Chapter 7
Competing in the knowledge society

Traditional Ainu dance
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Competing in the knowledge society

Chapter presentation

Over the past decades, the growing importance of higher education and research as drivers of economic growth has led to an increase in international competition between countries, institutions and researchers. This chapter deals with the ranking of universities, the assessment of research and its role in project funding, the various ways in which different interest groups have responded to these, and generally, how international competition takes shape. Of particular interest is the divide between those countries, organizations and researchers that can compete at a global level and those that either do not have the abilities and resources to do so, or whose mission is more oriented to the local level.

The chapter begins by discussing the relatively recent phenomenon of the international ranking of universities, its problems, effects and likely future development. Besides cross-national rankings, various national governments and continental bodies have also set up more multifaceted research assessments and other approaches to the evaluation of research in the social sciences. Rankings and other assessment exercises are associated with efforts to improve research performance and quality as well as to guide the allocation of resources. In part because of the latter function, they have both proponents and opponents among scientists and representatives of academic institutions. An assessment that does justice to all universities would probably take into account the social and educational conditions in which these organizations operate and the diversity of missions that universities have. Research councils can adopt various approaches to the allocation of funding in the social sciences. Examples of the evaluation mechanisms used in these allocations, their benefits and limitations are discussed. The final section of this chapter consists of four papers dealing with the agenda-setting strategies of national funding agencies. Funding is central to intellectual advancement both in terms of individual careers and for the furthering of social scientific knowledge. It is therefore no small matter how research funding is allocated.

Rankings, research assessment exercises, resource allocation mechanisms and the other elements of the research system in which evaluation plays a role are based on two methodological approaches. The first consists of various forms of peer review, the appraisal of proposals, outcomes and organizations by other experts. The second involves metrics-based evaluations to which exercises using international bibliometric databases are central. Both types of evaluation have important limitations, some of which are specific to the social sciences; this is highlighted in various contributions. Rather than using one of these approaches in isolation, the best strategy seems to be for qualified experts to use a combination of both types; that is, both the quantitative type of evaluation and the more qualitative, peer-review process.☺

7.1 Global rankings

Introduction

In recent years, international rankings of universities have become a prominent feature of competition between research systems and research organizations. The first of these rankings was originally commissioned by the Chinese Government as a way to benchmark its own research universities in order to pursue its aim of developing 'world-class universities'. The publication of the Shanghai Jiao Tong University Rankings (SJTUIHE), however, had a worldwide impact, and other rankings followed (Erkkilä and Kauppi, Sanz-Menéndez and de Moya-Anegón).

The methodologies adopted to arrive at these rankings are controversial, to say the least, as all the authors in this section highlight. In spite of the many conceptual, methodological and technical problems with the ranking of universities, they have become popular and thus deserve to be taken seriously. Examining the problems, as the authors in this section do, is therefore crucial for both refining the rankings, and ongoing attempts to attain excellence in diverse settings and with unequal resources.

The ranking of measurable research performance, and thus the number of publications and citations, forms a large, or in some cases the exclusive, element of these approaches to university ranking. This approach has several important advantages. The indicators it generates are quantifiable and verifiable, which gives them some claim to objectivity. Furthermore they draw indirectly on the professional opinion that members of the global scientific community have of the knowledge claims published by researchers in each organization. However, the focus on international peer-reviewed journal articles rather than on other scientific output such as monographs tends towards an underestimation of university performance in the social sciences in comparison with the natural and medical sciences (van Raan and Erkkilä and Kauppi). To some extent, this problem can be addressed by ranking universities by scientific field: all three rankings mentioned in the articles now have a separate ranking for social sciences, which differ by the indicators used. Significant weight is attached to the number of researchers having received a Nobel Prize in economics in the Shanghai Jiao Tong ranking, high importance is attached to opinion polls ('peer review') in the *Times Higher Education Supplement* ranking, and publication and citation data are the sole indicators used in the Scimago ranking (Sanz-Menéndez and de Moya-Anegón). None of these address the non-inclusion of non-journal outputs in the analysis.

Another point of criticism concerns the reduction of a university's many complex functions into a single, measurable indicator. Such a single indicator increases the rankings' attractiveness to students, policy-makers and the media, but does not do justice to the complex and diverse nature of universities. In this respect it is interesting to refer to Japan, which has a long tradition of ranking its universities across a wide variety of indicators (Kodama and Yonezawa, 2009). In Europe the CHE Excellence Ranking compares the master's and doctoral programmes of a selected group of European universities across various indicators for several subjects including political science, psychology and economics. Such multi-faceted approaches may be less controversial than the search for a simple one-dimensional indicator of quality.

The existing rankings can have several potentially adverse consequences for social sciences and humanities research.

One is to put pressure on universities to resemble the model of research universities at the expense of other functions, such as teaching, which universities also do and in which some are more specialized than others. Further, the attraction of highly ranked universities for students and teachers, as well as policy-makers' concentration of resources on a few elite universities that can compete in these rankings, may lead to an erosion of the higher education and research landscape. Nor does everyone agree that an over-emphasis on publications in international peer-reviewed journals included in the major citation indices, at the expense of other journals, monographs, doctoral theses and multi-authored books, is good for social sciences and humanities research.

Especially in developing countries, but also in Europe, most universities cannot hope to compete on the measures involved in these international rankings. Saleem Badat argues that they should not try to. This does not mean that the evaluation of university performance is of little value, because evaluations and benchmarking can be a central part of a strategy to improve quality. It is important, however, to adopt conceptual, methodological and technical tools and approaches which are suitable for the social sciences and humanities and the varied and different functions of universities.

However, the international ranking of universities is a reality which is likely to remain and multiply, and students, academics, university administrators and policy-makers do react to it. Considering the importance attached to rankings, several new actors are considering entering this market with alternative indicators for particular sets of disciplines, for teaching and learning and for third-mission activities. This includes university groups and newspapers, but also actors such as the European Commission. The authors in this section emphasize the prominence of world rankings, but also suggest ways of improving on them. This is crucial because the global hierarchies and norms established through them bring about significant shifts in national policies and the higher education landscape generally.☻

The social sciences and the ranking of universities

Anthony F. J. van Raan

During the last few years, rankings of universities, though controversial, have become increasingly popular. The rankings published by Jiao Tong University in Shanghai and those published by the *Times Higher Education Supplement* have attracted the attention of policy-makers, the scientific world and the public media. In these rankings, the emphasis is largely or even wholly on research performance. Consequently, the number of publications and other bibliometric elements, such as citations, play an important or even decisive role.

