

Chapter 1



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How Rankings Came to Determine World Class

A direct correlation exists between the emergence of international rankings of universities and the pervasive rhetoric and obsession with World Class University (WCU) status. Building on a model first ventured by commercial rankings of colleges and universities in the United States as consumer guides for prospective students—notably the *US News and World Report* ranking of American colleges and universities—international rankings based on similar formulas made their appearance around 2003.¹ As government ministries focused increasingly on research-intensive universities as a path for national economic development, they quickly embraced rankings as a quantifiable source for assessing the place of their universities in the global marketplace.

Seemingly based on simple and understandable metrics, rankings reinforce an already present anxiety: that many economically developed economies, and those striving for such status, lack the best universities. There is now a widespread perception that the most competitive economies require one or more top-tier research-intensive universities to fuel innovation and economic growth—particularly in technology-driven and high-profile businesses sectors. To be without one, or a set of them, is seen as a distinct disadvantage. While economic competitiveness is arguably the primary focus of the WCU ambition, national pride plays a role as well. How could a great nation like Germany, like France, the birthplaces of so many important scientific and technological advances, survive the twenty-first century without some critical mass of WCUs? A rapidly rising China recognizes in some form that its astounding growth in its higher education system, in enrollment, in doctoral programs, and more, must also include an improvement in the quality and quantity of research output. How can it not aspire to its own network of WCUs?

Status Anxiety and Seeking Excellence

WCU anxiety, or, more accurately, the sense that Europe and most other regions of the world do not have an appropriate collection of research-intensive and quality players found prevalent in the United States and the United Kingdom, is a relatively new revelation. In the four decades after World War II, most nations, including those in Europe, sought to transform their existing network of largely elite universities that served a small and largely privileged population. They quickly built mass higher education systems focused on the equality and homogeneity of institutions. There was little or no concern for mission differentiation among universities. Institutions also clung to the notion that they should operate separately from crass commercial needs of a larger society. The result: old and new universities believed they had the same narrow ivory tower mission, the same claim to pursue research, and the same claim on funding.

With the exception of fields such as engineering, much of the research agenda of faculty, and their universities, had no strong sense of their role in economic development. Most of the academic community continued to embrace a Humboldtian model of autonomous research and doctoral training in the midst of dramatic increases in access for first-degree students mandated by governments and the thirst of a larger public for a wider vision of their engagement in society.

With many differences between nations, and among the disciplines, the macro observation is that the understandable drive to create equality of opportunity, to help reorder society, and to treat all universities the same, is one significant reason that much of continental Europe failed to support and sustain a network of highly selective, top-performing research universities. The post-World War II drive for mass higher education also led governments to see their universities as simply one among many public services, faculty as simply another brand of civil servant. Most ministries ignored the unique characteristics and organizational behaviors of the academic community. Adding to the story in Europe, in both Germany and France, existing networks of research institutes and, as in France, an elite group of small *Ecoles* all based in Paris, further eroded the ability, and interest, to create truly comprehensive research-intensive universities. In England, the 1992 elevation of the polytechnic sector to university status by the Thatcher government ended a binary system that had distinguished the mission and claim on public funding between the polytechnics and universities.

Because many parts of the world embraced over time a homogeneous model of higher education, the research-intensive university became the ideal; conversely, to be anything less, in mission and in the draw on

public resources, seemed inequitable and discriminatory—a perpetuation of a division between elite and mass higher education. Reinforcing this viewpoint, other forms of postsecondary education, including vocationally oriented institutions such as the *hochschulen* network of campuses in Germany, were and are viewed as not really a part of higher education, but simply an extension of a nation's secondary system.

This bifurcated vision comes in sharp contrast to the United States, where a diversity of institutional types are viewed as essential parts of state systems of higher education, including private liberal arts colleges, regional public universities that are teaching intensive, and public community colleges with a mix of vocational, liberal arts, and adult education programs. Most do not aspire to the research-intensive model and, instead, seek excellence in their own sphere of responsibility. There is always pressure for mission drift—for example, many liberal arts colleges have launched master's programs in a few fields where there is market demand. But there simply is not the status anxiety found in more homogeneous systems, or expectation of most institutions to compete for research grants and the corresponding need for laboratory and other facilities found at research-intensive universities.

Informed by the American experience, and the homogeneous impulse of European ministries in the throes of a spectacular increase in the number of new universities, in 1976 sociologist Martin Trow worried that there was no ensured place for elite institutions. They were becoming an “endangered species” (Trow 1976). The egalitarian impulse of ministries saw elite institutions as incompatible with democracy, as depriving newer and more egalitarian institutions of resources and, most significantly, reinforcing socioeconomic class biases. They were being squeezed out in the rapid building of new national higher education systems. Elite institutions, Trow argued, need not be bastions of privilege. Effusing his version of the American mantra first iterated by Thomas Jefferson that America's public universities could be the breeding ground for a new “aristocracy of talent,” Trow thought they instead could break class barriers. If managed in the interest of the public good, they could provide an exceptional environment for educating broadly minded and creative individuals from all walks of society. In his view, they needed not only to be preserved, but also nurtured and, by their mere output of talent, offered value for money. Influenced by California's network of public colleges and universities, Trow implied that elite institutions could be rationalized only as part of a larger coherent network of postsecondary institutions—in isolation, they were unjustified in the modern economies with democratic predilections. This was a contrarian view outside of the United States, until recently.

