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Background paper

Where are social sciences produced?

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Where are social sciences produced in the world?

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Abstract

In this paper, we raise the question of the world distribution of scientific publications on social sciences through a quantitative analysis of peer-reviewed journals and papers. Specifically, we analyze the changing patterns in scientific collaborations between countries and regions. In order to measure the relative use of social scientists' foreign production of papers, we look at the distribution of inter-citations between countries and regions. Our research shows that beyond a general growth in the world production of papers and journals in the social sciences, the effect of research's globalization and internationalization essentially favoured the large, already dominant actors (i.e., Europe and North America). There was a decrease in the autonomy of other regions, whose dependence upon central actors (as measured by citations and collaboration) increased over the last 20 years. While Europe certainly increased its centrality and is now comparable to North America, the major emerging actor is China. In terms of published papers and scientific collaborations, its presence increased rapidly from the mid-1980s onward.

Introduction

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

The internationality of the natural sciences – whose objects (electrons, atoms, cells and galaxies) are universal – has certainly contributed to international collaboration's rapid

growth. However, since the social sciences' usual objects are more indexical and locally embedded, this has made such an internationalization process less obvious and rapid (Gingras, 2002; Gingras and Heilbron, 2009). It is thus worth looking in more detail at the geographical distribution of social sciences journals, at the evolution of social sciences papers' production per region over the last 20 years, at the level of scientific collaboration between countries or continents, and, finally, at the flux of inter-citations between regions[1]. These indicators can shed light on the effects of 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, Europe and North America?

In order to measure such changes, one could also, for example, analyze the changing topics that social scientists study and ascertain whether they are less local and more internationally distributed. One would certainly find an increase in the use of key words like 'international', 'transnational' and 'comparative studies', but do we have further exchanges between countries other than the verbal unification of topics or different local uses of the same expressions or even 'buzzwords'? Are contributions from peripheral countries now more visible in Europe and North America than in the past?

Methodology

Our analysis of the global trends in social sciences knowledge production is based on two databases. The first is the Thomson Social Sciences Citation Index (SSCI) of the Web of Science (WoS), which covers articles[2] 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].

[1] We focus on social sciences journals and articles. For an analysis of the world production of social sciences monographs, see Kishida and Matsui (1997), for Europe, see Sapiro (2008).
[2] We take 'article' to mean three types of papers: articles, notes and reviews.
[3] We used the 2004 Ulrich CD-Rom.

Given the limitations of these databases, this study does not provide an exhaustive view of the world distribution of social sciences[4]. Nonetheless, used with caution, these sources can provide a good understanding of the changes and evolution over time on a scale that is impossible without them.

In order to analyze the relations between social scientists from different countries globally, we divided the world into seven regions: Europe[5], North America (defined as 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 former USSR, 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 sciences journals

Social sciences journals can serve as a first point of entry for an analysis of the world distribution of social sciences knowledge production. Based on the Ulrich database, which gathers far more scientific journals than the Thomson Web of Science, we identify a total of 6,640 *academic* journals, a number that drops to 3,046 if we consider only the subset of *refereed* journals; that is, *peer-reviewed* journals. We focus our analysis on two variables: the geographical origins of the journals (by region), and the language used in each journal.

As shown in Table 1, 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 terms of academic publications. Hence, using the Ulrich database of journals or the WoS shows that Europe accounts for about 45% of the world journal production and for about 38% of papers,

[4] For more details on the limits of these databases, see Archambault et al. (2006) and their contribution to this book.

[5] Europe is defined as the 27 members of the European Union, plus Switzerland, Norway, Iceland and the other Central and Eastern European countries (such as Albania, ex-Yugoslavian countries) which do not belong to the Commonwealth of Independent States (CIS).

[6] When we use the Thomson database, only the following disciplines are included in our definition of social sciences: area studies, anthropology and archeology, criminology, demography, economics, science studies, geography, planning & 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, archeology, sociology, political science, geography, criminology, and business and economics (the former section does not distinguish between economics and business, therefore there is an over-evaluation of this section as the SSCI separates economics and business).

whereas North America follows just behind with an average of 37% of journals, but 52% of papers, thus confirming the Thomson Web of Science's bias towards Anglo-Saxon journals. However, the American-based WoS suggests that both units are about equal in terms of proportion of published journals. All the other regions are well behind with less than 10% of journals or publications each (for social sciences journals from central and peripheral countries, see Narvaez-Berthelemot and Russel, 2001). Significantly, journals from these regions are more visible in the Ulrich database than in the WoS, which is more selective in its choice and more focused on English-language journals from the UK and North America.

