text, sub-heads in ***bold italics*** at the beginning of paragraphs refer to the PowerPoint slides that accompany this text presentation

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Introduction

Rankings. University rankings are the biggest thing to hit tertiary education, especially university education, for some time. They are not as big as the New Public Management, Information Technology and the Cross-border Student Market, but I suspect they are bigger than Quality Assurance and National Research Assessment, which have absorbed a lot of energy in recent years, but might just become sub-sets of strategy for improving rankings performance.

There is much at stake. Market share, revenues, status (national and institutional), the power to attract talent, the incentives governing university executives, the goals of academic work, the nature of research. Rankings are not the only game in town, and for some purposes we can ignore them. But they are a big ticket game, and sooner or later they connect to most other kinds of activity in higher education.

Rankings are *the* meta-performance indicator, with a special power of their own. Rankings are hypnotic and become an end in themselves without regard to exactly what they measure, whether they are solidly grounded or whether their use has constructive effects. The desire for rank ordering overrules all else. Often institutions are rank ordered even where differences in the data are not statistically significant. Rankings do more than 'reflect' an institution's profile and quality (accurately or inaccurately!). The criteria used to determine an institution's position in the ranking system become outputs every institution wants to achieve. It must put these outputs on priority, or explain to its governing body, government and journalists why it is slipping down the all too greasy pole. In this manner rankings begin to define what quality means. By shaping institution and system behaviours, rankings begin to shape mission and the balance of activity. Rankings cut deeply into the autonomous control of research universities over mission and identity (except for universities that lead the rankings and continue to set their own terms).

All of this becomes more obvious when we look at the history of the *US News and World Report* rankings in the United States since 1983. US News is in the ranking game simply to sell magazines, the annual rankings are its biggest annual seller. But US News has secured more power over American higher education priorities than most national administrations. In the competitive US market institutions (or at least their leaders and boards of trustees) live or die on the basis of the US News ranking. And so, every year they run harder and harder just to maintain their market position. Over twenty plus years this produced the increasing manipulation of student entry to maximize student scores and refusal rates, the appointment of 'enrolment managers' who are now so important that some are paid more than the university president, and in one or two cases *even more than the football coach* (hard to imagine isn't it?!), and the growth of merit-based student aid at the expense of needs-based aid (Kirp, 2004). Innovations that don't contribute to the US News score are frowned upon as a waste of resources.

There is a lot of talk in the USA about the downside of US News. But so far no-one has come up with a strategy to deal with it, aside from a boycott to stop the rankings process in its tracks. Some institutions are trying this, mostly in the liberal arts colleges, but not enough to make a difference. It's hard to undo a rankings

system once it is well entrenched. Global rankings are likely to settle in over the next few years. There are lessons for all of us in the American experience.

Rankings: Market Mana or Menace? The rest of this paper is in three sections. First it reports on the global position of New Zealand tertiary education according to comparative indicators. I'll be busy with the PowerPoint in this section. It provides a backdrop against which the rankings data will be considered. Second, the paper looks at the way the two main global rankings systems work and how New Zealand performs under each. Third, the paper considers responses to the rankings, in three areas: (1) how New Zealand can do better under the existing rankings; (2) the technical and policy problems posed by the existing rankings systems, and alternative approaches to the process of international comparison; and (3) the larger question of strategies for improving the global standing and effectiveness of tertiary education in New Zealand. I should add that this is a policy driven paper not a marketing driven paper. In other words New Zealand's position in the cross-border student market is treated as a sub-set of the larger question of New Zealand's evolving long term global position in education and research.

New Zealand tertiary education: the global position

The comparators. Some nations perform stronger in tertiary education than their economy would suggest (e.g. Singapore, Korea and Sweden), others weaker (e.g. Russia and Germany). New Zealand is a lower middle ranked developed nation, of small size. Its comparative performance varies depending on which indicators are used. Briefly summarising what is to follow: the spending level is more competitive than the participation rate, exports are strong though locked into a narrow specialization, research breadth looks better than research depth.

In these slides I do not bring in all OECD countries as comparators. The primary comparison is with other developed nations of small size. Small size is one of the factors that shapes the conditions of possibility but it does not prevent a nation from developing a successful global strategy. Look at Singapore and Switzerland. I'll also provide data on Norway, Ireland and Finland, the last another very competent knowledge economy. I'll include Australia because that can hardly be avoided, and the USA because it is the world's leading knowledge economy. Some slides will bring in a larger group of Asia-Pacific and European nations.

Participation in education. New Zealand school students perform well in the PISA tests of maths and reading, an excellent foundation for tertiary studies. However as in Australia a significant number of students do not finish school. Most Western European countries a more universal (as are Korea and Japan).