Many nations are transitioning from the initial stages of creating mass higher education systems, often at the expense of quality, to an understanding that successful national higher education systems must have sufficient levels of differentiation in the mission, purpose, and financing among their various institutions. Not all can be top-tier, high-performing research and doctoral educating institutions; some should be more teaching intensive or professional and vocation in orientation. The result promises a better match between the aspirations of the students and the labor needs of a particular nation, and offers a more efficient system of public funding for higher education.

The importance of a more diversified market of higher education providers is a relatively new vision. The result is that in recent years ministries, the only entities that, thus far, appear to care about the overall performance and coherence of national systems of higher education, creatively conjured indirect methods to encourage mission difference. An overt discussion was, and remains, politically volatile in much of the world. Instead, new policies emerged as part of what might be called discreet campaigns to not only foster mission differentiation, but also bolster or create a globally competitive set of universities. This includes competitions for special research funds, often called “excellence” initiatives, and new forms of national accreditation and incentives to merge specialized institutions into larger universities.

The arrival of international rankings in the early part of this century accelerated the desire for mission differentiation and further deepened growing status and performance anxiety. “The explosion of university rankings perhaps signals the reality that we live in a compared and ranked world,” note Mmantsetsa Marope and Peter Wells in a 2013 report to UNESCO.² In the course of globalization, international agencies, such as UNESCO and the OECD, and national governments, seek new ways to judge the position of nations in the larger world. The commercial innovation of university rankings, they note, is just one part of this larger reality.

Influenced by the search for one or more WCU’s, most national systems are transitioning to performance-based funding and often large-scale restructurings (van der Wende 2014; Estermann et al. 2013), with England’s Research Excellence Assessment (REA) being one of the first and most influential models. In Continental Europe, for example, at least seven countries—Austria, France, Germany, Hungary, Norway, Poland, and Spain, each a member of the European Higher Education Research Area (EHEA)—had some form of an excellence program.³ Many of these initiatives have positive influences on the resources and the culture of national universities, largely because they are competitively distributed.

Often for the first time, universities are engaged in a process of deciding where their strengths lie and what areas of research they want to expand.

Even for institutions that do not “win” a government excellence grant, universities that choose to compete oftentimes are making choices about their academic programs and conjuring innovative research efforts. Although consistent funding by governments is a problem, most excellence programs have cycles for grant applications and new rounds for funding; in the case of Germany, the concept is a five-year cycle. This allows universities to return with new ideas and proposals to compete for funding. Yet, it is also important to note that excellence programs tend to reinforce existing hierarchies of institutions in national systems—an outcome that aligns with ministerial desires for greater mission differentiation.

More funding, more competition, that is all good. Academic leaders and faculty also have a long tradition of leveraging new resources, whatever their government-announced purpose, to their own priorities and uses. In the United States, the first large wave of purpose-driven external funding came in the wake of Sputnik, with fears that major universities were becoming simply research factories for the nation’s defense needs. Later, increased corporate sponsorship of research led to fears of academics’ subservience to commercial interests. A cavalcade of books and articles pronounced the evils and new dominance of privatization and corporate influence. But neither the dire federal nor corporate-induced consequences arrived in the force predicted. One might argue that the “excellence” initiatives focused on rankings and world-class status offer a similar opportunity to simply leverage government support.

As new and special funding schemes have become more pervasive, and the influence of rankings has accelerated, the ethos and need to compete has spread into the daily workings of universities. University administrators and academics have embraced the language of WCU and the focus on rankings, reinforcing the paradigm.⁴ A survey of some 171 universities in Europe states that over 70 percent of respondents used rankings to inform strategic, organizational, managerial, or academic actions that are largely, but not solely, intended to improve their ranking. Of those who noted that rankings influenced their behaviors, some 26 percent reported changing research priorities, some 21 percent also altered faculty recruitment and promotional criteria, and many stated that they shifted funding and other campus resources, changed student admissions criteria, or closed or merged departments to enhance their standing in global and national ranking regimes (Hazelkorn 2014).

Inducing universities to be more strategic is certainly not unto itself a bad outcome, particularly among a large cadre of universities that for decades remained caught in an organization culture that avoided hard

choices about resources, about faculty pay and promotion. In an era of increased global competition, “ordinal cross-border comparisons are inevitable,” notes Simon Marginson.⁵ Yet, there is increased recognition of the inadequacy of the ranking and WCU paradigm that, thus far and for the immediate future, focuses on a limited set of outcomes: generally, citation indexes heavily weighted to STEM fields + research income + Nobel or other internationally recognized research awards + oftentimes, reputational surveys (Marginson 2013; Hazelkorn 2011). Further, WCU advocates do not provide much guidance on what organizational behaviors and methods can lead to greater productivity in research, teaching, *and* public-service activities.

The Ranking Market

Campus rankings are not all bad, but none is particularly good—whether it is generated by a commercial enterprise, or a university-based think-tank, or the increasing phenomenon of a government entity creating its own ranking scheme. If you subscribe to the notion that the methodology to date is inadequate, biased, and overly influential, and your own national institutions rank poorly in, say, the widely cited Academic Ranking of World Universities (ARWU), then one response is to devise new ranking schemes that espouse improved methodology and, in the end, focus on tweaking the same limited set of available data.

Global higher education rankings are a growth industry. Some 50 or more countries have developed national rankings and there are ten private enterprises that claim to provide global or, in some cases, regional comparative rankings (see figure 1.1).

