3. GLOBAL UNIVERSITY RANKINGS

INTRODUCTION: IDEALIZED MODELS VS. GLOBAL DIVERSITY

There is no one single 'Idea of a University' (Newman 1899/1996). There are many different missions, structures and organizational cultures, associated with distinctive traditions and models of higher education. All of the multiple 'Ideas' are nested in national contexts, historical identities and conditions of possibility. In the 'Westminster' countries (UK, Australia, New Zealand) national systems combine university autonomy with explicit central steering. The Nordic/ Scandinavian university combines emphases on high participation social equity, research culture and university autonomy with strong state investment (Valimaa, 2004; 2005). The German-style university opts for elite participation, research culture and state administration. The Latin American public university has high participation, scholarly culture and a central social and political role in the building of the nation-state. The emerging science universities of East and Southeast Asia, including China, Taiwan, Korea and Singapore are fostered by state investment and in Singapore are explicitly designed to secure global competitiveness. India has technology and business-focused institutions that at best combine high quality and commercialism. Beyond the research university are strong vocational sectors in Finland, Germany (the Fachhochschulen), France, and other vocational and community-based programs, not to mention the different online institutions. There are also many specialized institution in teaching and research.

But some traditions are more equal than others. In the templates of the New Public Management (NPM), which has spread to higher education systems through most of the world,²⁷ the pace of its distribution quickened by policy globalization including its adoption by the World Bank in lending programs in the developing world, the favoured models are taken from the United States, or rather, a reified, idealized version of American higher education as a national market.

The NPM norms higher education in terms of government-steered competition between institutions, executive-steered competition between academic units, systems with a mixture of public and private institutions, institutions with a mixture of public and private funding, higher tuition, customer focus; university marketing and entrepreneurship, research links with industry; performance measures and output-based funding; and relations with funding agencies based on contracts, accountability and audit. NPM reforms are driven by desires for fiscal

²⁷ Numerous studies, supportive and critical, attest to the impact of the New Public Management in system organization and institutional management: for example Clark, 1998; Marginson & Considine, 2000; Nowotny et al., 2001; Musselin, 2005; Henkel 2005, 2007; Rhoads & Torres, 2006.

efficiency, global competitiveness and more effective control systems. The NPM sees national systems as economic markets and imagines institutions as firms driven fundamentally by economic revenues and market share, not teaching, research and service as ends in themselves. US higher education, which is underpinned by nationally financed student loans that enable a relatively high level of mobility, is traditionally understood as a national market.

However, there is more than one possible 'American model' in a national system that is a by-word for structured diversity, as summarised in the Carnegie classification (McCormick & Zhao, 2005). There are the Ivy League private research university and the liberal arts college, the state universities and four year institutions, the community college and the newer model of for-profits trading on the equity market. Most US enrolments are in the public sector, which includes the University of California system and the land grant and other public flagship universities in different states (Turner & Pusser, this volume). But the US system is also a by-word for hierarchy and some classifications have higher status. The NPM has taken two institutional norms or models from the US experience for world-wide propagation. These are not so much blueprints as broad social imaginaries diffused across nations, institutions and social agents; often in vague forms and imprecise notions; and combining structures, technologies, behaviours and values:

The idealized model of research university, the 'entrepreneurial model' (Clark, 1998): centrally focused on knowledge production; emphasizing research and graduate studies, excellence and prestige; tied to business and the knowledge economy; competitive for students and funds; internationally oriented, achieving greater autonomy via financial diversity, including tuition and philanthropy. The US Ivy League private universities are closest to this model in the real world and while they are not as consumer responsive or efficient as the model imagines they impart to it a tremendous prestige;

The idealized model of the for-profit vocational university: focused on vocational training for business, computing, perhaps the mass professions such as health; using teaching from the vocational field and curriculum packages, and accountable for its immediate vocational relevance, marketing-driven in its business planning and organizational culture; relentlessly expansionary in student numbers, sites and market share; spare and efficient with no 'frills' such as research, libraries or academic freedoms; 'customer'-focused using performance management of staff and quality assurance. This form has a mixed record around the world but in the US it has become embodied in corporations that raise significant equity funds (Ortmann, 2002), including the Apollo Group, parent company of the University of Phoenix. Phoenix is the largest and fastest growing private university in the USA and has spread to a dozen other countries, although in 2007 it ran into difficulties.

It is ironic these models depart from actual American practice in significant ways. First, US higher education is more politicized and less driven by pure market forces than the NPM imagines. Second, private institutions are dependant on state support via student loans, and in the case of the Ivy League the public funding of

research. Public subsidies are essential to the global strength of all US institutions. Third, neither model fits the majority of American institutions, which as noted are in the public sector. This has not stopped these two models from shaping not only the policy imagination in many countries, but also shaping the emerging global market, grounded in cross-border positional goods and the stratification of research reputation as Chapter 2 described. The idealized research university is the 'Super-league' Anglo-American research university in the elite sub-field of the global market. The idealized for-profit vocational university is the perfected model of the mass education and commercial providers of cross-border degrees at the other end of the global market. To restate Anderson's (1983) point about the nation as an 'imagined community', an emerging market is an 'imagined competition'.

University rankings. Thus hegemonic idealized models become turned into living breathing social systems. In the process of normalizing cross-border education as a global market, the most potent mechanism has been university rankings, which began in 2003 (SJTUIHE, 2007; Times Higher, 2006). Global university rankings are tools of the imagination, discursive technologies and data sets whose time has come. But university rankings also frame the imagination, and make the time.