Proportion of 25-24 year olds who have reached tertiary education. As the bar graph of a larger group of countries shows the level of tertiary education in the population is below the OECD average. NZ is the bar in black and white.

Investment in tertiary education institutions as a proportion of GDP. New Zealand's investment in education as a share of GDP is the same as Australia though well below the United States, Finland and Switzerland.

Public and private investment in tertiary education as % of GDP. New Zealand is also below Korea and Canada. Still as bar graph shows New Zealand is above the OECD average in total spending on tertiary education institutions.

Public investment only. However the composition of spending matters because it affects spending patterns and the balance of goods produced. Like Australia, New Zealand is an above average private spender on tertiary education but a below average public spender. This undercuts the capacity to fund basic research, one of the well-springs of long run national development. To secure new monies institutions must focus on markets. But most income from international students has to be ploughed back into business costs and is unavailable for research.

Cross-border student market. Until two years ago New Zealand's growth performance in the international student market was very strong. The 2006 edition of the OECD's *Education at a Glance* waxed lyrical about this. Cross-border education has helped to put New Zealand on the global education map.

Exports of tertiary education. The last slide was the UNESCO data. On the OECD data New Zealand's share of the global market in international education has jumped to 3% which is punching above the nation's weight.

Export revenue. Between 1999 and 2005 total New Zealand exports rose by 265 per cent in American dollars, reaching a round \$1 billion. These data are from an outstanding summary of the cross-border market by Sajitha Bashir for the World Bank – without doubt now the best available overview on the subject.

Distribution of international students between levels of study. However New Zealand's market strategy is too narrow. A high proportion of international tertiary students are enrolled at sub-degree or first degree level, where the industry is most vulnerable to import replacement in China and Malaysia. Long term growth prospects are better at graduate stage. New Zealand also has few international research degree students, a group highly strategic in the global knowledge economy. Australia is stronger in Masters programs in business and technologies but provides few scholarships for international doctoral students. International doctoral education is a scholarship-based market not a fee-based market.

Investment in R&D. Turning to research, New Zealand is uncompetitive in the level of national investment in R&D. The standouts are Finland, Switzerland, the US and Singapore. Clearly there is market failure in New Zealand, business R&D is poor. Unlike Singapore and Finland where public research moved ahead of the knowledge market and stimulated its growth, the New Zealand government has not taken up the slack. But New Zealand does have a core research labour force of good size and could expand research effort to meet an increased investment.

Number of scientific papers. For its size New Zealand is a middling performer in the annual production of research papers. The USA is not included here because with over 200,000 papers per year it makes a mess of the chart.

Rising Asian science powers. However the worry for New Zealand (and Australia) is that the growth of scientific output is slow by Asian regional standards. Between 1988 and 2001 basic science advanced especially quickly in Korea (where the number of papers multiplied by 14.3), Singapore and China. And given current public investment in research in those countries there is more to come.

Global connectivity. Lastly, we'll look at global connectivity via ICTs. New Zealand is a relatively strong user of the Internet though in 2005 when these numbers were collected, broad-band capacity was uncompetitive. Again, it is the smaller countries in Europe that are ahead of the pack.

The rankings systems, and New Zealand performance

Shanghai Jiao Tong University global ranking

Let's turn now to the rankings by the Shanghai Jiao Tong University Institute of Higher Education and New Zealand's performance there.

Jiao Tong rankings: weightings. The 2007 Jiao Tong university-wide ranking was released last week. Shanghai Jiao Tong also released a first set of rankings in five broad disciplinary fields last February. The sole focus is research. The Jiao Tong group argues that the only data sufficiently reliable for ranking purposes are broadly available and internationally comparable data of measurable research performance (Liu & Cheng 2005, p. 133). It is considered impossible to compare teaching and learning 'owing to the huge differences between universities and the large variety of countries, and because of the technical difficulties inherent in obtaining internationally comparable data'. Further, the Jiao Tong group states that it does not want to employ subjective measures of opinion or data sourced from universities themselves as are used in some national rankings (SJTUIHE, 2007).

The bulk of the index is determined by publication and citation, principally in the science-based disciplines with some attention to social sciences and humanities: 20 per cent citation in leading journals; 20 per cent articles in *Science* and *Nature*; and 20 per cent the number of Thomson/ISI 'HiCi' researchers on the basis of citation (ISI, 2006). Another 30 per cent is determined by the winners of Nobel Prizes in the sciences and economics and Fields Medals in mathematics, based on the location of training (10 per cent) and current employment (20 per cent). The remaining 10 per cent is determined by dividing the total derived from the above data by the number of faculty. Jiao Tong research performance is dominated by the English speaking nations, which have 71 per cent of the top 100 research universities. The United States has 17 of the top 20 and 54 of the top 100.