Dissatisfied with the poor ranking of its national universities, the Russian Federation created its own world rankings that placed Moscow State University fifth, just ahead of Harvard University and the University of Cambridge. Germany, Japan, the United Kingdom, and other countries have various forms of single-country rankings, often intended as consumer guides. But the bigger and more influential movement is global rankings that, seemingly based on quantifiable data, provide a comparative benchmark for understanding university performance.

Consternation over the poor showing of French universities, and Europe in general relative to the United Kingdom and the United States, led to a European Commission–funded effort at ranking intended to be “more objective and more favourable to European universities.” Known as the “Multi-Dimensional ranking of higher education institutions,” or

Figure 1.1 The Proliferation of Global Rankings.

	Year Established
<i>Academic Ranking of World Universities</i> ARWU Shanghai Jiao Tong University	2003
<i>Webometrics</i> Spanish National Research Council	2003
<i>World University Ranking</i> Times Higher Education/ Quacquarelli Symonds–	2004–2009
<i>Performance Ranking of Scientific Papers for Research Universities</i> HEEACT	2007
<i>Leiden Ranking</i> Centre for Science and Technology Studies, University of Leiden	2008
<i>World's Best Colleges and Universities</i> US News and World Report	2008
<i>SCImago Institutional Rankings</i>	2009
<i>Global University Rankings</i> Rating of Educational Resources, Russia	2009
<i>Top University Rankings</i> Quacquarelli Symonds	2010
<i>World University Ranking</i> Times Higher Education	2010
<i>U-Multirank</i> European Commission	2011
<i>U21 Ranking of National Higher Education Systems</i> University of Melbourne	2012

U-Multirank, it is intended as largely a consumer guide for prospective students and includes, unlike other rankings, student evaluations of academic programs.⁶ In a recent analysis of the six major international rankings currently on the market, including Shanghai Jiaotong University's ARWU, Leiden University, QS, Scopus, the *Times Higher Education* World University Rankings, and U-Multirank, those rankings with a high dependence on research productivity indicators were viewed as strong methodologically, but weak in conveying the full mission of research-intensive universities; U-Multirank was strong conceptually but weak because of its reliance on subjective data submitted by universities and the fact that many major universities simply do not participate in providing the relevant information (Marginson 2013).

The lucrative and high-stakes business of university rankings has led to new commercial products. In search of new markets and higher profits, *Times Higher Education (THE)*, a periodical and originally a subsidiary of the *London Times*, is one of the most aggressive and imaginative

purveyors. Its World University Rankings first came out in 2004 and quickly established itself as a major brand in ranking markets. Now its product line also includes a *THE* 100 Under 50 [years old] Rankings, a *THE* Asia University Rankings, and a *THE* BRICS & Emerging Economies Rankings.

Indicative of the growing complexity of the ranking industry, in 2014 *THE* announced that it would no longer contract with Thomson Reuters to use data from their Annual Academic Reputation Survey and other data-collection efforts in their products. *THE* would now do almost all data collection “in-house, carried out by a new, dedicated team of data analysts at *THE*.” The exception is that research publication data would still come from Elsevier’s Scopus database. Only five years earlier, *THE* ended a similar arrangement for supplying data under contract for much of its formulaic rankings with Quacquarelli Symonds, a British company, before entering the aforementioned arrangement with Thomson Reuters in 2009.

THE stated in November 2014 that it “intends to build the largest and most comprehensive database of university data in the world... to be used to develop new analyses, in response to sector demand and consultation, including new rankings and analytical services.”⁷ Those analytical services have already come to include “summits” related to its growing menagerie of sector-focused rankings, such as a Summit for *THE* Young Universities, that both promote their products and provide venues to guide universities on the path to higher rankings. Another summit was held in Doha in February 2015, “dedicated to addressing the development of World Class education and research in the Middle East and North Africa.”⁸ The so-called MENA events featured keynote speeches on university leadership, strategy, and international cooperation by Alice Gast, president of Imperial College London, along with Jean-Lou Chameau, president of the King Abdullah University of Science and Technology (KAUST) in Saudi Arabia, and Jamil Salmi, a higher education consultant and author of many WCU books and articles.

After losing its business with *THE*, Quacquarelli Symonds went on to build its own ranking product, the QS Top University Rankings, only a year later and with good success. Similarly, Thomson Reuters is attempting to no longer be simply a supplier of data for the ranking products of other companies, and has created a Global Institutional Profiles Project to generate “university profiles using multiple aspects of a university mission as a tool for consumers and governments.” This Thomson Reuters project includes data from its Annual Academic Reputation Survey and information supplied by universities, along with bibliometric data from the Web of Science.⁹

Among nonprofit groups, the widely acknowledged biases in world rankings led to searches for alternative approaches. The international consortium known as Universitas21 seeks to rank the overall performance of national systems as opposed to individual campuses. This effort does not profess to find the “one best system,” but seeks to add to our understanding that the national context is important, providing data on relative national investment rates in higher education and calibrating research publications in relationship to a country’s total population (Williams et al. 2013). Using many of the variables included in other international rankings, such as citation analysis, plus new variables such as “connectivity”—an analysis of online interactions and similar evidence of links with the global world—the results provide a contrary view of quality and productivity. According to U21’s analysis, the top five countries in terms of overall performance: the United States, Sweden, Switzerland, Canada, and Denmark.¹⁰

Universitas21’s national rankings provide a useful view of how well national systems of higher education perform. Yet, the global campus rankings computed each year by the ARWU, and by *THE*’s World University Rankings, and to a lesser extent QS, clearly have the market advantage in influencing ministerial and campus behaviors. Their rankings of universities are not overly complicated, creating a comparative “accountability” tool that is hard to displace.

