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Understanding Rankings and the Alternatives: Implications for Higher Education

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Hazelkorn, E.: Understanding Rankings and the Alternatives: Implications for Higher Education. In Bergan,S; Egron-Polak, E; Kohler, J; Purser, L; Vukasović, M. (Eds.), Handbook Internationalisation of European Higher Education. Stuttgart: Raabe Verlag. Forthcoming.

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Understanding Rankings and the Alternatives: Implications for Higher Education

Ellen Hazelkorn

Higher education rankings have become an international phenomenon. In today's world, the talent-catching and knowledge-producing capacity of higher education has become a vital sign of a country's capacity to participate in world science and the global economy. In the process, rankings are transforming universities and reshaping higher education. Despite the fact that there are over 16,000 higher education institutions (HEIs) worldwide, there is a continuing fascination with the standing and trajectory of the top 100, less than 1 % of the world's institutions. These developments have affected the decisions and opinions of students and their parents, higher education and governments, stakeholders and civil, the media and public opinion – in both positive and perverse ways. This chapter is divided into five sections: i) provides an understanding of what rankings measure, ii) assesses their shortcomings, iii) discusses the way rankings are influencing higher education decision-making and national policy-making, iv) looks at some alternative methods for measuring and comparing higher education performance, and v) concludes with some recommendations for using rankings cautiously and strategically.

Content Page

0. Introduction: The growing obsession with rankings 2

1. What are rankings and what do they measure 4

2. Criticism of rankings 10

3. How rankings are influencing higher education and national policy-making 15

4. Alternatives to rankings 22

5. Using rankings cautiously and strategically 27

0. Introduction: the growing obsession with rankings

Higher education in a globalised market

We live in a globalised world. Thomas Friedman (2007, p.8) said the world was flat – by which he means that "we are connecting all the knowledge centres on the planet together into a single global network". Manuel Castells (1996, p. 1), a few years earlier had made a similar judgement when he coined the phrase "the network society" to explain the way technological developments were reshaping economies around the world, making them "globally interdependent". These changes have helped position knowledge as the foundation of economic, social and political power transforming economies and the basis of wealth production from those based on productivity and efficiency to those based on higher-valued innovative goods and services. As competition escalates for a greater share of the globalised marketplace, higher education – as a provider of human capital through education and training, a primary source of new knowledge and knowledge/technology transfer, and a beacon for international investment and talent – has become fundamental to creating competitive advantage. This has helped raise the profile of higher education amongst the policy community but it has also brought increased public scrutiny.

Perfomance and Quality standards

How higher education is governed and managed has become the subject of policy debate and public discourse at both the national and supra-national levels. The OECD, UNESCO, World Bank and EU, alongside other international organisations and national governments, continually emphasize the significance of higher education for economic growth and social well-being, and especially as an antidote to the after-effects of the global financial crisis (GFC). The performance and quality of higher education has become a vital sign of a country's capacity to participate in world science and the global economy. These concerns have coincided with and fuelled increasing attention to matters of accountability and transparency, and what the EU calls the "modernisation" of higher education organisational and work practices. Benchmarking higher education performance against peer nations and international indicators have become common-place. Rankings are an inevitable feature of this interconnected world.

"War for talent"

However, at the point when skilled graduates and professionals are in highest demand, many countries face a demographic deficit. Their birth rate is falling, which combined with an ageing population, is leading to a decline in the overall pool of available skilled labour. While the world population is likely to increase by 2.5 billion over the years to 2050, the population of the more developed regions is expected to remain largely unchanged, and would have declined, if not for net migration from developing to developed countries. In 2005, young people were 13.7 % of the population in developed countries, but their share is expected to fall to 10.5 % by 2050 (Bremner et al., 2009, pp. 2, 6). These changes are driving a "war for talent" – not just

amongst businesses, but among HEIs for smart students and researchers, and nations eager to drive their knowledge-intensive sectors. Students, especially international graduate students, are a frequent user and an obvious target for rankings; without access to local intelligence about a particular higher education institution (HEI), city or country, rankings – just like travel guides – offer the best option. In response, governments are seeking to better align higher education, innovation and immigration policies to facilitate greater access to the internationally-mobile global talent pool.

At their simplest, rankings seek to compare the performance of HEIs, using a series of indicators that purport to measure education and research quality, and academic reputation. By granting visibility to some institutions, rankings have become an important tool for strategic positioning and global branding. In turn, HEIs are incentivized by the benefits which (are perceived to) derive from being highly ranked; they are becoming more strategic, reorganizing structures and procedures, allocating resources to fields of study and research which are internationally competitive and re-engineering student recruitment.

Influence students and society alike

But rankings have wider sway – their spill-over effect has informed decisions and opinions not only of students and their parents, but also governments and policymakers, industry and business leaders, the media and civil society. Attention to academic performance and productivity, student learning and the student experience, learning outcomes and employability of graduates, research outcomes and impact, etc. now form a critical measure of the quality of higher education. For students and societies dependent upon tuition fees and exchequer funding, these indicators have become powerful tools for measuring value-for-money and assuring investor-confidence. As the European Commission (European Commission, 2006) said:

> *Universities should be funded more for what they do than for what they are, by focusing funding on relevant outputs rather than inputs, ... Competitive funding should be based on institutional evaluation systems and on diversified performance indicators with clearly defined targets and indicators supported by international benchmarking.*

Or as the Australian Federal Minister for Innovation, Industry, Science and Research said more succinctly, it "isn't enough to just go around telling ourselves how good we are – we need to measure ourselves objectively against the world's best" (Carr, 2009).

The race for "world-class" status

Rankings have also influenced our perception of the world order of global knowledge. By presenting results as a "league table", nations and HEIs (their faculty, students and graduates) delight or feel shame in response to their annual publication. In response, rankings have generated an expensive reputation race, inspired by pursuit of "world class" status, an attribution characterised by the HEIs ranked within

the top 100. Today, no part of the world is immune; over 60 countries have introduced national rankings, and their number is growing. Despite the fact that there are over 16,000 higher education institutions worldwide, there is a continuing fascination with the standing and trajectory of less than 1 % of the world's institutions.

The remainder of this chapter will explore the phenomenon of rankings, their implications and strategic importance for higher education, and some alternatives. This chapter is divided into five sections: i) provides an understanding of what rankings measure, ii) assesses their shortcomings, iii) discusses the way rankings are influencing higher education decision-making and national policy-making, iv) looks at some alternative methods for measuring and comparing higher education performance, and v) concludes with some recommendations.

1. What are rankings and what do they measure

The history of rankings can be divided into three main periods.

History of rankings

Phase 1: The origin of rankings dates back to James McKeen Cattell whose 1910 version of *American Men of Science* "showed the "scientific strength" of leading universities using the research reputation of their faculty members" (Webster 1986: 14, 107-19). Early rankings used several "dimensions of quality", *inter alia*, faculty expertise, graduate success in later life, and academic resources such as faculty/student ratio or volumes in the library. This early focus on "distinguished persons," which dominated rankings from 1910 to the 1950s effectively excluded most public universities, such as Land Grant universities which existed in the West and Midwest, because they were newer institutions with a different mission than the older private universities.

Phase 2: During this period, rankings relied increasingly on reputational indicators, using the *Science Citation Index*, 1961 and annually thereafter, and the *Social Sciences Citation Index*, 1966 and then yearly. The "commercial success and critical acclaim" afforded to Allan Cartter's *Assessment of Quality in Graduate Education* in 1966, which sold over 26,000 copies, helped set the standard and popularised reputational rankings. Rankings continued to focus on graduate institutions until Lewis Solmon and Alexander Astin developed the first "undergraduate ranking with methodological rigor" in 1981 (Myers and Robe, 2009, pp.7-16). *US News and World Report Best College Rankings* (*USNWR*) in 1983 marked a defining moment. Its rise to popular prominence coincided with the massification of US higher education and the ideological and public "shift in the Zeitgeist

towards the glorification of markets" (Karabel 2005: 514). Today, there are a growing number of other national rankings of which the CHE-HochschulRanking, developed in 1998 by the German Centre for Higher Education Development, is one of the most influential.

Phase 3: The *Shanghai Jiao Tong Academic Ranking of World Universities (ARWU)* in 2003 marked the beginning of the era of global rankings, and the realization that in a global knowledge economy, national pre-eminence is no longer enough. Despite being developed to highlight the position of Chinese universities vis-a-vis competitor universities, this ranking has effectively become the "gold standard". It was followed by *Webometrics* (produced by the Spanish National Research Council), and THE-QS *World University Ranking* (THE-QS) in 2004, the Taiwan *Performance Ranking of Scientific Papers for Research Universities* (HEEACT) in 2007, and *USNWR's World's Best Colleges and Universities* in 2008. *The Leiden Ranking* (2008), developed by the Centre for Science and Technology Studies (CWTS) at the University of Leiden, uses its own bibliometric indicators to assess the scientific output of over 1000 universities worldwide, while *SCImago* (2009) uses the Elsevier *Scopus* database. The Russian *Global University Rankings* (2009) uses data from a questionnaire sent to universities around the world, while the Turkish *University Ranking by Academic Performance* (URAP, 2009) ranks the top 2,000. The *THE-QS* partnership split in 2009 giving birth to two new rankings: *QS World University Rankings* (2010) (which retains its relationship with *USNWR*), and *THE*-Thomson Reuters *World University Ranking* (*THE*-TR) (2010), the latter representing a significant entry into the market by the producer of one of the major bibliometric databases. The European Union commissioned *U-Multirank* as a companion instrument to its U-Map classification system and a feasibility study was published in 2011. Today, there are over 10 global rankings of varying scope and influence, in addition to a growing number of system-level, regional, specialist and professional rankings (Table 1). Despite these developments, *Academic Ranking of World Universities (ARWU)*, *THE*-Thomson Reuters *World University Ranking* (*THE*-TR) and *QS World University* Rankings are the "big three".