The number of social science publications in international journals is much lower than those for the natural sciences and medicine. Thus, the natural sciences and the medical fields dominate university rankings, while the strength of universities' social sciences scarcely contributes to their ranking position. Smaller universities, particularly those with an emphasis on social sciences, will have a better position as a result of the *Times Higher Education Supplement* (THES) ranking's peer-review element than in the more bibliometrically oriented and size-dependent Shanghai ranking. A striking example is the difference in the London School of Economics' position: a top position in the THES ranking and a low position in the Shanghai ranking.

Generally, social science research has a strong international orientation, but national orientation may play a more important role than it does in the medical and natural science fields (Kyvik and Larsen, 1994; Moed, 2005). There are considerable differences in the research and communication cultures between the medical and natural science fields, on the one hand, and the social sciences on the other. An exception is psychology, in which communication practices are similar to those in the exact sciences. In the social sciences, there is often less consensus on what constitutes successful scientific approaches. This may be an important conceptual issue: in the social sciences, the meaning of citations may differ from that in the medical and natural science fields. Publication practices in the social sciences are less standardized than those in the medical and natural science fields. International peer-reviewed journals are less important than in the exact sciences; the written scholarly communication system's structure often does not show a clear core–periphery structure; and English is not always a dominant language. Journals may even be multilingual.

What are the consequences of the ranking of universities for the social sciences (and for the engineering fields and the humanities)? Van Raan (2005) provides a comprehensive discussion of the conceptual, methodological and technical problems with the ranking of universities. The main points are that in the social sciences, the number of citations is generally an order of magnitude lower than in the medical and natural science fields, which complicates the statistical problems. And most social sciences need a considerably longer citation window (for example, counting citations up to five or six years after publication) than the natural sciences and medical fields (mostly four years).

Monographs, doctoral theses and multi-authored books are undoubtedly important sources of written communication in many fields of the social sciences. They should not be omitted from any assessment of social science research performance (Moed, 2005). However, bibliometric analyses usually only take citations from publications in journals covered by the Web of Science (WoS) or Scopus's citation index into account. Nevertheless, non-WoS or non-Scopus publications can be cited quite widely in articles in WoS- or Scopus-covered journals. Moreover, it is possible to determine the citation impact of non-WoS or non-Scopus publications, specifically books and book chapters, with appropriate analytical algorithms. Furthermore, comparison with a European benchmark is an effective means of coping with a possible US bias in the WoS or Scopus.

Besides WoS and Scopus, Google Scholar is becoming increasingly important as a source of citation data. Field-specific databases, such as ECONLIT, Psychological Abstracts and Sociological Abstracts, can also be used for output analyses. However, these databases have several properties that make them less suitable for calculating bibliometric indicators:

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■ None of the major field-specific databases systematically include cited references.

■ The criteria for selecting sources may be unclear.

■ The databases may have strong national or geographical biases.

■ A considerable percentage of the processed documents do not mention the authors' institutional affiliations.

■ The database producers may not include addresses in the database even if they are mentioned.

■ Important data elements – even journal titles and country names – may not be standardized.

■ Many databases are only available through host computers that offer only limited counting and statistical facilities.

■ The use of these databases may be expensive.

A new and important development is the creation of national or university research databases in which publications in all fields of sciences, including the social sciences, are covered on the basis of field-specific quality criteria, regardless of whether a publication is covered by WoS or Scopus, and regardless of the document type. An important example of this development is FRIDA, a comprehensive bibliographical database for all scientific publications by Norwegian research institutions (FRIDA, 2008).☻

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Alternatives to existing international rankings

Tero Erkkilä and Niilo Kauppi

Ranking lists have turned into customary policy instruments for global governance in higher education. Despite their limitations, they serve as a basis for a number of significant higher education reforms. The European Commission's plan to challenge existing league lists by creating an alternative, multidimensional tool for the evaluation of world universities is an attempt to introduce new assessment criteria into this high-stakes global competition.

In the field of higher education, single league tables provide their users (administrators, students, politicians, journalists) with objectified information in a rapidly growing international student market. Existing ranking systems represent key tools for higher education reform.[1] For administrators and politicians, the quantitative social scientific information provided by these lists has become an indispensable part of policy planning (see for instance Harvey, 2008). As tools of symbolic power, ranking lists reinforce preconceived ideas for some users, while for others, they present a certain state of affairs as being inevitable, shaping reality in the field of higher education.

Two major university rankings (see Table 7.1) are published by the Shanghai Jiao Tong University Institute of Higher Education (SJTUIHE) and in a British magazine, *Times Higher Education* (*THE*) (formerly a newspaper, the *Times Higher Education Supplement*, *THES*). Jiao Tong has been producing an institutional ranking on a yearly basis since 2003. In February 2007 it published a ranking that covered five disciplinary fields. This ranking focuses on 'measurable research performance' (Liu and Cheng, 2005, p. 133). It is particularly favourable to universities in English-speaking countries: they represented 71 per cent of the world's top 100 universities in 2006. US-based institutions alone occupy seventeen of the world's twenty top-ranking universities.

The first *THES* ranking entitled *World University Rankings* was published in 2004. One of the driving forces behind

1. In the USA, evaluations of graduate programmes started already in the 1920s and a ranking of US colleges was published from 1983. The university rankings made their way to the UK in the 1990s. The rankings became internationally policy relevant in the 2000s, due to the marketization of higher education and increased mobility of students (Harvey, 2008: 187–88).

