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Home bias effect in the management literature

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Abstract This paper examines the possible home bias in the citation of the 300 most-cited articles in selected management journals between 2005 and 2009. The management journals chosen for the study were the ten with the greatest average impact over the last 5 years. The theoretical framework was built on: the theory of asymmetric information furnished by Financial Economics; contributions in the bibliometric field which indicate geographical bias in the scientific community's citation patterns, and the notion of paradigm, employed in the Sociology of Science field. The data from the sample provide empirical evidence of a home bias in the citation pattern of the papers analysed. Here, home bias is defined as the positive difference between the percentage of a country's self-citations minus the average number of citations of the same nation's work by the remaining countries surveyed.

Keywords Home bias · Citation analysis · Bibliometrics · Management · Management education · Americanisation

Mathematics Subject Classification 62-07 · 62P25

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Introduction

It has occasionally been suggested that the citations appearing in scientific documents can be studied in the same way as one might study a market (Bonitz and Scharnhorst 2001; Cronin 2000; Faria and Goel 2010) and others have used models from Economic Theory to explain the production of papers in academic journals (McWilliams et al. 2005).

In Economics, the concept of 'market' is based on exchange between suppliers and buyers through the setting of an equilibrium price (Stiglitz and Walsh 2006). This paper considers citations to work as a market and thus to respond to the behaviour patterns characterising all markets. In all spheres of economic activity, suppliers of a given good or service interact with buyers in a market to make an exchange. The same process is at work in the case of citations. Here, authors supply papers, while researchers demand papers through a system whose main components are journals, data bases and congresses.

A perfect market is defined as one in which no player can wield decisive influence because all players have the same information and thus the forces of supply and demand act unfettered. Economics textbooks cover market flaws (Pindyck and Rubinfeld 2008), which are considered to arise from a non-optimal allocation of resource among economic agents that favours some and hurts others.

Asymmetric information is one of the main causes of the inefficient resource allocation found in imperfect markets (Myers and Majluf 1984). That is, not all economic agents have the same information and thus take different purchasing/selling decisions in a given case.

A classic example found in most Economics textbooks is that given in a ground-breaking article by Akerlof (1970). He studied the market for second-hand cars and showed that the seller is privy to information the buyer lacks and that this affects the purchasing decision. Using this example, Akerlof showed that asymmetric information leads to non-optimal market allocation. This non-optimal behaviour biases the behaviour of worse-informed players, leading them to take poor decisions. The theory of asymmetric information is now being used to explain the behaviour of economic agents (Fama and French 2002).

These market failures can also be seen in the market for citations. In a perfect market, all players would have the same information and thus two equal goods would be equally priced. Applying this concept to the citation market, two papers of equal quality should receive the same number of citations. If a less-than-perfect market acts irrationally and fails to assign citations (prices) in accordance with a paper's quality, the allocation of citations will be arbitrary, giving rise to inefficiencies. Three kinds of inefficiency are given below in connection with the citation market. They not only reveal that the market is imperfect but also show that information is asymmetric. As a result, market players cite works that do not necessarily reflect the best papers. These inefficiencies are: (1) the non-relationship between the best papers and the most prestigious journals (defined in terms of those most-cited); (2) journals present large volumes of self-citations; (3) papers are cited without being discussed, which only contributes to Weimar-like inflation of citations without any discussion of their worth.

An example of research into the non-relationship between the best papers and the most prestigious journals is Starbuck's study (2005). This study in the management field concluded that the belief that the 'best' journals published the best papers was unfounded. In Starbuck's view, this could lead to poor articles being taken for quality ones and vice versa. Among the wealth of data and simulations presented by the author, we would like to highlight one, which shows the correlation of referees' opinions. As Starbuck notes, low correlation of reviewers' opinions concerning a given published work points to a mediocre paper. Starbuck found instances of papers that had been published in 'high-status' journals

despite low correlation of reviewers' opinions on the work. This is an example of asymmetric information and of sub-optimal allocation between article quality and journal quality.

Following the same line of argument, Singh et al. (2007) confirmed the empirical evidence found by Starbuck (2005), contributing new data on certain failings in the citation market—for example, the high level of self-citations found in 1993 in the three journals with an impact rating between 0.2 and 1.2. Here, self-citations ranged between 24 and 56 %. This high level of self-citation clearly reveals a bias when drawing up a theoretical framework. The danger is that citation counts reflect such practices rather than the current state of research on the subject.