	Institutional	**Discipline/ Sub-Categories**	**Specialist**	**System**
Interna-tional	• Academic Ranking of World Universities [ARWU] (China) (2003) • Leiden Ranking – Centre for Science and Technology Studies (CWTS) (Netherlands) (2008) • Performance Ranking of Scientific Papers for Research Universities [HEEACT] (Taiwan) (2007) • Professional Ranking of World Universities (MINES ParisTech, France) (2006) • *QS* Top University (UK) (2010) • SCImago Institutional Rankings (2009) • *Times Higher Education*-QS World University Rankings, 2004-2009 • *Times Higher Education*-Thomson Reuters World University Rankings (UK) (2010) • U-Multirank (European Commission) (2011) • University Ranking by Academic Performance [URAP](Turkey) (2009) • Webometrics (Spain) (2004) • World's Best Colleges and Universities, *US News and World Report* (US) 2008	• *Business Week* MBA (US) • *Economist* Intelligence World MBA Rankings (UK) • Global MBA Rankings (*Financial Times*, UK) • *Le Point* Best Graduate Business Schools (France) • *Le Point* Best Graduate Engineering Schools (France) • Tilburg University Top 100 of Economics Schools Research Ranking (Netherlands) • *UTD Top 100 Worldwide Business School Rankings* (US) • *Wall Street Journal* MBA (US)	• Best Student Cities (QS, UK) • Green Metric World University Ranking (Universitas Indonesia*)* • World Reputation Rankings (*Times Higher Education,* UK)	• National System Strength Rankings (QS, UK) • University Systems Ranking. Citizens and Society in the Age of Knowledge (Lisbon Council, Belgium) • U21 Rankings of National Higher Education Systems (Australia)
National	• Bulgarian University Ranking System (Bulgaria) • Chamber of Commerce and Industry (Sweden) • CHE-HochschulRanking (Germany) • *Forbes* College Rankings (US) • *Good University Guide* (Australia) • Google College Rankings (Various) • Guangdong Institute of Management Science (China) • *Guardian* University Guide (UK) • *La Republica* (Italy)	• *Asiaweek* MBA School Rankings (2000) • Brian Leiter's Law School Rankings (US) • Dataquest (India) • *India Today* (India) • *Le Nouvel Observateur* (France) • Mint (India) •	• Metroversities (US) • Saviors of Our Cities (US) • *Washington Monthly* College Guide (US) • *Washington Monthly* Ranking of Community Colleges (US)	

	Institutional	Discipline/ Sub-Categories	Specialist	System
	• *Macleans* On Campus (Canada) • National Accreditation Centre Rankings (Kazakhstan) • Netbig (China) • OHEC (Thailand) • *Perspektywy* (Poland) • Petersons College Rankings (US & Canada) • *Princeton Review* (US) • *Sunday Times* (Ireland) • Times Higher Education University Guide (UK) • University Rankings (Ukraine) • U-rank (Sweden) • *USNWR* College Rankings (US) • Classification of Italian universities (Vision, Italy) • Washington Monthly (US) • Wuhan University Research Centre for Science Evaluation (China)	• National Research Council Ranking of Doctoral Programmes (US) • Outlook (India) • *Sharif Magazine* (Iran) • Toplawschools.com (US) • Undergraduate American universities rankings for international students (US) • *USNWR* Top Med Schools (US) • WPROST MBA (Poland)	•	
Regional	• AsiaWeek – Asia's Best Universities (HongKong) • CHE Excellence Ranking Graduate Programmes (Germany) • Ranking Iberoamericano (Pan Hispanic)		• Sustainability Tracking, Assessment & Rating System™ [STARS] (US)	

Table A 2.1-5-1 **Examples of Rankings by Unit of Analysis and Scope (alphabetically per category)**
NB. Host country indicated. Date of origin provided only for global rankings; for a more extensive list of national rankings in emerging societies see Hazelkorn, 2012c. Source: Updated from Hazelkorn, 2011

Webster (1986, p. 5) defined "academic quality rankings" as having two key elements:

1. It must be arranged according to some criterion or set of criteria which the compiler(s) of the list believe measures or reflects academic quality; and

2. It must be a list of the best colleges, universities, or departments in a field of study, in numerical order according to their supposed

quality, with each school or department having its own individual rank, not just lumped together with other schools into a handful of quality classes, groups, or levels.

Rankings use a range of indicators

Rankings work by comparing different institutions, using a range of indicators to measure different aspects of higher education. The choice of indicators is made by the promoters of each system, with each indicator acting as a proxy for the real object. Each indicator is considered independently from each other, while in reality there is a relational aspect to them or multicollinearity. For example, older well-endowed private universities are more likely to have lower faculty/student ratios and higher per student expenditure compared with newer or public-funded institutions. Each indicator is also assigned a weight or percentage of the total score, with research usually assigned the highest marks. A final score is aggregated to a single digit and ranked hierarchically; this is called an ordinal ranking. In this way, all HEIs are effectively measured by how much they deviate from the top ranked university, usually Harvard.

National and international variations

There are some significant differences between national and global rankings; the former usually capture data according a wide range of dimensions while the latter are inevitably more narrowly proscribed because of the absence of internationally meaningful and available comparative data. Four different data sources are used in varying proportions:

1. International data, e.g. UNESCO, OECD and EU, which can obscure definitional and contextual differences;

2. Government data, which is the most accurate but is also prone to definitional and contextual variances;

3. Institutional data/institutional research, which is the richest source of information but can be open to distortion or manipulation; and

4. Survey data, which provides valuable stakeholder opinion as a measure of esteem, but there are concerns about sample size, allegations of “gaming” and the fact that such data can be self-reverential, in other words they repeat what is already shared opinions.

Table A 2.1-5-2 below provides a simple comparison of what rankings do and do not measure. It is noteworthy that most global rankings prioritise research using data from the Thomson Reuters/ISI *World of Science* or Scopus bibliometric databases; URAP uses Google. As discussed below, this data is most accurate for bio- and medical sciences research. Uniquely, *ARWU* collects information for publications in *Nature* or *Science*, albeit it’s not clear why these two journals have been singled out for such attention. Research data is used as a measure of academic quality, while student entry levels or student selectivity is

used to gauge institutional selectivity; the faculty/student ratio is a proxy for educational quality; and an institution's budget is used to represent the quality of the infrastructure, e.g. the buildings and laboratories. Some rankings, notably *THE-TR* and *QS*, use questionnaires to gauge institutional reputation assigning a significant percentage of the score, 34.5 % and 50 %, respectively. QS has developed the first student-focused global ranking, based on student demographics, affordability, quality of life and reputation amongst employers.

Rankings *do not* measure educational quality

On the other hand, rankings *do not* measure educational quality, e.g. the quality of teaching and learning or the quality of the student experience. Bibliometric data is less reliable for the arts, humanities and social science disciplines, and there is no focus on the impact or benefit of research. Rather the focus is on quantity or intensity – but more is not necessary better. No attention is given to regional or civic engagement – a major policy objective for many governments and HEIs.

Rankings Measure	Rankings Do Not Measure
• Bio- and medical sciences Research • Publications in Nature and Science • Student and Faculty Characteristics (e.g. productivity, entry criteria, faculty/student ratio) • Internationalization • Reputation – amongst peers, employers, students	• Teaching and Learning, incl. "added value", impact of research on teaching • Arts, Humanities and Social Science Research • Technology/Knowledge Transfer or Impact and Benefit of Research • Regional or Civic Engagement • Student Experience

Table A 2.1-5-2 What Rankings Measure

In this way, rankings benefit HEIs which are roughly 200 years old with approximately 25,000 students and 2,500 faculty, with an annual budget of around €2bn plus considerable endowment earnings (Usher, 2006; Sadlak and Liu, 2007). These HEIs operate highly selective entry criteria for students and faculty. Accordingly, they have been able to amass significant competitive advantage. Of the world's more than 16,000 HEIs, research performance is concentrated in the top 500 and is virtually undetectable (on that index) beyond 2,000. Because age and size matters, there is a super-league of approximately 25 universities, usually with medical schools and in English-language countries, which tend to dominate the top strata of all rankings (Sheil, 2009).

2. Criticism of rankings

HEI complexity beyond the rankings

Rankings are criticised primarily because they seek to measure or compare "whole institutions", from around the world, using the same set of indicators. After-all, HEIs are complex organisations, providing education from associate-degree to PhD. They conduct research, participate in outreach initiatives, and are a source of innovation and entrepreneurship. Their origins are variously attributed to nation-building and market-forces. They are a source of human capital, and act as a regional, national and global gateway attracting highly-skilled talent and investment, actively engaging with a diverse range of stakeholders through knowledge and technology transfer, and underpinning the global competitiveness of nations and regions. Many HEIs have medical schools, museums, theatres, galleries, sports facilities and cafes – all of which play a significant role in their community, city and nation. As a group, they sit within vastly different national context, underpinned by different value systems, meeting the needs of demographically, ethnically and culturally diverse populations, and responding to complex and challenging political-economic environments.

