

Reflections on a Decade of Global Rankings: What we've learned and outstanding issues

Ellen Hazelkorn

Ten years after the first global rankings appeared, it is clear that they have had an extraordinary impact on higher education. While there are fundamental questions about whether rankings measure either quality or what's meaningful, they have succeeded in exposing higher education to international comparison. Moreover, because of the important role higher education plays as a driver of economic development, rankings have exposed both an information deficit and national competitiveness. Accordingly, both nations and institutions have sought to maximise their position vis-à-vis global rankings with positive and perverse effects. Their legacy is evident in the way rankings have become an implicit – and often explicit – reference point for policymaking and higher education decision-making, and have reinforced an evaluative state's over-reliance on quantitative indicators to measure quality. They are embedded in popular discourse, and have informed the behaviour of many stakeholders, within and outside the academy. This paper reflects on three inter-related issues; i) considers the way rankings have heightened policy and investment interest in higher education, ii) discusses whether the modifications to rankings have resolved some of the questions about what they measure, and iii) looks at how rankings have influenced stakeholder behaviour. Finally, the paper reflects on what we have learned and some outstanding issues.

1 The World is Watching

Ten years have passed since the Shanghai Jiao Tong University first published the Academic Ranking of World Universities (ARWU) in 2003. Followed shortly thereafter by the *Times Higher Education QS Top University Ranking* (THE-QS)¹ in 2004, the arrival of rankings has been a game-changer for higher education and research, intensifying cross-national comparisons. They immediately attracted the attention of policymakers and the academy, challenging perceived wisdom about the status and reputation, as well as quality and performance, of higher education institutions (HEIs²). The Irish Minister for Education and Science, speaking in his capacity as President of the European Council of Education Ministers, echoed the concerns felt by many political and academic leaders:

¹ QS = Quacquarelli Symonds, see key page 5.

² The word university is used interchangeably with higher education institution (HEI) for the purposes of this article.

“Last year the Shanghai Jiao Tong University’s Institute of Education ranked the world’s top 500 universities on academic and research performance. For the European Union, the news is not all that good. The study shows that 35 of the top 50 Universities in the world are American ... ” (Dempsey, 2004).

Almost ten years later, at the time of the launch of *Europe 2020*, unease was just as palpable:

“Europe is no longer setting the pace in the global race for knowledge and talent, while emerging economies are rapidly increasing their investment in higher education.” (Europa, 2011, p. 2)

The arrival of global rankings coincided with a *Zeitgeist* of modernising higher education, and ideological and public support for markets; their continuing influence is a manifestation of the intensification of global competitiveness, and its visibly multi-polar character.

Despite significant volumes of criticism and commentary, and some boycotts by HEIs, rankings have become an increasingly popular way to compare higher education performance and productivity. Their legacy is evident in the way rankings have become an implicit – and often explicit – reference point for policymaking and higher education decision-making, and have reinforced an evaluative state’s over-reliance on quantitative indicators to measure quality. They are embedded in popular discourse, and have informed the behaviour – positively and perversely – of many stakeholders, within and outside the academy. But, rankings have also produced their antithesis in the form of alternative rankings; importantly, they have sparked an important, world-wide conversation about the role, value and contribution of higher education.

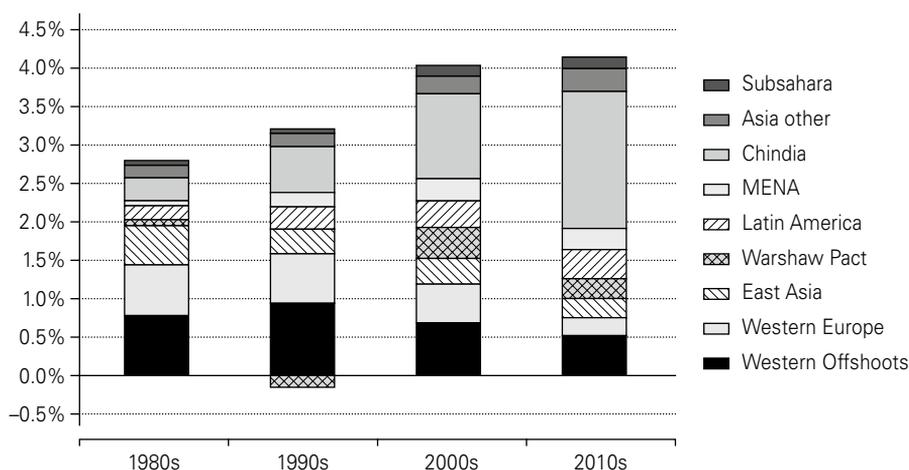
Set against significant changes in the world economy, this paper will reflect on three inter-related issues arising from the growing interest in and use of HE rankings, what they measure, and the way in which different stakeholders have responded to them. There are three main sections: i) will consider the way rankings have heightened policy and investment interest in higher education, ii) will consider whether the modifications to rankings have resolved some of the questions about what they measure, and iii) will look at how rankings have influenced stakeholder behaviour. Finally, the paper will reflect on what we have learned and some outstanding issues.