Notwithstanding their imagined (not to mention limiting, reductive and reifying) qualities, as the above account indicates normative global university rankings have not come from nowhere. They are grounded in a particular kind of prestigious institution which has helped to give them purchase in the sector; and nested in history. Hierarchical global comparison has been made possible by a particular kind of global condition in which the groundwork for imagining higher education as a universal competition had been laid not only by global economics, culture and communications and by the NPM; but more specifically in higher education by the normative methods of comparative education and development education (Marginson & Mollis, 2001); and also by a history of national rankings in different nations, especially the *US News and World Report* (2006). At the same time, the practices of global university rankings, which have gripped the attention of higher education institutions, governments, media and public throughout much of the world, also tend to more deeply entrench that global condition and legitimate that process of universal cross-border comparison. Rankings have become an end in themselves, without much regard as to exactly what they measure, whether they are solidly grounded or whether their use has constructive effects. The desire for rank ordering overcomes all. League tables rule. (Often institutions are rank ordered even where differences in the data are not statistically significant). This frees up the endogenous logic of rankings to reshape the sector. It recalls Foucault in *The archaeology of knowledge* (1972), where he describes discourses as 'practices the systematically form the objects of which they speak' (Foucault, 1972, p. 49).

There is also a more immediate politics of rankings. Different rankings systems have particular ways of recording, classifying and counting, with specific shaping effects. These effects have direct implications for the rise and fall of actual institutions, not to mention whole national systems, in cross-border relations and in the distribution of prestige in the home country. Outside the USA, where only

national rankings really matter, the standing of a university is boosted by a good global position. In other words rankings further the specific interests of certain kinds of institution, and particular institutions and nations (though these effects can differ between the different rankings systems). Rankings not only imagine and describe higher education in terms of Bourdieu's notion of a universal positional competition in the sector, they engender precisely the kind of competitive struggle that he discusses: a struggle over social position itself, and over the terms in which positionality is understood, described and fixed. Many institutions attempt to influence the system of classification and the contents of the data input used in the rankings systems, though in this some are more effective than others. It recalls Bourdieu's comment in *Distinction: A social critique of the judgment of taste* (1984) that: 'Principles of division, inextricably logical and sociological, function within and for the purposes of the struggle between social groups; in producing concepts, they produce groups, the very groups which produce the principles and the groups against which they are produced' (Bourdieu, 1984, p. 479).²⁸

This chapter. The chapter outlines the principal global rankings systems in use and some issues and problems that have arisen, and discusses their effects in the policies of governments and institutions. It then examines critiques of the existing rankings systems, and alternative systems of comparison and classification that have emerged, mostly in Europe, before an overall summation.

THE FIRST GLOBAL RANKING SYSTEMS

National Rankings

Most countries with large higher education systems have rankings of one kind or another. Countries with rankings devised by newspapers and magazines include China and Hong Kong, Japan, India, the Ukraine, Romania, Poland, Portugal, Italy, Spain, Germany, Sweden, Switzerland, France, UK, USA and Canada. In Thailand, Malaysia, Pakistan, India, Kazakhstan, Korea, Tunisia, Nigeria, the Netherlands, the UK, Brazil and Argentina rankings have been instigated by ministries of education, grants councils or accreditation agencies. In China, Japan, Australia, Kazakhstan, Slovakia, Romania, Russia, the Ukraine, Germany, Spain, Switzerland, the UK and Canada rankings have been initiated by universities, professional associations or other organizations (Salmi & Saroyan, 2006). Usher and Savino (2006) review rankings compiled in Australia (Williams & Van Dyke, 2006); Canada; China, with several rankings systems (Liu & Liu, 2005), and Hong Kong; Germany; Italy; Poland; Spain; the UK, where four different newspapers have developed rankings systems; and the USA.

There are also many specialist rankings systems that focus on characteristics ranging from research output, to student services, to MBA programs, to Yahoo Magazine's ratings of 'connectivity', the university contribution to social diversity and other features. Specialist rankings are not discussed further in detail here but it can be noted that ratings of disciplines and other aspects are also taken up in the larger schema of the Shanghai Jiao Tong University and the German CHE.

US News and World Report rankings: For the most part national rankings consist of a single table but in the USA and Canada higher education institutions are divided into groups according to mission and other characteristics, creating a set of mini league-tables within the rankings system. In the United States the annual *US News and World Report* (USNWR) survey focuses principally on aspects of institutions seen to contribute to the quality of teaching and the student experience, thereby servicing the national market of choice-making students whose potential mobility is underpinned by national loans and in the case of selected students, the broad range of tuition scholarships and other subsidies provided by institutions. There is less emphasis on research and scholarship. The current categories of institutions are drawn from the classification in 2000 by the Carnegie Foundation for the Advancement of Teaching (USNWR, 2006, p. 81ff). The most important grouping is the 'National Universities', 248 universities (162 public and 86 private) each providing a wide range of fields of study and offering degrees to doctoral level. Most of these institutions are research intensive. Other categories of institution used by USNWR are liberal arts colleges, Master's level universities, Comprehensive Bachelor level universities, business programs, undergraduate engineering programs, and speciality schools, mostly in fine and performing arts.

In the categories of national universities and liberal arts colleges, the largest part of the index (25 per cent) is comprised by a survey of 'undergraduate academic excellence' sent to university presidents, provosts and deans of admissions. Two items each constitute 20 per cent: student retention and graduation rate; and 'faculty resources' which rewards small classes, high academic salaries, high academic qualifications and a high proportion of staff full-time. Student selectivity at entry, a proxy for positional market demand, is 15 per cent. The lesser items are spending per student (10 per cent), the proportion of alumni who donate back to the institution (5 per cent), and the graduation rate after controlling for spending and student aptitude (5 per cent) (USNWR, 2006, pp. 77-79). These details have become very significant to institutions. Over the years institutions have learned to modify and target their behaviour so as to maximise their USNWR position. Arguably, this has exacerbated the reputational race (Frank, 2001). It has also had more specific effects that are perverse from the public interest viewpoint, for example the manipulation of student entry to maximise student scores and refusal rates, and the growth of merit-based student aid at the expense of needs-based aid to improve student selectivity, retention and graduation indicators. In *Shakespeare, Einstein and the bottom line* (2004) Kirp provides case studies on these practices.