Harzing (2002), who studied a network of 60 related studies on levels of failure among expatriates showed that the principles of "good academic referencing" had been systematically breached, giving rise to myths based on a total lack of empirical data.

Mizruchi and Frein (1999) analysed the depth in which the cited articles were discussed by authors. Their results showed that only 16 % of the cited works were discussed in depth, 12 % commented on an idea contained in the article, while no less than 72 % of authors only cited the paper. However, an explanation for these results may be that the citations used provided examples of the matters discussed and/or presented the research context. A later study by Kacmar and Whitfield (2000) noted that after conducting a study of twelve volumes published by two first-quartile journals between 1988 and 1990, the results revealed that 92 % of the articles cited in the following years were referenced in a list showing other works or were briefly mentioned to support a simple idea. Only 8 % of the cited studies were discussed in depth. The paper concludes by highlighting the swings journals ratings would go through if these were based on in-depth discussion of articles rather than merely the number of citations. One could reasonably argue that the articles with real impact are those that thoroughly discuss issues—not the ones that are little more than 'makeweights'. In other words, it is unlikely that either of the two systems currently in use to weigh research impact measure everything.

The failings highlighted above all stem from asymmetric information in the citation market.

This paper follows the research line taken in the aforementioned articles and, in particular, it adopts the work approach employed by Lange (1985), who identified possible home bias in various countries on studying 30 papers published between 1977 and 1981 in 15 academic journals published in the US, USSR, Poland, The Federal Republic of Germany (West Germany) and The German Democratic Republic (East Germany). This paper makes a new contribution to the literature insofar as it validates Lange's (1985) findings in a context that has changed greatly from that of 1985 in social, political, economic and technological terms. Lange's study was conducted at the end of The Cold War. Back then, citations, the languages in which papers were published and their geographic dissemination were all conditioned by a world split into two camps. Things are very different now: data bases can be accessed over the Internet from any corner of the world, scholars can move freely from one country to another, publish their papers in other languages and foreign journals, attend international congresses and so forth. This new setting is a complete break with the Cold War 'bloc' structure, which was the context in which Lange carried out his study. That means that if there is home bias, other reasons must be sought to explain it.

This paper studies asymmetric information biasing the citation market. It does so by analysing 300 articles in the ten journals with greatest average impact in the Management field between 2005 and 2009.

To this end, the next section gives the theoretical framework, setting out the theoretical and empirical bases for postulating hypotheses on home bias in the citation market. The third section sets out the methodology employed, while the fourth and final section comments on the findings and provides conclusions.

Theoretical framework

We drew on three apparently unrelated academic disciplines to build a theoretical framework for this study. These disciplines were: Financial Economics; Sociology of Science; Bibliometrics.

Financial economics and home bias

Financial Economics is the academic discipline in which most work on home bias has been done. Risk minimisation in international investment and portfolio management models is based on diversification. The benefits of this approach have been widely studied and compared (Grubel 1968; De Santis and Gerard 1997). However, there is a large volume of literature that shows investors prefer putting their money into local companies looking abroad. This is so, even though such a policy foregoes many of the benefits of portfolio diversification and entails greater risks. This is one of the conclusions of an article by French and Poterba (1991), which shows that American investors made a whopping 94 % of their investments in the US and only 6 % abroad, even though the American market made up a little under 48 % of the world market. Studies by Coval and Moskowitz (1999); Ahearne et al. (2004) and Van Nieuwerburgh and Veldkamp (2009) were in the same vein, showing this to be a long-term bias.

There are two broad groups of explanations for this phenomenon. One focuses on international barriers to investment in the form of taxes and transaction costs (Black 1974; Stulz 1981). This explanation has lost ground as the free movement of capital has become a feature of the world economy. By contrast, the other explanation (which is based upon information asymmetry) has gained wider acceptance. This line of research states that investors never have all the information they need to take the best possible decision (in other words, there is 'information asymmetry'). Accordingly, their investment decisions are shaped by the information available and this in turn usually covers local business opportunities (Coval and Moskowitz 1999; Huberman 2001). These authors argue that investors can obtain more information on nearby opportunities, given that they can talk to staff, managers and other stakeholders if need be (especially if the investor's and the firm's language happen to be the same). In other words, it is much easier to use other means to glean information on local firms than it is on far-off foreign ones.