TABLE 7.1 > The assessment criteria used in the Shanghai Jiao Tong University Ranking and the *Times Higher Education Supplement Ranking*, 2007

Shanghai Jiao Tong University ranking (2007)[1]		
Criteria	Indicator	Weight
Quality of education	Number of alumni having won Nobel Prizes and Fields Medals	10%
Quality of faculty	Number of staff having won Nobel Prizes and Fields Medals	20%
	Highly cited researchers[2]	20%
Research output	Articles published in *Nature* and *Science*	20%
	Articles in Science Citation Index-Expanded and Social Science Citation Index	20%
Academic performance	Academic performance with respect to the size of an institution[3]	10%

Times Higher Education Supplement ranking (2007)[4]		
Criteria	Indicator	Weight
Research quality	Academic opinion: peer review[5]	40%
	Publications and citations per research staff	20%
Graduate employability	Recruiter review: employers' opinion[6]	10%
International outlook	Percentage of international staff	5%
	Percentage of international students	5%
Teaching quality	Faculty staff: student ratio	20%

Notes: 1. Academic Ranking of World Universities, Graduate School of Education, Shanghai Jiao Tong University (http://www.arwu.org). 2. Assessed in twenty-one subject categories. 3. Academic performance is composed of the sum of the weighted scores of the other five indicators (quality of education, quality of faculty and research output) divided by the number of full-time equivalent academic staff (see Saisana and D'Hombres, 2008: 20). 4. *Times Higher Education* (http://www.timeshighereducation.co.uk). 5. Sample of 5,101 respondents (2007). 6. Sample of 1,471 respondents (2007).
Source: Saisana and D'Hombres (2008, pp. 19–21).

the establishment of the league table was a perceived rising demand, in the UK and globally, for advice on higher education (Jobbins, 2005, p. 137). In contrast with the Shanghai ranking, the *THE* composite index partly rests on present reputation, thereby reproducing established global reputational hierarchies (Marginson, 2009b). Both the Shanghai and *THE* lists create a similar global order, in which US universities tend to do well. In the *THE* ranking, UK and Australian universities fare better than in the Shanghai ranking. Continental European universities are badly positioned in both university league tables.

These ranking lists, reproduced by a variety of think-tanks, present similar recipes for success in higher education: 'autonomization' of universities, concentration of resources through the creation of poles of excellence, and greater funding for certain types of research through R&D investment. This recipe has been extensively integrated into reforms of higher education. The single league table presents a clear, 'objective' order, a goal to emulate, and the means to attain this goal – all in the same package.

Problems and limitations of existing rankings

THE and Shanghai rank the top-rated universities consistently, but their overall correlation is only moderate ($r \leq 0.58$) (Saisana and D'Hombres, 2008, p. 11). Several scholars have criticized their dependence on bibliometric methods (for example van Raan, 2005). Rankings do not assess the research that is done in research institutes; they fail to appreciate, for instance, top research in such centres in Germany and France. Furthermore, they do not take into account the resources and institutional designs that are available for successful organizations. Rather, they impose the norms of leading research universities on the rest (Kivinen and Hedman, 2008). Counting the Nobel Prizes awarded to an institution (as in the Shanghai index) is also problematic since Nobel Prize laureates continue to influence their university's results even after their retirement. A large share of the *THE* ranking rests on an opinion-based peer review, lacking thorough assessment.[2] Although a major user group of the *THE* ranking system is students seeking a place to study, it offers very little information on the quality of teaching.

The ranking lists present a number of additional problems. One central shortcoming is their institutional approach: they measure universities without taking into account

the variations between disciplines, let alone assessing the research by discipline. Furthermore, the information is presented as a fact and not as the result of a choice in terms of what to measure and how (Marginson, 2007, p. 139). Last but not least, the academic community have been passive in observing their profession's assessment, leading to calls for greater involvement on their behalf (Usher and Savino, 2007).

Despite these shortcomings, university rankings have become part of the global higher education landscape. The figures have contributed to the creation of a new 'status economy', which sets policies in higher education and innovation (Marginson, 2009a). Global hierarchies and norms are now reproduced, fought over and legitimized by a variety of research institutions specializing in the production of information on these hierarchies, and funded by nation-states or media corporations. Due to their global coverage and high visibility, these lists are causing significant shifts in national policies following a similar policy script. Sharing key causal beliefs and normative views, these symbolic power tools portray the world in a uniform manner. In so doing, their political nature is hidden. The figures produced and the perceptions of competition that they communicate tend to lock policy actors in an iron cage, leaving little room for policy alternatives (Erkkilä and Piironen, 2009).

The European Commission and the higher education rankings

In 2008, the European Commission declared that it would create an alternative European ranking list of world universities that would 'do justice'[3] to European universities. As a political actor with considerable organizational resources when compared with universities or specialized publications, the Commission entered the field of global higher education by attempting to transform its structure and criteria. This move can be understood in a context of escalating global competition in higher education, a competition over prestige that has a considerable impact on future economic development.

The Commission's strategy reveals the dualistic nature of struggles over classification. An internal competition occurs between figures and what they are supposed to reflect. Since European universities rank relatively poorly in all existing rankings, proposing minor changes to existing ranking lists was not an option for the European Commission. A second, far more radical solution was to introduce a new global assessment of higher education.

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2. The notion of peer review is therefore downright misleading. Instead of a thorough investigation into the quality of research and teaching of a single institution, an opinion suffices to evaluate quality.

3. According to the Director General of Education in the European Commission, Odile Quintin (quoted in Dubouloz, 2008, p. 1).

This strategy will be successful only if the European Commission can succeed in delegitimizing existing ranking lists by producing credible alternative information.

The European Commission plans to create a new type of knowledge construct, a 'mapping' of certain key qualities in higher education that would include teaching and research, as well as elite and mass-commercial institutions (European Commission, 2008). Following the conclusions of the Berlin Principles on Ranking of Higher Education Institutions (produced by a group of mainly US and European experts in 2004), the aim was to produce a new 'fairer' ranking system to replace the existing league tables.[4] The winning bid for the European Commission's open call for tender for the creation of a multidimensional global university ranking came from the CHERPA-Network consortium, a consortium which is headed by the Centre for Higher Education Policy Studies of Twente University (Netherlands) and the German Zentrum für Hochschulentwicklung (Centre for Higher Education Development).[5] The basic framework should be operational in the course of 2010. During the pilot phase it will cover two disciplines (business studies and engineering) with a sample of some 150 (both European and non-European) universities, before being expanded to the social sciences as well.

In 2009, at least three overlapping Commission initiatives could be identified in the domain of higher education rankings, indicating the issue's growing politicization.[6]

4. Berlin Principles on Ranking of Higher Education Institutions (http://www.che.de/downloads/Berlin_Principles_IREG_534.pdf).
5. CHE (http://www.che.de).
6. In June 2008, the European Commission appointed an Expert Group on Assessment of University Based Research. Later the same year, during the rotating French presidency of the European Union, a project on design and testing of the feasibility of a Multi-dimensional Global University Ranking was launched. Along with these initiatives, there is ongoing work for profiling and classifying institutions of higher education.

