Chapter 12

Quantitative Analysis of *U.S. News & World Report* University Rankings

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Contents

This is the story of a first mover and how it continues to move higher education. *U.S. News & World Report* (U.S. News) first published *America's Best Colleges*, which ranked colleges and universities in the United States, in 1983. This was the first major higher education ranking in the world, and it became extremely popular. Thirty years later, U.S. News was not, however, the first organization to produce an international ranking comparing universities across different countries. U.S. News finally entered the world ranking stage with its inaugural *Best Global Universities* (BGU) in 2014. Globalization, advances in Data Analytics and Scientometrics, and rising demand for higher education have produced a proliferation of rankings and

entrenched their position in society. For better or for worse, millions of educators, students, and parents consult university rankings each year. The rankings influence decisions that control millions of dollars and brilliant ideas, and *U.S. News & World Report* continues to be a major actor in this environment.

This chapter reviews the impact of U.S. News university rankings in science and culture. Section 12.1 recounts the magazine's ranking history and recent activity. Section 12.2 explains methodology from the BGU ranking. The scientific relevance of U.S. News university rankings is developed by means of a literature review in Section 12.3. The first part of Section 12.3 is a Scientometric review of 233 documents related to U.S. News rankings. Questions asked include, Who publishes about U.S. News? Which academic disciplines research U.S. News? Where is research on U.S. News published? The second part of Section 12.3 organizes the contents of the articles to understand perspectives and preoccupations around the rankings. The story would not be complete without a supporting cast; U.S. News is compared with other international rankings in Section 12.4. Finally, this chapter concludes in Section 12.5 by predicting future directions for global university rankings and U.S. News in particular.

12.1 *U.S. News & World Report* and America's Best Colleges Ranking

Before its first university ranking, *U.S. News & World Report* was a weekly magazine that circulated stories about economy, health, and education rather than sports, entertainment, and celebrities. Its primary competitors for readership were *Time* and *Newsweek*. It had begun as two separate magazines, both founded by journalist David Lawrence and run out of Washington, DC. The magazines were merged into *U.S. News & World Report* in 1948 (Sumner, 2012). To give a sense of scale, the magazine passed the threshold of 2 million monthly readers in 1973.

The first edition of America's Best Colleges was published by *U.S. News & World Report* in 1983. The first 1983 ranking was based on survey responses of several hundred university presidents, who were asked to opine on the relative quality of America's higher education institutions (Leiby, 2014): Stanford came in first, Harvard second, next Yale, and then Princeton. One year after publishing the first America's Best Colleges ranking, *U.S. News & World Report* was purchased by the owner of *New York Daily News* (*U.S. News & World Report,* 2013). Rankings were not published in 1984, but have been published every year since, proving to be a readership magnet.

America's Best Colleges has been published as a separate guidebook since 1987, and it is exceptionally popular online. On the release of the 2014 rankings, 2.6 million unique visitors generated 18.9 million page views in 1 day at USNews.com (Smith, 2013). The website has more than 20 million unique visitors each month, 10 times the readership that *U.S. News & World Report* magazine had in 1973.

Great popularity often comes with at least a measure of detraction. U.S. News ranking methodology has received public criticism since at least 1995, when Reed College refused to submit the reputation survey that had been part of the ranking since 1983. The reputation survey has been one of the most contentious parts of America's Best Colleges methodology for its subjective nature and monolithic outcome. Other points of contention regard the use of self-reported indicators, the close correlation between a university's wealth and rank, and the lack of indicators which accurately capture the quality of education at each school.

12.2 *U.S. News & World Report* and the *BGU* Ranking

In October 2014, *U.S. News & World Report* launched a new ranking with a new methodology: the 2015 BGU ranking. In 2014, the ranking covered 500 institutions from 49 countries across the globe and evaluated them based on a methodology that included, among other new indicators, Bibliometric evidence of a university's performance based on publications and citations. The top 3 schools were Harvard, Massachusetts Institute of Technology, and University of California–Berkeley. Of the top 500 schools, 134 featured from the United States, 42 from Germany, 38 from the United Kingdom, and 27 from China. Rob Morse of U.S. News, said, "I think it's natural for U.S. News to get into this space. . . . We're well-known in the field for doing academic rankings so we thought it was a natural extension of the other rankings that we're doing" (Redden, 2014). Although it may be a natural extension, the methodology applied in *U.S. News & World Report* Best Global Universities differs greatly from the methodology for America's Best Colleges (Morse et al., 2016).