If these results are transferred to the study of the citation market, one might expect that under conditions of imperfect information (and hence of information asymmetry), one would find home bias.

Bibliometrics and geographical distance

Bibliometrics, among other things, studies the social networks of citations found in articles and thus gives an insight that neither Financial Economics nor the Sociology of Knowledge can. Bibliometrics has been used to seek empirical evidence for supporting or rejecting the hypothesis that the geographical dimension may be an explanatory variable for citation patterns.

In the same vein, Mählck and Persson (2000) highlight the importance of academic departments as knowledge creators, showing that there is a large body of internal citations within a given academic department, most of which focus on its main researchers. Furthermore, the likelihood of self-citations rises as a research group pursues its own lines of research. In other words, there is empirical evidence of the reciprocity of citations within departments given that a large volume of citations bears on work carried out by other members of the faculty. By the same token, there is a lower propensity to cite external studies. Clements and Wang (2003) come up with similar results in their study on the likelihood that PhD students will cite their supervisors. After examining behaviour in eight Australian universities, they found that students were more likely to cite their supervisors or members of their department than members of similar departments in other universities.

Furthermore, as in Economics and Finance literature, there is empirical evidence that geographical proximity plays a key role in citation behaviour. For example, the country in which an author conducts his research has its own scientific tradition. Here, there is frequent mention of the gap between American and European research traditions (McWilliams et al. 2009). The same applied to countries falling within either the former Western and Soviet blocs (Inönü 2003).

Marsden and Friedkin (1994) show that proximity helps explain behaviour in social networks. They argued that proximity may be cultural and/or geographical. Sjöberg (2000) revealed the difficulties encountered by European researchers in being cited by American scientists if they had not published in US journals. They also speak of the rivalry and frustration caused by not being able to reach the US level of research papers and of the fact that some countries—such as the UK—do little to encourage research exchanges, especially in the early stages of training (Pettigrew 2001). This is despite the fact that the US produces the lion's share of scholarly papers (Schubert and Glänzel 2006; Glänzel 2001), particularly in the management field (Pettigrew 2001).

Here, one should mention the conclusions drawn by Evans et al. (2011), who indicate that geographical proximity is the determining factor in collaboration between scholars (who are more likely to work with those who are nearest). These results corroborate an earlier study by Cummings and Kiesler (2007), who noted that the greater the distance, the harder it is to communicate and take decisions on research projects. There is also the 'rule of thumb' proposed by Allen (1977), who suggested that collaborators should not be further than 30 yards away, or Kraut et al. (1990), who noted that the greater the distance, the greater the adverse impact on collaboration effectiveness. However, nowadays, the use of the internet in research is expected to influence not only the amount of research output, but also the way research is managed and coordinated, especially in distributed research teams. (Heimeriks and Vasileiadou 2008).

The sociology of the science and the 'home' nature of the scientific community

We need to incorporate Kuhn's notion of paradigm and scientific community (Kuhn 1962, 1972) in order to: (1) round off the argument for a possible home bias stemming from asymmetric information in the citation market; (2) find an explanation for geographically-based arguments.

The notion of paradigm has been widely used in research on Management to explain how the discipline evolved. Here, 'paradigm' is taken to mean a set of scholarly efforts in providing the wider scientific community with models, and examples of problems and solutions (Lamo et al. 2010). Thus Hummon and Carley (1993) stated that a paradigm had been established whereby 'The Social Sciences' had attained the same status as 'The Exact

Sciences'. In the same year, Pfeffer (1993) published a paper in which he pointed out the problems that a greater or lesser development of the paradigm in the Organisational Sciences entailed. More recently, in the Management field, researchers have highlighted certain concepts, tools and methodologies as paradigms in a given field of knowledge (Borgatti and Foster 2003). In this context, one should mention the work of Kilduff et al. (2006), who reconsidered the role played by social networks in research (basing their concept of 'paradigm' on the contributions made by Kuhn (1970) and by Lakatos' (1971) formulation of Research Programmes).

The argument for an inter-related scientific benchmark community—as Kuhn noted—was strengthened by the results of the studies conducted by Johnson and Oppenheim (2007). Those studies apply social network analysis to citation structures in published papers and reveal a positive correlation between social proximity between authors and citation of their works. Those authors concluded that friends are more likely to cite one another than they are others. White et al. (2004) stated that while there were social links, scholars' bias towards citing others they know may stem from intellectual affinity rather than friendship. Both results, though apparently different, make sense when looked at from the standpoint of the same scientific community or research programme. Thus citation bias coincides with friendship and/or intellectual affinity because both occur naturally within any given research community.