Jiao Tong rankings 2007: results. For the most part the Jiao Tong index is methodologically sound. It measures only real outputs, not subjective assessments of reputation, which may or may not be solidly grounded. Its methods are transparent and the collection has improved over time. Only the Nobel Prize criterion is controversial, in that Nobel Prizes are submission based. Science and scholarship are not the only determining factors in the decisions.

The chief problem with the Jiao Tong data lies not in their validity but their use. They are treated around the world, especially in the media, not simply as a league table of university research performance but as a holistic ranking of institution and a marker of reputation in the emerging global market – despite repeated urgings from the Jiao Tong group *not* to interpret the data as holistic rankings; and despite the fact the ranking favours certain kinds of institution and disadvantages others.

The Jiao Tong calculations favour universities large and comprehensive enough to amass strong research performance over a broad range of fields with few research inactive staff. They favour universities very strong in the sciences, universities from English language nations because English is the language of research (non English language work is published less and cited less) and universities from the USA because Americans tend to cite Americans (Altbach, 2006). Also universities with high citation researchers. The number of Thomson-ISI ‘HighCi’ researchers directly and indirectly drives performance across a large part of the index.

Have a nice day. A massive 3930 of the ‘HighCi’ researchers are in the USA, compared to about 450 in the UK, 256 in Germany, 253 in Japan, 182 in Canada, 112 in Switzerland, 108 in Australia and 18 in New Zealand. However 18 is not such a bad performance given the size of the country, as the table shows. New Zealand has a large critical mass in Pharmacology, mostly at ADIS International.

New Zealand in the Jiao Tong 2007. Despite the HiCi researchers New Zealand universities do not perform that well in the Jiao Tong overall. New Zealand lacks critical mass, it has a good spread of research capacity but lacks really strong universities and fields within universities. Because the level of public investment in research is more constrained than in Switzerland, Finland and Singapore this has forced a trade-off between research breadth and research depth. No disciplines are in the world top 100 and no university in the top 200. Otago slipped out of the top 300 this year. New Zealand has five of its eight universities in the top 500 but some European nations have a similar spread (Sweden, Switzerland, Netherlands) and stronger universities at the top. Finland has a more egalitarian polity than New Zealand but maintains one really strong research university, Helsinki. New Zealand’s failure to develop such a university or universities is a key weakness because in a global knowledge economy such concentrations are essential to attract attention, communications, talent and capital from around the world.

The *Times Higher* global ranking

Let’s turn now to the *Times Higher Education Supplement*. The good news is that like Australia, New Zealand does much better in the Times Higher than the Jiao Tong. The bad news is that the data are invalid, fit only for those marketing strategies where truth is irrelevant. Because the data lack credibility, over time even these marketing benefits (which at first were considerable) will evaporate.

Times Higher rankings: weightings. In contrast with Shanghai Jiao Tong the explicit aim of the Times Higher exercise is to produce a summative, holistic ranking. Half of the *Times Higher* index is comprised by existing reputation: 40 per

cent by a reputational survey of academics ('peer review'), and another 10 per cent determined by a survey of 'global employers'. There are two internationalisation indicators: the proportion of students who are international (5 per cent) and the proportion of staff (5 per cent). Another 20 per cent is determined by the student-staff ratio, a proxy for teaching 'quality'. The remaining 20 per cent is comprised by research citations per number of staff (THES, 2006).

Methodologically, the '*Times* tables' are open to criticism. It is not specified who is surveyed or what questions are asked. According to a conference paper by Ben Sowter (2007) from QS Marketing which does the market research for the *Times*, the survey gathered a response of 1 per cent from 200,000 e-mails worldwide. And not all the responses were valid and able to be used. Last year the results of the three annual surveys were combined to increase the total, but this created the additional problem that the respondents had made their judgements at different time periods. A further and fundamental difficulty is that the pool of responses is heavily weighted in favour of academic 'peers' from nations where the *Times* is well-known, such as the UK, Australia, New Zealand, Malaysia and so on. Despite this, the pool is not re-weighted for global evenness (which may not be practical at the level of response rates of 1 per cent). Not surprisingly, the survey outcomes appear to reflect this composition bias, as will be discussed in a moment.

There are other weaknesses. The student internationalization indicator rewards volume building, it tells us nothing about the quality of programs or services, or the quality of the intake. Teaching quality cannot be adequately assessed using a quantity measure such as student-staff ratios. And the *Times* Higher rewards a university's marketing division better than its researchers. This fits with policy and commercial circles in the Westminster countries (UK, New Zealand and Australia) but contradicts the dominant notions of university quality prevailing elsewhere, in Europe, Asia and the US and Canada, the assumptions that guide market choices.