2 Rankings and the World Order

Since global rankings first appeared in 2003, the intervening years have borne witness to a dramatic transformation in the fortunes of the world economy and its citizens. The

early years of the “noughties” were associated with the tail-end of a long period of economic growth driven by unregulated finance capital, while the latter years have been marked by the lingering effects of the 2008 global financial crisis which has plunged most developed economies into recession. In contrast with the steepest decline in growth in 60 years across OECD countries (*OECD, 2009*), growth in developing countries and economies in transition, in Asia and Latin America, such as Brazil, China and India, has been particularly robust in both absolute and relative terms; Sub-Saharan Africa’s accelerated economic growth over the last decade suggests it may be the next boom market. Although future growth is likely to be below the 7.5 % achieved in 2010, developing countries will continue to “stoke the engine of the world economy, growing on average by 5.6 % in 2012 and 5.9 % in 2013 in the baseline outlook” (*UN, 2011a, p. 2*) (see Figure 1). These developments are leading to noticeable shifts in the world order, and competition between all nations for a greater share of mobile investment capital and talent. Intensification of competition across most sectors has raised the profile of knowledge-intensive industries – including higher education.

Figure 1: Contribution by region to average global economic growth, 1980–2015



Source: Lyons, 2010

The rise of new economic powers has been driven by the rapid structural transformation of their societies and economies, led by shifts from natural resource-based primary production, such as mining and agriculture, to more sophisticated, skill- and technology-intensive activities. This change is mirrored by significant demographic change; while the world population is aging and the fertility rate slowing, it is still projected to reach 9.3 billion by 2050, an increase of 2.3 billion over 2011 – equivalent to the combined populations of China and India. Most of this growth will be in developing countries, while the population of developed countries will remain largely un-

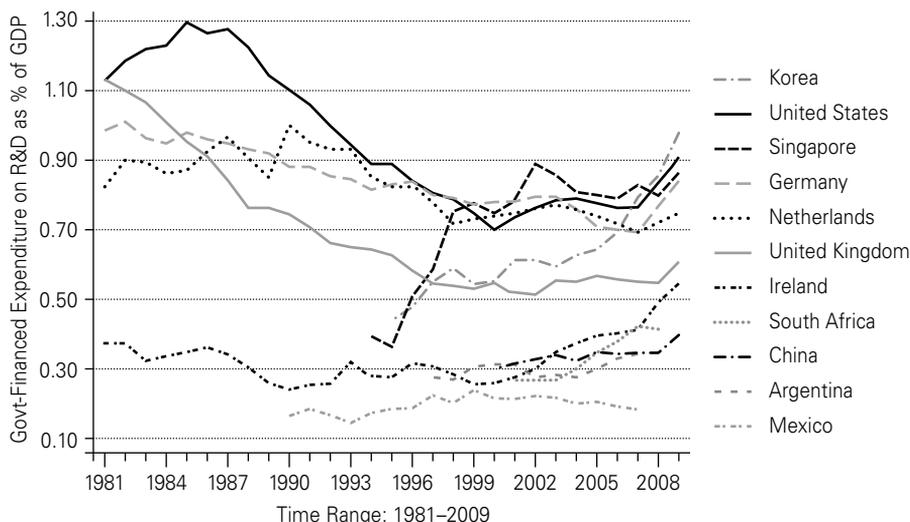
changed (UN, 2011, p. 1). These growth patterns are responsible for surging demand for higher education; according to UNESCO, there are almost 160 million students enrolled worldwide in higher education today compared with only 30 million in 1970 (UNESCO, 2009, p. 9). The overall global demand for places in higher education will peak at 263 million in 2025; India's demand will rise from 9.6 million to 61 million while China's demand will rise from 8 million to 45 million (Böhm et al., 2002). To meet this escalating demand, one sizeable new university will need to open every week over the next decades (Daniel, 1996).

Investment in higher education and research and development (R&D) is now widely recognised as vital for providing the knowledge base essential for economic growth, and now recovery. According to Kelley et al. (2009), the wider impact of higher education on society and the economy exceeds that of many other sectors; "the multiplier effect of investment/expenditure by the higher education sector works out to be around 1.35" – that is for every million GBP spent on higher education, 1.35 million GBP is generated by universities (Varghese, 2010, p. 11). The correlation between economic and research performance is particularly strong in developing countries (Inglisi-Lotz and Pouris, 2012). As a result, higher education is not simply an "engine of development in the new world economy" (Castells, 1994, p. 14) but a beacon to attract mobile capital, businesses and talent. For emerging societies, the ability to retain talent is also critical (Kapur and McHale, 2005; Wildavsky, 2010). Societies best able to invest heavily, especially in the bio-sciences and technology, may be poised to make the greatest gains in the future; many of these entrants are emerging societies, most notably the BRIC countries (Brazil, Russia, India, and China).

In 2007, worldwide R&D expenditures totalled an estimated 1.107 trillion USD; the United States (US) accounted for about 33 % of this. Japan, the second-largest performer, accounted for about 13 %, while China was third, at about 9 %. As a bloc, the 27 member states of the European Union (EU-27) accounted for 24 % of global R&D in 2007 (NSF, 2010, p. 5). While R&D expenditures in the EU-27 are ahead of those in Japan and China, they are trailing the level of investment in the US. OECD data on R&D expenditures (see Figure 1) show China and South Africa spending much more as a percentage of the gross domestic product (GDP) over the last 10 years. China was the world's second largest R&D spender in 2009 (WIPO, 2011, p. 6); South Korea's trajectory starting ten years ago is also very impressive, and they are now spending more than any other country on R&D as a percentage of GDP (see Figure 1). The European Union (EU) is planning to spend almost 70 billion EUR through its Horizon 2020 programme from 2014–2020. Nonetheless, the EU has predicted that Brazil, Russia, India, and China will dominate future R&D growth, overwhelming Europe and Japan and eventually matching the level of investment in the United States. At current levels of trend-expenditure, China will match EU-27 spending on R&D by 2018, and

will match US spending on R&D by 2022 (*Ritzen, 2010, pp. 37–70*). Brazil has a balance sheet four times that of the World Bank - and India is also investing heavily (*Leahy, 2012, p. 7*). This reflects a deliberate national strategy to become important educational hubs in their area of influence (*Knight, 2011*). China, Singapore, Malaysia, South Korea and the Gulf countries are aiming at becoming world-class educational and research centres, challenging the primacy of the US and Europe (*Knobel, 2011, p. 2*) (see Figure 2).

