



Where are social sciences produced?

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Beyond a general growth in the number of papers and journals in the social sciences around the world, the globalization and internationalization of research have essentially favoured Europe and North America, the regions which were already dominant. Furthermore, the autonomy of the other regions has diminished and their dependence on central actors has increased over the past twenty years. Also, Europe has increased its centrality and is now comparable to North America.

During the past decade, internationalization and globalization have emerged as a central focus for the social sciences. The effects of these new, or at least accelerated, trends on cultures, economies and other aspects of social life since the 1980s have been widely studied by social scientists from many disciplines, particularly economics and sociology. But we can also be reflexive and address the question to the social sciences themselves: are they becoming more international or even global?

The objects of the natural sciences (particles, atoms, cells and galaxies) are universal. So these subjects lend themselves to international collaboration, which has grown rapidly in these disciplines. However, the social sciences' usual objects are more locally embedded, which has made internationalization less obvious and rapid (Gingras, 2002; Gingras and Heilbron, 2009). It is thus worth looking in more detail at the geographical distribution of social science journals, at the evolution of production by region of social science papers over the period from 1990, and, finally, at the flux of inter-citations between regions.¹ These indicators can shed light on changes in the relations between regions. Does increased internationalization favour the emergence of a delocalized discourse, using all contributions from different countries equally? Or does it accentuate peripheral countries' dependency on the already dominant scientific regions of Europe and North America?

In order to measure such changes, we could analyse the changing topics that social scientists study and ascertain whether they are becoming less local and more internationally distributed. We would certainly find

1. We focus on social science journals and articles. For an analysis of the world production of social science monographs, see Kishida and Matsui (1997). For the case of Europe, see Sapiro (2008).

an increase in the use of key words and terms such as 'international', 'transnational' and 'comparative studies'. But behind the verbal unification of topics, are there more exchanges between countries, or simply different local uses of the same expressions or buzzwords? Are contributions from peripheral countries now more visible in Europe and North America than in the past?

Methodology

Our analysis of global trends in knowledge production in the social sciences is based on two databases. The first is the SSCI of the WoS, which covers articles² on social sciences disciplines published in about 1,200 journals and includes all authors' addresses as well as each paper's list of references. The second is the Ulrich database, which identifies existing journals in all fields as well as their country of publication, the languages used in the journal, the country in which the editor is domiciled, and among other information, whether the articles in the journal are peer-reviewed or not.³

Given the limitations of these databases, this study cannot pretend to provide an exhaustive view of the world distribution of social sciences.⁴ Nonetheless these sources, used with caution, can provide a good understanding of change and evolution over time on a scale that cannot be observed without their use.

In order to analyse the relations between social scientists from different countries globally, we divided the world

2. We take 'article' to mean three types of papers: articles, notes and reviews.
3. We used the 2004 Ulrich CD-Rom.
4. For more details on the limits of these databases, see Archambault et al. (2006) and their contribution to the present book.

into seven regions: Europe,⁵ North America (the USA and Canada), Latin America (including Mexico and the Caribbean countries), Africa, Asia (including the Middle Eastern countries), Oceania (Australia, New Zealand and the surrounding islands) and the Commonwealth of Independent States (CIS). Finally, since the definition of social sciences is far from universal, we adopt the one used by the National Science Foundation in its reports on Science and Engineering indicators.⁶

The world distribution of social science journals

Social science journals can serve as the point of entry for an analysis of the world distribution of social science knowledge production. The Ulrich database gathers far more scientific journals than the Thomson WoS: we identified a total of 6,640 academic journals, a number that drops to 3,046 if we consider only peer-reviewed journals. We also compared the results with SSCI (which covers 1,162 journals) and focused our analysis on two variables: the geographical origins of the journals (by region), and the language used in each journal.

As Table 4.2 shows, the picture varies according to the database used, but remains coherent on a global level: Europe and North America far outweigh the rest of the world in academic publications. Using Ulrich or the SSCI shows that Europe accounts for about 45 per cent of world journal production. North America is behind with 37 per cent of refereed journals in the Ulrich database but equal at 46 per cent according to the SSCI. All the other regions are well behind, with less than 10 per cent of refereed journals or publications each (for social science journals from central and peripheral countries, see Narvaez-Berthelemot and Russell, 2001). Significantly, journals from these regions are more visible in the Ulrich database than in the SSCI, which is more selective in its choice and more focused on English-language journals from the UK and North America. In terms of papers, however, Thomson data shows that

Europe produces only 38 per cent of papers, while North America accounts for 52 per cent of papers in SSCI.