The Times roller coaster 2004-2006: These methodological weaknesses in the *Times* rankings feed into the extreme volatility and composition bias of the results. As the slide shows many institutions have experienced dramatic rises and falls, sometimes both, in the three years of *Times* rankings. A sudden drop in ranking can do much damage to an institution's world-wide reputation and its standing before its national government, public and prospective students, through no fault of its own. Institutions that have gone out hard to market a good *Times* result have suffered severely when their position has declined sharply the next year. But it can hardly be argued that short term changes in ranking order on this scale are necessarily related to changes in performance. If so it is hard to see the value of the *Times* exercise. It implies the product is highly variable, although we all know that it is quite slow (and difficult) to change. This is capricious and destructive.

Times 'peer review' survey at work. A further serious problem is that it is obvious to all outside the Westminster countries that we in the British, Australian and New Zealand institutions do too well.

The UK has 15 per cent of the GDP of the USA, but almost half as many universities in the *Times* top 100 in 2006: UK 15, USA 33. (Remember the USA

had 54 research universities in the Jiao Tong top 100). In 2006 the UK had two of the Times Higher top three and Cambridge UK almost closed the gap on Harvard. Yet the Harvard faculty is cited at three and a half times the rate of Cambridge, and Harvard is much more iconic than Cambridge on the world scale.

The Australian universities have a relatively poor citation rate and moderate staffing ratios perform exceptionally in both the 'peer' survey of academic staff, and student internationalisation indicator, one suspects because Australian 'peers' send back a lot of survey returns to QS Marketing. In 2006 the Australian National University and my university, Melbourne, were both ranked by the 'academic peers' as equal to Yale and ahead of Princeton, Caltech, Chicago, Penn and UCLA! (I knew we were good but not *that* good!) Australia had 13 of the Times top 200, making it the third strongest national system in the world, ahead of Japan, Germany, Canada and France. This makes sense in relation to Australia's international marketing but not all round performance or reputation.

I suspect New Zealand universities have also benefited from the composition bias in the survey returns. Auckland has a superior peer ranking to Michigan, UC San Diego (now nudging UCLA for number two in the University of California system, arguably the strongest in the world), Penn, Texas at Austin, NYU, Warwick, University College London, Kings, LSE, most elite universities in Western Europe. Yes the global knowledge economy has well and truly arrived and Treasury might have over-funded Auckland not under-funded it. Yes well. It's good when people say nice things about you, but if it is better when those things are true. It is hard to resist the temptation to use the Times Higher rankings in institutional marketing, but it would be a serious strategic error to assume that they are soundly based.

Effects of global rankings in policy and strategy

Outside the USA (where only the US News is important) Jiao Tong and the Times Higher are having visible effects in behaviours and policies in many countries.

'A serious tilt at the Jiao Tong'. One example is the *Australian Financial Review*, the 'serious' newspaper for the business sector, in response to the news last week that the top two Australian universities had fallen slightly in the Jiao Tong rankings:

The perception has grown, both within the system and among some nations of our region, that Australia is content with a second rate or even third rate higher education system'.

Higher education policy – unlike national schools policy - has never been driven by agreed national goals. The first step is to articulate these goals. The next is to calibrate the policy to the goals. Thus armed we need to take a serious tilt at the Jiao Ting, and aim for four top-100 places, and two in the top 50: Mac Burnett and Howard Florey would expect nothing less (Slattery, 2007).

At institutional level, the two rankings systems have triggered a flurry of marketing by the successful institutions, and a common desire to lift performance, either by

changing what is measured or changing how it is interpreted. Many efforts have focused on the latter, cheaper, but there is limited scope in the case of the ranking that matters more, the Jiao Tong. Within universities there are moves towards greater concentration of resources in the science-based fields, which have a larger role in the Jiao Tong than much of the social sciences, and the humanities and arts. In some institutions there are also moves towards a greater separation of teaching and research, especially growth in research-only positions and the refashioning of research programs in terms of specific indicators such as ISI journal publication. Here the need to respond to the Jiao Tong coincides with the effects of national research assessments.

At government level, ranking trigger the desire to see more universities in the upper echelons of the tables, as a signifier of national success and potential in the policy context of a global knowledge economy. In turn this has created or further encouraged policies to concentrate a higher proportion of research activity and resources in a selected group of leading universities and to attract and hold top flight researchers. Singapore has set out to attract high quality academic expatriates with US-level salaries. China and Germany (van der Wende, 2007a) have selected groups of universities given special additional research status and others, such as Australia and the UK, are talking about it. Everywhere the goal is to replicate the attractiveness and impact of the American doctoral sector, though this is difficult to do without American economic, technological, and cultural power.