Figure 2: Government-Financed Expenditure on R&D as a percentage of GDP



Source: OECD Science and Technology Indicators, 2012

Given the changing dynamics of the world economy, it should not be surprising that the quality and status of HEIs and university-based research has become a vital indicator of competitiveness. This also explains why global rankings have assumed such significance, at a geo-political level, in recent years. Academic rankings are often trumpeted as providing better and informed student choice, but the attention now being given to rankings by policymakers and other decision-makers indicates that, in reality, rankings are much more about geo-political positioning, by nations and HEIs. Indeed, the Shanghai ranking itself owes its origins to a proposition by researchers at the university to demonstrate, to their government, the gap between Chinese and “world class” universities. Around the world, rankings consciousness has risen sharply and in response to globalisation and the worldwide “battle for excellence”.

The impact of rankings has been felt worldwide (*Hazelkorn, 2011*), no less so than on the perception of the comparative and competitive strength of nations and institutions

– what could be called the knowledge world order. For the most part, developed nations and established universities in the United States and Europe have continued to be the primary “winners” in the rankings race. There has been relatively little movement among the top 25, but the pervasiveness of focusing on the top institutions obscures the changing geography of academic activity – and evidence of the emergence of a multi-polar higher education world. Latin America, Africa and the Middle East have only a few universities amongst the top 500; Sub-Saharan African gains have been made only by historically white institutions from South Africa; and within the Middle East, only Israel regularly succeeds. However, there is strong evidence that Asian societies, most notably China, are beginning to make an appearance in the rankings, due to a combination of factors including government investment strategies and changes in ranking methodology (*Sharma, 2010; Lau, 2012; Li et al., 2011*). And, when measured against population size, smaller countries, notably Hong Kong and Singapore, do particularly well (*Beerkens, 2007, 2008*) (see Table 1; *Hazelkorn, 2013b*).

Table 1: Number of Institutions in Global Top 100: World Regions in Selected Rankings, 2004–2012

Ranking	Year	North America	Europe (w/Russia)	Australia & Newz.	Asia (w/India)	Latin America	Africa	Middle East
QS/THE-QS	2012	35	38	7	20	0	0	0
	2011	35	40	7	18	0	0	0
	2008	42	35	8	13	0	0	1
	2004	38	36	12	13	0	0	1
THE-TR	2012	52	32	6	10	0	0	0
	2011	57	30	4	9	0	0	0
	2010	57	28	5	10	0	0	0
ARWU	2012	57	31	5	4	0	0	3
	2011	57	33	4	5	0	0	1
	2008	58	34	3	4	0	0	1
	2004	55	37	2	5	0	0	1
WEBOMETRICS	2012	65	25	2	5	3	0	0
	2011	73	16	2	7	2	0	0
	2009	71	21	1	5	2	0	0
SCImago	2012	45	25	4	24	2	0	0
	2011	46	25	4	24	1	0	0
	2009	47	25	4	22	2	0	0

Key: THE-QS = Times Higher QS World Ranking; QS = Quacquarelli Symonds; ARWU = Academic Ranking of World Universities.

Note: THE-QS (pre-2011) is combined with QS for 2011 and 2012 as the methodology is broadly similar. THE-TR was only established in 2010. THE-QS for 2008 only sums to 99 due to tying institutions.

Despite the chorus of criticism about what rankings measure (see discussion in next section), rankings have succeeded in placing consideration of higher education within a wider comparative and international framework. This has challenged self-perceptions of greatness, at the national, institutional and individual faculty level. Quality and excellence are now the key differentiators in the national and global market; accordingly, there is now a wide ranging acceptance, perhaps reluctantly, that measuring and comparing academic performance and productivity is essential for underpinning quality. Winning and maintaining support for higher education, especially those institutions dependent upon the public, is a key element of this process. This has all helped push higher education, including investment levels and discussion about its contribution and impact on/for the economy, up the political and policy agenda in both developing and developed societies. Today, rankings are spoken about in overtly geo-political language. Billal (*n. d.* 2), for example, argues that “the size and strength of higher education systems is determined by possession of world class universities which are considered [a] more powerful asset for a nation than possession of weapon[s] of mass destruction.” Similar sentiments have been expressed by the Russian Minister for Education, who said rankings were an “instrument of competitive battle and influence” (*Kishkovsky, 2012*). Likewise, The Wall Street Journal asks “Can U.S. Universities Stay on Top?” (*Silverstein and Singhi, 2012*), Public Affairs claims Irish universities lose ground in world rankings (*Anon, 2012*), ABS-CBN in the Philippines says “Budget cuts blamed for low university rankings” (*ABS-CBN, News 2012*), and The Telegraph celebrates “British universities on the rise” (*Marszal, 2012*).