²⁸ In the same work Bourdieu remarks pessimistically (or is it optimistically?) that 'the whole process constitutes a perfect circle from which the only escape is to objectify it sociologically' (Bourdieu, 1984, p. 235).

Table 3.1. Shanghai Jiao Tong university rankings: weightings

	weighting
Alumni of institution: Nobel Prizes and field medals	10%
Staff of institution: Nobel Prizes and field medals	20%
High citation (HiCi) researchers	20%
Articles in citation indexes in science, social science and humanities	20%
Articles in <i>Science</i> and <i>Nature</i>	20%
Research performance (as above) per head of staff	10%
total	100%

Source: SJTUIHE, 2007

The Jiao Tong University Global Ranking

The first world-wide ranking by the Shanghai Jiao Tong University Institute of Higher Education (SJTUIHE) was in 2003. The SJTUIHE rankings process was supported by the Chinese government, which wanted to be able to assess the research performance of Chinese universities according to accepted international standards, as one basis of strategies designed to lift the global competitive position of science and technology R&D in China. Institutional rankings have been issued annually since, and in February 2007 rankings in five broad disciplinary fields were released. The sole focus of Jiao Tong attention 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 Jiao Tong group consults widely and continually in relation to data compilation and interpretation, and holds an annual conference of rankings experts in Shanghai. Over this time the measures have been developed, refined and tightened so that within its framework the rankings system has been successively strengthened.

As Table 3.1 shows the Jiao Tong rankings are based on a composite index whereby the weighting given to different criteria is determined by the rankings agency index. The index is primarily driven by academic publication and citation, principally in science-based disciplines with some attention to social sciences and humanities: 20 per cent citation in leading journals as listed by the publishing company Thomson; 20 per cent articles in *Science* and *Nature*; and 20 per cent the number of Thomson/ISI 'HiCi' researchers in the top 250-300 in their fields on the basis of citation (ISI-Thomson, 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 academic staff eligible to conduct research. The separate discipline rankings fall into five categories: natural sciences and mathematics, engineering/technologies and computer sciences, life and agricultural sciences, clinical medicine and pharmacy, and social sciences. While the same broad schema is followed in the determination and weighting of criteria, there is some variation by discipline due to publishing conventions. (Full details of each method of discipline ranking are provided at SJTUIHE, 2007).

The Jiao Tong index is methodologically sound and for the most part provides a valid basis for synchronic global comparisons. It measures only real outputs, rather than subjective assessments of reputation which may or may not be solidly grounded. Its methods are transparent. The exception is the Nobel Prize and Fields Medal criterion. Nobel Prizes are submission based; science and scholarship are not the only determining factors. Politicking can enter the decisions. Regardless of questions of methodological soundness however, the SJTUIHE rankings value universities closest to the model of institution that the designers wished to emulate. The Jiao Tong calculations favour universities large and comprehensive enough to amass strong research performance over a broad range of fields while carrying 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. The number of Thomson/ISI 'HighCi' researchers directly and indirectly drives performance in much of the index. As noted in chapter 2 the HiCi researchers are overwhelmingly located in the USA, with more than eight times as many as the next nation, the UK (ISI-Thomson, 2006); Jiao Tong research performance is dominated by the English speaking nations, with 71 per cent of the world's top 100 research universities in 2006, particularly by the United States with 17 of the top 20 and 54 of the top 100.

There are clear winners and losers but nevertheless, the Jiao Tong rankings have arranged world-wide higher education in a hierarchy based on a technically defensible measure of performance. As such they directly define the elite sub-field of the global market. The only doubt is where the border falls. Strictly, this is impossible to resolve in technical terms, but by naming a top 100 with place-by-place rankings and an overall top 500 inclusions the SJTUIHE provides a two tier descriptor of the global research hierarchy. (As noted in chapter 2, this does not alter the fact that USA and perhaps UK universities in the top 100 enjoy a higher status than their counterparts from elsewhere). The Jiao Tong rankings do not rank universities according to student demand or volume in the cross-border degree market. The SJTUIHE group has been at pains to emphasise that this is not a holistic ranking of universities in all respects, including teaching quality, it refers only to research performance. But the impact is broader. By arranging universities according to research status, the primary determinant of the value of the positional goods produced in both the national markets and cross-border programs, the Jiao Tong rankings construct a reputational hierarchy. Harvard becomes understood not as number one research site but as number one university. Market research and anecdotal evidence from educational agents indicate that the Jiao Tong rankings

are feeding directly into student choice-making in relation not only to doctoral programs, which are nested in research, but first degree and Masters programs as well. It is as significant to be excluded from the Jiao Tong top 500 as to be ranked within it. De facto the SJTUIHE has constructed a market across the entire sector.

Effects on behaviour. Except in the USA there have been profound effects on behaviours and policies. The Jiao Tong initiative has triggered many conferences on ranking, in which the SJTUIHE group itself was active, and a flurry of marketing by the successful institutions. More generally, it has catalysed in each university a desire to improve its league table position by affecting data compilation, or by improving research performance, or both. At government level, the Jiao Tong rankings have triggered the desire to see more universities in the upper echelons of the table, as a signifier of national success and potential in the policy context of a global knowledge economy. In turn this has led to policies designed to concentrate a higher proportion of research activity and resources in a selected group of leading universities, and to attract and hold more top flight researchers. Singapore has set out to attract high quality expatriates by paying American level salaries. China and Germany have selected a group of universities for special research status (van der Wende, 2007a). Others, such as Australia and the UK²⁹ are talking about it. The strategic objective is to replicate the global attractiveness and impact of the American doctoral sector, though in the absence of US economic, technological, political and cultural power this is difficult to do. In Europe, the accelerated research race is leading to multilateral action. Leiden University in the Netherlands has led the formation of a League of European Research Universities; the European Union plans a European Institute of Technology (EIT) (van der Wende, 2007a; 2007b). At the time of writing it was unclear whether the EIT would be based on existing institutions or be a new institution with virtual and/or corporeal character.