Table 1: Social sciences journals and articles by region and database

Region	**% 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 tend to under-estimate 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, thus also neglecting the contributions from outside Europe and North America.

If we examine the specific countries that edit refereed social sciences journals closer, we observe that, among the first 20, nine are European[7], four Asian (India, Japan, China and Singapore)[8], two Latin American (Brazil and Mexico), two Oceanian (Australia and New

[7] These countries are: the UK, Germany, the Netherlands, France, Poland, Italy, Austria, Switzerland, Belgium, Spain and Sweden.

[8] Although China is just the ninth country in terms of academic and refereed journals (and the third Asian country), it becomes the fifth country (and the first Asian one) if we extend our corpus and look at academic journals in general.

Zealand), two North American (USA and Canada) and one from Africa (South Africa). As expected, by publishing more than 1,000 refereed social sciences journals, the USA is the first country (with one-fourth of the social sciences journals), followed by the UK, the Netherlands and Germany. Together, the four countries publish two-thirds of all social sciences journals[9].

These results thus confirm the centrality of two major producers of social sciences: Europe and North America; the two regions account for about three-quarters of the world's social sciences journals. If we compare these results to those obtained using the SSCI data, the concentration is even stronger; the two regions produced more than 90% of the social sciences journals in the decade 1998-2007. 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 the European and North American social sciences has an obvious effect on the dominant languages used for the diffusion of research results. Using the Ulrich data, we assessed the relative weight of each language by considering its presence in social sciences journals[10].

As shown in Table 2, the first five languages are, as expected, western languages. English is by far the most used language: 85.3% 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% of the academic social sciences journals in Ulrich. This result is an indication of China's new role in the social sciences (Ping Zhou *et al.,* 2009). The second non-European language is Japanese. It is worth noting that if we consider the larger set of academic journals more generally, that is, including non-refereed journals, the proportion of English language journals falls to 69.6%. 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, using the SSCI, we consider the languages in which the articles are written (and not those of the journals), English articles account for around 94% (in the period 1998-2007) of the total.

[9] The Netherlands' position can be explained by the large number of international journals edited in the country. These journals contain contributions from many countries and not only or even mainly from the Netherlands. As we will see, this can be corrected by examining the papers' country of origin.

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

This larger proportion illustrates the Thomson WoS database's English-speaking bias. Nonetheless, it does not differ much from Ulrich, making English's strong domination in the social sciences field a *fait accompli*.

Table 2: The ten prevalent languages in social sciences 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%

Global trends in the production of scientific papers

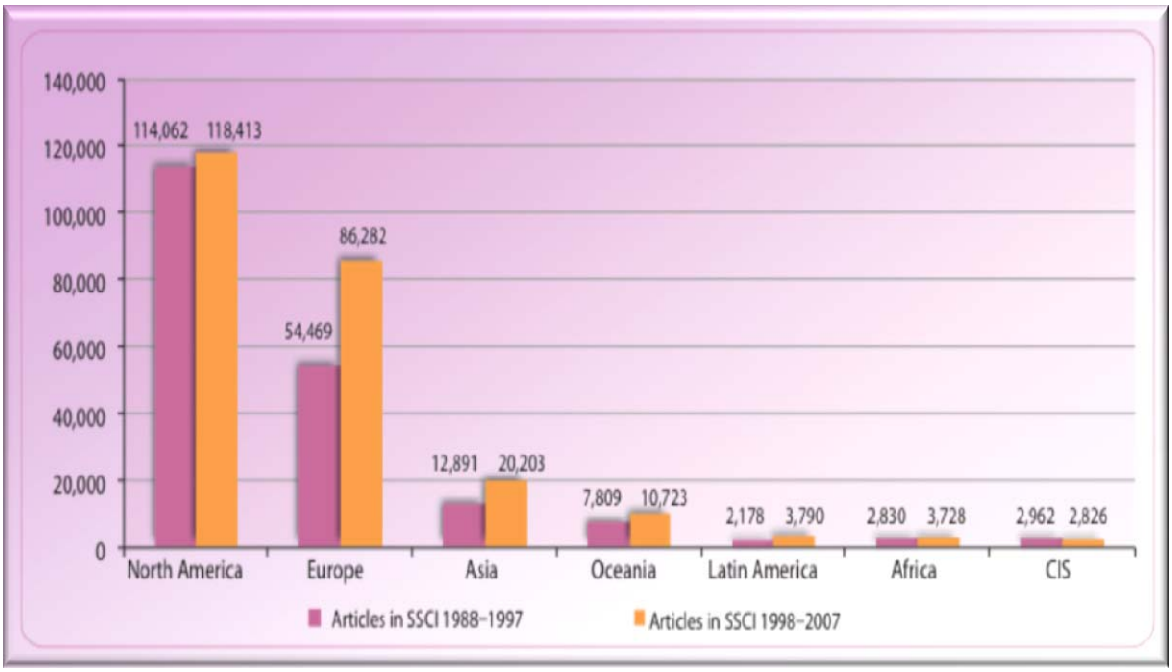
A first insight into the social sciences' global evolution over the last decades can be obtained from the number of research articles written by authors from each region during the two decades 1988-1997 and 1998-2007. According to the SSCI[11], the data show a substantial increase of about 21% in the numbers of social sciences articles during the two periods: from 187,109 published between 1988 and 1997 to 226,940 published between 1998 and 2007.