The notion of community also crops up in studies by Fortunato (2010) and, more recently, by Evans et al. (2011). The latter authors note that a given scholar forms part of a community when his links to it are stronger than to other communities. However, they also note that not all members of a given community will know each other directly. In many cases, the links will be indirect—that is to say, through other members of the community. The result is a group of scholars who know one another whether directly or indirectly.

One can think of this in terms of a 'home research community'. We build on this idea to argue that home bias must arise from the bias inherent in such a home community. Hence the importance of understanding the community's paradigm and the language it uses.

A scientific community not only shares the same language but also models, propositions and methodologies (which may or may not be 'home-grown'). From the bibliometric standpoint, the hypothesis is supported by evidence of the way geographical proximity is reflected in the citation patterns found in a given community, each of which is engaged in empire-building against the rest. It therefore makes sense to speak of home bias, as can be deduced by the concept of a negative heuristic raised by Lakatos (1971).

Assuming the foregoing, one only needs to demonstrate that 'home research communities' exist and that these mainly rest on geographical proximity (which at the very least, operates on the national scale).

In this respect (and drawing upon some of the features previously described by Kuhn in describing institutionalised scientific communities), we should mention the research published in 2004 by Journal of Management Inquiry, which studied the extent to which business education was Americanised in the following countries: England (Tiratsoo 2004); Germany (Kieser 2004); France, Italy, Spain and Turkey (Kipping et al. 2004); Sweden, Denmark, Norway and Finland (Engwall 2004). The impact of the American business school model was analysed in all these countries, based on historical reconstruction of the birth of business studies in each nation, as well as the institutions, journals, societies, universities and schools that sprang up as a result. These publications reveal the existence of local scientific communities at the national level. These communities may constitute a 'home' benchmark for researchers and thus give rise to home bias in citations within a given community.

A country might be considered as a unifying element for an academic institution with its own special features. Studies that seem to bear this out are Lange's (1985)—mentioned

above—and Greeson's (1991), which revealed that for many years, the US did not consider scientific contributions made by the Scandinavian scientific community in Psychology. More recently, studies by Byrkjeflot (2001), Engwall (2007), and Evans et al. (2011) have taken nations as the unit for their research.

It is true that these publications exhibit different levels of maturity with regard to the national features identified in terms of institutions, traditions, and journals—something that may have a bearing on home bias. However, the mere fact that such features are identified as 'national' (and thus not forming part of foreign traditions and scientific communities) bolsters our thesis.

Summing up: (1) there is theoretical support for home bias and is based upon the contributions of Financial Economics, which have shown that there is information asymmetry in markets. This asymmetry is used to explain home bias in the citation market; (2) Bibliometrics reveals the geographical dimension in citation patterns; (3) the Sociology of Science is used to delimit this geographical dimension to the benchmark scientific community, which can be tied down to a given country in most cases.

The foregoing paragraphs indicate there is sufficient theoretical support to study home bias and distortions in the citation market.

Methodology

The data used in this paper were gleaned from consultation of Journal Citation Reports, Social Science Citation Edition (Thomson Reuters 2010). All journals falling under the 'Management' head were listed and ordered by the field '5 years impact factor'. The resulting list of journals was: Academy of Management Review; Academy of Management Journal; Strategic Management Journal; Administrative Science Quarterly; Organization Science; Journal of International Business Studies; Journal of Management; Research in Organizational Behavior; Management Science; Journal of Organizational Behavior. MIS Quarterly was among the first ten journals but it was discarded from the list because it concentrates on IT-based services and not on true management issues—evidenced by the publication's web site: "The editorial objective of the MIS Quarterly is the enhancement and communication of knowledge concerning the development of IT-based services, the management of IT resources, and the use, impact, and economics of IT with managerial, organizational, and societal implications. Professional issues affecting the IS field as a whole are also in the purview of the journal (http://www.misq.org/about/consulted21/02/12). Journal Citation Reports also places MIS Quarterly in the 'Information Science & Library Science' category.