The Commission also participates in the OECD's AHELO initiative, whose purpose is to assess higher education learning outcomes.[7] What is remarkable about these different initiatives is a constant opposition to an accumulated figure, a single ranking number, such as the existing university rankings produce.[8] Ironically, however, in order for the criticism to gain in credibility, the Commission and other actors had to engage in the same venture of creating numerical information on university education and research. In so doing, they stepped into a trap typical of most struggles with classification, that of reducing a highly complex and contentious policy field (higher education) into a data set, albeit a more sophisticated one.

Conclusions

Public policy instruments such as ranking lists have the power to create reality. The global higher education map is different today from its shape prior to the creation of the 2003 Shanghai ranking of world universities. This global map has become more structured and ranking lists have turned into customary policy instruments for global governance in higher education. Despite their limitations, they have served and continue to serve as a basis for a number of significant higher education reforms. The European Commission's plan to challenge existing league lists by creating an alternative, multidimensional tool for the evaluation of world universities is an attempt to introduce new assessment criteria into this high-stakes global competition. It remains to be seen how successful this new ranking instrument will be. What is certain is that the actors involved in higher education assessment are gripped by a specific logic of knowledge production: numbers can only be challenged by more numbers produced by social science specialists.◡

7. OECD, AHELO (http://www.oecd.org/edu/ahelo).
8. In particular, the OECD's AHELO is explicitly critical of the rankings in higher education.

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A new industry: university rankings in the social sciences

Luis Sanz-Menéndez and Felix de Moya-Anegón

Despite objections and limitations, rankings – once disseminated – become taken for granted, and transform the environments of institutions by influencing their reputations. While rankings are no substitute for peer review or other types of assessments, they have become signals of quality in a global environment, and universities themselves are interested in being well ranked.

This paper discusses the impact of global rankings and compares two of these rankings – *Time Higher Education*'s (*THE*) *QS World University Rankings 2008* and the Scimago Institutional Ranking (SIR) in social science.

While rankings are popular with governments and the media, they are regarded as poor performance measures by most university administrators. Despite objections and limitations, rankings – once disseminated – become taken for granted, and transform the environments of institutions by influencing their reputations. While rankings are no substitute for peer review or other types of assessments, they have become signals of quality in a global environment, and universities themselves are interested in being well ranked.

Before the proliferation of rankings, institutions of tertiary education followed different procedures to position themselves in national and international markets and status systems. Institutional reputation depended on the opinions of professionals and recognized academics; status systems were based on a non-systematic aggregation of reputation and credit.

Status is a positional good that is necessarily comparative, relative and reciprocal. Comparisons build a status system that has symbolic value for organizations. In higher education and research, quality comparisons are a central measurement criterion, as information about reputation, productivity and performance is difficult to observe, measure and interpret in these contexts (Sauder and Espeland, 2009).

Rankings make status explicit and have several effects. First, they create a formal hierarchy. Second, by making status judgements public, rankings have caused institutions to become sensitive about their positions. Third, by imposing a shared metric, rankings help create or unify the organizational field (either in higher education or research) and produce isomorphic pressures. Finally, rankings also have the effect of creating 'good' and 'bad' reputation labels. This limits universities' and institutions' ability to build a reputation based on values or criteria other than those used to construct rankings. This is because assessment by third parties is more credible than self-assessment. There is evidence (Sauder and Lancaster, 2006) that the introduction of institutional rankings alters the structure of a status system and even the system's values and measures.

All measurement systems have problems and advantages. We next compare two different approaches to university rankings in the social sciences.

THE presents a 'multi-faceted' view of the relative strengths of the world's leading universities on its ranking list. It compares universities relatively by using a formula that combines six primary measurements of university quality:
- academic peer review (40 per cent)
- employer review (10 per cent)
- faculty/student ratio (20 per cent)
- citations per faculty (20 per cent)
- international faculty (5 per cent)
- international students (5 per cent).

THE has been criticized for its failure to take into account many of the attributes that constitute a university's quality and for the quality of its data collection. Additionally, the ranking's instability results from the effects of weightings and normalization, and especially from the peer-review survey.

THE includes 300 universities active in social sciences worldwide. The single classification criterion seems to be

'academic peer review'; the 'popularity' results are derived from a survey of 6,000 'experts'. Experts declare subject categories and specific subject competences for the survey.

The Scimago research group has produced an Institutional Ranking (SIR) using Scopus[1] publication data from 2003 to 2007. These data can be ordered by total output as well as by citations and citations per paper, and can be applied to the world as well as to regions and countries. A total of 2,000 institutions have been ranked, of which more than 1,800 are active in the social and economic sciences.

Owing to the journal coverage in the databases, general methodological problems arise such as biases towards countries, institutions and disciplines. There are a US bias in citation data, lower representation of languages other than English (van Raan, 2005), and limits to the use of

bibliometric indicators in the social sciences (for example, Archambault and Larivière, in this Report; Clemens et al., 1995; Hicks, 1999; Nederhof, 2006).

While bibliometric methods lead to some problems and their use for research quality evaluation has been criticized (especially if they are decoupled from traditional peer review), they have, in comparison with a survey-based approach, the advantage of managing very large numbers and events (of publications and citations) to allow the visibility of small institutions.

Bibliometric rankings involve problems of production and usage. Responsible production entails solving technical problems such as matching citations with publications, normalizing institutions or affiliation-related problems. But 'popularity' rankings, especially in disciplines that still

TABLE 7.2 > *THE-QS World University Ranking 2008* (social sciences) SIR – Scimago Institutions Ranking 2003–2007 (social sciences)

THE rank	Institution	SIRR rank	Institution
1	Harvard University	1	Harvard University
2	University of California, Berkeley	2	University of California, Berkeley
3	Stanford University	3	University of Pennsylvania
4	London School of Economics and Political Sciences (LSE)	4	University of California, Los Angeles (UCLA)
5	University of Cambridge	5	University of London (includes LSE)
6	University of Oxford	6	University of Illinois, Urbana-Champaign
7	Yale University	7	University of Michigan, Ann Arbor
8	University of Chicago	8	New York University
9	Princeton University	9	University of Washington
10	Massachusetts Institute of Technology (MIT)	10	University of British Columbia
11	Columbia University	11	University of North Carolina, Chapel Hill
12	University of British Columbia	12	University of Toronto
13	University of California, Los Angeles (UCLA)	13	University of Maryland, College Park
14	McGill University	14	University of Wisconsin, Madison
15	Australian National University	15	University of Minnesota
16	University of Toronto	16	University of Oxford
17	Cornell University	17	University of Chicago
18	National University of Singapore (NUS)	18	Cornell University
19	University of Melbourne	19	University of Manchester
20	University of Michigan	20	Universiteit van Amsterdam

Source: QS Quacquarelli Symonds Copyright © 2004-2008 QS Quacquarelli Symonds Ltd. http://www.topuniversities.com.dev.quaqs.com/worlduniversityrankings/results/2008/subject_rankings/social_sciences

Source: Scimago Research Group, Copyright 2009. Data Source: Scopus® http://www.scimagoir.com

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have a relevant local context, need clearer definitions of the respondents' universe, improved sampling procedures and specific data-collection exercises.