TABLE 4.2 > Social sciences journals and articles by region and database

Region	% All Ulrich academic journals in 2004 (N = 6,640)	% Ulrich refereed journals in 2004 (N = 3,046)	% Thomson SSCI journals 1980–2007 (N = 1,162)	% Thomson SSCI articles 1998–2007 (N = 226,940)
Europe	47.8	43.8	46.1	38.0
North America	29.4	37.0	46.5	52.2
Asia	11.2	8.6	3.7	8.9
Latin America	5.2	4.7	1.3	1.7
Oceania	3.9	4.2	1.9	4.7
Africa	2.2	1.8	0.4	1.6
CIS	0.6	0.2	0.1	1.2

These results remind us that data from Thomson WoS tends to underestimate the presence of non-central social sciences journals. That said, we will see that in terms of citations, the central actors in the field also tend to concentrate their citations on the central journals and countries, and themselves neglect contributions from outside Europe and North America.

If we examine the specific countries where refereed social science journals are edited, we observe that among the top twenty, nine are European,⁷ four Asian (India, Japan, China and Singapore),⁸ two Latin American (Brazil and Mexico), two Oceanian (Australia and New Zealand), two North American (USA and Canada) and one from Africa (South Africa). By publishing more than 1,000 refereed social sciences journals, the USA is the first country (with a quarter of the social science journals), followed by the UK, the Netherlands and Germany. Together these four countries publish two-thirds of all social science journals.⁹

These results confirm the centrality of two major producers of social sciences, Europe and North America. These two regions account for about three-quarters of the world's

5. Europe is defined as the 27 members of the European Union, plus Switzerland, Norway, Iceland, Albania and the ex-Yugoslavian countries.
6. When we use the Thomson database, only the following disciplines are included in our definition of 'social sciences': area studies, anthropology and archaeology, criminology, demography, economics, science studies, geography, planning and urban studies, international relations, political science and public administration, miscellaneous social sciences, general social sciences and sociology. Since the Ulrich database is based on a different classification, we consider the following sections: social sciences, anthropology, archaeology, sociology, political science, geography, criminology and business and economics (the former section does not distinguish between economics and business, so there is an over-evaluation of this section as the SSCI separates economics and business).

7. These countries are: the UK, Germany, the Netherlands, France, Poland, Italy, Austria, Switzerland and Belgium.
8. Although China is only ninth in terms of academic and refereed journals (and the third Asian country), it becomes fifth in the world and top in Asia if we extend our corpus and look at academic journals in general.
9. The position of the Netherlands can largely be explained by the large number of international journals edited in the country. These journals contain contributions from many countries, not only or even mainly from the Netherlands. As we shall see, this can be corrected by examining the papers' country of origin.

social science journals. If we compare these results with those obtained using the SSCI data, the concentration is even stronger; the two regions produced more than 90 per cent of the social science journals from 1998 to 2007. The difference between these results can largely be explained by the SSCI only covering 'core' journals on the social sciences disciplines.

The dominant languages of the social sciences

The domination of European and North American social sciences has an obvious effect on the languages used for the diffusion of research results in these fields. Using the Ulrich and SSCI data, we assessed the relative weight of each language by considering its presence in social science journals.¹⁰

Table 4.3 shows that the first five languages are Western ones. English is by far the most used language in social science journals: 85.3 per cent of the refereed journals covered in Ulrich are edited totally or partially in English. French, German, Spanish and Portuguese follow. Chinese is the most-used non-European language, accounting for 1.5 per cent of the academic social science journals in Ulrich. This result is an indication of China's new role in the social sciences (Ping Zhou, Thijs and Glänzel, 2009). The second non-European language is Japanese. It is worth noting that if we consider the larger set of academic journals more generally by including non-refereed journals, the proportion of English-language journals falls to 69.6 per cent. This indicates the stronger concentration of English in scientific communities as opposed to the larger intellectual communities, which are naturally more attached to their local languages. If we use the SSCI to

TABLE 4.3 > The ten prevalent languages in social science journals

Language	% Ulrich refereed journals in 2004 (N = 3,046)	% Thomson SSCI articles 1998–2007 (N = 226,984)
English	85.3	94.45
French	5.9	1.25
German	5.4	2.14
Spanish	4.0	0.40
Portuguese	1.7	0.08
Chinese	1.5	0.00
Dutch	1.5	0.01
Japanese	1.0	0.06
Polish	0.9	0.00
Italian	0.6	0.01

10. If journals are plurilingual, they are counted as a separate unit in each language.

consider the languages in which the articles are written (and not those of the journals), English articles account for around 94 per cent (in the period 1998–2007) of the total. This larger proportion illustrates the Thomson WoS database's English-speaking bias. Nonetheless, it does not differ much from Ulrich, making strong domination of English in the social sciences field a fait accompli.