The intensified competitiveness has the potential to trigger an increase in national investment in research and may boost science-strong institutions. It contains negative potentials for many others, and for other policy purposes. On the whole primarily vocational education is downgraded, as it doesn't contribute to global rankings performance though some research universities with a vocational twist, for example in India and the Netherlands, have prospered in the Times Higher. All universities have stronger incentives to put performance ahead of social access as has happened in the USA. More generally, a rankings-based reputational race is a race that few can win, even research universities. That is the logic of zero-sum competition. When everyone stands on tip-toe, no one can see better.

A principal concern in many countries is the bias in favour of knowledge in English. Although English is the only global language of research publication it is not the only language of thought. The exclusion of work in other languages is most problematic in the humanistic social sciences and humanities/arts. This problem have generated a range of responses in the non English-speaking world, from lobbying for the inclusion of non-English publications in rankings systems, to the creation of separate language-based rankings lists, to a rejection of rankings.

In Europe the accelerated research race has generated not just national but multilateral actions. Leiden University in the Netherlands has led the formation of a League of European Research Universities. The European Union plans a combined European Institute of Technology (van der Wende, 2007a; 2007b). There is also been a range of responses centred on approaches to comparison itself: development of a comprehensive comparison of teaching and research by the Centre of Higher Education Development (CHE) in Germany, which I will

discuss in a moment; construction of publication and citation metrics by a Leiden University group; and negotiation of a typology of European institutions enabling a more diverse set of comparisons to reduce the standardizing effects of rankings.

Europe has been more together about strategic response to global rankings than have other parts of the world. Many institutions in Asia-Pacific have simply responded in the manner of rabbits in the spotlight, or confined their thinking to marketing campaigns. In China and Singapore though there is a determination to use rankings as an additional factor to drive real performance improvement.

Possible New Zealand responses

Rankings: market mana or menace? Whenever I give a talk on rankings, I try to think about rankings from the point of view of the institution, the nation, and/or the region (such as Asia-Pacific, Europe) where the talk is located. In this final section of the paper I'm going to give you gratuitous advice. Australians are always doing that in New Zealand, you will say, and you would of course be right. Perhaps it is inevitable, because New Zealanders say too little about what they are thinking, and Australians say too much because they feel impelled to fill the silence. In fact we are happy to talk even when we are not thinking about anything at all.

Nevertheless, I will plug on regardless! These musings about strategic options for New Zealand are in three areas. One, how New Zealand might do better under the existing rankings. Two, responses to the limits and flaws in the existing rankings, and alternative approaches to the process of international comparison. Three, the larger question of strategies for improving the global standing and effectiveness of tertiary education in New Zealand. On the last I will be more tentative and sketchy.

How can New Zealand do better under the existing rankings systems?

In the world according to the Shanghai Jiao Tong University rankings, higher education is *not* about teaching or community building or finding solutions to local or global problems or being a critic and conscience of society. It is about scientific research, publication, citations and Nobel Prizes. These are the core objectives you must chase if you want to lift your Jiao Tong rankings (and most universities around the world now do). In the world according to the *Times Higher Education Supplement*, higher education is primarily about building institutional global reputation as an end in itself (and therefore about international marketing), and about recruiting more international staff as well as students, and about small student-staff ratios, and for just 20 per cent of the time about research, because these metrics drive the Times Higher index. It is not about teaching, or community service, and very little about serving the greater good unless that lifts reputation.

These objectives point in contrary directions. In my view the ranking system of lasting importance is the Jiao Tong. The Times ranking is likely to lose credibility, implode, or be transformed. It is essential to focus on lifting Jiao Tong research performance, for the policy reasons that knowledge power is good for New Zealand's present global presence and future national capacity, and for the

commercial reason that Jiao Tong performance, which is taken very seriously in Asia, is crucial to marketing. The Times Higher remains relevant to the extent that anything that helps to build the positive reputation of institutions is helpful.

In order to maximise global research performance it is necessary to shift the main locus of comparison from rating research on a national basis, to international comparisons. The recent Ministry of Education report (*ex*)*Citing research* (Smart & Weusten, 2007) maps New Zealand's comparative international research performance in the eight universities and major discipline areas, is exactly the kind of thing that is needed. The results also provide some encouragement: for the 2001-2005 period Auckland recorded results above the world average in 47 per cent of the 73 subject areas with more than 25 publications, and Otago in 43 per cent of the 61 subject areas. (This also reminds us that competitive research performance tends to be stronger in institutions with a Medical faculty).