There is a significant difference between SIR's emphasis on scientific outputs and *THE*'s emphasis on 'popularity' within the academic community. Despite these diverse methodologies, however, some institutions appear among the top twenty in both rankings.

Both rankings show an overwhelming presence of Anglo-Saxon institutions. Communication in English as the lingua franca provides an advantage in terms of international visibility. But there are differences in the geographical breakdown of institutions: while *THE* has mostly US, Canadian and Australian institutions at the top, SIR has more North American and European ones.

Additionally, SIR offers quality indicators (such as citations per paper) to complement the output indicator. In this case, the universities of Michigan, Harvard and UCLA appear at the top, alongside Stanford and Columbia, which did not appear among the top twenty for total volume.

Combining the methods used by both rankings – for example, surveying the world's top researchers according to publications and citations – will probably improve the reputation of the measures' quality, even though they will continue to have serious limits as globally valid measures.

For the time being, a proper combination of scientific output and quality indicators – which SIR allows the user to do – can be a provisional solution to difficulties with representing institutions' research capacities. This provides the possibility of analysing better the positions of universities in different world regions in different status systems. Of course, caveats to the intelligent use of these rankings still apply (Weingart, 2005), especially regarding the social sciences, although the availability of data to compare performance has already changed status systems and the ways in which institutions see themselves.☻

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The world-class university and the global South

Saleem Badat

The global ranking of universities has come into prominence in the past few years. This paper analyses their value and what is at stake. It is argued that such rankings generate false perceptions and prejudice the global South, and that they should be replaced by alternative instruments that better serve educational and social purposes.

Global rankings

The Shanghai Jiao Tong University Institute of Higher Education (SJTUIHE) ranking has its genesis in the Chinese Government's quest to create 'world-class universities' as catalysts of development. The SJTUIHE ranking gives priority to six indicators for which data were available (Mohamedbhai, 2009).

The purpose of the *Times Higher Education*-Quacquarelli Symonds (*THE*-QS) ranking is 'to recognize universities as the multi-faceted organizations that they are, [and] to provide a global comparison of their success against the notional mission of remaining or becoming world-class' (*Times Higher Education*, 2007). It considers a mere six criteria to be pivotal for judging world-class (see Erkkilä and Kauppi in this Report).

Rankings: what value?

In order to establish their validity, university rankings need to be subjected to critical analysis in terms of their purposes, methodologies, and value to universities and society. I shall briefly address each in turn.

Regarding purposes, the SJTUIHE originated as an attempt to benchmark Chinese universities as a means of charting a trajectory for their development. However, SJTUIHE has become a global ranking of universities, despite being based on a narrow range of indicators which are wholly inadequate for measuring performance and quality in relation to diverse social and educational purposes, or a particular university's goals.

The *THE*'s precise purpose for generating a global league table of universities is opaque. Its discourse, however, is one of 'world esteem', with the world-class university representing the gold standard to which all universities should ostensibly aspire and according to which they should be measured. In the *THE* 'universe, higher education is primarily about reputation for its own sake, about the aristocratic prestige and power of the universities as an end in itself' (Marginson, 2007, pp. 138–39). The internationalization of the student body is valued less for enriching a university; instead, international students are a 'prized quarry' as 'universities are free to charge them whatever the market will bear' (*Times Higher Education*, 2007). Thus, 'it is not about teaching and only marginally about research'. Although it claims 'to recognise universities as multi-faceted organisations', the *THE*'s criteria are dubious as proxies for teaching and learning quality.

Methodologically, global rankings suffer from 'weaknesses in data collection and computation; the arbitrary criteria used in ranking; and the arbitrary weightings and standardization procedures used in combining different data sets into composite indexes' (Marginson, 2008a, p. 7). Such indexes 'undermine validity [as] it is dubious to combine different purposes and the corresponding data using arbitrary weightings. Links between purposes and data are lost' (Marginson, 2007, p. 139).

The indicators and their weighting privilege specific university activities, domains of knowledge production, research types, languages and university types. Thus, the natural and medical sciences are privileged over the arts, humanities and social sciences; articles published in English are favoured over those in other languages; journal articles are favoured over book chapters, policy reports and other studies. Furthermore, 'comprehensive' universities and generally larger institutions with a wide range of disciplines and larger numbers of academics – especially researchers – are privileged over others (Charon and Wauters, 2007). The rankings therefore enable the self-selection of universities

whose missions and academic offerings strongly match the rankings' performance measures.

What is at stake?

In terms of their methodologies, the SJTUIHE and *THE* rankings have little intrinsic value and serve no meaningful educational or social purpose. On the contrary, if they are not challenged, rankings and the assumed notion of the 'world-class university' as gold standard can have perverse and dangerous effects on universities in underdeveloped societies in the global South.

Modernization theory singled out Western capitalist societies as the apex of modernity and made 'catching up' with the West an ultimate development goal. With it came the view that underdeveloped societies' path to development lay in faithful adherence to the prescriptions of Western governments and Western-dominated multinational institutions, including the World Bank and the International Monetary Fund. Later on globalization and its supposed development benefits became the new goal.

If modernization theory depicts Western capitalist societies as the apex of modernity, global university rankings present the world-class university – essentially North American and European institutions – as the pinnacle and goal of all higher education development.

The value of uncritical mimicry of and 'catching up' with the so-called world-class university in order to further socio-economic development is questionable. It also cannot be assumed that creating world-class universities will in itself result in investment or development. Outstanding universities may be a necessary condition, but are not a sufficient condition of development. Many societies in the global South need to create favourable national environments for university work and for universities to contribute to society.

The SJTUIHE and *THE* rankings 'inculcate the idealized model of institution as a norm to be achieved and generalize the failure to achieve it' (Marginson, 2009b, pp. 13–14). The world-class university has until recently existed neither as a concept, nor as an empirical reality. Its status as the gold standard is the normative social construct of the rankers themselves.