A Zero-Sum Game

There are other problems with current campus rankings regimes that are important for this discussion. Besides being methodologically suspect and narrow in their focus, global rankings generate unachievable goals for the vast majority of aspiring universities. Rankings establish what is sometimes called a “deficit model” in which no institution is ever good enough except the ones at the very top (Locke 2011).

What are the chances to move up in rankings? The top 25 universities in almost all the recognized world rankings have changed very little over the past decade, and they are not likely to change much in the future. It is a consistent bunch (see figures 1.2 and 1.3).¹¹ There is some movement among the various rankings between 25 and 100, but even here, it is, thus far, marginal and hard to interpret—a warning to ministries who are funneling funding into efforts intended to make large leaps in global university rankings among national universities.

Among the top 100 in the Academic Ranking of World Universities, between 2012 and 2013, the average change in rank was only 1.66—up

Figure 1.2 A Consistent Bunch: *Times Higher Education* UK-based World University Rankings 2014.

1.	CalTech
2.	Harvard University
3.	University of Oxford
4.	Stanford University
5.	University of Cambridge
6.	MIT
7.	Princeton University
8.	UC Berkeley
9.	Imperial College London
10.	Yale University
11.	University of Chicago
12.	UCLA
13.	ETH Zurich
14.	Columbia University
15.	Johns Hopkins University
16.	University of Pennsylvania
17.	University of Michigan
18.	Duke University
19.	Cornell University
20.	University of Toronto
21.	Northwestern University
22.	University College London
23.	University of Tokyo
24.	Carnegie Mellon University
25.	National University of Singapore

Source: *Times Higher Education*/Thomson Reuters World University Rankings.

or down. Shanghai Jiaotong University's ARWU was first established in 2003 at the request of the Chinese government which sought comparable information on the quality of its universities. The Shanghai ranking is largely based on citation analysis and markers of academic prestige, like Nobel laureates, and does not include the somewhat dubious variable of reputational surveys.

The average change in the *Times Higher Education* world rankings was 5.36 places and the QS average was 3.97—both are more volatile than ARWU and correlated with a much wider array of data variables, including reputational surveys. There are other reasons to trust the ARWU's rankings more than those of the other two big players. As Richard Holmes notes, "ARWU uses publicly available data that can be easily checked and is unlikely to fluctuate very much from year to year. THE and QS use data

Figure 1.3 A Consistent Bunch: Shanghai Jiaotong Academic Ranking of World Universities 2014.

1.	Harvard University
2.	Stanford University
3.	MIT
4.	UC Berkeley
5.	University of Cambridge
6.	Princeton University
7.	CalTech
8.	Columbia University
9.	University of Chicago
10.	University of Oxford
11.	Yale University
12.	UCLA
13.	Cornell
14.	UC San Diego
15.	University of Washington
16.	University of Pennsylvania
17.	Johns Hopkins University
18.	UC San Francisco
19.	ETH Zurich
20.	University College London
21.	University of Tokyo
22.	Imperial College
23.	University of Michigan
24.	University of Toronto
25.	University of Wisconsin

Source: Academic Ranking of World Universities.

submitted from institutions. There is room for error as data flows from branch campuses and research centres to the central administrators and then to the rankers. QS also has the option of replacing institutional data with that from third party sources.”¹²

There has been some movement among the top 100 to 500, depending on the ranking enterprise, and often with small margins of cumulative scoring determining whether an institution in, say, the AWRU is ranked 150th or 180th. A number of universities in Asia, and in particular China, have moved up—an indicator of significant investments exclusively in STEM research productivity. Between 2004 and 2014, among its over 2,200 tertiary institutions, China increased the number of its universities from 8 to 32 in the top 500, and from zero to six in the top 200.

Considering the short time in which China has pursued mass higher education and the development of a core set of top institutions, this is a sign of improvement, but really only in the realm of research productivity, and specifically citations. At the same time, it is important to note that citation indexes, seemingly the gold standard for assessing research productivity and influence, may be of diminishing value. A big factor is the continued proliferation of new journals and articles facilitated, in part, by the relative ease to establish new journals, mostly online open access publications, many with open calls for contributions by authors. Many of the new publications are established in developing economies. The overall growth is correlated to the increased pressure for academics to publish, and for universities to improve their publications records and, ultimately, their rankings. Since 2008, the growth in recognized scientific journals and articles used in citation indexes has averaged just above 3 percent a year; in 2012 alone, there were 28,100 active peer-reviewed journals publishing some 1.9 million articles (Ware and Mabe 2012).

Two other forces influence the proliferation of scholarly journal articles and books and, in turn, drive up citations. One is the general growth in knowledge and the establishment of new fields, including an explosive growth in multidisciplinary research, particularly in the hard sciences, medicine, and technology. One estimate is that global scientific “output,” as measured by academic articles, doubles about every nine years.¹³ The other force is the growth in the number of active scientists and engineers in academia and in the private sector. For largely professional reasons, and as never before, they seek to publish, often with a dizzying array of coauthors. The inevitable growth in knowledge and new forms of inquiry, more academics looking to publish in recognized journals, more journals and new technologically driven forms of publishing and delivery—all are changing the nature of research generation and dissemination that does not always favor quality over quantity.