Global trends in the production of scientific papers

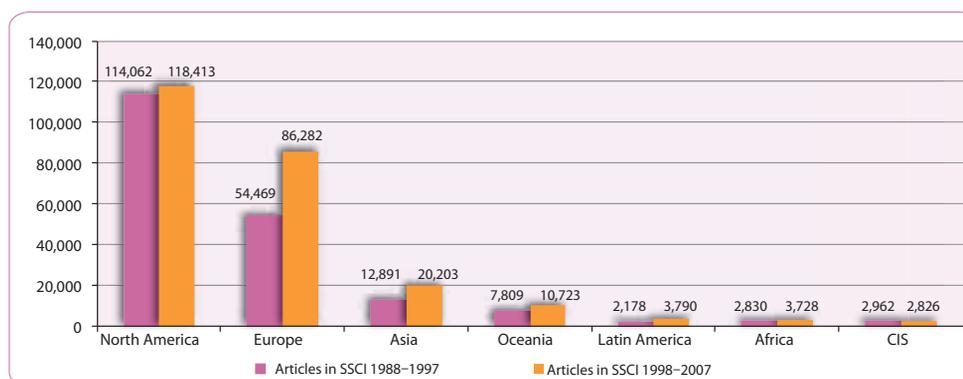
We can take a first glance at the global evolution of the social sciences in recent decades by examining the number of research articles written by authors from each region during the two decades 1988–1997 and 1998–2007. SSCI data¹¹ shows a substantial overall rise of about 21 per cent in the numbers of social science articles between the two periods: from 187,109 published between 1988 and 1997, to 226,940 published between 1998 and 2007.

As shown in Figure 4.5, the growth varies greatly from region to region, with the largest in Latin America (an increase of 74 per cent), Europe (increasing by 58.4 per cent) and Asia (a rise of 56.7 per cent). For Africa and Oceania the growth is only about 30 per cent, while the CIS is the only group of countries facing a decline in its production of social science papers (-4.6 per cent). This reflects the disorganization that followed the fall of the USSR (Wilson and Markusova, 2004). Part of the overall growth is also the result of the SSCI database's changing content: over the years it has covered more European journals. The relative stability of North American growth (of only 3.8 per cent) suggests that its system has attained a plateau, whereas a region like Asia is still building its social science research system.

Nonetheless, North America is the largest producer of papers in the social sciences, with more than half of the total number of articles, and is the only region publishing an average of more than 10,000 articles per year. With other countries' growing contributions, the North American share of the total is bound to diminish over time: from 61 per cent of the total of social science articles over the period 1988–1997, this percentage drops to 52.2 per cent over the next ten-year period (1998–2007). Europe is the second most important actor in social sciences and its share grew substantially, from 29.1 per cent during 1988–1997 to 38 per cent during 1998–2007.

11. We only considered articles with at least one address, and attributed the paper to the country mentioned in that address. In the case of multi-authored papers, we attributed one paper to each country mentioned in the addresses. Consequently, the totals for countries can add up to more than 100 per cent.

Figure 4.5 — Production in the social sciences by region



Asian countries hold the third place in the hierarchy, producing 8.9 per cent of the social science articles during 1998–2007, or 20,203 articles. Asia is followed by Oceania, which produced almost 5 per cent of the articles in that decade. The other three regions, Latin America, Africa and CIS, produced less than 2 per cent of the social science articles, and less than 4,000 articles per decade.

In summary, Europe and North America maintain their largely dominant position, although North America has seen its relative share decline over time. The other regions clearly play a peripheral role, even though their share of world production has increased over the past twenty years (for a more detailed account by discipline and by country, see Glänzel, 1996).

Citations in social sciences: autonomy or dependence?

One of the main questions for contemporary social sciences is the peripheral regions' degree of autonomy from or dependence on the two main social sciences producers, Europe and North America. While the centrality of these

two regions is confirmed by international collaborations analysis (see the contribution by Frenken et al. in this Report), we can also obtain a complementary measure by looking at the origins of citations in the articles produced by social scientists from the different regions. Using the SSCI database, we examine the geographic origins of references to different countries' social science journals during two periods of three years, 1993–1995 and 2003–2005, in each region, based on the 200 most-cited journals.¹²

As might be expected, Table 4.4 shows that in respect of all regions and in the two relevant periods, the two most-cited regions are Europe and North America. Citations

12. Limiting the analysis to the 200 most-cited journals probably underestimates the total proportion of citations of peripheral journals, as these are probably concentrated in the tail of the Lotka-type distribution in which the majority of the citations are attributed to a small number of dominant journals. Using, say, the first 500 journals would increase the capture rate of total citations. But it would necessitate a great deal of work to identify marginal journals and would not significantly affect Europe and North America's central place.