The first major distinction between America's Best Colleges and the BGU international ranking is that BGU uses Bibliometric data, a type of Scientometrics not used in the national rankings. Bibliometric data used in the BGU ranking include publications, citations, and coauthorship. The publications considered are those from a recent 5-year period, and the citations considered are those attributed to the publications from this 5-year period, even if they come from publications outside of the 5-year period. For example, the 2017 ranking uses publications from 2010 to 2014 and citations up to April 2016 attributed back to the documents from 2010 to 2014. Data for the 2015 and 2016 rankings were provided by Thomson Reuters IP & Science via its Web of Science product, which tracks around 13,000 scientific publication sources including academic journals, conferences, and books. Thomson Reuters IP & Science was purchased in 2016 by the Onex Corporation and Baring Private Equity Asia and spun into a new company called Clarivate Analytics. Data for the 2017 BGU were provided by Clarivate Analytics.

The second major change is in the eligibility procedure. U.S. News establishes a list of eligible universities from around the world with a two-step process. The first

step is the Clarivate Analytics Academic Reputation Survey. This is an invitation-only survey sent to authors selected from the Web of Science database. The survey is available in 10 languages. Respondents are asked to evaluate programs in the disciplines with which they are familiar. This creates results at the department level rather than the institutional level and gives a more complete picture of the university. Unique responses in 2017 totaled around 50,000, which were weighted based on geographic region to correct for differing response rates. Finally, scores from surveys over the past 5 years are aggregated to produce the score for the ranking year. For 2017, the top 200 universities in the Clarivate Analytics Academic Reputation Survey were added to the list.

Next, the institutions with most scholarly publications in a recent 5-year period are added to the list. For the 2017 ranking, the 1,000 institutions that had the most publications from 2010 to 2014 were considered eligible for ranking. The list of 1,000 institutions was de-duplicated for schools already in the top 200 of global reputation, and because some schools tied with the same number of publications, the list is not exactly 1,000 items. Thus, the final list of eligible universities for 2017 included 1,262 institutions.

Finally, BGU uses 12 weighted indicators to rank the schools in the ranking universe. Two indicators are based on reputation surveys, and the other 10 are based on Bibliometric data, as follows:

1. Global research reputation (12.5%): An aggregation of 5 years of scores in the Clarivate Analytics Academic Reputation Survey. The scoring scale of the survey and the aggregation weights over the five previous years are not described on the website USNews.com. The top 200 schools in this indicator are automatically considered eligible for the ranking, regardless of quantity of publications.
2. Regional research reputation (12.5%): Respondents are asked to rate universities in their region. The score is the aggregate of 5 years of results. Regions are determined by the United Nations definition.
3. Publications (10%): Total number of scholarly articles, reviews, and notes published in a recent 5-year period and indexed in the Clarivate Analytics Web of Science database. The top 1,000 schools, de-duplicating for the top 200 reputation schools, are eligible for ranking, regardless of what reputation they may have.
4. Books (2.5%): The number of books indexed in the Web of Science.
5. Conferences (2.5%): The number of publications in conference proceedings that are indexed in the Web of Science.
6. Normalized citation impact (10%): This is the number of citations per paper, but normalized to control for several forces. It is normalized by publication year, publication type, and research discipline, such that an average publication across these factors has a score of 1, and a score above 1 reflects that the publication in question received more citations than its peers.

7. Total citations (7.5%): Calculated by multiplying the publication indicator by the normalized citation impact indicator. Thus, this is not a simple count, but rather a normalized indicator.
8. Number of publications that are among the 10% most cited (12.5%): Publications are compared to publications of the same research area, document type, and year.
9. Percentage of total publications that are among the 10% most cited (10%): The percentage of a university's total papers that are in the top 10% most cited papers with the same research area, document type, and publication year.
10. International collaboration (10%): Proportion of a university's papers with an international coauthor, controlling for the university's country. Control is done by dividing the university's proportion of papers with an international coauthor by the proportion of all papers from the university's country with an international coauthor.
11. Number of highly cited papers that are among the top 1% most cited in their respective field (5%): Publications in the top 1% by subject area and by year. Documents from the last 10 years are eligible in 22 different subject areas in the Web of Science.
12. Percentage of total publications that are among the top 1% most highly cited papers (5%): Number of highly cited papers divided by the total number of papers produced by a university.