No objective ranking

Another criticism is that rankings measure academic or educational quality using measurements of quantification, and then aggregate the results into a single ordinal rank as a proxy for overall quality. The choice of indicators is based upon the judgement of each ranking organisation; there is no such thing as an objective ranking. And there is no agreed method on what or how to measure academic or educational quality. Different rankings also assign different weightings to the indicators, and thus a HEI's position can change considerably depending upon the weight ascribed to the particular criteria. Aggregating the scores into a final rank ignores the fact that some institutions might score higher in some domain than others, or vice versa. It also leads to inconsistency across the rankings but it also highlights the arbitrariness of the weightings.

Main groups of indicators

Adapting the framework devised by Usher and Medow (2009), there are eight main groups of indicators, each of which are used in different combinations by the different rankings. Each set of indicators has some advantages and disadvantages: beginning characteristics, learning inputs – faculty, learning inputs – resources, learning environment, learning outputs, final outcomes, research and reputation. The key issue is whether the indicators are measuring what is important. The following discussion is summarised in Table 3 (for fuller discussion, see Hazelkorn, 2011, p. 59-77).

Beginning Characteristics

Many rankings measure the entry level of students, e.g. national test scores, as a proxy for educational quality. This is based on research which shows a person performs roughly similarly throughout his/her higher education career (Webster, 2001, p. 240). Entry scores also

correlate well with career and future income (Ehrenberg, 2005, p. 30). However, entry scores and standardized testing may simply reflect socio-economic advantage. Enrolling smart students and graduating them says very little about the quality of the educational experience itself.

Attracting a significant proportion of international students is often interpreted as a sign of educational quality on the basis that if students willingly travel to a particular HEI, then it must be good. But, institutions can increase their international student cohort by lowering standards. The "presence of high numbers of overseas students may tell us more about how good … [a country or institution's] methods of recruitment [or wider economic factors] are than about the quality of their academic environment" (Taylor and Braddock, 2007, p. 252).

Learning Inputs – Faculty

The faculty/student ratio is widely used as a proxy of teaching quality; the lower the ratio, the better access a student has to top professors. However, this ratio has different meanings and implications for different disciplines and types of learning environments, and for public and private institutions and systems. An institution may have what is believed to be a good ratio but many of the top professors may never teach, the lecturers and professors may be terrible teachers or have little or no interest in their students, and the students may be disengaged. Ultimately, the faculty/student ratio may say more about available funding or the efficiency level rather than the quality of the teaching and learning environment.

Another approach is to measure faculty quality. *USNWR* uses salary data, thereby correlating faculty salary and education quality on the basis that market-forces will ensure the best faculty are attracted to the best universities. However, salary is arguably a factor of market conditions and an indicator of institutional wealth, and may have little actual bearing on faculty or educational quality. A better measure might be the percentage of highly cited, award-winning or senior professors/scholars who teach undergraduate classes to illustrate the impact of research on teaching.

Learning Inputs: Resources

National rankings often include some kind of measure to reflect the quality of the learning environment as expressed through the level of resources. Usually what is being measured is the size of the budget or the library collection. There is little doubt that the level of investment is critical but it is an input factor and does not correlate with educational attainment. It provides "little or no information about how often and how beneficially students *use* these resources" (Webster, 1986, p. 152), "the adequacy of the [library] holdings" (Lawrence and Green, 1980, p. 28), or whether the budget is spent making the campus more beautiful or for essential educational facilities. There is a danger that looking simply at the budget ignores the question of value vs. cost vs.

efficiency (Badescu, 2010), and that the indicator is essentially a measure of wealth (Carey, 2006).

Learning Environment

Measuring student satisfaction has become a commonly used method for measuring the quality of the learning environment. Studies tend to focus on defining the characteristics which aid student learning in the realization that factors other than student entry scores or the budget have an impact on student development. This includes "working collaboratively with peers to solve problems, study abroad, service learning, doing research with a faculty member, learning communities, etc" (Kuh, 2003, p. 23). But international comparisons of teaching and learning are extremely difficult. The value of student satisfaction surveys derives primarily from the relative ease with which nationally-administered surveys can gather data, interpret the results, and filter the information back to the institution. Another method is to measure final grades, but this can confuse teaching quality with best results (Mervis, 2011).

Learning Outputs

Higher education has traditionally been funded on the basis of the number of students who enter an institution or the total student enrolment. Over recent years, there has been a change from measuring inputs to outputs – in other words, the number who actually complete and graduate within a determined time-frame. This is viewed as a better way to measure educational success/failure – at the same time as acting as an incentive for HEIs to exercise greater duty-of-care towards their students. Rankings seek to capture the through-put by measuring an institution's predictive graduate rate. But this may be disadvantageous to lower socio-economic and ethnically disadvantaged groups or mature students whose life or family circumstances disturb normal study patterns. It may also undermine institutions which are working hard to provide widening participation opportunities to new student groups or to students who might use this opportunity to transfer to other universities.

Final outcomes

Employability or career readiness is now an issue of major concern for higher education policymakers and HEIs. The *London Communiqué* for the Bologna Process said universities had to consider employability in relation to each of these learning cycles as well as in the context of lifelong learning. Such information has usually been based on graduate first destination surveys, but a major handicap is the time-frame. Such surveys usually concentrate on the first six to nine months post-graduation, which means they are insensitive to "large annual movements" (Smith et al., 2000), and unable to distinguish between employment on "graduate-level jobs or under-employed" (Dill and Soo, 2005, p. 509). It is also doubtful if such information can provide an accurate reflection of educational quality during an economic recession such as the one being experienced now. Depending upon the discipline, students may find it more or less difficult to find suitable

employment. Measuring employability with reference to the regional or national rate may be more meaningful.

Research

Measuring research or scholarly productivity as an indicator of faculty quality is undoubtedly the most common aspect of rankings because the data source is international and widely accessible. It uses information from bibliometric databases to identify peer-reviewed articles (around 9,000 in *Web of Science* and 18,000 in *Scopus*), albeit new developments are now emerging to accurately identify books and book chapters, and conference proceedings. None-the-less, the main beneficiaries of this practice are the physical, life and medical sciences because these disciplines publish frequently with multiple authors. In contrast, the social sciences and humanities are likely to have single authors and to publish in a wide range of formats (monographs, policy reports, translations, etc.), whereas the arts produce major art works, compositions and media productions, and engineering focuses on conference proceedings and prototypes. This means that other important sources or publication formats are ignored while new research fields, interdisciplinary research or ideas which challenge orthodoxy can find it difficult to get published or are less likely to be published in high-impact journals (Hazelkorn, 2009).

A related problem concerns the exceptional attention given to high-impact journals and the computation of citation impact factors (IF). For example, *ARWU* awards 20 % of its score to just two publications, *Science* and *Nature*. Some research topics are cited more often because of their topicality while others may be frequently cited in order to dispute an argument or to highlight an error. In contrast, low-impact journals can contain valuable research papers with great relevance for the region or country. Authors are most likely to reference other authors whom they know or are from their own country thereby exaggerating the reputational or halo factor. How IF factors are calculated, and whether they are normalised across the institution, across years, across disciplines, etc. can lead to differing results (see Rauhvargers, 2011, pp. 64-65).

Reputation

Peer review is a cornerstone of the academy – so it is natural that it would form part of rankings. Rankings seek to measure how an HEI is valued by its faculty peers and key stakeholders such as employers and students, gathering information by way of a survey. However, rater bias is common; it occurs when respondents are asked to either identify the top universities they know or choose from a preselected list based upon their own personal or professional experience or on easy recall. In reality, people completing the questionnaires cannot credibly know sufficiently about a wide range of institutions in order to fairly score them. Information is limited, no performance data is provided, and judgement is usually restricted to one's own field, geographic jurisdiction or professional circle. Finally, a halo effect arises

when the knowledge – either good or bad – about a university is seen to affect everything about that institution.

Field	Indicator	Advantage	Disadvantage
Beginning Characteristics	e.g. Student entry scores, % international students	• Correlation between scores and achievement; • International students (and faculty) measures importance beyond border.	• No statistically significant relationship between "leaning and cognitive growth" and admissions selectivity; • Different definitions of international student makes comparison difficult
Learning Inputs – Staff	e.g. Faculty/Student ratio	• Assesses "commitment to teaching"	• Not a linear correlation between quality of faculty and quality of education
Learning Inputs – Resources	e.g. Budget, physical resources, library volumes	• Strong positive correlation between university budget per student and research performance	• No correlation between value and cost, and is essentially a measure of wealth
Learning Environment	e.g. Student satisfaction	• Used to understand quality of learning environment	• Useful to help improve performance but difficult to use for comparisons or ranking
Learning Outputs	e.g. Graduation or completion rates	• Measures educational success and failure	• Can undermine "widening participation" agenda
Final Outcomes	e.g. Employability	• Links education with careers, salaries and lifestyle	• Employability and salary linked to market forces and conditions
Research	e.g. Publications and outputs	• Measures research and scholarly activity and impact	• Bibliometric and citation practices are inaccurate measures of research activity
Reputation	e.g. Peer and stakeholder esteem	• Value and regard as measured by academic peers or key stakeholders	• Subject to rater bias, halo effect and gaming

Tab. A 2.1-5-3 **Advantages and Disadvantages of Commonly Used Indicators**
Source: Hazelkorn, 2011, p.60

3. How rankings are influencing higher education and national policy-making

Rankings are part of the growing trend for greater transparency, accountability, and comparability at the national and international level. Students and their parents along with policymakers, employers, potential collaborators, and the public require more information about HE performance prior to enrolling or investing in or partnering with an institution. External stakeholders use rankings to influence decisions about funding, sponsorship, and employee recruitment, while peer HEIs might use rankings to help identify potential partners, assess membership of international networks and organizations. HE leaders and managers require better information to inform strategic decision-making and benchmark performance. These developments have introduced a new competitive dynamic into higher education systems. Great significance is attached to being highly ranked. Doing well can help maintain and build institutional position and reputation. Conversely, a "poor" showing or a "fall" in the rankings can send shock waves through an institution – its region, nation and political system.