But beyond this and other limitations in the methodology of global university rankings, there is a conceptual limitation that is not fully appreciated by ministries and universities. Assuming that a WCU is an institution that ranks among, say, the top 50 or even 100, universities on some recognized world ranking, then it is a zero-sum game, analogous with rating universities on a bell curve. Yet, many governments and many universities strive for the WCU status under the assumption that one or more of the current global ranking enterprises will decipher that moment in time. They have bought into the bell-curve model and the concept that research productivity and citation indexes determine a global hierarchy. Married to this concept, European governments complain, as noted previously, that there are not enough European universities in the top 50 and many

are spending money to do something about it. There is also a sense by governments of failed potential, or what has been called by the European Commission the *European Paradox*: “whereby Europe has the necessary knowledge and research, but fails to transfer this into innovation and enhanced productivity and economic growth” (van der Wende 2009).

To encourage greater engagement with the economy, and improve rankings, Germany’s federal Ministry of Education and Research launched a widely publicized national competition to identify ten among its 104 universities that have the potential of becoming elite universities—the Excellence Program with an initial budget of €1.9 billion.¹⁴ Under president Sarkozy, and extended by his successor, President Hollande, France launched a similar initiative to help boost the research productivity of its national universities. Despite austerity plans to cut some €50 billion in general government spending over three years, in 2014 Hollande pledged €2 billion for the creation of new regional university research centers as part of a second wave of “*Initiatives of Excellence*,” or IDEX (Marshall 2014).

Having fueled the ranking frenzy, China plans on having 20 top universities that aspire to match MIT in productivity. As part of that effort, but also in an attempt to improve the research and teaching quality of some 100 universities, the Chinese central government is spending nearly 3.68 billion euros over ten years. Before the World Class nomenclature appeared, in 1998 President Jiang Zemin famously explained that “China must have a number of top-class universities at the international level.”

In Africa, Nigeria hopes for 20 or more WCUs, although seemingly under a rubric of its own making that is different from the current crop of ranking enterprises;¹⁵ Sri Lanka wants at least one WCU and Vietnam desires one in the top 200 by 2020. Japan’s ministry of education, known as MEXT, has a target of 30 universities becoming “World Class” institutions beyond the University of Tokyo, with five in the top 30 in global ranking, and at least one breaking the top ten mark.¹⁶

In 2013, the Russian government announced a plan to have at least five of its National Research Universities in the top 100 WCU by 2020. They have designated which ones, besides Moscow State University, that are assigned to achieve this goal, providing special financial subsidies: Tomsk Polytechnic University, the Higher School of Economics—Moscow, the Engineering Physics Institute, the Moscow Institute of Steel and Alloys and the National Research University of Information Technologies, Mechanics and Optics.¹⁷

However, ambition cannot outpace reality if rankings in the shape of a bell curve are the standard. Eventually, ministries and universities will need to recognize that the math simply does not add up for all to claim WCU status if they remain fixated on this or that ranking and the values they exude.

Recipes for Attaining World Class

The construction of international and national campus ranking regimes led to the question of, and subsequently advice on, how to achieve WCU status. In an early critique of the emerging WCU frenzy, Philip Altbach noted that “the problem is that no one knows what a World Class University is, and no one has figured out how to get one.” At that time, he argued, “that it is just as important to have ‘national-’ or ‘regional-class’ academic institutions as to emulate the wealthiest and, in many ways, most elitist universities” (Altbach 2003).

As the currency of the various ranking systems increased, however, ministries and a literature emerged to do just that—essentially defining world class as a metric of certain research productivity measures and prestige indicators. Perhaps no agency has been more engaged in advocating the value and proper path than the World Bank.¹⁸ So what defines a WCU? According to the World Bank, and others, there are three rather generic but informative traits: *a high concentration of talented faculty and students, abundant resources, and a favorable governance organization with a high level of autonomy.*¹⁹

Indeed, these are important, but they are not sufficient unto themselves.²⁰ To some degree, the WCU audience is those universities, and officials in national ministries, who rank poorly; certainly, the advocates garner little interest from the research universities with the greatest productivity. And the advocates are largely outsiders peering into the workings of major research-intensive universities, seeing certain productivity outcomes and making some general observations, yet failing to attempt to decipher the culture, organizational behaviors, and building blocks to achieve their advocated goals: higher rankings.

With the emergence of the WCU model have come worries over its influence, including shifting the priorities of universities.²¹ In an earlier 2006 analysis of the WCU movement that is still relevant today, Henry M. Levin and his coauthors noted, “The subjective nature of world class status means that institutions will attempt to address those dimensions that are considered in assessing reputations and that are visible. In this respect, research activity, publications, citations, and major faculty awards are highly visible and measurable while the quality of the educational process is not” (Levin et al. 2006). Within the context of Asia, Ka Ho Mok has also complained of the one-dimensional, research productivity focus of rankings (Mok 2011). More recently, Marijk van der Wende has noted a desire for “the inclusion of the quality of teaching” (van der Wende 2014). Altbach and Jamil Salmi, while noting “different pathways” to WCU

status and caution regarding overzealous national efforts and a narrow focus on rankings,²² reiterate that such institutions should be embedded in some form in local and national needs—although what this might mean remains vague.²³ Over time, Altbach and Salmi, both keen observers of global trends in higher education, have shifted from being critics of the WCU model to what might be termed qualified advocates, publishing articles and books and giving speeches on the pathway to such a status. Indeed, the literature on WCU is large and growing, in part fostered by various consultants and conferences on how to get there, often organized by the ranking industry.²⁴

Ministries pouring funding into special initiatives intended to induce higher research productivity and higher scores on citation indices might take heed of one conclusion by those studying how universities can achieve WCU status: it seems that most nations without a highly ranked university will find the fastest path toward having one is by starting a new institution from scratch, rather than attempting to shape, and fund, existing ones.²⁵ This implies that the organizational behavior of existing universities, and academics, is in many instances beyond repair; that internal cultures needed for high performance are elusive and limited. It also seems to imply that a route not likely to succeed are ministerial efforts to induce and sometimes require the merger of existing universities to create more comprehensive institutions, consolidate management, and improve rankings and reputations.