The Jiao Tong rankings trigger a positive relationship between ranking measures and total research activity, providing institutions have the policy autonomy and resources to introduce the internal reforms necessary to lift relative position (Salmi & Saroyan, 2006, p. 23). For individual institutions the benefits are more doubtful. Non research institutions are pushed outside the positional hierarchy. For research universities there are feedbacks between research ranking, investment and activity; but with all universities striving for the same goal within a zero sum game, an average effort leaves the individual institution no better off than before. As always happens when positional competition is intensified, if everyone stands on tip-toe no one can see better. 'The race gets longer for the same prize' (Hirsch, 1976, p. 67).

Table 3.2. *Times Higher university rankings: weightings*

	weighting
'Peer review' survey of academics	40%
Survey of 'global employers'	10%
Proportion of academic faculty who are foreign	5%
Proportion of students who are foreign	5%
Staff-student ration (proxy for 'teaching quality')	20%
Research citations per head of academic faculty	20%
total	100%

Source: THES, 2006

The Times Higher Global Ranking

The first *Times Higher Education Supplement* 'World University Rankings' were published in 2004. The aim is a summative, holistic ranking of university 'quality'. Again the index is composite, and also heterogeneous, covering much more than research. Half the Times Higher index is grounded in existing reputation, with 40 per cent comprised by a survey of academics ('peer review') and 10 per cent 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 fixed by the student-staff ratio, a quantity measure used as a proxy for teaching 'quality'. The other 20 per cent is research citation performance per academic staff. The Times issues an annual list of the top 200 universities in order of merit, plus rankings by institution in natural sciences, engineering and IT, biomedicine, social science and arts/humanities (THES, 2006).

Methodologically, the 'Times tables' are open to criticism, in relation to most components of the index. In relation to the two reputational surveys, it is not publicly specified who is surveyed or what questions are asked. In 2006 the survey gathers a response of just 1 per cent from 200,000 e-mails sent worldwide. Not all responses were valid and could be used, and a relatively high proportion were from nations where the *Times* is well-known (Sowter, 2007), so that responses from the UK, Australia and former British colonial locations in Southeast Asia tended to be over-represented. Despite this composition effect the pool of responses were not re-weighted to create global evenness (probably impossible given that with an overall response is 1 per cent some cells had too few responses for re-weighting). In addition the published data for 2006 amalgamated the responses to the 2004, 2005 and 2006 surveys, despite variations in method across the three years. The 2004 and 2005 surveys also experienced low response and coverage bias. In addition the student internationalization indicator rewards entrepreneurial volume building but this is not necessarily grounded in the quality or quantity of student demand or the quality of programs or services. Nor can teaching quality be adequately assessed using student-staff ratios. Research plays a lesser role in the Times index than in most other comparisons of universities. The Times Higher rankings reward a university's marketing division better than its researchers.

²⁹ The UK's increased focus on concentration policy post-Jiao Tong is curious given that it already has a successful concentration program. History, the Research Assessment Exercise (RAE), and the distribution of targeted research-specific funding associated with the RAE have together produced a stratified allocation of capacity. The Russell Group of universities is already functioning as an elite research sub-sector; and Cambridge and Oxford are included in every global top ten, with Imperial and University College London just below. The UK has 11 universities in the Jiao Tong top 100 (the USA has five times as many but spends 17 times as much as does the UK on higher education) suggesting that the UK is doing relatively well in terms of measured research performance.

In composing the global market the Times Higher rankings are more ambiguous than those of the SJTUIHE. Leaving aside composition bias, on one hand the 50 per cent of the index measuring comparative reputation reproduces the established global hierarchy. Leading research intensive universities are on top. This effect is reinforced by the 20 per cent of the index derived from research performance. At the same time, reputation is itself a composite category, taking in more than just comparative research performance. Elements such as national prestige, the standing of universities within the national system, and marketing, also come into play. Compared to the Jiao Tong ranking, the Times Higher ranking tends to elevate well known institutions in national systems especially those in national capitals. It is likely that the Times Higher ranking has also been influenced by the relatively heavy self-marketing and promotion by some Australian and UK universities in the cross-border student market. Likewise the internationalisation of students indicator rewards institutions active in the cross-border student market. Because it is a quantity indicator, it unambiguously rewards a mass orientation within that market. Hence the Times Higher combines, in eclectic fashion, both of Bourdieu's principles of hierarchization. The result is a less coherent hierarchy.

Many universities that have done well in the Times Higher rankings have not hesitated to exploit the marketing benefits, particularly universities active in cross-border marketing. Institutions have also been vigorous in lobbying QS Marketing, the company that carries out the data collection process, which unlike the Jiao Tong group uses data collected from the institutions themselves as well as sources such as government-generated statistical collections. However, the other effects on institutional behaviour and national policy are less clear. The ambiguity of the Times Higher rankings (including the weaknesses in methodology and data collection) mean that there is no clear line of cause and effects between improved performance and improved ranking position. The Times Higher rankings are less definitive, less defensible, more criticised and less influential than the Jiao Tong. In particular, the data series has been negatively affected by two factors: the volatility of the rankings, particularly below the leading group of universities, and what appears to be the over-performance of UK and Australian universities which in part is an effect of the composition bias in the survey of academic peers.

Volatility of the Times Higher rankings. In 2004 the oldest public university in Malaysia, the University of Malaya was ranked by the Times Higher at 89. The newspapers in the Malaysian capital, Kuala Lumpur, celebrated. The Vice-Chancellor ordered banners declaring 'UM a world's top 100 university' placed around the city, with one on the edge of the campus facing the main freeway to the airport where every foreign visitor to Malaysia would see it. But the next year in 2005 the identity of Chinese and Indian students at the University was correctly shifted from international to national, and there were changes in other parts of the Times composite indicator. The University of Malaya dropped from 89 to 169. In Malaysia it seemed as if the University's reputation abroad and at home was in free fall. The VC was pilloried in the local media, and when his position came up for renewal by the government in March 2006 he was replaced.