Ranking aspirations

Given this scenario it is not surprising that 58 % of HE respondents to a 2006 survey were so disappointed with their current rank that 93 % and 82 %, respectively, wanted to improve their national, or international, position. And, notwithstanding the mathematical impossibility of it, 70 % expressed their desire to be in top 10 % of HEIs nationally, and 71 % want to be in the top 25 % internationally. Figures 1 and 2 compare the current rank with respondents' preferences; they show respondents desire a much higher institutional rank, both nationally and internationally. Currently 3 % of respondents are nationally ranked first in their country but 12 % of the overall sample wants to be so ranked; none are internationally ranked first, but 3 % of the all respondents want to be so ranked.

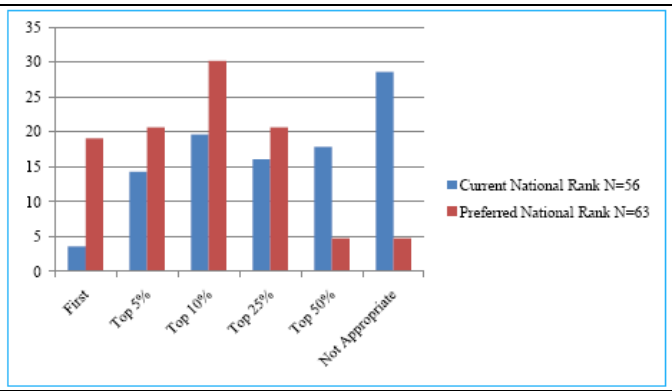

Fig. A 2.1-5-1 **Current National Rank vs. Preferred Rank (% respondents),** Source: Hazelkorn, 2011, p 86.

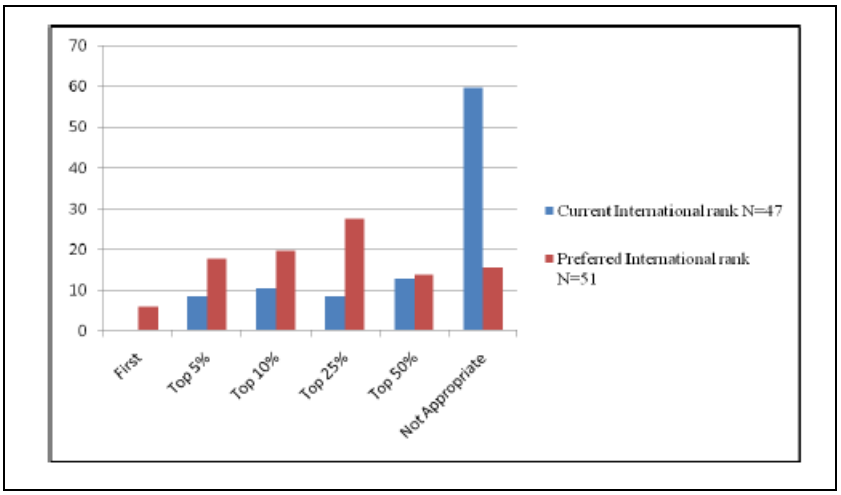

Fig. A 2.1-5-2 **Current International Rank vs. Preferred Rank (% respondents),** Source: Hazelkorn, 2001, p 87.

More than half of international HE leaders said they had taken strategic, organizational, managerial, or academic action in response to rankings. Only 8 % had taken no action. HE leaders in the US, Japan and the UK report that rankings have become a significant management tool, influencing decision-making processes and driving change. Table 4 provides a summary of the types of actions taken in response to rankings, in order to improve performance, enhance quality and/or directly or indirectly improve the institution's position in the rankings (for a full discussion, see Hazelkorn, 2011, chpt 3).

Strategy	• Form task group to review and report on rankings • Merge with another institution, or bring to-gether discipline complementary departments • Incorporate autonomous institutes into host HEI • Establish Centres-of-Excellence & Graduate Schools • Establish Institutional Research capability • Set individual targets for faculty and departments
Organisation	• Develop/expand English-language facilities, international student facilities, laboratories, dormitories • Professionalise Admissions, Marketing and Public Relations • Ensure common brand used on all publications • Advertisements in Nature and Science and other high focus journals • Expand internationalisation alliances and membership of global networks • Open International Office and professionalise recruitment

Management	• Embed rankings indicators as a performance indicator or as a contract between the presidency and departments. • Realign resources to favour science/bio-science disciplines • Make decisions which will positively affect student/staff ratio (SSR) • Set market-based or performance/merit based salaries • Create new contract/tenure arrangements • Recruit/head-hunt international high-achieving/HiCi scholars • Target recruitment of high-achieving students, esp. PhD • Reward high-achievers and Identify weak performers
Academic	• Enable best researchers to concentrate on research/relieve them of teaching • Offer attractive merit scholarships and other benefits • Establish more international activities and exchange programmes • Harmonise curriculum with the EU/US models • Discontinue programmes/activities which negatively affect performance • Grow postgraduate activity relative to undergraduate • Improve teaching quality • Incorporate results in development of new study programmes and degrees • Urgent faculty to increase research output, quality and citations • Reward faculty for publications in highly-cited journals • Encourage faculty to publish in English-language journals

Table A 2.1-5-4 Examples of Actions Taken by HEIs in Response to Rankings

Impact on HEIs

Rankings often form an explicit institutional goal, are incorporated into the strategic objectives implicitly, are used to set actual targets, or are used to measure achievement or success. For example, many institutional strategic plans make specific reference to rankings, stating that being within the top 20, 50, or 100 is a key ambition. In other cases, rankings are used to motivate faculty or drive change, speed-up reform or pursue a particular agenda. This may involve revising class sizes and raising academic salaries, using indicators to set departmental targets, merging disciplines and departments, incorporating external organizations within the domain institution, or HEIs within the same region or city might merge. Some universities are altering the balance between teaching and research, between undergraduate and postgraduate activity, and between disciplines. Resources are being redirected towards fields and units that are likely to be more productive, have faculty who are more prolific especially at the international level, and which are more likely to positively affect publication or citation factors. HE leaders use rankings for publicity purposes and

especially student recruitment; positive results are highlighted on web-pages, in speeches, at faculty or student meetings, or when lobbying government – with less favourable rankings ignored.

From a management viewpoint, rankings can help accelerate changes in academic work practices. Where autonomy permits, it has supported the introduction of market-based salaries with merit or performance pay and attractive packages to reward and woo high-achieving scholars. Recruitment strategies target faculty from high-ranked universities or "capacity-building professors" who can help improve rank. In turn, faculty are under pressure to publish more and in international high-impact journals. But faculty are not innocent victims. There is plenty of evidence to suggest they are quick to use rankings to boost their own professional standing and are "unlikely to consider research partnerships with a lower ranked university unless the person or team was exceptional".

Impact on peers and stakeholders

Rankings are also affecting the way peers assess an institution's reputation. Over 76 % of international HE leaders say they monitor the performance of peer institutions in their country, and almost 50 % said they monitor the performance of peers worldwide. Almost 40 % consider an institution's rank prior to forming strategic partnerships, 57 % said rankings were influencing the willingness of other HEIs to partner with them, while 34 % said rankings influenced the willingness of other HEIs to support their institution's membership of academic or professional organizations (Figure 3). In today's world, membership of global networks (e.g. League of European Research Universities (LERU); Coimbra Group; Universitas 21; World University Network (WUN); Cluster Group; Compostela Group of Universities; ASEAN University Network) are vital as a means of boosting reputation beyond national boundaries (Labi, 2011). Their value is evidenced by the way in which the logos are regularly displayed on websites, and used and interpreted as a proxy for quality.

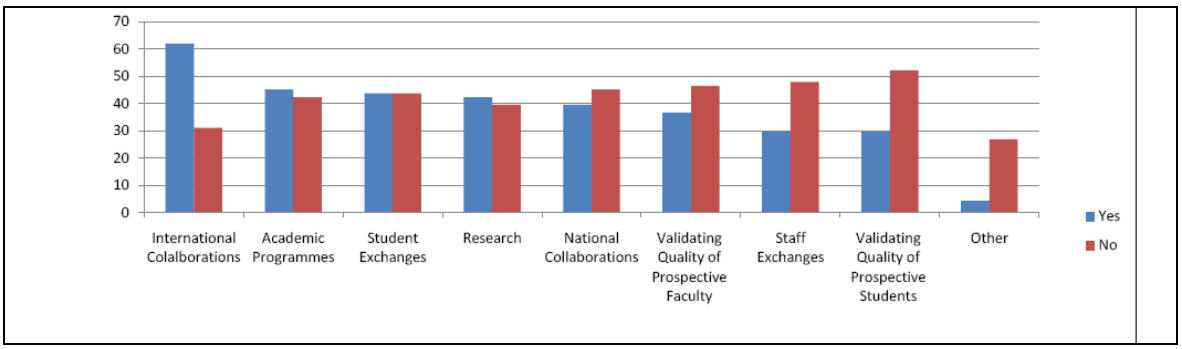

Fig. A 2.1-5-3 **Consider Peer Ranking Prior to Discussions (% respondents, N=71)**
NB. Respondents to this question could indicate multiple replies.
Source: Hazelkorn, 2001, p 116.