Yet, the concept that established universities cannot easily, or ever, make the transition to higher research productivity, or more importantly for this discussion, greater relevancy, is not a vision shared by most ministries. They are pursuing a variety of policies to change the standing of their universities. One simple observation is that many national systems of higher education suffer in the ranking metrics, and World Class race, because they have too many small institutions. Scale matters in assessing the research output of institutions and perceived prestige. Germany has significant and globally recognized research conducted in many of its specialized centers, notably the Max Planck Institutes. But they operate separately from large universities. One result is that Germany has few high-profile and highly ranked universities in any global rankings.

Increasingly, ministries and institutions themselves have sought institutional mergers based on the premise of improved university management and finances, altering academic cultures to push greater productivity, as well as improving the international standing of reconstituted universities. This is not only part of the rationale behind the merger frenzy in developing economies such as China, Russia, and Brazil, but also the modern incarnation of the University of Manchester with the absorption of the University

of Manchester Institute of Science and Technology. One recent study on university mergers in Finland points to the “world class” objectives of ministries as the primary motive.²⁶

Many mergers, particularly in those countries that at one time pursued the Soviet model of specialized institutions, including China, have helped improve the quality and performance of institutions, after a painful first period of reorganization. Universities that once had a limited and specific link with a segment of a planned economy, such as railroads, or telephone communications, merged to include a broader array of disciplines.

In yet another consequence of the emergence of the WCU model and ranking criteria, and also due to the general concern over the quality and productivity of academics, many ministries have adopted pay incentives for faculty who publish journal articles. Low pay for academics remains a significant problem in most parts of the world, shaping behaviors, including academics who work outside of their home universities to make a higher income. On the basis of criteria formulated often at the ministerial level, faculty can raise their low level of pay substantially by publishing in international journals that the ministry has chosen as sufficiently eminent and correlated with citation indexes—an injection into the process of faculty advancement that indicates distrust of universities and assumptions regarding what constitutes academic rigor and quality in publishing. In some instances, the number of publications in international journals figures into funding for individual academic departments and for general ministerial funding for a campus. Government-derived incentives exist in many Asian countries, including Japan, Korea, and China, and in parts of Europe, Turkey, Russia, Norway, and elsewhere. “Chinese researchers who place in the top half of colleagues in terms of bibliometric measures can earn three to four times the salaries of co-workers,” note Chiara Franzoni and coauthors in an article in *Science*, “and also can be rewarded by access to better apartments. Some Chinese and Korean institutes pay cash bonuses to authors who publish in *Science*, *Nature* and *Cell*” (Franzoni et al. 2011).

The push for international publications is most prevalent in the sciences, but affects the social sciences as well. In England, and beginning in the 1980s, the Research Assessment Exercise (RAE) ranked academic departments based largely on citation analysis, then determined the flow of general-support funds for research, past performance thereby determining future funding. This process was modified in 2014 under a new “Research Excellence Framework” that is a more complicated formulation. The REF now attempts to also calculate the “impact” of research on the “economy, society, public policy, culture and the quality of life”—a high-stakes evaluation process that might best be called a work in progress (Atkinson 2014).

There are some indicators that these financial incentives have led to greater instances of plagiarism, a greater focus on quantity, rather than quality, of publications, and a further push for academic researchers to seek conventional lines of inquiry in order to get published (Butler and Mulgan 2013). In their study on ways to gauge the “connectivity” of universities with regional and national needs, Gaétan de Rassenfosse and Ross Williams note that the incentives to publish encourage researchers toward topics that appeal to an international audience, rather than local community needs. “Worldwide citation are larger if the research is of interest to an international audience,” they state. In their analysis of some 50 national higher education systems, they note an “inherent conflict” between the emphasis of ministries on rankings, and citation analysis, and the desire and need for greater engagement with local communities, particularly in smaller-populated countries that increasingly view international interaction as key to their economic development (de Rassenfosse and Williams 2015).

However, it is also true that many universities had low expectations for faculty, linking their pay and status to a civil-service mentality that focused on years in employment as opposed to actual productivity. And, while intrusive, these policies are having a positive effect on the number, if not necessarily the quality, of journal publications, refocusing the time and effort of faculty, departments, and campuses (Franzoni et al. 2011). Faculty are incentivized to seek international collaborations, bolstering the trend that researchers view their most important colleagues in a discipline, or a field, as global.

As the ranking competition has heated up, universities in some parts of the world have attempted to game the system via key faculty, and sometimes temporary, recruitments, just in time for government ranking exercises—a known practice in England. There is also speculation that some global ranking agencies have been offered remuneration to help a university creep up a bit higher. In the United States, some institutions manipulate data, or seek international students with, on average, higher standardized test scores, to help bolster their domestic rankings, which focus largely as consumer guides for prospective students. Reporting on student-to-faculty ratios by American universities and colleges, for instance, is becoming increasingly unreliable—a major factor in the *US News and World Report* college ranking.