As shown in figure 1, the growth varies greatly from region to region, with the largest in Latin America (an increase of 74%), Europe (increasing by 58.4%) and Asia (a rise of 56.7%). The growth is only about 30% for Africa and Oceania, while the CIS is the only group of countries facing a decline in the production of social sciences papers (-4.6%). The latter reflects the disorganization that followed the fall of USSR (Wilson and Markusova, 2004). Part of the overall growth is also the result of the SSCI database's changing content, which, over the years, has covered European journals more. The relative stability of North American growth

[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, country totals can add to more than 100%

(of only 3.8%) suggests that their system has attained a plateau, whereas a region like Asia is still building its social science research system.

Figure 1: Production in social sciences by region



Nonetheless, North America is the largest producer of papers in the social sciences with more than half of the total of articles. It 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% of the total of social sciences articles over the period 1988-1997, this percentage drops to 52.2% 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% in 1988-1997 to 38% during 1998-2007.

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

In terms of the scientific production of social sciences, Europe and North America maintain their largely dominating position, even if the latter's relative share has declined over time. The other regions clearly play a peripheral role, even though their share of the world

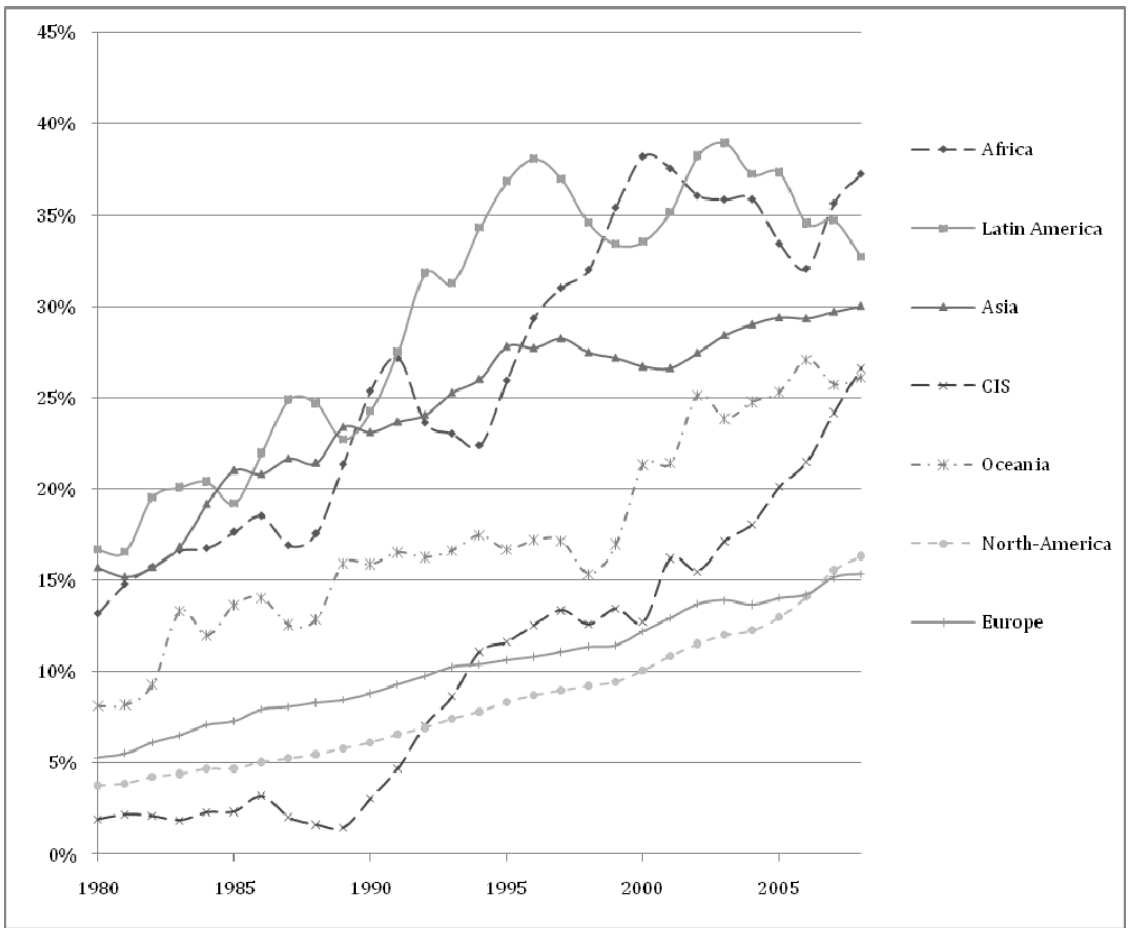
production has increased over the last 20 years (for a more detailed account by discipline and country, see Glanzel, 1996).