Rankings can have a similar affect on employer and business groups, philanthropists and investors, and alumni. Webster (2001, p. 240) reported that "major corporations tend to allocate their scarce recruitment dollars to institutions with academic reputations (tiers 1 and 2), and tend to shun those colleges and universities perceived to be inferior (tiers 3 and 4)". *Boeing* announced it intends using performance data to influence its "choice of partners for academic research and...decisions about which colleges...to share in the [USD]100-million that *Boeing* spends... on course work and supplemental training"(Basken, 2008). A UK study found 25 % of graduate recruiters interviewed "cited league tables as their main source of information about quality and standards" (HEFCE, 2006, pp. 80, 87-92). Large/international businesses and professional organizations are more likely to be "*systematic*" and reliance on rankings in contrast to SMEs and local employers as the latter, for obvious reasons, are likely to have their own implicit ranking based upon their own experiences which can be self-perpetuating (Gallup, 2010, p9-10). Alumni, particularly recent graduates, are also influenced by institutional prestige, and their contributions are correlated positively with rankings; in other words, when an institution does well, contributions increase (Webster, 2001).

Impact on student choice and recruitment

Contemporary rankings were developed as a consumer product, providing students with sufficient information to make an informed choice. As people with a stake in the "private benefits", such as lifestyle and occupational/salary premiums, that a university qualification can provide, they are an obvious target group. Institutional and program status and prestige are important factors as students balance rising costs against benefits. Almost 30 years after *USNWR* published its first college rankings, evidence continues to show that while most undergraduate students are likely to choose an institution near home, a significant proportion of high achievers, graduate students and international students are mobile and will use rankings to help inform their choice. In the absence of clarity about quality standards, students and parents turn to rankings as a perceived independent source.

While rankings have been a significant factor in the US over many decades, similar results are now apparent elsewhere. By 2006, 63 % of UK students said they consulted websites and 52 % looked at league tables; 61 % said they referred to ranking before making their choice, and 70 % considered them important or very important (Roberts and Thompson, 2007, p. 19-20). In Germany, 60 % of prospective students "know rankings and use rankings as one source of information among others" (Federkeil, 2007, p. 357). Students taking profession-focused programmes are more likely to use rankings in contrast to those taking a traditional "academic" programme; likewise students pursuing engineering, business, or science programs, which are among the most attractive fields for international students, are more likely to refer to rankings than arts, humanities, or social science students (HERI, 2007;

Roberts and Thompson, 2007, p. 26). No studies discovered any significant gender differences.

Because even small changes in an institution's rank can influence top students (Roberts and Thompson 2007, p. 5), HEIs may aim to influence specific indicators. The most common approach is to modify the selectivity index – or the proportion of students selected. This is based on the fact that university reputation is closely correlated with presumptions of academic quality based on student entry scores and selectivity – the more difficult an institution is to enter, the higher the presumed quality. An HEI may deliberately enlarge the pool of applicants while restricting the actual number of students accepted or introduce niche programmes with restricted access. By the law of supply-and-demand, the entry scores or selectivity index rises. Another method is to re-categorise students as probationary or part-time so that their lower entry scores are not included in the overall average or mean (Hazelkorn, 2012a). The most recent controversy has been the admission by Claremont McKenna College, California, USA, that college entrance examination scores for incoming freshmen had been manipulated since 2005 (Slotnik and Pérez-Peña, 2012; Shaw, 2012).

The practice of managing student recruitment is not confined to the USA but operates in countries where equity and open recruitment is the norm (Pérez-Peña and Slotnik, 2012; Yonezawa et al., 2009, p. 133). The recent controversy in the UK over setting new tuition fees provides another example of how the correlation between high tuition and reputation or status can impact on institutional strategy and positioning, and on student choice (Vasagar, 2011). Similar to the issue discussed above, HEIs with lower tuition "relative to one's competitors may be perceived as signally lower quality" (Monks and Ehrenberg, 1999, p. 49).

Impact on government policy

Around the world, national governments and supra-national organizations have interpreted rankings as a proxy for the capacity and capability of a nation (or the European Union) to be globally competitive in a world dominated by new knowledge generated by talented people. According to HE leaders, ranking are influencing policymakers (see Figure A 2.1-5-4). The annual publication of global rankings is now a ritualized event, provoking pride or outrage from policymakers, self-interested institutions and the media. In the context of the on-going global economic crisis, higher education has become an essential weapon in the battle for mobile talent and capital. Deliberate steps are being taken to restructure higher education systems and institutions. France, Germany, Russia, Spain, China, South Korea, Taiwan, Malaysia, Finland, India, Japan, Singapore, Vietnam and Latvia – among many other countries – have all launched initiatives with the primary objective of creating "world-class" or flagship universities, often using indicators promoted by rankings to define excellence. Individual US states have also sought to build or boost flagship universities, ele-

vating them to what are known as Tier One status, a reference to *USNWR* college rankings. Other states, notably Minnesota, Indiana, and Texas, have "folded-in" rankings into their own performance measurement systems (Sponsler, 2009, p. 10-13).

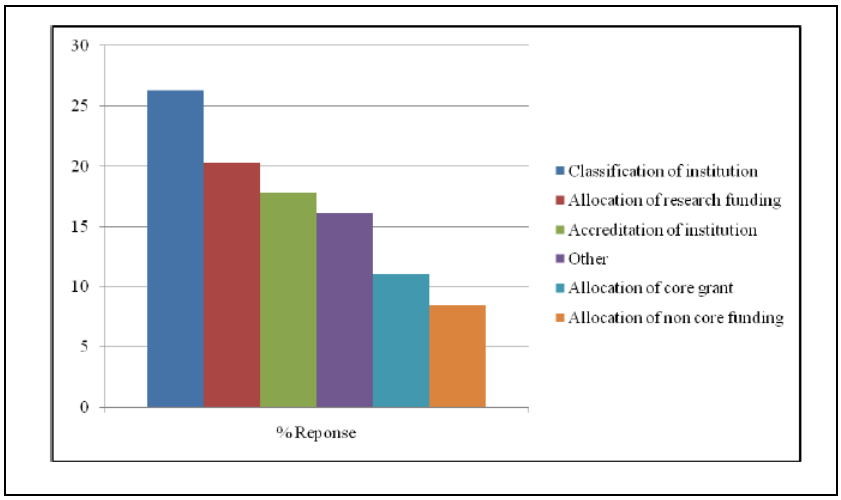

Fig. A 2.1-5-4 **How Rankings are Influencing Policymaking (% respondents, N=70),** Source: Hazelkorn, 2011, p 91**.**

The battle for world-class excellence has prompted a reputation and investment war. The EU Lisbon Strategy set a 3 % GDP target for R&D expenditure and 2 % GDP for higher education expenditure, mainly through stimulating more private investments in these areas, as the means of closing the investment gap between the EU and the US and the brain drain out of Europe (van der Wende, 2009). The OECD (2011) regularly publishes comparative data on public and private spending on education and R&D, whereby the uppermost investment effectively sets the target. HEIs and students also use rankings to lobby for increased funding, playing into concerns about quality and competitiveness (Flynn, 2011; USI, 2011; cf. Basken, 2012). Zhe Jin and Whalley (2007) attributed an increase in state expenditure of 6.5 % per student to *USNWR* exposure.

Rankings also affect decisions about talent recruitment. The Macedonia Law on Higher Education (2008) automatically grants recognition to graduates of the top 500 *THE-QS*, *ARWU* or *USNWR* rankings without going through a more complex recognition process. Brazil, Chile, Singapore, Saudi Arabia, Kazakhstan, Mongolia and Qatar, to name a few, award scholarships only to students admitted to ranked universities, usually those within the top 100; Singapore and India have similar criteria for institutional collaboration. Dutch (2008) and

Danish (2011) immigration laws grant special recognition to foreigners from top universities (150, and 20 respectively).

4. Alternatives to rankings

Rankings are one format by which to compare the performance of higher education. They have become very popular because of the simplistic way results are presented which makes them user-friendly and internationally accessible. In response, the International Ranking Experts Group (IREG) was formed in 2004 as a watchdog organisation; it has set standards which all rankings should meet, known as the *Berlin Principles* (IREG, 2006), and has developed an audit process (IREG, 2011).

Given the level of criticism, rankings have encouraged a wide-ranging discussion about alternative formats for measuring and comparing quality and performance. This section provides a brief overview of some initiatives (see Hazelkorn, 2012b).

Assessment of Learning Outcomes

Assessment of Higher Education Learning Outcomes (AHELO) is the name of a specific project being developed by the OECD. AHELO aims to provide a better measure of the relevance and quality of teaching and learning in higher education, at the institutional level by assessing student performance using a test of generic and discipline-specific skills. It will "assess both inputs and outputs: what a student brings to a degree programme is at least as important as what he or she graduates with".

Ultimately, the intention is to assess the value-added or learning gain, in other words what an HEI contributes to a student's ability. The project is in its feasibility stage, but there has been considerable debate as to the merits of standardised testing for diverse groups of students across diverse national and institutional context, and the potential to lead, over time, to homogenised learning – which would actually undermine academic or intellectual diversity (Douglass et al, 2012; Greene, 2012). AHELO could become another benchmarking tool (see below).

Benchmarking

Benchmarking is a process of evaluating institutional performance in a strategic way, with the intention of helping higher education leaders, governing authorities and governments to systematically compare practice and performance with peer institutions or countries. Benchmarking uses soft power to improve quality, performance and competitiveness by highlighting differences in performance through the publication of data, peer-to-peer learning or mentoring. It may be voluntary. Many benchmarking processes are sui-generis; in other words,

they are custom designed for the specific purpose. This enables a significant degree of flexibility but it also makes cross-jurisdictional comparison more difficult.