Table 3.3. Some volatile movements in the Times Higher rankings, 2004-2006

University	Times Higher ranking		
	2004	2005	2006
Fudan, China	195	72	=116
Tsing Hua, China	61	= 62	28
Keio, Japan	-	215	120
Kyushu, Japan	-	222	=128
Osaka, Japan	69	=105	= 70
Tokyo Institute of Technology, Japan	51	99	118
Seoul National, Korea	118	= 93	63
Malaya, Malaysia	89	=169	192
Chulalongkorn, Thailand	-	=121	=161
Royal Melbourne Institute of Technology, Australia	55	82	146
Queensland Technology, Australia	-	118	=192
Massey, New Zealand	108	=188	-
Otago, New Zealand	114	=186	= 79
Munich, Germany	99	55	98
Ecole Pol. Federale de Lusanne, Switzerland	32	34	= 64
Geneva, Switzerland	-	= 88	39
Basel, Switzerland	-	=127	75
Ecole Polytechnique, France	27	10	37
Sciences Po, France	-	69	52
Birmingham, UK	126	=143	= 90
School of Oriental & African Studies, UK	44	=103	= 70
Dartmouth, USA	138	117	= 61
Emory, USA	173	141	56
Pittsburgh, USA	-	193	88
Purdue, USA	59	61	127
Vanderbilt, USA	156	=114	53

Source: THES, 2006 and predecessors

It was not just the University's executive leader who was subordinated by the reclassification; the reputation of the University itself (long established and one of two strongest research universities in Malaysia) and the national research system were equally affected. Yet the University of Malaya had dropped 80 places without any decline in its real performance. The same kind of problems has occurred in many other universities, as Table 3.3 shows. Sharp rises and falls especially affect the second half of the top 200 where small differences in metrics generate large rankings effects. This pattern of sharp changes in the position of a large minority of universities from year to year contrasts with the more stable Jiao Tong rankings.

Composition bias. Both the UK and Australia do exceptionally well in the Times Higher rankings. British universities have improved their comparative performance each year. The UK has 15 per cent of the GDP of the USA but almost half as many universities in the Times Higher top 100: 15 in the UK and 33 in the USA in 2006. In comparison, the USA has 54 research universities in the Jiao Tong top 100.

Table 3.4. Australian universities in the Times Higher ranking of the top 200, 2004-2006

University	Times Higher ranking		
	2004	2005	2006
Australian National University	18	23	16
University of Melbourne	22	19	22
University of Sydney	40	=38	=35
Monash University	33	33	38
University of New South Wales	36	40	41
University of Queensland	49	47	45
Macquarie University	68	67	=82
University of Adelaide	56	=80	=105
University of Western Australia	96	=80	=111
Royal Melbourne Institute of Technology	55	82	146
Curtin University of Technology	76	=101	=156
Queensland University of Technology	--	118	=192
University of Wollongong	--	--	196
La Trobe University	142	98	--
University of Newcastle	--	=127	--
University of South Australia	--	=154	--
University of Tasmania	161	=166	--

Source: THES, 2006 and predecessors -- indicates ranking position outside the top 200

Remarkably, the Times has succeeded in reducing the American hegemony from 54 to just 33 of the top 100. The British now have two of the Times Higher top three universities and in the 2006 results Cambridge UK has almost closed the gap on Harvard. Yet the Harvard faculty is cited at three and a half times the rate of its British counterparts, and arguably has a much stronger global reputation. This result appears to be an artefact of the composition bias in the peer survey.

Likewise, the performance of the Australian universities also appears to have been inflated. Despite a relatively poor citation rate and moderate staffing ratios they do exceptionally well in the peer survey of academic staff which comprises 40 per cent of the index, and the internationalisation indicators especially that for students. In 2006 the Australian National University and the University of Melbourne were both ranked by the 'academic peers' on the same level as Yale and ahead of Princeton, Caltech, Chicago, Columbia and Penn. Australia has 13 of the Times top 200 (Table 3.4) making it the third strongest system in the world, ahead of Japan, Canada, Germany and all of Western Europe. This makes sense in relation to international marketing but not all round performance or reputation.

CRITIQUES AND ALTERNATIVES

The potency of global rankings, unease with the effects and the fact of as many losers as winners, has generated an industry of critique. This ranges from criticisms conducted within the terms of the exercise, to those that look beyond it to the larger open global setting (Marginson & van der Wende, 2007; chapter 2 this volume).

Normalization and diversity. The first and principal concern is the implications of normalizing models on the actual existing diversity in higher education. Here the criticisms are mounted more against bias effects than long term reshaping effects and to that extent are conducted within the terms of the exercise. Bias includes the favouring of English language countries, and comprehensive universities in both rankings system and the favouring of science-based research intensive universities in the Jiao Tong rankings. One example is that of the hegemonic national public university in Latin America. Each of Universidad Nacional Autonoma de Mexico (UNAM) and Universidad de Buenos Aires in Argentina (UBA) provide access to more than 200,000 students on many sites and perform many functions in national and regional development, and social and cultural life, including national research leadership. This range prevents UNAM and UBA from concentrating resources so as to maximise research intensity and reputation like a Princeton or a Caltech, and scholarship in Spanish is unrecognised in the rankings process. They appear in the Jiao Tong rankings in the 151-200 bracket. UNAM is 74 in the Times Higher table. Yet these universities are manifestly great, and the model has distinctive strengths and a long international role. Further, as noted, beyond the research university are other kinds of institutional mission, from liberal arts colleges in the USA to the many institutions focused on vocational and professional training without a role in basic research. The reputational element in the Times Higher ranking allows it to include the Indian IITs and elevate the Dutch technical research universities above traditional institutions but vocational sectors such as the German Fachhochschulen remain excluded. In Europe concerns about diversity have triggered the evolution of institutional typologies for separated comparison, as discussed below.