The specific national conditions, realities and development challenges of societies in the global South, and the diversity of social and educational purposes and goals that

universities in these societies must serve, require national higher education systems characterized by differentiated and diverse institutions. Institutional differentiation and diversity are to be valued over homogeneity and isomorphism. It makes little sense for all universities to aspire to a common 'gold standard' irrespective of socio-economic needs, missions, goals, capacities and capabilities. Graham has argued that universities should avoid aspiring to 'ideal[s] which they cannot attain' (Graham, 2005, p. 157). Otherwise, 'no sense of worth will be forthcoming' and they can have no 'proper self-confidence' (p. 157). There are many conceptions and models of the university, and these have changed over time. Furthermore, according to Graham, the 'name "university" now applies to institutions with widely different functions and characters' (2005, p. 157), and this means that the 'ideals each can aspire to' will be different (p. 258).

Instead of valuing a horizontal continuum that recognizes the need for universities to have different and diverse missions, and which makes provision for universities that pursue various missions, the idea of the world-class university as 'the idealized model of institution' has the perverse effect of privileging a vertical hierarchy. Universities that do not feature in the top 500 of the SJTUIHE ranking or the top 200 of the *THE*-QS ranking are devalued and are – by implication – poor-quality, second rate or failures. In the face of continuing global North–South inequalities, the burden of such characterizations weighs disproportionately on universities in the global South.

The rankings criteria favour publishing in English-language journals, and in effect privilege the English language. Especially in the arts, humanities and social sciences, prioritizing research and publishing in order to improve ranking can seriously undermine universities with important social, intellectual and cultural roles related to their local, regional and national societies.

Today, the competition for, and concentration on, economic advantage means that certain kinds of knowledge and research – especially those generated by the natural, medical and business sciences and engineering – are privileged. However, as Makwandire argues, 'attempts to improve Africa's prospects by focusing on scientific advances and the benefits accruing from them have all too often overlooked the important perspectives which the humanities and social sciences afford' (2009, ch. 7), and 'it is vital that the social sciences and humanities are granted their rightful place … if Africa's development challenges are to be fully and properly addressed'.

Rankings compromise the value and promise of universities as they 'divert attention from some central purposes of higher education' (Marginson, 2007, p. 139), and 'to accept these ranking systems is to acquiesce at these definitions of higher education and its purposes' (p. 139).

As important as new knowledge production and the scholarship of discovery are (Boyer, 1990), the foundation for the production of high-quality graduates who can advance development in the underdeveloped global South is high-quality learning and teaching. Moreover, community engagement and service learning are also vital functions of universities in the global South. Both are a 'means for connecting universities and communities with development needs' (Stanton, 2008, p. 3), and 'for higher education staff and students to partner with communities to address development aims and goals' (ibid., p. 2). However, the global rankings are only marginally concerned with learning and teaching, and overlook or omit the value of community engagement.

The extent to which the global rankings are embraced by numerous universities and higher education agencies must be considered a matter of great concern. The validation of rankings as knowledge of universities ultimately corrodes knowledge and science.

Conclusion

Global university rankings fail to capture either the meaning or diverse qualities of a university, or the characteristics of universities, in a way that values and respects their educational and social purposes, missions and goals. At present, these rankings are of dubious value, are underpinned by questionable social science, arbitrarily

privilege particular indicators, and use shallow proxies as correlates of quality.

Universities in the global South must refuse to play the game as formulated by the SJTUIHE and *THE*, even if others collude with rankings for the sake of self-aggrandisement. Rather than permitting these rankings to prescribe a 'gold standard' and impose narrow definitions of quality, quality should be regarded as historically specific and related to institutional missions and goals as well as to educational and social purposes.

My critique of global university rankings is not a refusal of critical public scrutiny of universities or of universities in the global South. Besides rankings, there is much value in performance indicators and benchmarks if they are carefully conceptualized and designed with clarity of purpose, and are respectful of institutional missions and policy goals. Performance indicators have an important role in institutional development and, through these, the achievement of national socio-economic development priorities. Clearly, effective monitoring, evaluation and critical reviews of universities, including their goals, strategies, academic programmes, administration, governance and financial management, also have key roles in university development.

The challenge for universities in the global South is to effectively replace global rankings with alternative instruments that genuinely serve educational and social purposes, contribute to innovation and development in universities, enhance transparency in and critical public scrutiny of universities, and facilitate informed choices and judgements on the basis of robust social science and appropriate methodologies.◡

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7.2 Assessment and evaluation of research

Introduction

Alongside cross-national or worldwide comparisons, national governments and agencies have stepped up efforts aimed at the evaluation of the quality of research, the identification of productive individual researchers and the performance of departments on various criteria. These exercises are undertaken both to boost research performance and to optimize resource allocation. It is nonetheless clear from the contributors to this section that all this is not as easily done as said.

The UK's Research Assessment Exercise (RAE) is probably the best-known of the various assessment exercises carried out in countries such as New Zealand, Australia, the Netherlands, Romania, Germany and South Africa. In this RAE, panels of experts evaluate information on inputs and outputs provided by university departments. Even if they tend to be better regarded than simplistic international rankings, these assessment exercises have received considerable criticism of, and resistance to, the methodologies they adopt. They are also criticized for the perceived negative effects they have on the social sciences. Large-scale research assessment exercises such as the RAE involve considerable costs in terms of money, human resources and time. In combination with the level of bureaucracy they involve, these costs have led some national agencies to consider a more metrics-based approach, which has advantages in terms of cost savings and a supposedly higher objectivity.

However, the use of bibliometrics in the evaluation of social science and humanities faces considerable problems (Archambault and Larivière). The dominant bibliographical databases used for these analyses have a strong linguistic and geographical bias. This, many would argue, makes them less suitable for the evaluation of research outside the Anglo-Saxon world. The use of bibliometric indicators in the social sciences and humanities is also problematic for other reasons. Publications other than journal articles, such as books, reports and even non-academic outlets are considerably more important here than in the natural sciences. These other publication formats, as well as a large number of less prominent journals, are not included in the

international citation indices and are therefore invisible to evaluations which rely on them. Another potentially problematic point is that much social sciences and humanities research aims for local rather than international relevance and may not be noted in the international literature. The Thomson Reuters Social Science Citation Index (SSCI) and its recently established competitor, Elsevier's Scopus, do engage in efforts to broaden the inclusion of non-English journals, which may alleviate some of the linguistic and geographical bias even if the intensity of citation traffic is likely to continue to favour the Anglo-Saxon world. Weingart and Schwechheimer highlight the specific limitations of the exclusive use of bibliometric tools in the evaluation of research performance in countries where only a small number of articles are published in international peer-reviewed journals. Other, qualitative, approaches may be more fruitful in such cases. While the use of bibliometrics for the evaluation of social science research is problematic in isolation, it can help support qualitative reviews (Weingart and Schwechheimer; Hazelkorn).