The power shifts may be less real than perceived, since many of the characteristics associated with doing well in rankings are associated with being well-established and well-endowed (*Altbach, 2012a, p. 28; Marginson, 2012*). True, rankings are not been the only factor driving a resource-intensive investment race; but they do chronicle these wider changes in the world polity, such as the Group of Seven (G7) being overshadowed by the G20, and shifts in world income in favour of China, now the world’s second largest economy, which is coming to the aid of the EU financial crisis (*Alderman and Barboza, 2011; Wade, 2011*). The collapse of the old rivalries between the United States and the Union of Soviet Socialist Republics has been replaced by a more multi-polar world, in which different world regions vie for prominence, using rankings as a policy instrument and proxy for competitiveness (*UNESCO, 2010, p. xvii*).

3 Measuring what’s Meaningful

When Shanghai’s Academic Ranking of World Universities (*ARWU*) appeared in 2003, the higher education world was caught unaware. US News and World Report had been producing college rankings since 1983 – but it was treated as a US phenomenon arguably appropriate for a society in which higher education was a commodity and

students were relatively mobile. Even for students who remained within their own city or state, the variety of institutional choices encouraged a consumerist approach to higher education decision-making. But, ARWU foreshadowed an entirely new set of circumstances, where international or cross-jurisdictional comparisons would become the norm. Today, global rankings have become the simple (and simplistic) tool of choice for a wide range of stakeholders on the presumption (as yet unproven) that they provide a good measure of quality. They have also become big business for the media organisations and a business opportunity for others.

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

Phase 1: The origin of rankings dates back to the United States, and the publication of James McKeen Cattell's *American Men of Science* in 1910. Focusing on "distinguished persons," it set the trend until the 1950s, using indicators such as faculty expertise, graduate success in later life, and academic resources, e.g. faculty/student ratio or volumes in the library. This approach effectively excluded most public universities because they were newer institutions with a different mission than the older private universities (*Webster, 1986: 14, p. 107–19*).

Phase 2: National rankings became popular in the decades after 1960. Drawing heavily on the Science and Social Sciences Citation Indexes, they focused initially on graduate institutions. This changed with publication of *US News and World Report Best College Rankings (USNWR)* in 1983, whose success over subsequent years has paralleled the transformation to a universal system of higher education. Today, there are a growing number of national rankings.

Phase 3: ARWU marked the era of global rankings, and the realisation 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 and being entirely focused on research, it has effectively become the "gold standard". It was followed by Webometrics, and THE-QS World University Ranking (THE-QS) in 2004; the latter partnership split in 2009 giving birth to two new rankings: QS World University Rankings (2010), and THE-Thomson Reuters World University Ranking (THE-TR) (2010), the last 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; a feasibility study was published in 2011 and the next phase is due to launch in 2014. 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 (Box 1). Of these, Academic Ranking of World Universities (ARWU), THE-Thomson Reuters World University Ranking (THE-TR) and QS World University Rankings are the "big three".

Box 1: Most Prominent Global Rankings

- Academic Ranking of World Universities [ARWU] (Shanghai Jiao Tong University), 2003
 - Webometrics (Spanish National Research Council), 2003
 - World University Ranking (Times Higher Education/QS), 2004–2009
 - Performance Ranking of Scientific Papers for Research Universities (HEEACT), 2007
 - Leiden Ranking (Centre for Science & Technology Studies, University Leiden), 2008
 - SCImago Institutional Rankings (2009)
 - Russian Global University Rankings (2009)
 - Turkish University Ranking by Academic Performance (URAP, 2009)
 - Top University Rankings (QS), 2010
 - World University Ranking (Times Higher Education/Thomson Reuters [THE-TR]), 2010
 - U-Multirank (European Commission) forthcoming 2014
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Most academic, political and stakeholder commentary and criticism has focused on the fact that rankings purport to measure education/academic quality by measuring or comparing “whole institutions”, from around the world, using a limited set of weighted attributes for which (internationally) comparable data are available. Quantification of performance gives the “appearance of scientific objectivity” (Ehrenberg, 2001, p. 1), but this approach ignores the complexity of HEIs and their different contexts and the fact that some institutions might score higher in some domains than others. It also assumes that the indicators chosen are a meaningful measure of quality. Reputational surveys, which ask respondents to either identify the top universities they know or choose from a preselected list based upon their own personal or professional experience, are prone to being subjective, self-referential and self-perpetuating. Moreover, rankings do not measure educational quality, e.g. the quality of teaching and learning or the quality of the student experience. Bibliometric data are less reliable for the arts, humanities and social science disciplines, and there is no focus on the impact or benefit of research. Similarly, research income benefits capital-intensive bio-sciences and medicine disciplines, and says little about the impact of research on teaching. No attention is given to regional or civic engagement – a major policy objective for many governments and HEIs.