On the question of language bias Altbach (2006) remarks that:

The fact is that essentially all of the measures used to assess quality and construct rankings enhance the stature of the large universities in the major English-speaking centres of science and scholarship and especially the United States and the United Kingdom (Altbach, 2006, p. 3).

English is one of two languages spoken by approximately one billion people. The other is Putonghua ('Mandarin' Chinese). Two pairs of related mutually intelligible languages are spoken by over half a billion people: Hindi/Urdu (900 million) and Spanish/Portuguese (450/200 million). There are Russian (320 million), Arabic (250 million), Bengali (250 million) and four more languages with 100 million plus speakers: Malay-Indonesia, Japanese, French, German (Linguasphere Observatory, 2006). These languages and others are unlikely to disappear. But knowledge in other languages *has* disappeared from global rankings. Most academics in English language nations are monolingual but this is not the case elsewhere. English is the only global language of research publication but not the only language of thought. The exclusion of work in languages other than English is most problematic in the humanistic social sciences and humanities/arts where national languages dominate. These problems 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 lists, to rejection of rankings.

More generally, because rankings are a normalising device in which any and every institution is imagined as sufficiently similar to be fully comparable with each other, they encourage context-free judgements about merit. Once institutions are arranged in a single league table the particular historical, economic and cultural factors that shape relative performance are obscured. Rankings foster the illusion of a level playing field in which each institution can rise up the table on merit and its place is determined by itself. But all institutions have specific conditions of possibility, and global higher education is not a level playing field. Institutions are tied to their history, to local context, to national resourcing (especially for expensive basic research programs), to their language of use and to the capacities of their personnel. They have self-determination, within variable boundaries. All can improve, but none have absolute freedom to move up to any possible level.

Ironically, at the same time rankings discourage initiatives in mission and organization, curriculum, pedagogy and research, except for initiatives within a short distance of the normalising model. Rather, rankings encourage university executives to concentrate energy on maximising performance and reputation within the established criteria comprising the rankings, particularly research performance and student selectivity. They raise the opportunity cost of investment in innovations in curriculum, pedagogy and research. Such innovations typically take years to be realised in improved performance and longer to feed into reputation. In this manner rankings reify not only the historically-inherited diversity, but future possible diversity as well. The normalising effects of rankings are at their worst when there is only one or a very small number of rankings systems. The more diverse and multiple the comparisons the less potent the normalising effects of one.

Problems of coverage, aggregation and summation. Rankings systems based on institutions appear to 'evaluate universities as a whole' (van Dyke 2005, p. 106), as the Times Higher claims. But no rankings system can cover all purposes of higher education from the point of view of all stakeholders. The outputs are multiple and complex, and not all are open to numerical measurement. Any ranking system will encompass the needs of some stakeholders better than others. Usher & Savino (2006) examine 19 league tables and university rankings systems, noting that these are driven by different purposes and varied notions of what constitutes quality. When rankings systems purport to cover the generality of purpose and interest, the partiality and exclusion are hidden, and so compounded.

This goes also to the issue of aggregation and weightings: Usher & 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 singular descriptor of institutions ranked against each other. Generally, composite indicators and weightings are untheorised, and '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'.

The areas excluded by the Jiao Tong and Times Higher rankings include teaching quality. The observable quality of teaching is difficult or impossible to measure with rigour for comparative national purposes, let global comparison; and no ranking or quality assessment system has generated comparative data based on the 'value added' during the educational process (Dill & Soo, 2005, pp. 503 & 505). Few comparisons focus on teaching and learning. Various proxies for teaching 'quality' have been used such as student-staff ratios, student selectivity (really a proxy for reputation not 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).

Problems specific to reputational rankings. While reputational rankings provide a sense of where market perceptions are at, they are problematic when used as the main tool or mixed with objective data. They are circular. Subjective reputation, reproduced in the rankings, becomes recycled as subjective reputation. Well known university brands generate 'halo' effects.³⁰ Newcomers are blocked regardless of merit. In any case many rankers are unfamiliar with institutions not their own.

There is no way to verify the soundness of the subjective judgements of reputation by ensuring they are grounded in actual comparative knowledge.

European Responses to the Problems of Global Rankings

Practical responses to the problems inherent in the holistic rankings developed by Shanghai Jiao Tong University and the Times Higher have centred on Europe. These responses have taken four forms. First, development of a comprehensive comparison of teaching and research based on survey data, by the Centre of Higher Education Development (CHE) in Germany. Second, construction of a range of publication and citation metrics by a Leiden University group. Third, negotiation of a typology of European institutions enabling a more diverse set of comparisons than permitted by single scales. Fourth, the development of an agreed set of principles to guide inter-institutional comparisons, the Berlin Principles.

The Centre for Higher Education Development (CHE) comparisons. The Centre for Higher Education Development (CHE), located in Gutersloh in North Rhine-Westphalia in Germany, has developed an approach to comparisons between the programs of different universities, in conjunction with the German Academic Exchange Service which assists international students and the publisher Die Zeit.

The CHE dispenses with holistic rank ordering of institutions in league tables, avoids problems of arbitrary weighting and composite indicators; admits multiplicity of purpose into the process of comparison, and has shifted the

³⁰ The classical case is the American survey of students that ranked Princeton law school in the top ten law schools in the country. But Princeton had no Law school (Frank & Cook, 1995, p. 149).

normative power of the comparison process from the ranking agency to the user of higher education. Its approach to comparison has also secured wide-ranging support. The CHE methodology lacks the emotive potency of a single league table but arguably provides more data, and more useful data. It represents the most potentially transformative challenge to the present logic of global positional competition that has so far evolved, especially given its potential to become a European-wide system, and the total size of the European higher education area.