After retrieving the indicator values, these are transformed from indicator values into z-scores, which measure values in terms of standard deviations and make comparison between different types of data more robust. Log transformation is used before calculating z-scores for these highly skewed variables: publications, books, conferences, total citations, number of publications that are among the 10% most cited, global research reputation, regional research reputation, number of highly cited papers that are among the top 1% most cited in their respective field, and international collaboration. U.S. News reports that there were no missing Bibliometric or reputation indicators for the BGU 2017; however, citation data from arts and humanities journals were intentionally omitted. U.S. News reports that arts and humanities journals do not receive many citations, and therefore, omitting this information makes the results more robust. Publication counts from these journals were included in publication indicators.

The minimum score from the ranking universe is subtracted from the score of all universities, leaving the lowest-scoring school with a score of zero. Then, the highest performing school is rescaled to have a score of 100, and each school is rescaled proportionally to the highest score. Overall scores are rounded to one decimal place. The final 2017 ranking includes the highest scoring 1,000 schools from 65 countries, up from 750 schools from 57 countries in 2016 and from 500 schools in 49 countries in 2015.

12.3 Scientometric Review

U.S. News university rankings and their impact have been a topic of academic study for over 20 years. A review of academic literature in the Elsevier Scopus database was performed to understand the scientific perspective on U.S. News university rankings. The Elsevier Scopus database tracks documents published in approximately 20,000 journals and conferences worldwide. The review was done by searching in the title, abstract, and keywords of documents for *U.S. News* or *US News* along with the root word *rank*. The exact query that was run on September 29, 2016, in the Scopus Advanced Search feature was `(TITLE-ABS-KEY ("U.S. NEWS") OR TITLE-ABS-KEY ("US NEWS")) AND TITLE-ABS-KEY (RANK*)`. As indicated by the quotation marks around the search terms, the exact and complete phrases *US News* and *U.S. News* were searched to eliminate unrelated results that contained only *US, U.S.*, or *News*. The search is not case sensitive. The asterisk in the query after the root word *rank* allows results containing *ranking* or *ranked*. Since 1992, 233 publications match the query above. The new ranking is still unexplored in peer-reviewed research.

Each of the 233 publications returned in the survey was manually reviewed to assure relevance. Seven documents were discarded because they had no relevance to U.S. News rankings. Another 50 documents were discarded because they were relevant to U.S. News best hospital rankings, but not university rankings. One document was discarded as a duplicate record. The remaining 175 documents date from 1994. Just two of these publications contain the term *Best Global Universities*: one published in 2014 and another in 2016. These two articles show potential interest for BGU in the academic community, but there is little documentation on the ranking's performance and impact.

The first finding is that the rate of research on U.S. News university rankings is increasing over time (see Figure 12.1 for complete history). On average over 23 years, eight publications/year are related to U.S. News university rankings. In the last 10 years, an average of 13 publications/year is related to U.S. News rankings. Academic coverage of U.S. News rankings increased markedly around 2000, at the start of the Internet era.

Almost two thirds of the scientific reporting on U.S. News is done through journal articles. About one-fifth is done in conference papers, and the remaining corpus is composed of review papers, books, and notes (Figure 12.2). The second finding is that research on U.S. News is almost twice as likely as a random Scopus publication to be published in conference papers. Twenty percent of research on U.S. News university rankings is published in conference papers, while 11.8% of all Scopus-indexed publications are found in conference papers (Elsevier, 2016). This has to do with publication tendencies by discipline.

Figure 12.3 shows the disciplines that most contribute to research on U.S. News university rankings. The percentages sum to more than 100% because one publication can be listed in more than one discipline. Social science is the field most