In contrast the Performance-based Research Fund creates a zero-sum competition for ranking and funding between the eight New Zealand universities. The fact that Otago might have out-gamed Auckland in the last assessment creates parochial excitement but it is irrelevant to the real game which is the global game. What's important is not Auckland viz a viz Otago but Auckland viz a viz Edinburgh or Leiden or UC Santa Barbara. Or, to the point, NUS in Singapore. In fact from a New Zealand point of view one would want to see both Auckland and Otago up there and pushing into the global top 200, then towards the top 100. Auckland, especially, is New Zealand's best shot at creating a major national knowledge hub as at NUS or Helsinki or Oslo in the other smaller nations. A national rating and rankings system with potential to undermine the reputations of the stronger New Zealand institutions on a routine basis is not a very smart idea.

In the final analysis, only sustained national funding of basic research can lift Jiao Tong performance towards the top 100. That is what is happening in Singapore, Korea and China. The number of mainland Chinese universities in the Jiao Tong top 500 has been raised from 8 to 14 since the rankings began in 2004 – in just four years. In the next decade we can expect TsingHua, Peking and perhaps others to challenge for the top 50. Having studied the global strategy of NUS in Singapore, last December, it seems to me that NUS is also going to get there.

It is not just a matter of funding, though, it is a matter of strategy and focus. NUS is funded at little more than the level of an Australian university for research but there is effective coordination between national funding, executive leadership and disciplinary development. Contrary to what some think, this coordination is not brought about by sacrificing academic freedom or by heavy handed government control over strategic decisions. One key is very smart executive leadership. Another is the capacity to form research concentrations, including research only positions at scale (a crucial step), negotiated management of nuanced individual academic workloads rather than reliance on standard formulae, and salary levels and flexibility that allows Singapore to be competitive in recruiting global talent.

In focusing on Jiao Tong performance, it would also be advisable to press for a greater weight for the social sciences and the humanities in the assessment,

which is achievable. New Zealand has been long under-funded in the expensive science-based disciplines and it will take time to turn this around. New Zealand has distinct strengths in the social disciplines and humanities and could develop more. It would also be advisable to press for the removal of Nobel Prizes (as I have said, this is a dodgy indicator and it does not help New Zealand, either).

Alternative approaches to international comparison

Towards better approaches to comparison. In the existing approach to rankings, particularly the whole-of-institution league tables used by Jiao Tong and the Times Higher, there are five problem areas with policy implications.

- Existing rankings don't provide enough data useful to students and employers, particularly in relation to teaching and learning;
- Existing rankings rest on standard models (e.g. the Anglo-American comprehensive science-strong research university), the resulting incentives tend to suppress diversity and discourage certain innovations;
- Existing rankings generate avoidable problems of research validity, in relation to composition indexes/weightings and survey samples;
- Whole of institution rankings generate circular reputation-reproducing effects which lock up the market, creating barriers for aspirant institutions;
- Rankings do not provide data on the different contexts in which performances take place, a special problem in global comparisons because of the vast differences in resources.

These problems may have occurred to you also. They are discussed elsewhere (e.g. Marginson & van der Wende, 2007); I will outline them only briefly here.

Not enough data, especially about teaching and learning: No system of rankings covers all purposes of higher education, and all rankings systems encompass the needs of some stakeholders better than others. When rankings systems purport to cover the generality of purposes and interests, as does the Times Higher, the problem of partial coverage and exclusion is hidden but compounded. Discipline rankings permit a broader plurality of data and interest, but do not solve the whole problem. Usher & Savino (2006) examine 19 league tables and rankings systems from around the world, noting that different rankings systems are driven by very different purposes and associated with different notions of what constitutes quality. This problem is especially serious given that the areas excluded by the Jiao Tong and *Times Higher* rankings include teaching quality. With the instruments we currently have at our disposal, teaching is difficult or impossible to measure with rigour for comparative national purposes let global comparison. Currently, no ranking or quality assessment system generates comparative data based on measures of the 'value added' during the educational process. In fact few comparisons focus on teaching and learning as such. Various proxies for teaching 'quality' are used, such as student-staff ratios, student selectivity (which is actually a proxy for reputation not for teaching quality), and research performance. Some might assume that research performance is positively correlated to teaching quality but 'empirical research ... suggests that the correlation between research productivity and undergraduate instruction is very small and teaching and research appear to be more or less independent activities' (Dill & Soo, 2005, p. 507).