Despite the difficulties of extrapolating journal quality based upon its impact index, we considered that it was the best proxy available. In carrying out the study, it was important to use top-quality papers to weed out studies that were of little relevance and would have biased the results.

Once the journals had been selected, all articles published between 2005 and 2009 were listed and ranked by the number of times they had been cited. The 300 most cited papers were then chosen. For each paper, data was extracted for the following fields: author, journal, the first author's home country, the number of citations received from the following countries: the United States; England; China; Canada; Germany; Denmark; Finland; Norway; Sweden; the Netherlands; Spain; Italy; France and Turkey. These countries were those previously identified in the literature as countries with a local scientific community based on the home creation of institutions, journals, universities and

business schools. As will be discussed later, we have used the degree of Americanization as a proxy to explain the home-bias effect. For this reason, the selected countries studied are only those for which literature related to the level of Americanization of management education exists.

In order to generate the list of countries for the study, a systematic and exhaustive search was performed to identify countries that had extent literature on the discussion of the level of Americanization in management education (in the section Discussion we explain why we have selected this "proxy"). To achieve this end we reviewed the works of Tiratsoo (2004), Kieser (2004), Kipping et al. (2004), Engwall (2004) as they are considered key pieces of literature in the field of Americanization in management education research. Next, we catalogued the key words from these papers, with "Americanization" and "Management Education" appearing most frequently. Using these key words as the search query in ISI Wok (June 2011), all articles that appeared as results were reviewed and the countries mentioned in them registered. After that procedure, a complementary search was done using as "topic" the key word "management education" followed by the name of each one of the countries from the OECD, as well as the Republic of China. The result of this complementary search was the incorporation of Canada and China in our countries table, given that existent literature did mention the level of Americanization in management education with respect to those two countries. Specifically, the papers are: Austin (1998b), Liang and Lin (2008) and Davies (1996).

One should note that the information concerning authors' countries refers not to the nation of their birth or where they were educated but instead their university affiliation when they wrote the paper. The purpose of choosing this variable is to capture the degree of cultural ethnocentricity in each country, assuming that an author has to share the paradigm of his host community to adapt to a given culture.

Results

The data were used to construct Table 1, which shows the number of papers cited by an author of country X (columns), and whose first author belonged to country Y (rows). Thus, we found that there were 153 papers whose first author was Canadian (Y), and which had been cited by authors from Canada (X). Adding up all the papers that had been cited for country X, we obtained the number of papers in which authors from this country had participated. Thus, for example, authors from Canada took part in 861 papers in total, which cited authors from various countries. Let us take another example: there were nine papers in which the first author was from France (Y) and which had been cited by authors from Canada (X). This computation was carried out for each of the countries to yield an XY relationship.

Table 2 drew on the information in Table 1. Here, the number of citations of works from a given country (Y) and made by authors from a given country (X) was divided by the total number of citations from the latter country (X) to yield a percentage in each case. Thus, for example, 17.8 % (153/861*100) of all works citing Canadian authors were in papers whose first author was also Canadian. This calculation was performed for all of the countries in the study.

Table 3 was built from Table 1 and Table 2. It contains three columns, the first of which is taken from Table 2 and shows the percentage of self-citations for each country (taken as a percentage of the citations of a given country (Y) by authors of the same country (X, X = Y). The second column shows the average percentage of citations by authors of

Table 1 Papers cited by authors of country X whose first author is from country Y

	X													
	CAN	CHN	DEN	ENG	FIN	FRA	GER	ITA	NED	NOR	SPA	SWE	TUR	USA
Y														
AUS	5	5	1	14	4	3	5	0	12	0	0	2	1	46
CAN	153	36	8	108	14	35	49	10	73	13	42	18	4	454
CHE	11	0	2	10	6	3	12	1	4	2	5	4	0	21
CHN	14	25	1	19	2	2	7	0	28	0	4	2	5	140
DEN	7	4	9	14	4	4	9	4	9	5	2	5	0	42
ENG	55	52	22	178	20	20	49	31	57	5	22	14	6	260
FRA	9	9	6	36	4	23	28	2	29	0	11	3	1	85
GER	3	0	0	5	2	1	12	1	4	0	1	1	0	17
ISR	4	0	0	0	0	0	0	0	1	0	0	0	0	18
ITA	3	0	3	6	0	0	0	0	2	0	1	2	0	16
JAP	2	10	0	0	0	0	0	2	1	0	1	1	0	7
KOR	3	1	2	13	2	2	1	0	7	1	6	1	1	23
NED	16	13	1	17	1	2	19	1	42	2	6	3	2	85
NEL	5	5	1	12	11	2	2	2	4	1	6	6	2	10
SIN	12	23	1	38	5	11	11	15	15	2	11	2	2	78
SPA	13	3	2	25	5	5	8	5	6	6	14	1	1	69
USA	546	768	96	669	120	217	353	117	471	88	276	118	48	4.136
Total X	861	954	155	1.164	200	330	565	191	765	125	408	183	73	5.507
Total X (%)	7,50	8,31	1,35	10,14	1,74	2,87	4,92	1,66	6,66	1,09	3,55	1,59	0,64	47,97