Interregional collaborations

Figure 2 shows the changing proportion over time of social sciences papers produced through interregional collaboration. Europe and North America produce a smaller proportion of interregional collaborative articles. If countries' scientific size and prestige are taken into account, this is an expected result as smaller countries tend to collaborate more with other countries than comparatively larger ones do (see Heilbron, 2002). At the beginning of the 1980s, only around 5% of all European and North American articles were written with social scientists from other regions. This proportion tripled to 15% around 2005.

Africa, Latin America and Asia are at the opposite side of the trend: around 15% of their articles were already written with social scientists from other regions at the beginning of the 1980s, which is about three times more than for Europe at that time. Around 2005, this rate varies between 30% and 38% for these regions. One should also notice the peculiarity of the former USSR: from being very autonomous in the 1980s, its collaborative rate rises sharply in the next decades as its social scientists make contact with colleagues from outside the former USSR.

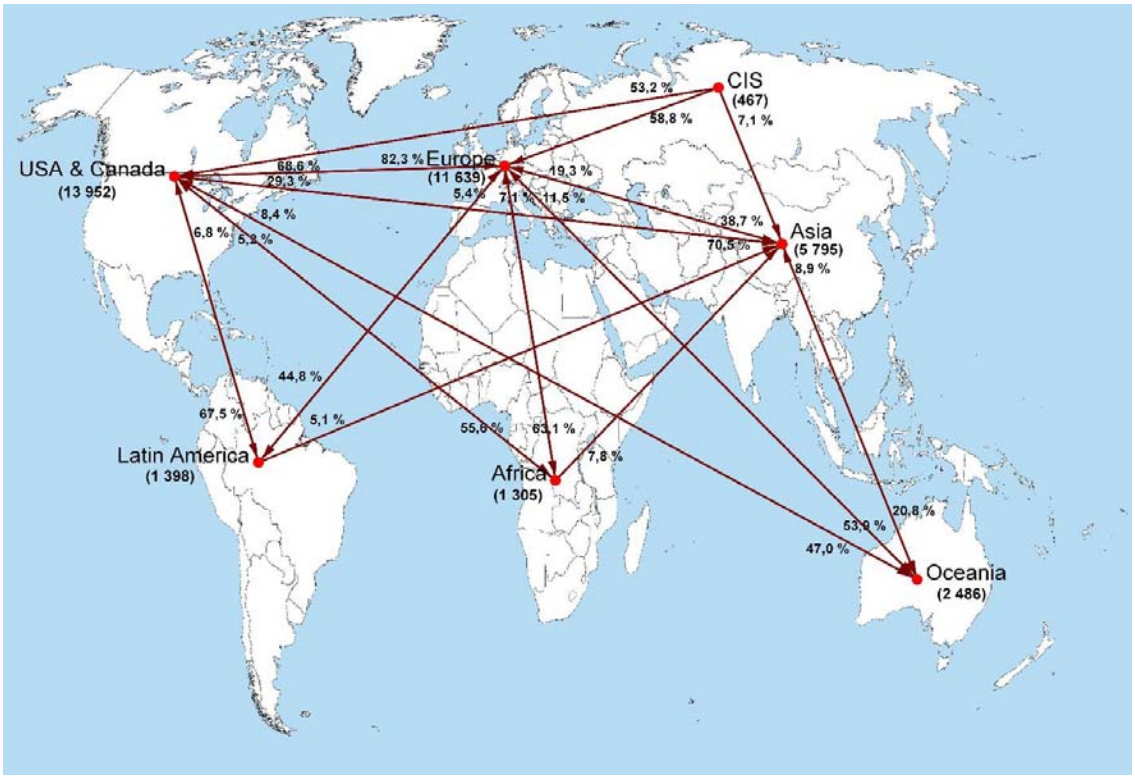
Figure 2: Interregional collaborations in social sciences (moving 3-year average)