Over the years, new rankings have emerged and others have responded to critics by modifying their methodologies; the latter has provoked disapproval, with critics saying it creates volatility making year-on-year comparability difficult and rankers saying it affirms they are listening to criticism. There have been changes at the level of analysis, which has led to a growing number and range of specialist rankings, in response to

censure as much as to each other. Times Higher Education (THE) has produced the World Reputation Ranking, which simply repackages existing data in a new format. New ventures have also emerged, such as Smartphone apps, and a plethora of informational conferences, master classes and consultancies – the latter group sponsored by the ranking organisations and others to provide new ideas about how to raise the measured performance of an institution in research, teaching and in national and global reputation (*e. g. Criterion Conference 2012*). THE sponsored a video competition encouraging participants to say why “my university is world class because ...” as part of the official launch of its 2012–13 World University Rankings; winners received an iPad and the chance for the short film to feature in the official launch and be broadcast on its website reaching a global audience of millions (*Times Higher Education 2012*). IREG (2011) has emerged as the assumed regulator for the industry. These initiatives represent lucrative ways to monetise higher education data; in business parlance, they are tantamount to new product development or revitalizing products in response to new market opportunities or consumer demand and feedback.

Throughout, *ARWU* has remained consistently focused on research with little change to its actual methodology, because, as its promoters recognise,

“It would be impossible to rank the quality of university education worldwide because of the huge differences of universities in the large variety of countries and the technical difficulties in obtaining internationally comparable data” (Liu and Cheng, 2005).

In contrast, Times Higher Education and Quacquarelli Symonds (QS) have revised their approach several times – before and after their divorce. The THE has increased its reliance on research (equivalent to 65% if research, citations and innovation are combined), and both *THE* and *QS* now rely more heavily on reputation or peer review. The former has two separate reputational surveys per academic for research (19.5%) and teaching (15%) which equate to 34.5%; *QS* assigns 50% of marks to institutional reputational based on surveys amongst academics (40%) and employers (10%). Whereas the old *THE/QS* ranking measured graduate employability, *QS* asks a select list of employers to identify universities that produce the best graduates; *THE* asks similar questions of academics with respect to teaching (see Table 2).

Table 2: Indicators and Weightings of Selected Rankings

Ranking	Indicators and Weightings, percentage				
	Indicator	Total	Research	Teaching	Reputation
Academic Ranking of World Universities (ARWU) (2003-)	- Quality of education	10			
	Quality of faculty				
	- No. Nobel Prize/Field Medal	20			
	- No. HiCi researchers	20	100	0	0
	Research output				
	- No. articles in /	20			
- No. articles in	20				
- Size of institution	10				
Times Higher Education/QS World University Rankings (THE QS) (2003–2009)	- Peer appraisal	40			
	- Graduate employability	10			
	- Teaching quality/Staff-student ratio	20			
	- International students	5	60	20	10
	- International faculty	5			
	- Research quality/ Citations per faculty	20			
QS World University Rankings (2010-)	- Academic Peer Review	40			
	- Employer Review	10			
	- International Faculty Ratio	20	60	5	50
	- International Student Ratio	5			
	- Student/Faculty Ratio	5			
	- Citations per Faculty	20			
Times Higher Education Thompson Reuters World University Ranking (THE-TR)	- Teaching	30			
	- Research	30			
	- Citations	32.5	65	30	34.5
	- Economic/Innovation	2.5			
	- International Diversity	5			

Initially rankings focused solely on the whole institution, but nowadays, they provide data at discipline/field of study level as well as different categories of institutions (e. g., 100 Under 50), world region (e.g. Asia, Latin America) or specialisation (e.g. THE Reputation Ranking). Not satisfied with the quality of institutional data available, Thompson Reuters, who partnered with THE, created its Global Institutional Profiles project which has now been copied by ARWU's Global Research University Profiles project. Undoubtedly this will produce a rich vein of higher education data, to be commercialised and sold on to policymakers and various government/non-governmental agencies and probably back to the HEIs themselves – to use when scouting for and assessing institutional partnerships, student and faculty recruitment, etc. Another format is Stars rating system; unlike rankings, universities pay to be assessed against a range of criteria, and can be awarded between 1–5 stars (). There is no limit to the number of institutions which can be awarded the same number of stars.

Despite all their limitations (*Hazelkorn, 2011; Rauhvargers, 2011*), rankings have succeeded in exposing a higher education information deficit, and provoking a useful conversation about what is meant by the term “quality” and how the value and impact of higher education is measured. Traditionally higher education has relied on peer review, and internalised procedures of quality assurance or enhancement. The difficulty with these processes, from an outsider’s perspective, is that the information can be difficult to decipher, as it is written in opaque academic language, and also difficult to compare institutional performance, especially internationally (*Hazelkorn, 2012a, p. 353; Tremblay et al., 2012, p. 35*). They also tend to be process-driven, and have arguably failed to be convincing. In contrast, rankings have succeeded because of their simplicity, but this is also their Achilles’ heel; the indicators chosen are often the ones for which comparative data are available rather than it being a meaningful measure of education quality. For example, they use faculty/student ratio as a proxy for teaching quality even though this can have different meanings and implications for different disciplines and types of learning environments, and for public and private institutions and systems. 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 example is measuring employability or career readiness, regardless of the fact that the data usually capture the first six to nine months post-graduation, which means it is insensitive to “large annual movements” (*Smith et al., 2000*), and thus 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 provides an accurate reflection of educational quality during an economic recession such as the one being experienced now, since measuring employability with reference to the regional or national rate may be more meaningful.