The reason for having the countries listed in rows (Y) not matching with the countries that appear in column (X) relates to the fact that on one hand, countries were identified by the explained procedure mentioned on the Methodology section (X countries), and on the other hand, countries were also chosen in function of their affiliation with the 300 most cited papers (Y countries). The goal of the selection process was never to have the X and Y countries match, given that they each corresponded to distinct criteria. For this reason, the (Y) row countries do not correspond to those in column (X)

AUS Australia, *CAN* Canada, *CHE* Switzerland, *CHN* People's Republic of China, *DEN* Denmark, *ENG* England, *FIN* Finland, *FRA* France, *GER* Germany, *ISR* Israel, *ITA* Italy, *JAP* Japan, *KOR* South Korea, *NED* Netherlands, *NEL* New Zeland, *NOR* Norwey, *SIN* Singapore, *SPA* Spain, *SWE* Sweden, *TUR* Turkey, *USA* United States of America

other countries, excluding their own. Thus, on average, Canada was only cited by 8 % of the first authors from other countries whereas this figure was 17.8 % when the citing first authors were from Canada. The average percentage of papers cited by authors from other countries (8 % in Canada's case) was calculated by summing the percentages for all the countries with respect to a given nation and dividing the figure obtained by the number countries for which data were gathered. In both cases, data were excluded for the country concerned (Canada, in the example just given).

Table 3 excludes Finland, Norway and Turkey because although these nations cited authors from other countries, they had not produced any papers that had been cited by the 300 papers studied.

Table 3 is used to define home bias as the positive difference between the percentage of self-citations less the average percentage of citations received by authors from other countries. This positive difference indicates the extent to which a given country tends to refer to its own papers rather than those written by the other countries in the study.

Table 2 Percentage of citations of country (Y) by country (X)

	X													
	CAN	CHN	DEN	ENG	FIN	FRA	GER	ITA	NED	NOR	SPA	SWE	TUR	USA
Y														
AUS	0.6	0.5	0.6	1.2	2.0	0.9	0.9	0.0	1.6	0.0	0.0	1.1	1.4	0.8
CAN	17.8	3.8	5.2	9.3	7.0	10.6	8.7	5.2	9.5	10.4	10.3	9.8	5.5	8.2
CHE	1.3	0.5	1.3	0.9	3.0	0.9	2.1	0.5	0.5	1.6	1.2	2.2	0.0	0.4
CHN	1.6	2.6	0.6	1.6	1.0	0.6	1.2	0.0	3.7	0.0	1.0	1.1	6.8	2.5
DEN	0.8	0.4	5.8	1.2	2.0	1.2	1.6	2.1	1.2	4.0	0.5	2.7	0.0	0.8
ENG	6.4	5.4	14.2	15.3	10.0	6.1	8.7	16.2	7.5	4.0	5.4	7.7	8.2	4.7
FRA	1.0	0.9	3.9	3.1	2.0	7.0	5.0	1.0	3.8	0.0	2.7	1.6	1.4	1.5
GER	0.3	0.0	0.0	0.4	1.0	0.3	2.1	0.5	0.5	0.0	0.2	0.5	0.0	0.3
ISR	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3
ITA	0.3	0.0	1.9	0.5	0.0	0.0	0.0	0.0	0.3	0.0	0.2	1.1	0.0	0.3
JAP	0.2	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.1	0.0	0.2	0.5	0.0	0.1
KOR	0.3	0.1	1.3	1.1	1.0	0.6	0.2	0.0	0.9	0.8	1.5	0.5	1.4	0.4
NED	1.9	1.4	0.6	1.5	0.5	0.6	3.4	0.5	5.5	1.6	1.5	1.6	2.7	1.5
NEL	0.6	0.5	0.6	1.0	5.5	0.6	0.4	1.0	0.5	0.8	1.5	3.3	2.7	0.2
SIN	1.4	2.4	0.6	3.3	2.5	3.3	1.9	7.9	2.0	1.6	2.7	1.1	2.7	1.4
SPA	1.5	0.3	1.3	2.1	2.5	1.5	1.4	2.6	0.8	4.8	3.4	0.5	1.4	1.3
USA	63.4	80.1	61.9	57.5	60.0	65.8	62.5	61.3	61.6	70.4	67.6	64.5	65.8	75.1
Total X	100	100	100	100	100	100	100	100	100	100	100	100	100	100