These data suggest that, in the realm of social sciences, regions like Asia, Africa and Latin America became more integrated into the world of social sciences by increasingly collaborating with other regions – mainly North America and Europe. It is clear that social scientists from peripheral countries looked for collaboration with social scientists from prestigious and bigger countries or regions. These results also illustrate peripheral countries' growing dependence on the two major scientific centres. One should note that central researchers also benefit from collaborations with peripheral countries by having access to data otherwise difficult to obtain. But this direction of exchange seems marginal compared to the converse.

In order to better visualize the structure of the interregional collaborations networks in social sciences, figure 3 shows a map of the major collaborations between regions in the decade 1998-2007.

Figure 3: World distribution of interregional collaborations between social scientists



The figure must be read as follows: in brackets, each region's number of interregional collaborative articles; the number close to one region indicates the share of collaboration of that region with the one indicated by the arrow. The total may exceed 100% due to multiple interregional collaborations.

As can be expected from their large share of the world social sciences production, Europe and North America are the most attractive in terms of interregional collaboration. These two regions also share substantial cooperation with one another: 82.3% of the European articles produced through interregional collaboration are undertaken with American or Canadian social scientists, while and 68.6% of the North American collaborative papers are written with Europeans. With 29.3% of the interregional collaborative articles, Asia is also an important partner for North America (19.3% for the Europeans). North America and Europe's collaborations with other regions are far fewer, generally less than 10% (for a study of international cooperation based on a single European country, see Stefaniak, 2001).

The regions that produce a very small proportion of papers tend to collaborate mainly with Europe or North America. Two sub-groups can be identified: one collaborating mainly with Europe (Africa, Oceania, and CIS) and one collaborating mainly with North America (Latin America and Asia). Hence, 70.5% of Asian articles written with social scientists from other regions are written with North American ones, while 63.1% of the African interregional collaborative articles are written with Europeans. There is also a strong link between Oceania

and Asia: 20.8% of the Oceanian interregional collaborative papers are written with Asia. Geographical and linguistic proximity as well as historical links (like colonialism, cultural or political domination) largely accounts for these collaborating behaviours.

We can, of course, look at a smaller scale and identify the main countries collaborating with a given region. Table 3 shows the first ten collaborative countries for each region. The centrality of the USA as a partner for collaboration in social sciences is obvious from these data, as it is the first country of collaboration for all the regions. If the two decades and all the regions are taken into consideration, between 38% (Oceania during 1998-2007) and 75% (Latin America during 1988-1997) of the collaborative articles were written with American social scientists. The three main regions collaborating with the USA are Latin America, Asia and Europe, while Africa, Oceania and CIS collaborate at a lesser level with the USA. Nevertheless, if we compare the two decades 1988-1997 and 1998-2007, the trend is a relative decline in the USA as a collaborative partner. The decline is especially strong in Latin America (less 14%), while the USA is the least important for Europe (there was a drop from 74.1% to 70.4% in European collaborative articles written with American social scientists). We can add that for most of the regions, the UK, Canada and Australia are the collaborative countries most preferred after the USA, although some other European countries have become important collaborators, like Spain which was the third preferred partner for Latin America during 1998-2007.