Because voluntary, internalised processes or self-regulation with confidential outcomes are no longer politically or publicly acceptable, public benchmarking processes have become increasingly popular. One of the best well-known and widely used initiatives is the OECD *Education at a Glance* or *Programme for International Student Assessment (PISA)* which uses standardised data collection definitions and tools to overcome these difficulties. It seeks to be a benchmarking tool of comparative national data on educational performance to inform policy options in order to achieve improvements. The one-dimensional approach used by PISA has been criticised on the basis that it ignores context, despite the range of caveats identified (Bracey, 2008; Adelman, 2009).

Another criticism of rankings and benchmarking is the absence of internationally comparative and meaningful data and definitions. Thomson Reuters has identified this gap, and developed a commercial product, Institutional Profiles; it uses a combination of citation metrics from Web of Science, institutional profile information, and reputational data. To counter the corporatisation of institutional data, there has been increasing discussion about the merits of an internationally acceptable and managed common data set (Olds and Robertson, 2012).

Classification systems

Classification systems provide a typology or framework to "describe, characterize, and categorize colleges and universities" usually according to characteristics of institutional mission. The most well-known is the US *Carnegie Classification of Institutions of Higher Education* (CCIHE). It was first established in 1973, and redesigned in 2005 as a multi-dimensional system whereby HEIs can reside in multiple categories. *U-Map* is a European profiling project which aims to highlight the diversity of the European higher education landscape using a multi-dimensional format enabled by interactive web-based technologies. HEIs are profiled according to teaching and learning, student, research, knowledge exchange, international orientation, and regional engagement (Bartelse and van Vught, 2009, p. 68).

Classification systems highlight distinctions between different types of institutions, but they also present a retrospective view of higher education. HEIs are presented as fixed-in-time, and when they do adapt to new circumstances, they are often accused of mission-drift rather than being applauded for being responsive and flexible. While the audience for classification systems is primarily policy makers, HEIs or researchers, they have had a considerable influence on how different institutions are described and describe themselves – with positive and perverse effects. McCormick (McCormick and Zhao, 2005, p. 52-53),

the senior scholar responsible for Carnegie and its 2005 revision, warns:

> *While classification's power to facilitate the analysis of complex phenomena by reducing cognitive complexity may be welcome, there are dangers associated with the process. A significant one is reification, whereby categories representing conceptual constructs come to be viewed as empirically "real" and "natural." In addition, a dominant classification may channel people's perceptions and limit the consideration of other perspectives.*

Multidimensional and system-level rankings

Multidimensional rankings, such as the EU U-Multirank, are based on four principles: i) user-driven whereby each individual or stakeholder group can rank according to his/her own preferences, 2) multi-dimensional with information collected according to five different characteristics, 3) peer-group comparability whereby HEIs of similar mission are compared, and 4) multi-level analysis whereby HEIs can be examined at the whole institutional level but also at disciplinary or department level. This approach directly challenges the dominance of global rankings and aims to help students and other stakeholders make more informed decisions about higher education. U-Multirank builds upon the approach developed by the German Centre for Higher Education University Rankings (CHE), and is a sister project of U-Map (Hazelkorn, 2012b).

The objective that U-Multirank will be *the* alternative global ranking has however been tempered. The number of HEIs and countries volunteering has been fewer and more restricted than hoped (van Vught, 2011). The choice of indicators is limited, and employed irrespective of mission, and the absence of meaningful internationally comparative data means it suffers from many of the same problems afflicting other rankings (Beer, 2011). While U-Multirank says it will not produce an ordinal ranking, this role could be undertaken by others once the data becomes manifest. The UK House of Lords argued that the grounds for criticism out-weighed further investment (EUC, 2012, p24-27; Rauhvargers, 2011, p44-58). Others have said that it's not evident that the new rankings, despite their modifications, "effectively address information deficiencies in the higher education market in socially beneficial ways" (Dill and Beerkens, 2010, 318).

New system-level rankings attempt to assess the quality, impact and benefit of the higher education system as-a-whole (see Table A 2.1-5-5). They use a broad set of indicators, such as investment, access and participation rates, contribution of higher education and research to society, internationalisation, and government policy/regulation. Salmi (2012) has devised a benchmarking tool to compare the performance of the higher education system. It uses indicators of "access and equity, quality and relevance, institutional differentiation, and contribu-

tion to local economic and social development through the training of skilled human capital and the production of patents".

System-ranking is better than concentrating on individual institutions, but it still reduces quality and excellence to a single digit, and decontextualizes national circumstances. Can this approach help us understand how these different factors work over time to improve the student experience or overall quality, or what policy choices work best in different circumstances? (Hazelkorn, 2012d).

Quality Assurance (QA)

Quality Assurance (QA) processes have been developed as a means to assess, monitor and audit academic standards, and provide relevant information to key stakeholders about the quality of teaching and research. Conducted at the whole-of-institution or sub-institutional level, QA systems have acquired "more systematic and rigorous approaches" over the decades (Harman, 2011, 40).

In the US, QA has been associated with accreditation for over 100 years. It is a non-governmental enterprise, and involves a process of external quality review conducted by peers and other stakeholders often through non-profit organizations designed for this specific purpose. Federal and state governments are involved through the requirement that HEIs and programmes must be accredited in order to receive public funds or for graduates to be licensed for various professions.

In contrast, the process in Europe and elsewhere has increasingly been driven, since the 1980s, at the nation-state level. It is based on principles of self-evaluation, peer-review and peer-to-peer exchange as a way to encourage continual improvement rather than top-down imposition of criteria. It is not usually associated with accreditation. There are efforts to establish a European framework and standard to underpin student mobility. In response to the 2003 Berlin communiqué, the European Association for Quality Assurance in Higher Education (ENQA) developed "an agreed set of standards, procedures and guidelines on quality assurance" and explored "ways of ensuring an adequate peer review system for quality assurance and/or accreditation agencies or bodies" (ENQA, 2005).

The focus of most QA processes has been at the institutional level and on teaching and learning, but more recently attention has turned to the administrative units. QA can be complex and time consuming, and the reports are usually long documents often written in academic language. These aspects do not facilitate easy understanding or national or international comparisons. On the other hand, QA can respond more readily to different institutional missions and context rather than seeking to compare all institutions according to a single set of indicators.

Qualifications Framework (QF)

Qualifications Framework (QF) aims to provide an integrated approach to learning, forming a single hierarchy of different qualifications, usually from primary to doctoral level. It describes basic standards of learning outcomes to be achieved at each level including professional oriented qualifications. The *European Qualifications Framework* (EQF) was launched by the European Commission (2008) in 2006 "to facilitate comparison of qualifications and qualifications levels in order to promote geographical and labour market mobility as well as lifelong learning". Member states have national frameworks which coalesce with the EQF. Qualification frameworks have also become popular around the world. In the US, the Lumina Foundation has developed the *Degree Qualifications Profile* to describe what students are learning at the baccalaureate, masters and doctoral levels.

A QF is a transparency instrument and aims to provide the basis whereby all stakeholders can easily understand the competences expected for any qualification received and the relationship between qualifications. It should help students of all ages understand possible articulation routes.

Ratings

Ratings are organised around particular characteristics which form a threshold of achievement. For example, hotel or restaurant ratings set common standards of quality for which a star or similar attribution is assigned appropriate to the different levels. The ISO, International Organisation for Standardisation, sets standards of "best practice" for business, government and society, and once achieved, the organisation heavily promotes itself as a quality organisation. QS, one of the main ranking organisations, has developed its Star System as a commercial product. It assesses institutional performance against a set of criteria more numerous than rankings. Achievement is awarded 1-5 stars, with five stars being the optimum, and institutions are encouraged to promote themselves accordingly.

Unlike rankings, ratings benefit from the fact there is no limit to the number of "winners" at each level. The same questions about the choice of indicators and the appropriateness of the data, however, arise. Ratings also depend on whether the driving force is a publicly accountable agency or a commercial company, as in the case of QS. Ultimately, rating agencies can have as much positive and perverse effect on higher education as rankings; the experience of credit rating agencies with respect to national governments and their economies is a useful lesson in this regard.

5. Using rankings cautiously and strategically

Whether using rankings, or any alternative system, the choice of indicators is vital. They must be fit-for-purpose because there are advantages and disadvantages to each of them. Complexity is difficult to measure but simplicity distorts**.** To paraphrase Einstein, are we measuring what counts or counting what can be easily measured. It is important to understand the limitations of the system being used.

This chapter has demonstrated that rankings do not measure an absolute truth. They have become a powerful tool because they give the "appearance of scientific objectivity" (Ehrenberg 2001: 1). But, there are no objective or agreed set of indicators for measuring the multifaceted characteristics of higher education or educational quality. Problems arise when systems seek to simplistically assess quality using measurements of quantification. This is because "which university is best" depends upon who is asking the question and which question is being asked. International comparisons are complex because national contexts defy simple comparisons.

While there is a growth in the number of national rankings, global rankings are having a profound effect on higher education. By focusing disproportionately on bio-medical research, rankings encourage a downgrading of teaching, ignore the diversity of institutions, and underestimate the breadth of disciplines. Some governments have chosen to use rankings to classify or accredit their HEIs; sometimes this process is linked to funding. But, rankings do not have capacity to assess the full breadth of higher education, and because it's a hierarchical system, they effectively signal that some institutions or disciplines are more important not necessarily better than others. Unintentionally, rankings are encouraging perverse behaviour and decision-making as governments and institutions adopt or change strategies and policies with the sole intention of boosting their position in the rankings.