Ultimately, many of the indicators used by rankings simply reveal the growing wealth gap between well-endowed selective universities and public, mass recruiting HEIs without having anything noteworthy to say about teaching quality or the quality of the student experience (*Hazelkorn, 2012a; Archibold and Feldman, 2006*). The overemphasis on particular indicators, despite modifications, has narrowed our understanding of the intellectual footprint of higher education across teaching, research and engagement. In contrast, there is a growing appreciation of the value and contribution of all disciplines, including the arts, humanities and social sciences, and the requirements of an engaged scholarship (*Hazelkorn 2012b, 2012c, 2013a*). Today, we have a much more sophisticated understanding, for example, of how students learn and the complexity of factors influencing learning outcomes than previously understood (*Pascarella, 2001; Kuh and Pascarella, 2004; Terenzini et al., 2010*); as Terenzini put it, “what institutions do is more important than who or what they are” (*quoted in Lederman, 2010*). Arguably anger with rankings has provoked an important discussion about higher education, its value and how it is demonstrated and measured. Would this debate have happened anyway?

Alternatives have also emerged – part of a growing trend for “transparency and accountability” instruments to provide more information and greater comparability (see Box 2) (Hazelkorn, 2012a; Harman, 2011). The European Union commissioned U-Multirank following a concern of a number of EU member states, especially Germany and France, about the positioning of their universities within ARWU (*EU Presidency, 2008*). In contrast to existing rankings, U-Multirank is based on the principles of being: i) user-driven, ii) multi-dimensional, iii) peer-group comparable, and iv) multi-level. Its purpose is to aid student choice, improve performance and facilitate benchmarking (*Vassiliou, 2013*). It has yet to capture the higher education community’s imagination although policymakers are more upbeat. Only about 150 HEIs worldwide have signed up, it is considered time-consuming to complete the data requests, and the sunburst imagery is cumbersome. Criticism has also focused on the appropriateness of the actual name, e.g. use of the word “ranking”. However, whatever about its likelihood to overtake the “Big Three”, its influence is already evident in the way *THE* facilitates personalisation of rankings. The OECD launched *AHELO* (Assessment of Higher Education Learning Outcomes), also as a riposte to rankings. Its objective is to provide a better way to assess teaching and learning outcomes, though it has run into its own difficulties due to conceptual and methodological complications and rising costs. Both *U-Multirank* and *AHELO* were launched with ambitious objectives, and both have been scaled back in deference to the complexity of the task (*Tremblay et al., 2012; Van Vught and Ziegele, 2011, 2012*).

Box 2: Typology of Transparency Instruments (alphabetical)

- *Accreditation*: certifies legitimacy of a HEI or (professional) programme including the authority to award qualifications;
 - *Benchmarking*: systematic comparison of practice and performance with peer institutions;
 - *Classification*: provides a typology or framework of HEIs to denote diversity usually according to mission and type;
 - *College Guides/Open Database/Social networking*: fulfils public service role, putting information directly into hands of students, employers, peers and the general public;
 - *QA, Evaluation and Assessment*: assesses institutional quality processes, or quality of research and/or teaching & learning;
 - *Qualifications Frameworks*: provides an integrated approach to learning, forming a single hierarchy of different qualifications, usually from primary to doctoral level;
 - *Rankings and Ratings*: assesses performance according to particular indicators and characteristics which set a “norm” of achievement.
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There have also been a series of more specialist rankings which challenge the whole ethos of the traditional Higher Education (HE) rankings. The Washington Monthly (US) College Guide says: “While other guides ask what colleges can do for students, we ask what colleges are doing for the country” (*Editors WM, 2005*). Saviors of Our Cities: Survey of Best College and University Civic Partnerships (*Dobelle, 2009*) takes a

similar approach, highlighting the relationship between HEIs and larger metropolitan areas. It was followed by the 2012 Metroversity Ranking (*Dobelle, 2012*). System-level rankings, e.g. Lisbon Council's University Systems Ranking: Citizens and Society in the Age of the Knowledge (*Ederer et al., 2008*), QS National System Strength Rankings (*QS, 2010*), and the newest Universitas 21 Rankings of National Higher Education Systems (*Williams et al., 2012*) attempt to measure the quality, impact and benefit of the higher education system as a whole rather than conduct a beauty-competition between institutions. 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. These raise important questions and challenge traditional HE rankings but they remain primarily a topic of analysis rather than policy usage.

The multiplicity of different rankings and new formats may diminish the predominance of the "Big Three" however there is little such evidence to-date (*Dill and Beerkens, 2010, p. 318*). Over-time, open source publishing and search engines are likely to eat away at the proprietary hold that both Thomson Reuters and Scopus currently have on bibliometric data. Web tools (e.g. Google Scholar, Webometrics), Internet forums (e.g. Facebook, Rate-my-professor), and digital repositories are also gaining in popularity. Australian, UK and Catalan governments, to name three, have captured the essence of these tools by creating their own public databases with detailed information about institutional performance (*MyUniversity; Unistats; Winddat*). And, it is not too far-fetched to think that an HE "Trip Advisor" site will emerge soon. Ultimately, the real success of any new format is not simply the provision of lots of statistical data but the added-value generated through expert data-mining and meaningful analysis, otherwise it simply sows confusion, distortion and misrepresentation.