Since rankings are here to stay, some seek avenues to materially improve ranking methodologies and include other data; with the proliferation of global rankings, might policy makers and university leaders incorporate more nuanced interpretations of their meaning? I sense there are significant limitations on the availability of data to adequately broaden our

understanding of what universities do in their respective societies. Research productivity will remain the primary focus. The proliferation of rankings may induce a more healthy understanding of the limits of their meaning, but to date most nation-states and universities look to only one to two global rankings—essentially providing a gold standard.

To return to the main theme of this chapter, there is room, indeed a great need, for more innovative and broad thinking on what a leading university might or should be—indeed, a thirst for an alternative or revised conceptual model that is distinctly separate from global rankings. At least among a cadre of leading national universities, might the ranking paradigm, and the sometimes narrow thinking and gaming it induces, be altered?

Notes

1. In the United States, there has been a long history of academic efforts at ranking the quality of institutions, or graduate programs. Commercial rankings arrived in 1985. That year, seeking new forms of income, the *U.S. News & World Report* published its first “America’s Best Colleges” report—the most widely quoted of their kind in the United States. In the UK, the Higher Education Funding Council for England (HEFCE) first created “League Tables” in 1986 via the development of the Research Assessment Exercise (RAE), and as part of a process to allocate research funding to top-performing universities—a somewhat self-reinforcing approach. Since 2003, Shanghai Jiao Tong University has produced the *Academic Ranking of World Universities*, analyzing the top universities in the world on quality of faculty (40%), research output (40%), quality of education (10%), and performance versus size (10%). Its ranking is exclusively of research universities, mainly in the empirical sciences. The *Times Higher Education* published its first annual *Times Higher Education–QS World University Rankings* in November 2004. On October 30, 2009, *Times Higher Education* broke with QS, then its partner in compiling the Rankings, and signed an agreement with Thomson Reuters to provide the data instead.
2. P. T. M. Marope, P. J. Wells, and E. Hazelkorn, eds. 2013. *Rankings and Accountability in Higher Education: Uses and Misuses* (Paris: UNESCO Publishing).
3. Ricardo Bascaia, Pedro Teixeira, and Vera Rocha, “Excellence Schemes in European Higher Education: Rewarding the Best?,” paper presented at the Consortium of Higher Education Researchers’ 27th Conference, Rome, September 10, 2014.
4. Francisco O. Ramirez and Dijana Tiplic. 2013. “In Pursuit of Excellence? Discursive Patterns in European Higher Education Research,” *Higher Education*, published online, November 16, www.link.springer.com/article/10.1007/s10734-013-9681-1.

5. Simon Marginson. 2013. "University Rankings and Social Science." *European Journal of Education*. doi: 10.1111/ejed.12061: http://www.cshe.unimelb.edu.au/people/marginson_docs/European_J_of_Education_2013_university%20rankings%5B1%5D.pdf.
6. U-Multirank is based on a proposal in the Commission Communication on modernisation of Europe's higher education systems COM 2011 567 final [1] accompanied by Staff Working Document SEC 2011 1063 final, p. 5–6 and is implemented by a consortium of research organizations—CHERPA Network Consortium for Higher Education and Research Performance Assessment under a two-year project funded by the European Commission. A preparatory study, "Design and Testing the Feasibility of a Multidimensional Global University Ranking," concluded in June 2011, demonstrated the feasibility of this project.
7. *Times Higher Education* announces reforms to its World University Rankings. November 19, 2014 Announcement: www.timeshighereducation.co.uk/world-university-rankings/news/times-higher-education-announces-reforms-to-world-university-rankings.
8. www.timeshighereducation.co.uk/world-university-rankings/news/times-higher-education-mena-universities-summit-programme-details-released.
9. "[A]s the world continues to flatten and specialize, profile databases must broaden in scope, deepen in content, and become increasingly flexible," states Thomson Reuters project website. In some ways this reflects a similar effort to move away from the computational rankings of institutions toward program and other subunit forms of analysis for the European Higher Education Area noted previously. See www.ip-science.thomsonreuters.com/globalprofilesproject/.
10. Universitas21 and the Melbourne Institute of Applied Economics and Social Research, *U21 Ranking of National Higher Education Systems 2013*, University of Melbourne, May 2013: www.universitas21.com/article/projects/details/152/u21-ranking-of-national-higher-education-systems.
11. The *Times Higher Education* World Rankings claim that it is, "the only global university performance tables to judge world class universities across all of their core missions—teaching, research, knowledge transfer and international outlook. The top universities rankings employ 13 carefully calibrated performance indicators to provide the most comprehensive and balanced comparisons available, which are trusted by students, academics, university leaders, industry and governments."
12. Richard Holmes, 2014. "The Noise," University Ranking Watch Blog, July 9: www.rankingwatch.blogspot.com/2014/07/the-noise.html.
13. Bibliometric analysts Lutz Bornmann, at the Max Planck Society in Munich, Germany, and Ruediger Mutz, at the Swiss Federal Institute of Technology in Zurich, think they have a better answer. It is impossible to know for sure, but the real rate is closer to 8–9 percent each year, they argue. That equates to a doubling of global scientific output roughly every nine years. <http://blogs.nature.com/news/2014/05/global-scientific-output-doubles-every-nine-years.html>.