The multi-user perspective seeks to overcome some of these difficulties by empowering the user to select indicators most appropriate for his/her purpose, whether the user is a student, peer HEI or policy-maker. But the choice is still from a pre-selected set of indicators determined by the provider. Over-time, the multiplicity of different rankings (see Table 1) and new formats are likely to diminish the predominance of the current top three. Open source publishing and electronic search engines will also challenge the proprietary hold that Thomson Reuters and Scopus currently have over bibliometric definitions and data. Social networking, such as *Facebook* and *Rate-my-professor* sites, are putting transparency tools directly into the hands of students and other stakeholders producing an effect similar to *TripAdvisor* for the travel industry (see also Boffey, 2011).

Effect of rankings

Despite all the criticism, rankings have highlighted the importance of higher education, quality, performance and productivity onto the public and policy agenda. Because rankings effectively measure many attributes that depend upon on-going investment, they have served as an important reminder to governments, and a driver of change and "modernization". They are used as a strategic instrument and a management tool. They can be a useful accountability tool, especially in societies and institutions where such culture and practices are weak or immature. Measuring student learning and learning outcomes, employability, faculty performance and productivity are inherently important things to do. Good quality, international comparative information is essential to underpin strategic leadership and decision-making at the institutional level, and to ensure continuing support from our stakeholders – students, business, civic society and tax-payers. Being accountable and transparent are now core principles governing higher education management. We ignore these principles at our peril.

Because no system is perfect, great care should be taken to consider the purpose and objective of the exercise and always be watchful of unintended consequences, which can occur "when indicators are taken in isolation and simple correlations are made" (AUBR, 2010, p21; also 50-52). To help higher education learn to live with rankings, here are some practical "dos and don'ts":

Don't

- Seek to change your institution's mission or strategic plan in order to conform to rankings;
- Use rankings to inform resource allocation decisions;
- Manipulate your public information and data in order to rise in the rankings.

Do:

- Ensure your HEI has a coherent mission and strategic plan – and stay true your mission;
- Establish an institutional research unit to provide good data and information to underpin your strategic plan and strategic decision-making;
- Use rankings **only** as part of an overall quality assurance, assessment or benchmarking system and not as a stand-alone evaluation tool;
- Be accountable and provide good quality public information about your institution to students and parents, and other stakeholders;
- Engage in an information campaign with government and the media to broaden the understanding of the limitations of rankings.

References

[1] Adelman, C. (2009) The Spaces between the Numbers: Getting International Data on Higher Education Straight. Washington, D.C.: Institute for Higher Education Policy.

[2] Altbach, P. G. (2011) The Past, Present, and Future of the Research University. In: Altbach, P. G.; Salmi, J. (Eds.): The Road to Academic Excellence. The Making of World-Class Research Universities. Washington, D.C.: The World Bank.

[3] AUBR – EU Expert Group on Assessment of University-based Research (2010) *Assessing Europe's University-based Research*, EUR 24187 EN, DG Research, Brussels: European Commission.

[4] Badescu, M. (2010) Measuring Investment Efficiency in Education. Brussels: EU Directorate-General Joint Research Centre, Institute for the Protection and Security of the Citizen, Accessed 10 April 2010, from http://crell.jrc.ec.europa.eu/Publications/CRELL %20Research %20Papers/EUR %2022304_ Measuring %20Investment %20Efficiency %20in %20Education.pdf

[5] Bartelse, J.; Van Vught, F. A. (2009): The European Higher Education Classification: Objectives and Concepts. In: van Vught, F. A. (Ed.) Mapping the Higher Education Landscape. Towards a European Classification of Higher Education. Dordrecht: Springer, p. 57-70.

[6] Basken, P. (2008) Boeing to Rank Colleges by Measuring Graduates' Job Success. In: *Chronicle of Higher Education*, 19 September, Accessed 22 June 2010, from http://chronicle.com/article/Boeing-to-Rank-Colleges-by/9954

[7] Basken, P. (2012) Obama Seeks 1.5 % Rise for Basic Research, Emphasizing Economic Benefits. In: *The Chronicle of Higher Education.*

[8] Beer, J. (2011) Let variety flourish. In: *Times Higher Education*, 2 June. Accessed 6 May 2012, from http://www.timeshighereducation.co.uk/story.asp?storyCode=416378&sectioncode=26

[9] Boffey, D. (2011) Which? magazine to test value of degrees. In: *The Guardian*. Accessed 15 April 2012, from http://www.guardian.co.uk/education/2011/oct/22/which-magazine-value-degrees

[10] Bracey, G. W. (2008) The Leaning (Toppling?) Tower of PISA: Facts and Doubts about International Comparisons in Education. In: Dissent. 21 August. Accessed 15 April 2012, from http://www.dissentmagazine.org/online.php?id=128

[11] Bremner, J.; Haub, C.; Lee, M.; Mather, M.; Zuehlke, E. (2009) World Population Prospects: Key Findings from PRB's 2009 World Population Data Sheet, Population Reference Bureau. United Nations, Washington, D.C. Accessed 26 April 2010, from http://www.prb.org/pdf09/64.3highlights.pdf

[12] Carey, K. (2006) College Rankings Reformed. The Case for a New Order in Higher Education. Washington, D.C.: Education Sector Reports.

[13] Carr, K. (2009) Speech by Federal Minister for Innovation, Industry, Science and Research to Universities. Australia Higher Education Conference, Australia, Accessed 30 March 2009, from http://minister.innovation.gov.au/Carr/Pages/UNIVERSITIESAUSTRALIAHIGHEREDUCATIONCONFERENCE2009.aspx

[14] Castells, M. (1996) Rise of the Network Society. The Information Age: Economy, Society and Culture. Massachusetts, MA.: Blackwell Publishers.

[15] Dill, D. D; Beerkens, M. (2010) Reflections and Conclusions. In: Dill, D.D.; Beerkens, M. (Eds), Public Policy for Academic Quality. Analyses of Innovative Policy Instruments. Dordrecht: Springer, p. 313-335.

[16] Dill, D.D.; Soo, M. (2005) Academic Quality, League Tables and Public Policy: A Cross-National Analysis of University Ranking Systems. In: *Higher Education*, 49(4), p. 495–537.

[17] Douglass, J. A.; Thomson, G.; Zhao, C.-M. (2012) Searching for the Holy Grail of Learning Outcomes. Research & Occasional Paper Series, CSHE - Centre for Study of Higher Education, University of California, Berkeley.

[18] Ehrenberg, R.G. (2001) Reaching for the Brass Ring: How the *U.S. News & World Report* Rankings Shape the Competitive Environment in U.S. Higher Education. In: The Review of Higher Education, 226(2).

[19] ENQA – European Association for Quality Assurance in Europe (2005) Standards and Guidelines for Quality Assurance in the European Higher Education Area. Accessed 26 August 2011, from: http://www.iheqn.ie/_fileupload/Publications/ENQABergenReport_43799078.pdf

[20] EUC – European Union Committee (2012) The Modernisation of Higher Education in Europe. London: House of Lords. Accessed 15 April 2012, from http://www.publications.parliament.uk/pa/ld201012/ldselect/ldeucom/275/275.pdf

[21] European Commission (2006) Delivering on the Modernisation Agenda for Universities: Education, Research and Innovation. Communication to the Council and the European Parliament, (COM) 2006 208 final. Brussels: European Commission. Accessed 11 August 2009, from http://www.madrimasd.org/proyectoseuropeos/documentos/doc/education_research_and_innovation.pdf

[22] European Commission (2008) Explaining the European Qualifications. Framework for Lifelong Learning. Brussels: European Commission. Accessed 15 February 2012, from http://ec.europa.eu/education/lifelong-learning-policy/doc/eqf/brochexp_en.pdf

[23] Federkeil, G. (2007) Rankings and Quality Assurance in Higher Education. Proceedings of 3rd Meeting of the International Ranking Expert Group (IREG-3), Shanghai.

[24] Flynn, S. (2011) Quinn faces choice between more fees or lower standards. In: The Irish Times, 6 October.

[25] Friedman, T.L. (2007) The World is Flat. A Brief History of the Twenty-First Century. 2nd Revised Edition. London: Penguin.

[26] Gallup Organisation (2010), Employers' perception of graduate employability. Flashbarometer, European Commission, Brussels, Accessed 14 April 2012, from http://ec.europa.eu/public_opinion/flash/fl_304_sum_en.pdf

[27] Green, M. F. (2011) Lost in Translation: Degree Definition and Quality in a Globalized World. In: Change, September/October. Accessed 15 April 2012, from http://www.changemag.org/Archives/Back %20Issues/2011/September-October %202011/lost-translation-full.html

[28] Harman, G. (2011) Competitors of Rankings: New Directions in Quality Assurance and Accountability. In: Shin, J. C.; Toutkoushian, R. K.; Teichler, U. (Eds.) University Rankings. Theoretical Basis, Methodology and Impacts on Global Higher Education. Dordrecht: Springer, 35-54.

[29] Hazelkorn, E. (2009) The Impact of Global Rankings on Higher Education Research and the Production of Knowledge. UNESCO Forum on Higher Education, Research and Knowledge Occasional Paper N°16, Accessed 3 May 2010, from http://unesdoc.unesco.org/images/0018/001816/181653e.pdf

[30] Hazelkorn, E. (2011) Rankings and the Reshaping of Higher Education: The Battle for World Class Excellence. Houndmills, Basingstoke: Palgrave Macmillan.