4 Policy and Institutional Changes

While the origin of rankings may have been about student choice, today rankings are increasingly about national and institutional reputation and status in the global marketplace. As a result, there has been continuing, and arguably unhealthy, fascination with the performance of the top 100 universities and in creating pathways to becoming a "world-class university" (*Sadlak and Liu, 2007; Salmi 2009; Liu et al., 2011; Altbach and Salmi, 2011*). In turn, these universities are promoted as the recipe for success in the global economy, with their attributes having a "norming" effect on higher education. It is therefore not uncommon for political leaders to indicate national ambitions in terms of the number of "world-class" universities it has or wants to see. France, Germany, Russia, Spain, China, South Korea, Taiwan, Malaysia, Finland, India, Japan, Singapore, Vietnam and Latvia, to name a few countries, have developed policies which encourage mergers between HEIs or between HEIs and research institutes, in

order to create “centres of excellence” and/or concentrate resources in small number of HEIs which can rival the “Ivy League”. In a European context, this represents a move away from a traditional egalitarian approach to one which purposefully emphasises vertical or hierarchical (reputational) differentiation between elite selective research-intensive universities and mass recruiting teaching-intensive HEIs.

By appearing to address the question, “How can our university/nation perform better?” (*Marginson, 2009, p. 591*), rankings have drawn attention to the importance of investing in higher education. This has been so everywhere, but especially those regions and countries which hitherto may not have done so.

“For middle-income and developing countries ... a major challenge for building and sustaining successful research universities is determining the mechanisms that allow those universities to participate effectively in the global knowledge network on an equal basis with the top academic institutions in the world.” (Altbach and Salmi, 2011, p. 1)

Over the decade, supra-national regions, such as the Organisation of Islamic Countries, African Union, ASEAN and MENA states³, have developed strategies linking social and economic development with the performance and productivity of their respective higher education and research systems. The EU has had a similar approach, creating the European Higher Education Area and the European Research Area to bring coherence to otherwise disparate national systems, creating a system which makes European higher education unique, attractive and competitive internationally. While the role of the European Union may be constrained by the principle of subsidiarity, its influence – what Corbett (*2012*) calls “creeping competence” – has been strengthened considerably in line with massive increases to its research budget likely to be near 70 billion EUR under *Horizon 2020* (*Hazelkorn and Ryan, 2013c; Hazelkorn, 2013b*).

Rankings are also used in numerous other ways affecting higher education systems. Governments and HEIs use rankings to help strategically inform and guide policy and decision-making, to explicitly identify and define their national or institutional ambitions and strategies in terms of a favourable global ranking or to use rankings as a benchmarking or quality assurance (QA) tool. They are used to drive improved performance at a national level or rolled-into performance indicators used for resource allocation (*Hazelkorn, 2011, p. 163*). HEIs have used rankings in a similar fashion (*Hazelkorn, 2011, chapt. 4*), and as the basis for benchmarking, primarily for identifying a basket of comparable institutions (*Proulx, 2011*). Some governments have also linked rankings with accreditation or quality assessment processes, utilizing the results to decide whether a particular HEI should be formally recognised or how it should be classified (e.g. teaching, teaching/research, research). For example, Serbia, Albania, Romania,

³ ASEAN = Association of Southeast Asian Nations; MENA = Middle East and North Africa

Jordan, Macedonia and the Czech Republic use rankings to classify and/or accredit universities; Russia, Brazil, Chile, Singapore, Saudi Arabia, Kazakhstan, Mongolia and Qatar restrict their state scholarships to students admitted to high-ranked universities in other countries; India, Russia and Singapore use rankings as eligibility criteria for academic collaborations (*Altbach, 2012a, 2012b*); Dutch (2008) and Danish (2011) immigration laws privilege foreigners who graduate from top universities (150, and 20 respectively); and the Macedonian Law on HE (2008) automatically recognises the qualifications of graduates from top 500 HEIs. In some instances, governments have invited ranking organisations to undertake an assessment of their HEIs (*CHE, 2011; Macedonia Online, 2011*). This has been most common in east/central Europe and the Balkans which have had a burgeoning number of HEIs as a result of a historically unregulated system; here, rankings act as a simple sorting mechanism. Similar effects are evident in the United States, where different states use US News and World Report's Best College Ranking to benchmark salaries (Florida and Arizona) or 'fold' rankings into performance measurement system (Minnesota, Indiana and Texas).

HEIs and individual academics are not innocent victims in this process. Evidence from around the world shows how rankings have had a significant impact and influence on the business of higher education. While some HEIs deliberately strive to improve their standing in the rankings, other simply wish to be included – because being ranked is equivalent to being visible to potential students, HE partners, policymakers, the media, etc. This explains why HEIs advertise on the web-pages of the various rankings. Thus, it is not uncommon for rankings to inform and shape institutional strategy and priorities, including international partnerships (see Table 3). Institutional strategic plans often make specific reference to rankings, stating that being within the top 20, 50, or 100 is a key ambition. In other cases, they are used to motivate faculty or drive change, speed-up reform or pursue a particular agenda. Because rankings reward low student/faculty ratios and research productivity, especially in the bio-sciences and medicine, institutions have changed student selection criteria and revised class sizes, and used indicators to set departmental targets and merge disciplines and departments. Some HEIs have prioritised or altered the balance between teaching and research, between undergraduate and postgraduate activity, and between disciplines; others have redirected resources towards knowledge fields and units most likely to be more effective vis-à-vis rankings criteria. In the US, where rankings have had a longer gestation, the media is full of stories of how different universities have skewed their data on student entry tests or faculty numbers or altered their recruitment/selection procedures in order to improve their position in the rankings, but there is similar evidence from other countries also (*Hazelkorn, 2011*).