The problem of diversity: As noted, rankings pressure institutions with diverse missions, constituencies, cultures and languages of use to conform to the forms of behaviour most conducive to lifting performance. In the case of the Jiao Tong ranking, this pressures research universities organized differently to the Anglo-American norm (for example high participation national universities in Latin America), institutions focused on the humanities and social sciences, primarily vocational institutions, and those located in non-English speaking countries, quite a list. In addition, the function of rankings as a meta-performance indicator encourages university executives to concentrate on maximising performance and reputation within the established criteria that comprise the rankings, particularly research performance and student selectivity, and raises the opportunity cost of investment in innovations in curriculum and pedagogy, research or new organisational configurations. Such innovations typically take years to be realised in improved performance, and longer to feed into reputation. On the whole rankings discourage locally distinctive missions. Again discipline rankings can help here, fragmenting the standardising effects, but do not abolish them altogether.

Problems of technical validity: Usher and Savino (2006) remark on the arbitrary character of the weightings used to construct composite indexes covering different aspects of quality or performance, the means by which ratings agencies construct a total picture of the institutions ranked against each other. 'The fact that there may be other legitimate indicators or combinations of indicators is usually passed over in silence. To the reader, the author's judgment is in effect final' (Usher & Savino 2006, p. 3). As Salmi and Saroyan (2006, p. 9) note, 'the weightings vary across league tables and typically reflect the view of the publisher of the table rather than being grounded', i.e. the composition of the weightings is untheorised. In survey work the difficulty of constructing representative samples on an international scale was noted in relation to the Times Higher surveys.

Reputational 'lock-in' effects: Whole of institution rankings tend to boost the position of those institutions already in a strong position, while locking out aspirants and newcomers. Well ranked institutions attract more reputation, public and private investment and other resources, talented staff and high quality students. These factors feed into the further enhancement of performance, and so on it goes. These circular accumulation/exclusion effects are much enhanced when the basis of the ranking is itself a reputational survey. Surveys are shaped by the established hierarchy without regard to merit factors, and recycle that hierarchy, protecting the leaders from competition. The well known university brands generate 'halo' effects. One study of ranking found that one third of those who responded to a particular rankings survey knew little about any institutions apart from their own. The classical case is the American survey of students that found Princeton law school was ranked in the top ten law schools in the country. But Princeton did not have a Law school! (Frank & Cook 1995, p. 149).

Rankings are context free: Once institutions are arranged in a single league table the particular historical, economic and cultural factors that shape relative performance as measure by the particular ranking scheme (such as national language of use, or economic resources per head, or educational traditions) are obscured. Consider for example the ranking prospects of universities in Indonesia

compared to universities in the USA. The USA has 300 million people, produces over a fifth of global GDP at a per capita rate near highest in the world. It invests 2.9 per cent of GDP in tertiary education, the highest rate of investment, and in 2001 produced almost a third of the world's annual output of scientific papers, 200,870. It has 33.4 per cent of the Jiao Tong top 500 research universities and 54.0 per cent of the Jiao Tong top 100. Indonesia has 220 million people, about three quarters of the population of the USA. Its GDP is the fifteenth largest at 1.4 per cent of world output and GDP per head is at one tenth the level of the USA. It spends about 0.7 per cent of GDP on tertiary education and in 2001 produced 207 scientific papers, one thousand the number of the USA. It has no universities in the Jiao Tong top 100 and little early prospect of getting there (World Bank, 2006; OECD, 2006; NSB, 2007; SJTUIHE, 2007).. This is not a level playing field. In the absence of data about context, rankings can encourage flawed policy judgement and flawed judgement about the market. League tables tend to foster the illusion of a level playing field in which every university can rise up the table on merit and its place is determined by its own efforts. But all universities have specific conditions of possibility and global higher education is not a level playing field. Institutions are tied to their history, to their local context, to national resourcing, especially for basic research, and to the capacities of their personnel. They have scope to improve but not an absolute freedom to move up the league table.

The German alternative. The Centre for Higher Education Development (CHE), located in Gutersloh in North Rhine-Westphalia in Germany, in conjunction with the German Academic Exchange Service and the publisher *Die Zeit*, has developed an approach to comparison which addresses most of these problems. CHE's approach has proven successful with public and students, governments, and academic experts on rankings systems alike (van Dyke, 2005; Salmi & Saroyan, 2006; Usher & Savino, 2007). CHE data style collection has now been extended to Switzerland, Austria, the Netherlands and Flanders, the Dutch-speaking portion of Belgium. 'The CHE ranking system is thus well positioned to develop into a European-wide system' (van der Wende, 2007b).

CHE surveys 130,000 students and 16,000 staff in almost 250 institutions, collecting data on student experiences and satisfaction, and academic recommendations on the best locations in each field. It focuses on 36 academic subjects each offered by a substantial number of institutions. It supplements the surveys with independent sources comprising one third of the data base. No data are taken from institutions. CHE ranks departments according to each separate indicator of academic and service quality, assigning them to top third, middle third or bottom third of all institutions. It refuses to integrate the indicators into a single weighted indicator either for each subject or each institution. It states that there is no 'one best university' across all areas, and 'minimal differences produced by random fluctuations may be misinterpreted as real differences' (CHE, 2006). CHE notes also that students have heterogeneous preferences as to mission and purpose. The CHE data are made available to prospective students and the public free of charge via an interactive web-enabled database. Any person can interrogate this data base by investigating the comparisons in their own chosen disciplines and services, thereby creating the weightings and rankings themselves.