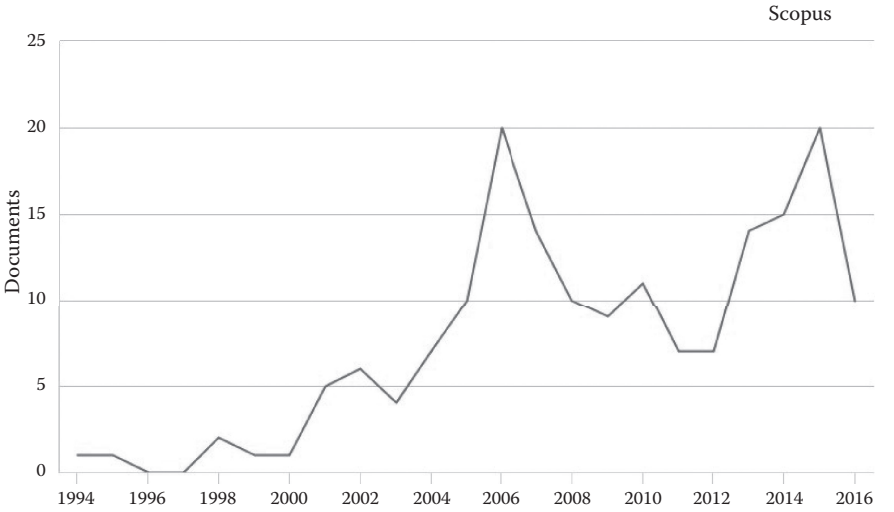

Figure 12.1 Scopus-indexed publications related to U.S. News university rankings. (From Elsevier, http://www.scopus.com, Amsterdam. Copyright © 2016 Elsevier B. V. All rights reserved. Scopus® is a registered trademark of Elsevier B. V.)

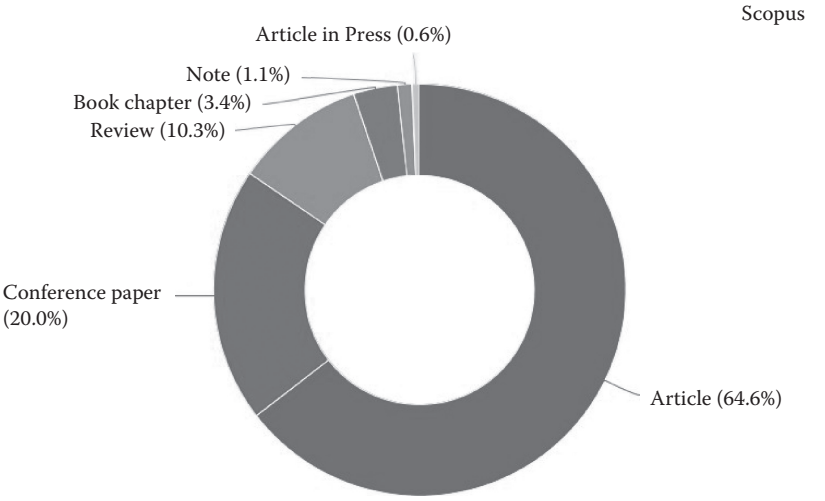

Figure 12.2 Publications related to U.S. News university rankings in Scopus by document type. (From Elsevier, http://www.scopus.com, Amsterdam. Copyright © 2016 Elsevier B. V. All rights reserved. Scopus® is a registered trademark of Elsevier B. V.)

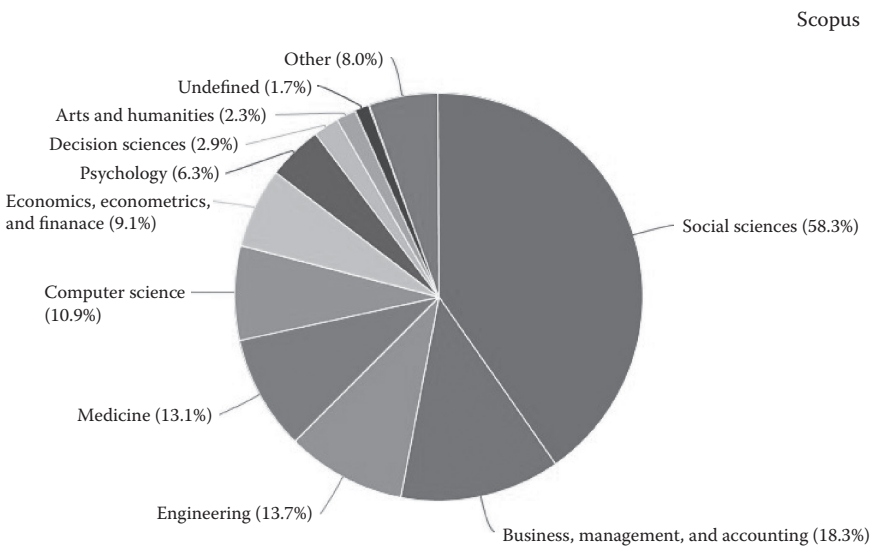

Figure 12.3 Distribution of Scopus disciplines in which U.S. News studies are published. Percentages do not sum to 100% because one article can be classified in more than one discipline. (From Elsevier, http://www.scopus.com, Amsterdam. Copyright © 2016 Elsevier B. V. All rights reserved. Scopus® is a registered trademark of Elsevier B. V.)