TABLE 4.4 > Origins of citations by region for the 200 most-cited journals

Citing regions	Africa		Latin America		Asia		CIS		Europe		Oceania		North America	
	% 1993–1995	% 2003–2005	% 1993–1995	% 2003–2005	% 1993–1995	% 2003–2005	% 1993–1995	% 2003–2005	% 1993–1995	% 2003–2005	% 1993–1995	% 2003–2005	% 1993–1995	% 2003–2005
Africa	22	11.7	0	0.4	0	0.2	0.2	0	0	0	0	0	0	0
Asia	0.4	0.8	0.5	0.3	6.8	1.6	1.2	1	0.3	0.2	0	0.2	0	0
CIS	0	0	0	0	0	0	36.7	15.3	0	0	0	0	0	0
Europe	45.4	53.4	32.1	33.9	31.2	41.8	30.9	31.9	51.1	50.3	35.9	42.7	17.6	20.4
International	5.2	3.1	3.7	2.3	3.6	2.3	0.3	0.2	1.7	1.3	2.4	1.7	1.6	1.4
Latin America	0	0	11.7	6.9	0.2	0	0	0	0	0	0	0	0	0.2
Oceania	0.3	0.2	0.4	0	0	0	0	0	0.5	0.3	12.9	7.2	0	0
North America	26.7	30.9	51.6	56.2	58.2	54.1	30.8	51.5	46.3	47.9	48.8	48.1	80.8	78.1
Capture rate	48.3	50.7	47.8	43.9	45.9	45.5	55.1	48.1	41.1	41.9	40.1	39.1	45.8	45.5

Notes:

1. This table should be read as follows: for example (top left), restricted to the 200 most-cited journals in African social sciences articles, 22 per cent of the references in the period 1993–1995 come from African social sciences journals.
2. The 'capture rate' measures the percentage of the total number of references in the 200 most-cited journals.

of European and North American journals vary between 61.7 per cent (CIS, 1993–1995) and 98.5 per cent (North America, 2003–2005) of the 200 most-cited journals' overall citations. We can distinguish European-dependent countries and North-American-dependent countries in terms of citations. Hence, Africa is largely a European-dependent region, with more than half of its references being to European journals in 2003–2005. By contrast, Latin America and Asia are North American-dependent regions, with more than half of their references being to North American journals in the two periods. Oceania is an intermediary case while the CIS, having been comparatively autonomous in 1993–1995, became more dependent on North America ten years later. North America is largely autonomous in terms of citations (around 80 per cent are 'self-citations'; that is, citations of papers originating from the USA or Canada), while European citations are almost equally divided, with intra-European citations having a slight advantage above inter-citations.

Following this first observation, the question is whether important changes occurred between 1993–1995 and 2003–2005. A first noticeable trend in all the regions (albeit at different levels) is the decline of self-citations, by which we mean citations of papers from an author's own region. The rate of self-citation was halved in peripheral regions like Africa, Latin America, Oceania and the CIS. In the period 1993–1995, 22 per cent of the references in African papers were to African social science journals. Ten years later, this proportion had fallen to only 11.7 per cent. The decline is even stronger in Asia.¹³ For the two major social science producers, Europe and North America, a slight decline can also be observed, indicating better

13. This stronger decline can be partially explained by our analysis being limited to the 200 most-cited journals. If a country cites more North American or European journals, the local journals may thus fall under the threshold of 200 and they will not be captured. Therefore this approach underestimates the total proportion of local citations but reveals the increase of central countries' attraction.

recognition of foreign contributions. We can also observe an increase in the proportion of citations of European and North American journals in most regions. This rise can be relatively small and insignificant (for example, 1 per cent more European citations in the case of the CIS between the two periods) or much bigger (10.6 per cent more European citations from Latin America).

Conclusion

From all these data on publication and citation practices, we can conclude that beyond a general growth in the number of papers and journals in the social sciences around the world, the globalization and internationalization of research have essentially favoured Europe and North America, the regions that were already dominant. Furthermore, the autonomy of the other regions has diminished and their dependence on central actors, as measured by citations, has increased over the past twenty years. Finally, Europe has increased its centrality and is now comparable to North America.

Although the tendency to interpret any rise in internationalization as a sign of openness is a strong one, we should not ignore the fact that there is tension between autonomy and dependence. It is not impossible that the increase in exchanges (through collaboration or citation practices) with central countries could lead to increased dependence instead of greater autonomy, as the inter-citation analysis has shown. At the same time, we should not underestimate the possibility that by having access to central journals and collaborators, researchers from peripheral countries can improve the visibility of their work in North America and Europe. Finally, given that the objects of the social sciences are more local than those of the natural sciences, it is clear that these local realities are better studied by local social scientists using local resources, even if their visibility on the international scene remains low. We could even predict that too much internationalization could induce a tendency to study more 'central' problems at the expense of socially important local ones. ∩

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