The CHE approach directly addresses three of the five problems of rankings that I mentioned: the flaws of holistic reputational indicators, the technical problem of composite indexes and weightings, and the need for data related to teaching and learning. The CHE dispenses with holistic rank ordering of institutions in league tables, thereby avoiding circular reputation-generating-reputation effects, and admitting multiple purposes into the comparison. Methodologically, the approach is sound. The surveys are on a scale enabling representative data; and by eschewing holistic rankings CHE side-steps problems of arbitrary weighting and composite indicators. It addresses comparative data concerning teaching-related performance. The comparison remains limited by the subjective character of the student evaluations; but given that CHE has shifted the normative power of the comparison process from the ranking agency to the user of higher education, this is a much more student-centred comparison. It does not directly tackle the diversity problem, but married to multiple groupings based on a typology, the approach does no harm to diversity because it admits heterogeneous purposes, and the standardizing, normalizing force of league table comparisons is absent. It does not address the problem of context-free comparative data, however. This problem is intrinsic to the process of comparison and can only be met by the provision of additional data from outside the process of comparison itself.

CHE's approach fundamentally improves cross-border comparisons of tertiary education and research, in most respects. It provides more data of use to more people than do the Times Higher and Jiao Tong. The CHE data set suffers by comparison with the Jiao Tong data set in two aspects: the data on research performance are not as 'hard', and the broad-based set of specific indicators lacks the discursive potency of a single league table. The optimum approach to comparison might be to provide two sets of data: those developed by CHE, and the Jiao Tong disciplinary rankings, which provide hard data on research without the downsides of holistic rankings. No doubt, however, league tables, with their deceptive clarity and the public excitement they generate, will retain support especially in the Westminster countries and the USA. This issue has further to run.

Strategies for improving global standing and effectiveness

The larger issue is that of national strategies for improving the global standing and effectiveness of New Zealand's institutions of tertiary education and research. The question of responses to rankings, like the related question of building New Zealand's position in the cross-border market, is a sub-set of this larger question.

This question is not for a foreigner to resolve. It requires immersion in the national context, and complex policy judgements. Let me simply make a couple of suggestions on how the problem can be approached.

1. Cooperate at home to advance the competitive position abroad.
2. As noted, to become globally competitive the points of reference in performance measurement should be the global standard not national standards.
3. It is necessary to think primarily in terms of broad policy and not markets. Market objectives are a sub-set of the big picture. Around the world, the

majority of cross-border links, in a global knowledge economy, are non commercial, being about the exchange of knowledge and people. It is essential to be at least as good at those forms of linkage as at marketing and export. The USA, China and Singapore exemplify this dual, rounded approach to global tertiary education and research. Arguably, we in the Westminster countries have become bogged down in too narrowly commercial an approach (Marginson, 2007; Marginson & Eijkman, 2007).

4. It is necessary for institutions to think in terms of the good of the tertiary system (and the nation) and not just institutional self-interest. This does not mean that individual institutions should forgo opportunities to advance and develop, that should be a positive-sum game not a zero-sum game.
5. Small countries are unlikely to be successful if they do not develop long term, successful partnerships. Finland operates effectively through the EU. Norway benefits from cooperation with other Nordic countries. Singapore is very busy in partnership building and a regional broker in East and Southeast Asia. The British Empire is dead and empires never provide effective regional structures. New Zealand needs a regional location.

Focusing on the main game: Geography matters and Australia and New Zealand are located on the edge of Asia. It is very important to our futures that in a practical way we start to treat Asia, especially China, as more than a source of students for the export market. China, China Taiwan, Singapore, Korea and of course Japan are major hubs of the global knowledge economy and other Asian nations will follow. We have the opportunity to build the research alliances now that will serve us into the long term. For example we need a much larger cohort of high quality foreign doctoral students alongside the fee-paying undergraduates.

Some resources: I would suggest the logical strategic direction for New Zealand in global tertiary education and research is a close alliance with Australia, on equal terms; and together with Australia the building of a stronger regional network in the Asia-Pacific where our future forever lies. Australian and New Zealand tertiary education have much in common. In a world of great powers and large blocs we would be wise to see each other primarily as collaborators and not competitors.

With that friendly thought I leave off and look forward to our discussion.

Thank you

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