concerned with U.S. News rankings, involved in more than half of all publications on the topic. The third major finding is that education research is the key to understanding publishing tendencies on U.S. News university rankings. Looking at subcategories of social science, it is found that the education discipline is responsible for producing much of the research on U.S. News in conference papers. Education is a subcategory of social science that produces 24% of its publications in conference papers (Elsevier, 2016), and the source that has published the largest number of documents on U.S. News university rankings is the *American Society for Engineering Education* (ASEE) *Annual Conference and Exposition, Conference Proceedings* (marked by an asterisk in Figure 12.4).

Nine Scopus sources have published three or more articles related to U.S. News university rankings since 1994, seen in Figure 12.4, and seven of these nine sources are journals focused on education. Three of these specifically focus on higher education and two on engineering education. Law, medicine, social work, and marketing each feature one time as journal topics. There are 15 Scopus sources with two publications about U.S. News since 1994 and 95 sources with one publication about U.S. News in that time. In total, 120 Scopus sources have published 175 documents about U.S. News university rankings in the last 23 years.

U.S. News university rankings can be further understood through data at the country level, institutional level, and author level. The fourth finding is that

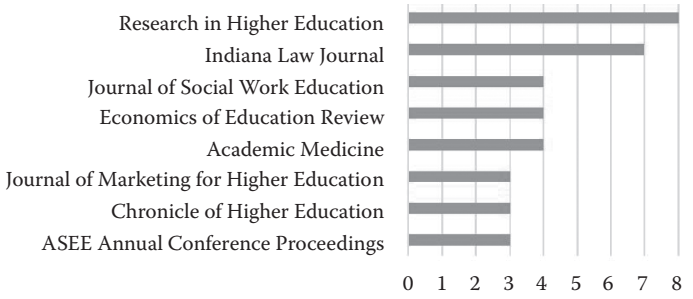

Figure 12.4 Scopus sources with the most publications related to U.S. News rankings.

research on U.S. News university rankings is highly concentrated by country. As determined by the address of the author's affiliation, the United States is the primary contributor of research on U.S. News university rankings. The United States produces 85% of the research in this review (148 documents). Scopus tracked a total of 13.7 million scientific documents between 2011 and 2015. Of these, the United States was responsible for 3.1 million, or 23%. The United States produces just 23% of all the world's research, but 85% of research on U.S. News university rankings. Despite the skew to the United States, Europe, Asia, and Africa also produce research on U.S. News university rankings. China is the second largest producer of research on U.S. News university rankings with eight documents, and the United Kingdom is third with three documents.

The fifth major finding is that the distribution of institutions publishing on U.S. News university rankings is flat and long; no school has more than six publications since 1994, and there are 160 institutions with at least one publication. The average number of publications for each institution in the survey since is 1.5, the median is 1, and the mode is 1. The institutions with the most publications in the survey tend to be large institutions with graduate schools and broad research output. The seven schools producing the most research on U.S. News university rankings are five state universities (University of Georgia, Pennsylvania State, Indiana University, University of Kansas–Lawrence, and Michigan State) and two Ivy League private schools (Cornell and Columbia). Pennsylvania State is also among the seven schools that produce the most education research in the world.

The sixth finding is that the distribution of authors is also flat and long and perhaps that scholar-administrators have more interest in the rankings than nonadministrators. There are 157 authors in total in the surveyed literature. Production is remarkably nonconcentrated: 80% of the publications are attributable to the top 75 percentiles of the author population. The modal author has contributed one paper on the topic; 51 authors, one-third of the total, have produced two or more papers on the subject. The most represented author is Michael J. Holosko of the

University of Georgia School of Social Work, who has six documents in the survey. Small collaborative teams are common. The average paper on the topic has 2.4 authors, and 70% of papers have at least two authors. The maximum number of authors on one publication is nine. There is some evidence to support the idea that research on rankings is mainly done by scholar-administrators. Two of the six authors with the most publications in the survey are deans: Andrew P. Morriss is dean of Texas A&M University School of Law, and Michael C. Roberts is dean of Graduate Studies at Kansas University.