CHE surveys 130,000 students and 16,000 academic faculty in almost 250 higher education institutions. It collects data on student experiences and satisfaction, and academic recommendations on the best places in each field, focusing on 36 academic subjects each offered by a substantial number of institutions, which are updated in clusters within a three year cycle. It supplements the surveys with independent sources comprising one third of the data base. No data are taken from institutions. CHE ranks institutional departments according to each separate indicator of academic and service quality, assigning them to top third, middle third or bottom third of all institutions. The CHE refuses to integrate the indicators into a single weighted indicator either for each academic subject or for each institution, on the grounds that there is no theoretical or empirical basis for doing so. It argues 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). Moreover, students have heterogeneous preferences as to mission and purpose. Accordingly, 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 and rank identified disciplines and administrative services, using their own combination of criteria (CHE, 2006), thereby creating the weightings and rankings themselves.

The CHE approach acknowledges that the definition of 'quality' is purpose-driven and open to variation and passes power over the definition from the ranker to the consumer. It also provides by far the most comprehensive set of comparative data. The data on teaching quality are limited by their subjective nature, but this is the only inter-institutional comparison on teaching executed successfully. Significantly, the CHE comparisons have proven highly successful with public and students, governments, and academic experts on rankings systems (van Dyke, 2005; Salmi & Saroyan, 2006; Usher & Savino, 2007). The CHE data collection has 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).

One difficulty with the CHE approach is that this method depends on a relatively high level of homogeneity between institutions, and between the different programs and services offered by those institutions, to enable comparison. Therefore to successfully execute the CHE approach in the United States, it would be necessary to separately compare the institutions in the different Carnegie classifications. Likewise to develop a CHE-type system for the whole of European higher education, more varied than that of Germany alone, would require a typology and separated comparisons for the different groups of institutions.

Table 3.5. *Top ten European research universities as measured by publications and citations using four different indicators by the CWTS at Leiden University*

	1 Raw number of research publications	2 Citation impact (citations per publication), unmodified	3 Citation impact, controlled for field variation ('brute force')	4 Citation impact, controlled for field variation and for university size
1	Cambridge UK	Lausanne Switz	Cambridge UK	Oxford UK
2	UC London UK	Geneva Switz	Oxford UK	Cambridge UK
3	Oxford UK	Oxford UK	UC London UK	ETH Zurich Switz.
4	Imperial C UK	Basel Switz	Imperial C UK	Lausanne Switz
5	LM Munchen Den	Karolinska Swed	Utrecht Neth	Geneva Switz
6	Paris 06 France	Erasmus Rot Neth	Helsinki Finland	Edinburgh UK
7	Milan Italy	UC London UK	ETH Zurich Switz	UC London UK
8	Utrecht Neth	Cambridge UK	Cath Leuven Belg	Erasmus Rot Neth
9	Cath Leuven Belg	Edinburgh UK	LM Munchen Den	Imperial C UK
10	Manchester UK	Zurich Switz	Karolinska Swed	Basel Switz

Source: CWTS, 2007

The Leiden metrics. The Centre for Science and Technology Studies (CWTS) at Leiden University in the Netherlands is preparing a new ranking system based solely on bibliometric indicators that it has developed (CWTS, 2007). This takes in the 400 universities with the largest number of academic publications, covering the output of at least 600 active researchers in each of those universities. The Leiden group has developed four sets of indicators:

1. Ranking by number of publications;
2. Ranking by average impact as measured by citations per publication;
3. Ranking by average impact as measured by citations per publication, modified by normalisation for academic field (controls for different rates of citation in disciplines, for example the number of citations per publication is lower in engineering and applied science than medicine). The CWTS at Leiden calls this the 'brute force' indicator;
4. Ranking by average impact as measured by citations per publication, modified by normalisation for academic field as for 3, and controlled also for institution size.

The Leiden group considers indicator 4 to be its 'crown' indicator. This measures the overall performance of a research university independent of its size, thereby removing one limitation of the SJTUIHE comparison. Other strengths of the Leiden approach compared to the Jiao Tong rankings are the modification for different rates of citation by field, removing the effect of academic field composition on the outcome of comparisons between institutions; and the avoidance of the problem of composite indicators and aggregation based on arbitrary weightings. The Leiden group has also dispensed with the Nobel

indicators which are the weakest part of the SJTUHE approach. The result is a poorer measure of unit academic 'firepower' in terms of citation impact.

The Leiden group has initially applied its method to the top 100 research universities in Europe and Israel combined. The results show the sensitivity of rankings to the 'tweaking' of methodologies and raise questions about the singular nature of not just the Jiao Tong ranking but the Jiao Tong approach to publication and citation volume and citation impact. As Table 3.5 demonstrates, when the indicator is shifted from total number of publications to the quality of publications as measured by citation, the dominance of the UK universities is diminished, although the British system remains number one, and universities from Switzerland, the low countries and Scandinavia come into their own. Using the 'crown' indicator the UK and Swiss universities occupy nine of the top ten places.

A European Typology. To value diversity in comparison between institutions it must be transparent and well understood, and there must be cultural and/or administrative barriers to 'mission drift' and convergence around a single dominant model of institution, normally that of the comprehensive research university. This suggests an agreed typology of higher education institutions based on distinctive missions. The US has the Carnegie classification, which was revised in 2005 (Sapp & McCormick, 2006). In Europe a comprehensive typology is being developed at present (van Vught et al., 2005; van der Wende, 2007b). This typology is made up of a number of parallel schemes each based on a different characteristic: size of institution, legal status, type of education (degrees offered, range of disciplines), student and staff profiles, activities in research and innovation. Early work suggests there is considerable variation in the quality of potential data under the schemes. For example bibliometric indicators for basic research are well established while indicators for the socio-economic relevance of applied research are not. The areas of teaching, lifelong learning, innovation, knowledge transfer and local and regional engagement all require further work (van der Wende, 2007b). In the evolution of the typology in Europe institutions are being asked to specify their own missions, consistent with autonomy. However it is unclear whether once the typology is established institutions will be free to redefine their mission and category; and if so what could retard academic drift into higher status categories over time, which would tend to conflate categories and weaken diversity.