Table 3: Indicative Actions Taken by Higher Education Institutions

Strategy	<ul style="list-style-type: none"> – Form task group to review and report on rankings – Merge HEIs/cognate departments – Establish Centres-of-Excellence & Graduate Schools – Establish Institutional Research capability – Set individual targets for faculty and departments
Organisation	<ul style="list-style-type: none"> – Develop/expand English-language facilities, international student facilities – Professionalise Admissions, Marketing and Public Relations – Advertise in <i>Nature</i> and <i>Science</i> and other high focus journals – Expand internationalisation alliances and membership of global networks
Management	<ul style="list-style-type: none"> – Realign resources to favour science/bio-science disciplines – 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	<ul style="list-style-type: none"> – Enable best researchers to concentrate on research/relieve them of teaching – Offer attractive merit scholarships and other benefits – Discontinue programmes/activities which negatively affect performance – Grow postgraduate activity relative to undergraduate – 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

Rankings have also underpinned or accelerated changes to academic work practices, supporting the introduction of market-based salaries with merit or performance pay and attractive packages to reward and woo high-achieving scholars. Recruitment strategies, informed by rankings data, have targeted faculty from high-ranked universities or “capacity-building professors” on the basis that they can help improve an institution’s rank. In turn, faculty are giving more consideration to the type of research they undertake and where it is published, with the emphasis on international high-impact journals rather than other formats, such as books, book chapters, policy reports, etc. Other evidence suggests faculty prioritise partnerships with high-ranked universities, with those HEIs reporting heightened interest in them by visiting delegations and conversely, HEIs in developing countries saying they feel shut out.

5 Nowhere to hide

Rankings may have started out being about consumer choice but, today, they are much more about global and institutional positioning. Despite on-going concerns about what they measure and how they are used, they have had a tremendous and long-term

effect on higher education in direct and indirect ways, and with positive and perverse implications. Many people use the expression that “rankings are here to stay”; however, it may be more appropriate to say that cross-national comparisons are “here to stay”, of which rankings are the current phenomenon.

Rankings have charmed audiences around the world by their crude simplicity. By focusing on a limited set of attributes for which (internationally) comparable data are available, they have narrowly defined “excellence” and “worldclassness” with unforeseen implications for nations and individual institutions, and promulgated a small set of indicators as being a meaningful, albeit unproven, measure of quality. Indeed, the difficulties encountered by both *U-Multirank* and *AHELO* highlights the complexity associated with assessing quality. Context remains fundamentally important: national and global, public or private, student cohort and learning environment – these dimensions can radically affect the performance of institutions and render simple comparisons meaningless. Fundamentally, rankings measure wealth and benefit older elite resource-intensive institutions.

On the other hand, rankings have acted as a wake-up call for higher education, challenging self-perceptions of greatness, by nations, by institutions and by individual academics. In a global higher education marketplace, cross-national comparisons are inevitable, leaving no room for self-declaration. At a time of growing demands for higher education by society and students of all ages and rising costs, there is an emphasis on student learning outcomes and evidence that student performance measures up. By placing consideration of quality, performance and productivity within a wider comparative and international framework, rankings have taken the debate outside the traditional bailiwick of higher education and placed it firmly onto the public and policy agenda. With the involvement of the European Union via *U-Multirank* and OECD via *AHELO*, quality assurance has moved to the supra-national level confirming that higher education has effectively lost its role as the primary guardian of quality (*Harman, 2011, p. 51; Dill and Beerkens, 2010, pp. 313–315*). The genie won't go back into the box.

These developments, and reactions, have accelerated what the European Union calls the “modernisation agenda”, leading to a reshaping of institutions and systems. And, by pushing nations and HEIs to realise the strategic importance of higher education within a wider policy context, rankings have underwritten investment and spurred ambition – arguably the cause of a resource “arms race” but ambition is also positive. This has increased the sense of urgency surrounding the international debate about “quality” as part of the call for greater transparency and public disclosure of student and institutional performance. Research has relied on a combination of peer review and international bibliometric indicators, but nowadays there is a deeper understand-

ing of the breadth of/differences between disciplinary practice, and the convergence between fundamental and applied research and commercialization/knowledge transfer. At the same time, governments are asking very direct questions about the impact and relevance of publicly-funded research, especially in the context of accusations about higher education's cost. This has forced higher education to engage actively in the conversation and to identify meaningful measures which can demonstrate the value and contribution of higher education and university-based research, rather than sitting on the sidelines.

Alternative methodologies and new transparency formats have emerged, and there is increasing interest in benchmarking and/or profiling tools to compare and improve/enhance performance and demonstrate distinctiveness; some governments, such as Ireland and Norway, have begun to use these tools as part of their system (re)structuring and resourcing strategies (see *Salmi, 2010; van Vught et al., 2010; O'Connor, 2013; Skodvin, 2012*). In the absence of credible and efficient substitutes, the emphasis and debate have focused on identifying better indicators and metrics of performance and productivity. The ground is shifting, again, between autonomy and accountability. Over time, the current rankings may be overtaken by social networking and online open-source tools. These formats will put information directly into the hands of students, employers, peers and the general public, by-passing rankings but also higher education institutions (see also *Boffey, 2011*). This is the new educational battleground.

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Author's address

Professor Ellen Hazelkorn

Vice President, Research and Enterprise,
and Dean of the Graduate Research School

Head, Higher Education Policy Research Unit (HEPRU)

Dublin Institute of Technology

email: ellen.hazelkorn@dit.ie