Research assessment exercises should combine indicator-based quantitative data with qualitative information, recognize the differences between research disciplines, include assessments of impacts and benefits, and therefore include indicators that are capable of capturing all of this (Hazelkorn). The review of the UK Research Assessment Exercise, however, highlights the complexity of designing a national assessment system that is both fair and effective (Oancea).

In Spain, bibliometric indicators are used for the evaluation of individual researchers (Cruz-Castro and Giménez-Toledo). Researchers' output in journals included in international as well as Spanish-language bibliographical databases is presented to national evaluation agencies. These and other outputs are used to support individuals' peer review evaluations when they apply for accreditation and salary bonuses. Taking into account quality Spanish-language journals as well as discipline-specific factors in the evaluation procedure may help overcome some of the previously noted limitations of bibliometric assessments.◡

Conceptualizing and measuring excellence in the social sciences and humanities

Peter Weingart and Holger Schwechheimer

Bibliometric analysis is a means to identify prominent researchers, important research results, and institutions that foster good research. The data banks are used as a tool for the evaluation of research as it is reflected in publications and for studies of communication patterns. For this purpose so-called bibliometric indicators have been constructed.

The easiest way to identify prominent researchers, important research results and institutions fostering good research is by way of bibliometric analysis. The principal sources of information for bibliometric analyses in social sciences and humanities are the SSCI and the Arts and Humanities Citation Index (A&HCI). These data banks provide a combination of information about the authors of a given article, their institutional address(es), and the article's citations of other papers. This means that searches can be made targeting authors, their institutions or the number of citations received by an article. These data banks have also been used as a tool for the evaluation of research as it is reflected in publications and for studies of communication patterns, in other words of social structures in science generally. For this purpose so-called bibliometric indicators have been constructed. The most important bibliometric indicators for activity (publications) and impact (citations) are:

- P: number of publications (indicating the activity in formal communication)
- C: number of received citations (indicating the visibility or impact of research but usually being taken as an indicator of the quality of research)
- CPP: citations per publication
- CPP/FCSm: normalized citation rate (against Field Citation Score mean).

To normalize citation rates per publication, which differ widely between disciplines, the absolute citation count is divided by the average citation rate of all publications of the same discipline or journal from the same year of publication. If computed for a sufficient number of publications, this indicator is widely accepted as a reliable measure for visibility in most areas of the natural sciences.

However, in the social sciences and more so in the humanities, this form of application is highly problematic, because of the inadequate coverage of books in the citation indices. In the social sciences and humanities, we cannot rely on the reliability and validity of these indicators in the same way as in the natural sciences because of the non-paradigmatic nature of most fields in the social sciences and humanities, the heterogeneity of publication behaviours between fields in the social sciences and humanities, and the insufficient coverage of the principal sources of information for bibliometric analyses in the SSCI and A&HCI. The latter is changing, at least for the social sciences, as a result of an increasing internationalization due to incentives for non-English-speaking authors to publish in English. This is particularly true for the European countries, where funding programmes promote publication in English in order to achieve the integration of European research.

To illustrate the problem, consider publications from the countries of the Commonwealth of Independent States and listed in the SSCI and the A&HCI. They show that in all these countries except the Russian Federation and Ukraine, the number of publications is in the tens or single digits. This means, in effect, that we cannot speak of social sciences and humanities communities in these nations, but at best of individual scholars who work more or less in isolation. The numbers themselves do not reveal any trend, whether towards higher or lower numbers of papers, with the exception of the Russian Federation and the Ukraine where the absolute numbers of articles published and

included in the two indices show a downward trend. The actual number of scholars and their output remains unknown because we cannot control for the percentage of coverage of CIS articles in the SSCI and A&HCI. Under such circumstances the application of bibliometric techniques is out of the question.

While in cases such as these, bibliometric indicators are insufficient by themselves to provide reliable assessments, they may be used in conjunction with other indicators and descriptions. For example, visibility in international peer-reviewed journals whose quality standards are established is one indicator of good international standing. However, the results must be controlled for the size of the national social sciences and humanities communities, as it may be the case that only a small number of individuals appear in these journals, representing a very small fraction of the particular national community. Such a lack of visibility may have different reasons: for example, politically motivated limitations to access, or resentment of international cooperation. Thus, publications in international journals, like cooperative authorships with international scholars, should not be taken as definitive indicators of quality of research, but rather as relative, and above all merely as descriptors. They do not reflect the potential quality of work done in the national context and hidden from international view.

As to qualitative assessments of the health and quality of social sciences and humanities research, we suggest two sets of criteria: organizational and intellectual.

Organizational criteria are about both conditions for research and expressions of research culture. A healthy social sciences and humanities culture should have sufficient size to allow for a plurality of approaches and methods. Crucial questions are whether the social sciences and humanities have normal department status, where their students find employment after their studies (for example, in academia, as teachers, in industry, public administration or in the media), and whether the social sciences and humanities are represented in national scholarly associations and professional societies.

Intellectual criteria are at the core of any assessment of the health and quality of a discipline or research field. Social sciences and humanities do not have to be integrated into an international scholarly discourse to the same degree as the natural sciences in order to be qualitatively of a high standard. Those research activities that are more narrowly focused on national and culturally specific subject matters and topics must be judged on their own merits. They must, above all, exhibit originality in their theories and methodologies. Indications of this are lively intellectual debates among the relevant scholarly communities, a recognizable progress of research over time, and in the ideal case, an impact on public debates.

An important prerequisite is the existence of independent peer-reviewed scholarly journals and, especially in the case of the humanities, of more popular journals or print media catering to the intellectual elite of the country. Social sciences and humanities that are entirely dependent on a few external sponsors or are only small inbred circles can hardly prove their value to civil society. Nor will they be open to intellectual stimuli from outside.☻

Peter Weingart and Holger Schwechheimer

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The limits of bibliometrics for the analysis of the social sciences and humanities literature

Éric Archambault and Vincent Larivière

There are several limits to the use of bibliometric analysis of scholarly communication in the social sciences and humanities. This paper reviews three of those limits: the lower proportion of social science and humanities journal articles; social sciences and humanities literature's ageing rate, and conversely its post-publication citation rate; and the local relevance of social sciences and humanities knowledge. It also discusses the choice of bibliometric databases when measuring social sciences and humanities research.