Table 3: Ten main collaborative countries and regions

	Africa		Latin America		Asia		CIS		Oceania		Europe		North America	
Country	1988-1997	1998-2007	1988-1997	1998-2007	1988-1997	1998-2007	1988-1997	1998-2007	1988-1997	1998-2007	1988-1997	1998-2007	1988-1997	1998-2007
USA	**60.3%**	**47.2%**	**75.5%**	**61.6%**	**73.9%**	**62.2%**	**60.7%**	**48.4%**	**45.0%**	**38.3%**	**74.1%**	**70.4%**	-	-
UK	**22.1%**	**29.3%**	**11.8%**	**16.5%**	**8.9%**	**15.8%**	**9.2%**	**16.5%**	**23.7%**	**30.6%**	-	-	**18.5%**	**22.6%**
Australia	4.1%	3.3%	1.8%	2.6%	5.5%	7.4%	-	-	-	-	**7.4%**	**8.9%**	**7.0%**	6.0%
Canada	**6.1%**	**8.4%**	**5.3%**	5.9%	**9.3%**	**8.2%**	5.7%	5.8%	**13.1%**	**8.7%**	**12.6%**	**11.9%**	-	-
Israel	-	-	-	-	-	-	1.7%	2.4%	-	-	3.6%	4.5%	**10.0%**	5.5%
Germany	1.9%	3.9%	2.1%	3.1%	2.2%	4.2%	6.1%	**11.1%**	3.0%	3.8%	-	-	5.7%	**7.6%**
France	5.0%	8.1%	3.0%	5.1%	2.2%	3.7%	**7.4%**	9.2%	-	1.7%	-	-	6.4%	**7.0%**
Netherlands	2.1%	6.9%	1.8%	2.6%	2.4%	3.4%	3.5%	4.3%	2.3%	3.3%	-	-	4.0%	5.7%
Japan	-	-	0.9%	-	-	-	-	2.4%	2.8%	3.3%	2.1%	2.7%	4.7%	3.8%
China	-	-	-	-	-	-	-	-	1.6%	5.1%	-	3.4%	-	6.6%
Italy	-	-	0.6%	2.0%	0.6%	-	-	1.5%	-	1.9%	-	-	2.8%	3.6%
Spain	-	-	4.4%	**7.4%**	-	1.4%	-	1.7%	-	-	-	-	-	3.5%
New-Zealan	-	-	0.7%	-	-	1.5%	-	-	-	-	1.0%	2.6%	-	-
Belgium	1.3%	2.0%	0.6%	1.4%	0.9%	1.5%	2.6%	2.4%	-	-	-	-	2.6%	-
CIS	-	-	-	-	-	-	-	-	-	-	1.9%	2.4%	-	-
India	1.1%	1.7%	0.6%	-	-	-	-	-	1.3%	-	1.6%	-	2.8%	-
South-Africa	-	-	0.6%	-	-	-	-	-	-	-	1.1%	2.5%	-	-
Brazil	-	-	-	-	-	-	-	-	-	-	1.2%	1.7%	-	-
Sweden	1.1%	2.0%	0.6%	-	0.7%	-	2.6%	1.7%	-	-	-	-	-	-
Singapore	-	-	-	-	-	-	-	-	-	2.9%	-	-	-	-
Switzerland	-	1.8%	-	1.4%	0.7%	-	2.2%	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-	1.2%	1.6%	-	-	-	-
Norway	1.0%	2.0%	-	-	-	-	3.1%	1.5%	-	-	-	-	-	-
Denmark	1.0%	1.8%	-	-	-	-	-	-	-	-	-	-	-	-
Hong-Kong	-	-	-	-	-	-	-	-	2.0%	-	-	-	-	-
Portugal	-	-	-	1.2%	-	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	1.7%	1.9%	-	-	-	-	-	-
Austria	-	-	-	-	-	-	1.7%	1.9%	-	-	-	-	-	-
Mexico	1.0%	-	-	-	-	-	-	-	-	-	-	-	-	-

This table must be read as follows: 60.3% of the African social sciences articles written with social scientists from another region between 1988 and 1997 were written with American social scientists.

A striking characteristic of Table 3 is the emergence of China as an important actor in the realm of social sciences. During the 1988-1997 decade, China was a marginal country in terms of collaboration, but, in the next decade, emerged among Europe and North America's top ten collaborators. In fact, China is the fourth most important partner for North America as 6.6% of North American collaborative articles are written with Chinese social scientists. As we have noted, collaborative networks are related to each region's specific history and the relations they have developed for social, cultural and economic reasons. This explains, for example, the major role that the UK plays in Oceania – UK collaborations were nearly as important as USA collaborations during 1998-2007 – as well as the multiple collaborations between European countries and Africa.