[31] Hazelkorn, E. (2012a) Student Choice and Institutional Selection. In: Jongbloed, B.W.A.; Vossensteyn, J.J. (Eds), Access and Expansion Post-Massification. Opportunities and barriers to further growth in Higher Education Participation. Abingdon, Oxford: Routledge. In Press.

[32] Hazelkorn, E. (2012b) European "transparency instruments": Driving the Modernisation of European Higher Education. In: Scott, P.; Curaj, A.; Vlăsceanu, L.; Wilson, L. (Eds.), European Higher Education at the crossroads: between the Bologna Process and national reforms, Volume 1, Dordrecht: Springer.

[33] Hazelkorn, E. (2012c) Striving for "World Class Excellence": Rankings and Emerging Societies. In: Araya, D. and Marber, P., *Higher Education in the Global Age: Universities, Interconnections and Emerging Societies***,** Studies in Emerging Societies series, Abingdon, Oxford: Routledge. Forthcoming.

[34] Hazelkorn, E (2012d) Focusing on the Total Quality Experience. In: *Chronicle of Higher Education*, 15 May. Accessed 8 June 2012, from http://chronicle.com/blogs/worldwise/focusing-on-the-total-quality-experience/29561

[35] HEFCE (2006) Needs of Employers and Related Organisations for Information about Quality and Standards of Higher Education. London, UK: Higher Education Funding Council of England. Accessed 1 July 2010, from http://www.hefce.ac.uk/pubs/rdreports/2006/rd20_06/

[36] HERI (2007) College Rankings and College Choice. How Important are College Rankings in Students' College Choice Process? In: Research Brief. UCLA, CA.: Higher Education Research Institute. Accessed 14 July 2010, from http://www.heri.ucla.edu/PDFs/pubs/briefs/brief-081707-CollegeRankings.pdf

[37] IREG – International Rankings Expert Group (2006) Berlin Principles. Warsaw, Poland: Observatory on Academic Rankings and Excellence. Accessed 15 Feburary 2012, from http://www.ireg-observatory.org/index.php?option=com_content&task=view&id=41&Itemid=48

[38] IREG – International Rankings Expert Group (2011) IREG Ranking Audit Manual. Warsaw, Poland: Observatory on Academic Rankings and Excellence. Accessed 15 February 2012, from http://www.ireg-observatory.org/pdf/ranking_audith_audit.pdf

[39] Karabel, J. (2005) The Chosen. The Hidden History of Admission and Exclusion at Harvard, Yale and Princeton. Boston and New York: Houghton Mifflin Co.

[40] Kuh, G.D. (2003) What We're Learning about Student Engagement from NSSE. In: Change. p. 26–27.

[41] Labi, A. (2011) As Universities Globalize, Consortia Take on a New Meaning. In: Chronicle of Higher Education.

[42] Lawrence, J.K.; Green, K.C. (1980) A Question of Quality: The Higher Education Ratings Game. Report No. 5. Washington, D.C.: American Association of Higher Education.

[43] Lumina Foundation for Education (2011) The Degree Qualifications Profile. Indianapolis, IN.: Lumina Foundation for Education. Accessed 15 February 2012 from http://www.luminafoundation.org/publications/The_Degree_Qualifications_Profile.pdf

[44] McCormick, A. C.; Zhao, C. M. (2005) Rethinking and Reframing the Carnegie Classification. In Change. p. 51-57.

[45] Mervis, J. (2011) Report Says Instruction, Not Schools, Is Key to Successful Science Programs. In: ScienceInsider.

[46] Monks, J.; Ehrenberg, R.G. (1999) The Impact of U.S. News and World Report College Rankings on Admissions Outcomes and Pricing Policies at Selective Private Institutions. *Working Paper Series*. Cambridge: National Bureau of Economic Research.

[47] Myers, L.; Robe, J. (2009) College Rankings. History, Criticism and Reform. Washington, DC: Center for College Affordability and Productivity.

[48] OECD (2011) *Education at a Glance 2011: OECD Indicators. Paris: OECD. Accessed 15 February 2012, from* http://www.oecd.org/document/2/0,3746,en_2649_39263238_48634114_1_1_1_1,00.html

[49] Olds, K. and S. Robertson (2012) Towards a Global Common Data Set for World University Rankers. In: *Inside Higher Education*, 4 June. Accessed 08 June 2012, from http://www.insidehighered.com/blogs/globalhighered/towards-global-common-data-set-world-university-rankers#ixzz1xCYq5RPf Inside Higher Ed

[50] Pérez-Peña, R.; Slotnik, D. E. (2012) Gaming the College Rankings. In: The New York Times, 31 January

[51] Rauhvargers, A. (2011) Global University Rankings and their Impact. Brussels: European University Association.

[52] Roberts, D. ; Thompson, L. (2007) University League Tables and the Impact on Student Recruitment; Reputation Management for Universities, Working Paper Series 2. Leeds, Cambridge and Brisbane: The Knowledge Partnership.

[53] Sadlak, J.; Liu, N.C. (Eds.) (2007) The World-Class University and Ranking: Aiming Beyond Status. Bucharest: Cluj University Press.

[54] Salmi, J. (2012) If Ranking is the Disease, Is Benchmarking the Cure? In: Hazelkorn, E.; Marope, M.; Wells, P. (Eds.) Rankings and Accountability in Higher Education. Paris: UNESCO. Forthcoming.

[55] Shaw, J. S. (2012) Claremont McKenna Not Alone in Admissions Mischief. *Bloomberg*, 31 January. Accessed 15 April 2012, from http://mobile.bloomberg.com/news/2012-02-01/claremont-mckenna-not-alone-in-rankings-mischief-commentary-by-jane-shaw

[56] Sheil, T. (2009) Moving Beyond University Rankings: Developing World Class University Systems. Presentation to 3rd International Symposium on University Rankings. University of Leiden, NL.

[57] Slotnik, D. E.; Pérez-Peña, R. (2012) College Says It Exaggerated SAT Figures for Ratings. *The New York Times*, 30 January. Accessed 15 April 2012, from http://www.nytimes.com/2012/01/31/education/claremont-mckenna-college-says-it-exaggerated-sat-figures.html

[58] Smith, J.; McKnight, A.; Naylor, R. (2000) Graduate Employability: Policy and Performance in Higher Education in the UK. The Economic Journal, 110. Accessed 2 April 2010, from http://0-web.ebscohost.com.ditlib.dit.ie/ehost/pdf?vid=4&hid=13&sid=c3e82cc9-9901-40b0-a535-271a7b35dc94 %40sessionmgr10

[59] Sponsler, B.J. (2009) Issue Brief; the Role and Relevance of Rankings in Higher Education Decision-Making. Washington, D.C.: Institute of Higher Education Policy.

[60] Taylor, P.; Braddock, R. (2007) International University Ranking Systems and the Idea of University Excellence. Journal of Higher Education Policy and Management. 29(3), p. 245–260.

[61] Usher, A. (2006) Can Our Schools Become World-Class. The Globe and Mail, 30 October. Accessed 11 October 2009, from http://www.theglobeandmail.com/servlet/story/RTGAM.20061030.URCworldclassp28/BNStory/univreport06/home

[62] Usher, A.; Medow, J. (2009) A Global Survey of University Rankings and League Tables. In: Kehm, B.M.; Stensaker, B. (Eds) *University Rankings, Diversity, and the New Landscape of Higher Education*. Rotterdam: Sense Publishers, p. 3-18.

[63] USI (2011) Immediate Action Required After Irish Universities Down World Rankings. *Press Release*

[64] van der Wende, M.C. (2009) European Responses to Global Competitiveness in Higher Education. In: J. Douglass, J. King and I. Feller (Eds.) *Globalization's Muse: Universities and Higher Education Systems in a Changing World*. University of California Berkeley, CA: Berkeley Public Policy Press, Institute of Governmental Studies, p. 317-341.

[65] van Vught, F. A. (2011) "A user-driven and multi-dimensional ranking tool in global higher education and research", paper to UNESCO Global Forum on Rankings and Accountability in Higher Education: Uses and Misuses, Paris.

[66] Vasagar, J. (2011) Tuition fees 2012: the official and full list. In: *The Guardian*.

[67] Webster, D. S. A. (1986) Academic Quality Rankings of American Colleges and Universities. Springfield, IL: Charles C. Thomas.

[68] Webster, T.J. (2001) A Principal Component Analysis of the U.S. News & World Report Tier Rankings of Colleges and Universities. In: Economics of Education Review, 20.

[69] Yonezawa, A.; Akiba, H.; Hirouchi, D. (2009) Japanese University Leaders' Perceptions of Internationalization: The Role of Government in Review and Support. *Journal of Studies in International Education*, 13(2).

[70] Zhe Jin, G.; Whalley, A. (2007) The Power of Information; How Do U.S. News Rankings Affect the Financial Resources of Public Colleges. Cambridge, MA: National Bureau of Economic Research Working Paper Series.

Webography

[1] AHELO, http://www.oecd.org/document/22/0,3746,en_2649_35961291_40624662_1_1_1_1,00.html

[2] CHE University Ranking, Centre for Higher Education, Germany, Accessed 15 April 2012, from http://www.che-ranking.de/cms/?getObject=615&getLang=en

[3] ISO, http://www.iso.org/iso/iso_catalogue.htm

[4] QS Stars, http://www.topuniversities.com/qsstars/qs-stars-introduction

[5] Thomson Reuters Institutional Profiles, http://researchanalytics.thomsonreuters.com/institutionalprofiles/

[6] U-Multirank, http://www.u-multirank.eu/

[7] U-Map, http://www.u-map.eu/

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