The seventh finding is that 1,106 Scopus-indexed documents have cited the 175 publications in this survey (including publications in the survey citing other publications in the survey). The first of these referencing documents was published in 2000, 6 years after the first research published on U.S. News university rankings. Citing documents are more likely to be articles (74%) than the documents that they are citing (recall from Figure 12.2 that 65% of the reviewed literature comes from journal articles). The citing documents represent the same subject disciplines as the cited documents, except for engineering, which is much less likely to cite work on U.S. News university rankings than it is to produce such work. *Research in Higher Education* and *Scientometrics* are the journals most likely to cite work about U.S. News university rankings; 19 articles from each of these journals have cited publications found in this survey.

What do the 175 reviewed articles say about U.S. News rankings? For one, they say that U.S. News university rankings have become a substantial topic of research. More specifically, index keywords are one tool available in Scopus to compare the contents of these documents. Index keywords are a set of keywords created by Scopus that are systematically assigned to documents based on their contents. Additionally, there is no limit to the number of index keywords that can be tagged to a document, making index keywords likely to repeat across documents and identify similar documents.

In the 175 surveyed documents, the most common index keyword is *United States*, with 51 appearances, showing the preponderant connection that U.S. News rankings have to U.S. schools and audiences. Judging by index keywords, the two most researched fields are medicine and engineering. The root term *medic* appears 82 times in the dataset. The root term *engineer* appears 60 times. A small number of studies concern law schools or business schools. Revealing the nature of rankings as a data analysis tool, *data* and *statistic* appear 22 and 13 times in the index keyword results.

Especially captivating to researchers are the psychological and sociological impacts of U.S. News university rankings. U.S. News has caused a rue for condensing the social psychological perception of universities to the numbers that represent their ranks. Many studies in the review have intellectual heritage in quantitative authority (Porter, 1995) and commensuration theory (Espeland & Stevens, 1998). Scientific research found that U.S. News university rankings changed the traditional ways that status was created and maintained among U.S. schools (Sauder, 2006).

U.S. News university rankings also affect application decisions made my students and admission decisions made by schools (Sauder & Lancaster, 2006). These effects are especially felt at the top of the ranking, where breaking into the top 50 and relatively improving within the top 25 correlate with more first-year applications in the following cycle (Bowman & Bastedo, 2009). Not only applications, but also socioeconomic and racial demographics of top universities may be impacted by changes in rank (Meredith, 2004). The ranking's impact is not limitless, however. Research found that ranking outcomes have little correlation with admission outcomes at historically black colleges and universities (Jones, 2016).

Scientometric research frequently relies on U.S. News as a way to establish a dataset of the best authors or schools (Forbes et al., 2016; Holosko et al., 2016). Whether the authority of U.S. News is contested or taken for granted, it cannot be denied that these rankings influence how the discussion on higher education is framed.

This is the impact of U.S. News university rankings: a research topic that did not exist 25 years ago now appears in almost 200 publications, and these have been cited in over 1,100 publications. The rankings are of interest to researchers in several disciplines from the social to the hard sciences. U.S. News university rankings are a common topic at conferences, where representatives from many universities meet, evaluate, and compare themselves to one another. The rankings are a shared phenomenon; by organizing institutions regardless of geography, mission, or history, the rankings make it harder for universities to exist in isolation from one another.

12.4 U.S. News Rankings Compared and Discussed

One recent study found that 49 institutions appear in the top 100 in each of the six major rankings (Shehatta & Mahmood, 2016). The study found even greater correlation between these six rankings within the top 200 schools. Despite somewhat similar outcomes, the rankings have important differences in terms of data, methodology, and branding, which are discussed here. The six main Scientometric university rankers are U.S. News, Times Higher Education (THE), QS, the Academic Ranking of World Universities (ARWU), U-Multirank, and the National Taiwan University Ranking (NTU).