If, instead of looking at regions, we examine the countries' share of intercontinental collaboration within a given region, China once again catches the eye. While it was only the fifth Asian country in terms of interregional collaboration during 1988-1997, its share rose to 22.2% during 1998-2007, moving it to the first position[12]. In Africa, one country distinguishes itself: South-Africa. South Africa contributed 21.4% of the African interregional collaborative articles during 1988-1997 and 38.3% during 1998-2007. In Latin America, Brazil and Mexico are the main interregional collaborating countries, while in Europe they are the UK, France and Germany. These results are not surprising given the size of each country's scientific community.

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 international collaborations analysis confirms the centrality of these two regions (see also the contribution by Frenken *et al.* in the 2010 World Social Science Report), a complementary measure is to examine the origins of the citations in the articles from the different regions. Using the SSCI database, we examine the geographic

[12] It should be noted that China benefited from the integration of Hong-Kong in 1999.

origins of references to different countries' social sciences journals in two three-year periods, 1993-1995 and 2003-2005, in each region (based on the 200 most-cited journals[13]).

[13] 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 the latter, the majority of the citations are attributed to a small number of dominant journals. Using, for example, the first 500 journals would augment the capture rate of the total number of citations but necessitate much work to identify marginal journals and would not affect Europe and America's central place much.

Table 4: Origins of citations by region for the 200 most-cited journals

Citing Regions	Africa		Latin America		Asia		CIS		Europe		Oceania		North America	
Cited Regions	% 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%

(1) This table should be read as follows: restricted to the 200 most-cited journals in African social sciences articles, 22% 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.

As expected, Table 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 of European and North American journals vary between 61.7% (CIS, 1993-1995) and 98.5% (North America, 2003-2005) of the 200 most-cited journals' overall citations. Besides Europe and North America[14], we can distinguish European-dependent countries and North-American-dependant countries in terms of citations. Hence, Africa is largely a European-dependent region, with more than half of its references referring to European journals in 2003-2005. Latin America and Asia are, on the contrary, North-American-dependent regions, with more than half of their references referring to North American journals in the two periods. Oceania is an intermediary case, while the CIS – partially autonomous in 1993-1995 – becomes more dependent on North America ten years later.

Following this first observation, the question is whether important changes occurred between 1993-1995 and 2003-2005. A first noticeable trend (at different levels) in all the regions is the decline in 'self-citations'. The rate of self-citations was halved in peripheral regions like Africa, Latin America, Oceania and the CIS. For example, in the period 1993-1995, 22% of the references in African papers were to African social sciences journals. Ten years later, this proportion fell to only 11.7% of the references. The decline is even stronger in Asia[15]. However, Europe and North America show a slight decline, indicating better recognition of foreign contributions. In relation to this first trend, one can also observe an increase in the proportion of citations of Europe and North American journals in most regions. This rise may be relatively small and insignificant (e.g., between the two periods there is a 1% increase in European citations by the CIS) or much bigger (10.6% more European citations by Latin America).

Conclusion

From all these data on publications and citations practices, one can conclude that beyond a general growth in the number of papers and journals on the social sciences around the world, the effect of research's globalization and internationalization has essentially favoured the large

[14] North America is largely autonomous in terms of citations (around 80% are 'self-citations'; that is, citations of papers originating from the USA and Canada), while European citations are almost equally divided, with intra-European citations having a slight advantage above inter-citations.

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

actors (i.e. Europe and North America) -- which were already dominant. Furthermore, the other regions, whose dependence on the central actors (as measured by citations) has increased over the last 20 years, has seen their autonomy diminish. Finally, while Europe certainly increased its centrality and is now comparable to North America, the major emerging actor is China. This country's presence in terms of published papers and scientific collaborations increased rapidly from the mid-1980s onwards.

Although the tendency is strong to interpret any increase in internationalization as a sign of openness, one should not completely ignore the fact that there is tension between autonomy and dependence. Thus, the increase in exchanges (through collaboration or citation practices) with central countries could in fact lead to an increased dependence instead of a greater autonomy – as the inter-citation analysis has shown. Simultaneously, one 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 either America or Europe. Finally, given that objects of the social sciences are more local and indexical than objects in 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 may remain low. Too much internationalization could even induce a tendency to study more 'central' problems at the expense of local, but socially important, ones.

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