AUS Australia, *CAN* Canada, *CHE* Switzerland, *CHN* People's Republic of China, *DEN* Denmark, *ENG* England, *FIN* Finland, *FRA* France, *GER* Germany, *ISR* Israel, *ITA* Italy, *JAP* Japan, *KOR* South Korea, *NED* Netherlands, *NEL* New Zeland, *NOR* Norwey, *SIN* Singapore, *SPA* Spain, *SWE* Sweden, *TUR* Turkey, *USA* United States of America

Table 3 Home bias

	% Self citations	% citations of the remaining countries studied	Difference	Home bias
Canada	17.8	8.0	9.8	Yes
China	2.6	1.7	0.9	Yes
Denmark	5.8	1.4	4.4	Yes
England	15.3	8.0	7.3	Yes
France	7.0	2.2	4.8	Yes
Germany	2.1	0.3	1.8	Yes
Italy	0.0	0.4	−0.4	No
The Netherlands	5.5	1.5	4.0	Yes
Spain	3.4	1.7	1.7	Yes
USA	75.1	64.8	10.3	Yes

To see whether these differences were statistically significant, we applied the bootstrap resampling method (Chernic 2008) to the 300 most-cited papers to recalculate the variability in this difference in proportions, which we used as an indicator of home bias. When analysing the confidence intervals at different levels, if both limits yielded positive results, this would indicate that the above difference was statistically significant and hence confirm home bias.

The results of the bootstrap resampling are given in Table 4 below.

Discussion

The results shown in Table 4 should be interpreted in the light of the theoretical framework, which indicates that there are scientific communities that act as benchmarks to a greater or lesser degree. Here, we consider it as a proxy for: (1) a community's ability to act as a benchmark; (2) the degree of Americanisation of business education in various

Table 4 Confidence intervals obtained from the bootstrap resampling method

	Difference	Home bias	Significance level	CI 98 %		CI 95 %		CI 90 %	
				LL	UL	LL	UL	LL	UL
Canada	9.8	Yes	***	3.7	16.5	4.5	15.6	5.4	14.7
China	0.9			−0.6	3.8	−0.4	3.3	−0.3	2.8
Denmark	4.4	Yes	*	0.0	12.6	0.0	10.6	0.1	9.7
England	7.3	Yes	***	2.4	12.8	2.9	12.1	3.5	11.0
France	4.8	Yes	***	0.7	11.3	0.8	10.1	1.2	9.2
Germany	1.8			0.0	6.2	0.0	5.2	0.0	4.7
Italy	−0.4			−1.4	0.0	−1.2	0.0	−1.0	0.0
The Netherlands	4.0	Yes	***	0.2	9.0	0.6	8.0	1.1	7.3
Spain	1.7			−0.6	6.9	−0.4	5.8	−0.3	5.0
USA	10.3	Yes	***	4.3	14.5	5.1	13.8	5.8	13.0

countries. This Americanisation is greater in those countries with a shorter institutional tradition in business management (recently-founded business schools, those that have few or no academic journals or that have a very short history of holding congresses. Those countries with longer traditions have been able to create their own paradigms and a benchmark scientific community. These exhibit higher levels of ethnocentricity and thus greater home bias.

Table 4 shows the results after calculating the confidence limits for the difference between self-citations less the average percentage of citations received from authors of other nations for each country. As can be seen, five of the ten countries exhibit home bias at the 98 % significance level: Canada, England, France, Netherlands and the USA. Denmark only shows home bias at the 90 % significance level.