Choice of data is an investment at an international ranking agency because it takes time to establish relationships with data providers and create efficient data integration processes. The main sources of global Bibliometric data are the Scopus database produced by Elsevier and the WoS database, which was traditionally produced by Thomson Reuters but was purchased in October 2016 by the Onex Corporation, of Canada, and Baring Private Equity Asia and transferred to a new company called Clarivate Analytics. Both of these databases track quality publication sources including academic journals, conferences, and books, among others,

and report all of the documents published by these sources. The exact selection of sources varies between the two databases and therefore changes the composition of the resulting datasets. Scopus indexes around 20,000 sources while WoS indexes around 13,000. U.S. News BGU ranking currently uses data collected in WoS, as does the ARWU, UMR, and the NTU ranking. THE used WoS until the end of 2014, when it switched its data provider to Scopus (THE, 2014). QS also uses data from Scopus.

Rankers have a range of possibilities in setting their methodologies. Different indicators can be included, and different weighting schemes can be applied to the indicators. U.S. News BGU uses two reputation indicators and 10 Bibliometric indicators. THE uses 13 indicators broken into five categories: teaching, research, citations, international outlook, and industry income; the first two categories (teaching and research) each have one reputation-based indicator. ARWU uses just six indicators, none of them based on reputation surveys. UMR uses over 100 indicators which can be combined in numerous ways to compare universities that are similar in selected dimensions; some of these indicators are based on surveys of students. NTU uses eight Bibliometric indicators and none based on reputation surveys.

Indicators unique to U.S. News BGU include number and percentage of a university's publications in the top 1% of the most cited publications. These give an intentional and large boost to a very elite set of research. Additionally, U.S. News BGU is the only ranking to use a regional research reputation indicator. In this indicator, respondents can only opine on programs in their same geographic region, per United Nations geographic definitions. The effect of this mandatory regional filter is to increase international diversity of the final results.

As a result of different branding, each ranking reaches different audiences. Scopus-indexed documents written on the various rankings reveal how widely each ranking has reached the scientific audience. U.S. News has by far the greatest measurable impact in the scientific community. Table 12.1 shows Scopus queries for major rankings and their returned relevant documents. U.S. News university rankings are relevant in 2.5 times more documents than their major ranking peers. U.S. News is relevant in 175 Scopus documents, while the ARWU, THE rankings, and QS rankings are each relevant in around 70 documents since 1994. Minor players UMR and the NTU rank both make around five appearances in scientific literature. Often, several rankings feature together in the same document.

Geography is another part of branding. Despite the fact that universities from the U.S. occupy most top positions in all university rankings, most rankings are not produced in the United States. U.S. News is the only Scientometric global university ranking produced in the United States, and its geography is inherent in its brand name. THE and QS are produced in England. The ARWU is produced in Shanghai, China, and is sometimes called the Shanghai Ranking, synonymous with its geographical origin. UMR is produced as an initiative of the European Commission with leading partners in Germany and the Netherlands, and the NTU rank is obviously produced in Taiwan.

Table 12.1 University Rankings Represented in Scientific Literature

Scopus Advanced Search Query	*Relevant Documents*
(TITLE-ABS-KEY ("U.S. NEWS") OR TITLE-ABS-KEY ("US NEWS")) AND TITLE-ABS-KEY (RANK*))	175
(TITLE-ABS-KEY ("Academic Ranking of World Universities")OR TITLE-ABS-KEY ("ARWU"))	75
(TITLE-ABS-KEY ("Times Higher Education") AND TITLE-ABS-KEY (rank*))	73
(TITLE-ABS-KEY ("QS") OR TITLE-ABS-KEY ("Quacquarelli Symonds") AND TITLE-ABS-KEY (rank*))	71
TITLE-ABS-KEY ("U-Multirank")	6
(TITLE-ABS-KEY ("National Taiwan University") ORTITLE-ABS-KEY ("NTU") AND TITLE-ABS-KEY (rank*))	4

Arbitrary differences in data, methodology, and branding make each ranking slightly different. This adds richness to the comparison of rankings. It also should ideally capture the wide diversity inherent in the universities that are being ranked. Hopefully, only the rankings that can offer the most useful perspective on global higher education will continue to appear in scientific literature and the public consciousness.