While the use of bibliometrics for policy purposes has mostly been limited to the natural and medical sciences, this emphasis is now changing. However, the extension of bibliometrics as an evaluation approach to the social sciences and humanities (SSH) may be a cause for concern unless due care is taken. There are several limits to the use of bibliometric analysis of scholarly communication in the social sciences and humanities (for instance, Glänzel and Schoepflin, 1999; Hicks, 2004; Larivière et al., 2006). Drawing on previously published data and original data, this paper reviews these limits.

Three issues are presented: the lower proportion of SSH journal articles; social sciences and humanities literature's ageing rate, and conversely its post-publication citation rate; and the local relevance of social sciences and humanities knowledge. The choice of bibliometric data-bases when measuring social sciences and humanities research is also discussed.

The importance of books and serials in social sciences and humanities knowledge diffusion

The importance of adjusting and clearly stating the limits of bibliometric methods becomes apparent when we consider the importance of books and other documents in the process of scholarly communication in various domains. Hicks (2004) argues that books form a sizeable part of publications in some social sciences and humanities disciplines, that they are also cited more often than other forms of publication, and that this impact cannot be extrapolated from that of journal articles. Thus, the validity of evaluations using bibliometric methods can only be assessed properly if the share of the various types of documents used in scholarly communication is known.

Numerous studies provide data on the relative proportion of journal to non-journal forms of publishing. In their analysis of social science co-citation clusters, Small and Crane (1979) found that 39 per cent of items cited in sociology and 24.5 per cent in economics were books, compared with only 0.9 per cent in high-energy physics. Based on these results, Hicks (1999) estimated that between 40 and 60 per cent of the literature in the social sciences is composed of books. In addition, Leydesdorff (2003) found that whereas 79 per cent of citations in articles covered by the Science Citation Index (SCI) were citations of other articles in the database, this percentage was only 45 per cent for the SSCI (a database produced by Thomson Reuters together with the SCI and the A&HCI). Glänzel and Schoepflin (1999) found that the percentage of references to serials varied between 35 per cent in history, philosophy of science and the social sciences and 94 per cent in immunology.

Building on a method presented at length in Larivière et al. (2006), Figure 7.1 presents the percentage of references made to papers indexed in the Thomson Reuters WoS by field (using articles, notes and reviews). The proportion of references made to WoS-indexed papers varies significantly across fields, with medical papers (MED) citing more than ten times the number of WoS-indexed papers or articles in the arts and humanities (A&H). In the natural sciences and engineering (NSE), slightly less than 70 per cent of the references are to WoS-indexed material, whereas this percentage is just under 50 per cent in the social sciences. These data suggest that A&H, including fields such as literature and philosophy, would be best examined using instruments that also consider other types of publications, such as books. The social sciences and the arts and humanities differ significantly from each other in terms of how frequently they refer to papers.

Chapter 7

Rates of literature ageing and citation

The rate at which scientific literature ages and the rapidity with which it is cited have important implications for the way in which scientific impact must be measured in different academic fields. These patterns are particularly important in determining the length of the citation windows used for citation counts. To measure the NSE paper citation rate, a short window (typically two or three years) is frequently used, as knowledge is rapidly diffused and cited. As can be seen in Figure 7.2, in A&H references

Figure 7.1 — Share of references made to journal articles indexed in the WoS, by field, 1980–2007
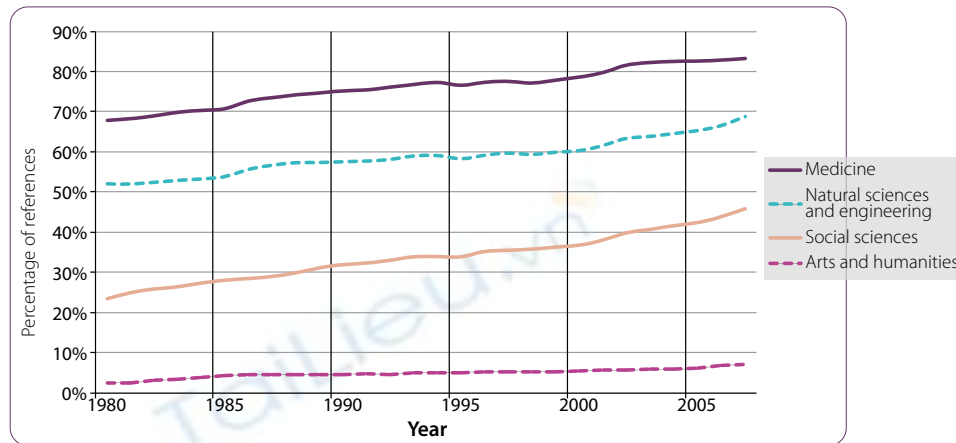
Source: Saisan and D'Hombres, 2008, pp. 19-21

Figure 7.2 — Median age of cited literature by field (100-year citation window), 1980–2005
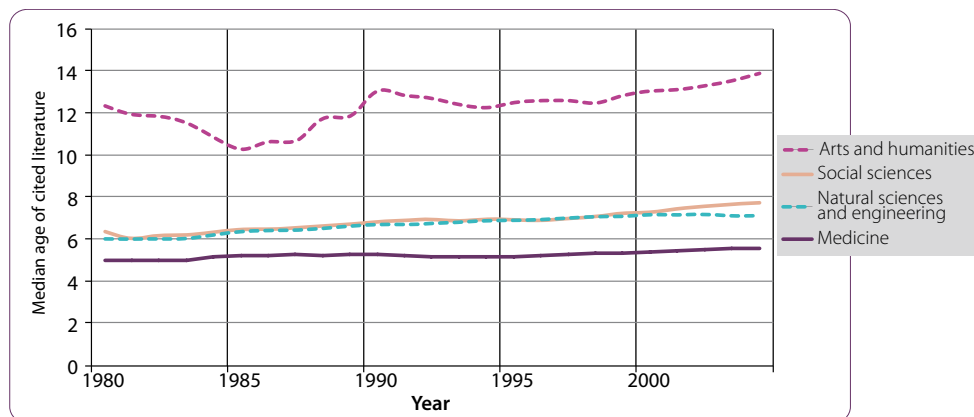
Figure 7.3 — Citations of papers per year following publication