Further, while a typology offers the prospect of protecting diversity at the level of broad category, as the US experience shows it does not necessarily overcome the other difficulties of league tables based on holistic comparison. This confirms that to achieve useful comparative data that are consistent, transparent to the users and foster motivation in all institutions to improve performance; while sustaining diversity and avoiding the problems of partiality and validity inherent in holistic league tables; the better approach would be to use the CHE methodology of user-controlled comparison in conjunction with a typology. If this was done on the global scale, the categories of the typology could include diversity of language as well as diversity of mission and program.

The Berlin Principles. The formulation of the Berlin Principles (UNESCO/IHEP 2006), adopted on 18-20 May 2006, was led by the higher education program of UNESCO and the Institute for Higher Education Policy in Washington.

The Principles suggest that rankings and league tables should be transparent as to purpose, method and sources of data, and the weighting of indicators; use valid and relevant indicators, where possible focusing on outputs rather than inputs; use audited, verifiable and scientifically sound data; take diversity into account; and be refined and improved over time. To this extent the Principles present no challenge to the Jiao Tong approach, although those related to transparency and validity might be invoked as a basis for criticism of the Times Higher. More challenging is the requirement in the Principles that rankings 'specify the linguistic, cultural, economic, and historical contexts of the educational systems being ranked'. It is also suggested that rankings 'be compiled in such a way that eliminates or reduces errors in original data, and be organized and published in a way that errors and faults can be corrected', a nod in the direction of the CHE approach to comparison.

The formulation of the Berlin Principles was attended by much goodwill but did not meet the more fundamental criticisms that had been raised in relation to league tables in which whole institutions are represented by single numbers. Essentially the Berlin meeting went with the trend to global reputational rankings, attempting to modify that trend rather than transform it. The opportunity to encourage the spread of the CHE approach beyond Europe was missed, despite widespread support for that approach in policy circles around the world. In the Principles the problems of arbitrary selection of indicators and weightings, partial coverage and bias including language bias, disincentives to invest in local innovations with longer lead times; and the circular recycling of reputation, remain untouched.

CONCLUSION

Taken together these developments suggest that in the foreseeable future global university rankings will retain all or much of their potency, including their growing effects in relation to the movement of students and researchers, and the reshaping of national policies of research concentration and stratification. However, a more plural set of indicators and of rankings will develop; and greater specialisation in relation to mission and function, as already indicated by discipline indicators and the range of publication and citation metrics. Within Europe, where a coordinated policy-based approach to comparison and classification is in prospect, it is likely that a more nuanced and sophisticated set of indicators and machinery will be devised, in which there is less or no emphasis on holistic institutional rankings. The CHE use of consumer-selected measures is likely to be further developed. However the UK is more likely to retain its fascination with singular league tables.

Rankings function as a meta-performance indicator. They do more than 'reflect' an institution's profile and quality. The criteria used to determine each institution's position in the ranking system become meta-outputs that each institution must place on priority. In that manner rankings begin to define what 'quality' means and they shape its subsequent evolution. In the world according to the Shanghai Jiao

Tong University rankings, 'quality' means scientific research and Nobel Prizes, not teaching or community building or solving local or global problems. In the world according to the Times Higher, 'quality' means reputation, primarily; and larger staff-student ratios, research, and international staff and students; and it is partly fostered by marketing the institution across borders, which drives up Times Higher-defined performance. It seems that institutional leaders, and governments, have been given their marching orders. By shaping university and system behaviours, while standardising the definitions of outcome and output, rankings begin to decide university mission and the balance of activity. In part the power over university identity is shifted from institution itself to the ratings agencies and to the market they are helping to construct (by-passing national governments along the way!). This shift from autonomy to heteronomy in itself is very important, and carries with it serious problems for the trajectory of higher education in many countries. But these should not be overstated. The heteronomy is not complete. It scarcely touches the top institutions, which remain masters of their own identity; and the more diverse and plural are the systems of comparison and ranking, the less that any one ranking system will reshape the other institutions below the top.

Regardless, the contribution of global university rankings to market formation in the sector proceeds apace. Rankings render higher education and research more amenable to singular processes of measurement, production and distribution in the commodity form, for economic markets or quasi-market competition. Ranking of any and every university in the world, that supremely ambitious (some would say fantastical) project, for all its savage violation of diversity of mission and the specificity of values and cultures, allows us to imagine higher education and research in terms of one inter-dependent world. This in itself is a boon. Education and knowledge *have* become inter-dependent on a worldwide scale, just as economy and culture (ecology always was globally inter-dependent) and it is time this was recognised. And the possibilities are open. But a rankings mediated market, based on positional value, is too closed. The problem posed by rankings of the holistic league table kind is that, rather than presenting the world to itself, allowing all the complexity, variety and unevenness to emerge, rankings grossly simplify and reify the complexity. Institutions from diverse traditions are measured against the nations that have dominated the world for the last 200 years. In this setting, global unevenness shows itself not as poverty of educational means, which would thereby become a joint global responsibility; but poverty of educational performance. The latter is readily blamed on the victim, in the manner of markets.

This suggests that in developing the global comparisons of universities and of national systems, more is needed than just the development of a wider range of indicators of performance, and formation of choice based systems of comparison. After all, the objective is not to rank every university as an end in itself (is it?), or for one's own country to win the global contest (is it?), as if higher education was the World Cup. It is to everywhere lift the contribution of higher education and research to public and private goods. Cross-border comparisons should map and model the *capacity* of institutions and nations in education and research, and their various contributions to private and public goods: local, national and global.

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