14. Germany's Excellence Program, see: www.germaninnovation.org/research-and-innovation/higher-education-in-germany/excellence-initiative.
15. Ibikunle H. Tijani, "Developing World Class Universities in Nigeria: Challenges, Prospects and Implications," paper delivered at the 2nd FUNAI Leadership Development Seminar, Federal University Ndufu-Alike Ikwo, Ebonyi State, Nigeria, June 5, 2013; "Guidelines for Raising Nigerian Universities to World Class Status," Report submitted to the National Universities Commission NUC and the Association of Vice Chancellors of Nigerian Universities AVCNU, September 27–29, 2010.
16. Charles Jannuzi, 2008. "Japan Aims for 'World Class' Universities," Japan Higher Education Outline, February 5, 2008: www.japanheo.blogspot.jp/2008/02/japan-aims-for-World-Class-universities.html; Kenglung Ngok and Weiging Guo, "The Quest for World Class Universities in China: Critical Reflections," *Policy Futures in Education* 6, no. 5 (2008).
17. Eugene Vorotnikov, "Government Approves Universities for World Class Bid," *University World News*, September 11, 2013 Issue No. 287: www.universityworldnews.com/article.php?story=20130911144451887; Anna Smolentseva, 2010. "In Search for World Class Universities: The Case of Russia." *International Higher Education* 58: 20–22.
18. Among the publications sponsored by the World Bank is a professed "guide" to build a "research university from scratch." See Philip G. Altbach and Jamil Salmi, *The Road to Academic Excellence: The Making of World Class Research Universities*, Directions in Development Series (Washington, DC: World Bank, 2009).
19. Jamil Salmi, *The Challenge of Establishing World Class Universities*, Directions in Development Series, World Bank: Washington DC, 2009; R. Deem, Mok K. H., and Lucas L., 2008. "Transforming Higher Education in Whose Image? Exploring the Concept of the 'World Class' University in Europe and Asia." *Higher Education Policy* 21, no. 1: 83–97.
20. In a paper presented in 2006 attempting to help define what a World Class University is, Henry M. Levin, Dong Wook Jeong, and Dongshu Ou, at Teachers College, Columbia University, noted the subjectivity of the title, noting, for example: "Although teaching, service to society, and research are all emphasized in the statements on what makes a great university, reputational ratings seem to be limited largely to the research dimension on the basis of our statistical analysis." Henry M. Levin, Dong Wook Jeong, and Dongshu Ou, "What Is a World Class University?," paper presented at the Conference on Comparative & International Education Society, Honolulu, Hawaii, March 16, 2006: www.tc.columbia.edu/centers/coce/pdf_files/c12.pdf.
21. *Ibid.*, Jamil Salmi, a major proponent of the WCU model, writes warnings: "Avoid overdramatization of the value and importance of World Class institutions and distortions in resource allocation patterns within national tertiary education systems. Even in a global knowledge economy, where every nation, both industrial and developing, is seeking to increase its share of the economic pie, the hype surrounding World Class institutions far exceeds the need and capacity for many systems to benefit from such advanced education

- and research opportunities, at least in the short term. Indeed, in some countries where the existing tertiary education institutions are of higher quality than the economic opportunities available to graduates, excellent tertiary education may exacerbate existing brain-drain problems.”
22. Jamil Salmi, and Alenoush Saroyan, 2007. “League Tables as Policy Instruments: Uses and Misuses.” *Higher Education Management and Policy* 19, no.2: 31–68.
 23. There are examples of serious discussions within major universities on how to absorb the meaning of rankings and the WC nomenclature. Danie Visser and Marilet Sienaert outline how “the University of Cape Town has taken a rather ‘soft’ approach. Aware of the university community’s varied reactions and opinions to university rankings, the university helped its faculty to understand the emerging global university rankings, including goals and philosophies behind the rankings, biases, strengths and weaknesses, as well as rankings’ impact on funders and policy makers. The university actively engaged the faculty in identifying relevant issues and indicators in their specific departments, and prompted them to understand that rational analysis of rankings provides the means of evaluating their own performance in relation to the university’s goals. Through this practice, the university decided upon four strategies and principles that will specifically enable it as a university in the global south to achieve excellence in an increasingly globalized and competitive world, these being an increasing focus on its specific location in Africa, increasing international collaboration, increasing research visibility and increasing support to researchers at all levels.” See Danie Visser and Marilet Sienaert, “Rational and Constructive Use of Rankings: A Challenge for Universities in the Global South,” in *Building World Class Universities: Difference Approaches to a Shared Goal*, ed. Qi Wang, Ying Cheng and Nian Cai Liu (The Netherlands: Sense Publishers, 2012).
 24. Held in Shanghai and supported by the Academic Ranking of World Universities based at Shanghai Jiaotong University, the 5th International Conference on World Class Universities occurred on November 3–8, 2013. Participants generally come from campuses that do not rank among the top universities under the ARWU ranking. See: www.shanghairanking.com/wcu/cp.html.
 25. Philip G. Altbach and Jamil Salmi, 2011, *The Road to Academic Excellence: The Making of World Class Research Universities*, Directions in Development Series. (Washington DC: The World Bank).
 26. Hanna-Mari Aula and Janne Tienari, “Becoming ‘World Class’? Reputation-Building in a University Merger.” *Emerald: Critical Perspectives on International Business* 7, no. 1 (2011): 7–29; www.academia.edu/508739/Becoming_World_Class_Reputation-building_in_a_university_merger.