12.5 Future Directions for U.S. News and University Rankings

Major forces changing rankings come from readers, competitors, and technology. U.S. News launched BGU in 2015, signaling new priorities in international rankings and Bibliometric data analysis. U.S. News has updated the BGU methodology each year from 2015 to 2017, giving further clues to its future direction. For 2017, U.S. News dropped two indicators related to teaching from the methodology and added two indicators related to citations. The two dropped indicators had measured the number of PhDs awarded and the number of PhDs awarded per academic staff member. In their place, the number of highly cited papers (the top 1% in their field) and proportion of all papers that are highly cited were added. This changes the way that the real world is represented to the readers by shifting the ranking's focus. It is an example of U.S. News's pivot toward Bibliometric data.

Readers are increasingly moving from printed media to digital online media. The trend to online material has the potential to widen the geographical base of

readers. Although it is not public information, many of U.S. News's 20 million monthly online readers must come from outside of the United States. U.S. News is better positioned to serve these readers by including their local institutions in the BGU ranking. As international travel and communication become easier, U.S. News is also serving a U.S. audience that wants to attend foreign universities. U.S. News has expanded the scope of BGU, moving from 500 ranked universities in 2015 to 1,000 in 2017. All of this has the potential to expand U.S. News's relevance to more readers.

University rankers compete for readers, event attendance, and advertising dollars. To differentiate itself, U.S. News states in its 2017 BGU methodology that it is the only ranker to use a regional research reputation indicator, which has "the effect of significantly increasing the international diversity of the rankings, since it focused on measuring academics' opinions of other universities within their region" (Morse et al., 2016). Other ranking agencies, however, have made regional presence felt by hosting regional summits attended by university directors. THE and QS both host summits around the globe that focus on regional issues, topics in higher education, and their own rankings. These events are marketed to university leaders. Rankers compete for the favor and trust of university administrators, who are looking for accurate and complete measurements of their own performance. These allegiances shake out in advertising dollars. Ranker websites and printed materials are covered with advertisements for universities from around the globe, and universities spend large sums of money to host THE and QS events. Competition may persuade U.S. News to host summits like some of its peers.

Add technological change to the mix. Data are cheaper and easier than ever to store and analyze. This is the major force behind the rise of Scientometric rankings. The world wide web was not a practical tool in the 1980s when U.S. News began ranking universities; it thus mailed surveys to individual influential leaders. Today, U.S. News pulls data on millions of published documents from the Internet and can easily calculate sums and averages across schools, subject areas, and geographical regions. BGU is almost entirely based on publication data, with just two reputational survey components. America's Best Colleges ranking of schools within the United States, however, is still full of self-reported indicators collected from each school, such as Alumni Giving Rate, and performance data available from the government or other bodies, such as Faculty Resources. The future direction for America's Best Colleges could be the inclusion of more Bibliometrics. The data supplier for U.S. News rankings, Thomson Reuters IP & Science, was recently purchased and spun off into Clarivate Analytics. Changes to the data products or simple uncertainty could potentially provoke U.S. News to change its data source.

Technology is also changing higher education through massive open online courses (MOOCs), and rankings have yet to take notice. A university's online educational offering is part of that institution's overall brand, impact, and expertise. No major ranking yet includes indicators such as number of MOOCs offered, students enrolled in MOOCs, or rating of MOOCs by users. Scientometrics currently

used in global university rankings mostly measure research because publication and citation data are widely available and comparable. MOOCs inherently generate different, and probably more, data than a traditional physical classroom. All of this could create the next wave of Scientometrics around teaching. Given that major MOOC platforms such as Coursera, EdX, Udacity, and others are from the United States, U.S. News may have a local advantage to first collect data from these organizations and incorporate MOOC indicators into rankings.

Many future directions are possible; some of the most feasible based on the history and current position of U.S. News were presented in this section. The first university ranker has to prove itself again on the international stage, where rankers from Europe and Asia have more experience. The increased presence of Data Analytics in the world and the increased presence of Bibliometrics within U.S. News BGU rankings are trends to watch. Launching a global ranking and incorporating publication and citation data are U.S. News's most significant pivots in the last 3 years. U.S. News has twice the representation of other rankings in scientific literature. U.S. News university rankings are often studied in education research in conference papers. They are a main or relevant topic in 175 Scopus documents since 1994, and these documents have been cited in 1,106 Scopus documents. Scientific investigation has shown that U.S. News rankings impact applications, admissions, and status. It remains to be seen if this influence grows or diminishes over time. Ranking agencies such as U.S. News have influenced higher education for over 30 years, and there should be new developments aimed to continue their impact in the coming years.

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