The results clearly indicate that Canada shows home bias in the pattern of citations in the papers we analysed. At first sight, one might imagine that the closeness of the US would lead to less home bias in Canada, and that Canada would be strongly influenced by America, its paradigms and massive output of management literature. However, even though Canadian business schools were inspired by the American model (as well as other models in the case of French-speaking Canada), they have jealously guarded their national identity—as Austin (1998a, b) notes in his study. Through a three-stage process: first through the Deans Association, then through The Learned Society and finally through The Administrative Sciences Association of Canada (ASAC), they achieved a management education and research approach for Canadian universities that, while close to the American tradition, showed clear bias towards Canadian culture. This bias was clear in Miller's (1972) proposal for ASAC's mission statement, in which he argued the Association should foster "empirical studies along discipline lines using the Canadian context as a source of information". Hence the strong home bias we found in Canada's case.

England showed very little Americanisation of its management education system, even though it had finally yielded ground in the 1980s and 1990s and adopted American-style programmes (MBAs, EMBAs, degrees, diplomas, etc.), as Tiratsoo (2004) shows in his study. These ideas, together with the above data, dovetail with Pettigrew's finding (2001), which noted England's reticence in forging academic links with the US. Our results also bear out Newstead's (1983) findings in the Psychology field, which often overlaps with management research studies. Newstead interviewed 1,132 psychologists, university faculty and students in the US and England on who the most important psychologists were. The English chose their own, as did the Americans. In Business and Management, Evans et al. (2011) noted the strong local nature of UK research networks. This all points to local bias in the citation pattern used by authors in England.

In the case of France, Kipping et al. (2004) highlight a long-standing tradition that dates back to the *grandes écoles* of the 19th Century as the reason why the country has resisted Americanisation so successfully and been more open to other research cultures and schools of thought. This bears out Byrkjeflot (2001), who notes that France's traditions have made it very reluctant to adopt the US business school model. Greeson (1991) in his study analysed 265 biographies appearing in French between 1984 and 1987 and concluded that 77.4 % covered French texts, just 20.7 % English texts and 1.9 % papers in other languages. France continues to maintain a strong home bias and the data here concords with the findings of earlier studies.

The Netherlands' model is further from the US one (although Engwall's (2007) research shows the American model made some inroads in the 1960s and 1970's) and is closer to the German one (Byrkjeflot 2001). It is characterised by fierce rivalry between two disciplines, each of which sees the Management Education fields as its own preserve. The two

disciplines are Engineering and Accountancy. This means that despite links to the outside world, the country's budding management schools are hidebound by their traditions and build upon these. This gave rise to a host of approaches that even affects the way such studies are organised. For example, at The University of Amsterdam, business studies form part of the Economics Department, whereas at Groningen University, business programmes are the result of collaboration between various faculties. This situation, together with the interest in and need to make business studies academically respectable (van Baalen and Karsten 2010) so that they could survive in a higher education led to the Dutch adopting a highly technical, multi-disciplinary approach, sundering from the US tradition and the creation of a new scientific discipline (Byrkjeflot 2001). Evidence for this can be found in Boselie et al. (2001) study, which after recognising clear foreign influences (USA and UK) on how companies should manage their staff, stressed the need to complement these approaches with one more in accord with Dutch traditions. This context explains why the Dutch framework creates strong home bias.

The data show that the US is the biggest creator and exporter of academic material in the Management Education field. The results indicate strong home bias in the citation pattern of US authors. These data not only bear out the findings of Lange's (1985) seminal study but are also supported by Russell's (1984) study, which mentioned American scholars' tendency to ignore the research produced by academics abroad. Similar conclusions can be found in Greeson's (1991) study or Pettigrew's (2001) research, among others. The vast size of the US citation market makes it unnecessary to resort to foreign markets.

Denmark's case has special features that differ from those noted so far. The results in Denmark's case only reveal home bias if we accept a 90 % Confidence Limit. The reason why this only comes to light at this lower Confidence Level is to be found in Denmark's distinguishing features within the context of Scandinavian Management Education. Denmark began with the German model of business schools and gradually shifted towards the US model—something noted in Engwall's (2004) study. Engwall, citing a study by Carlson (1980), highlighted the fact that Organisation Theory was one of two or three disciplines that were most influenced by the US model. The Human Relations field was another. Even so, Engwall's (2004) study on the literature used in Scandinavia's eight oldest business schools revealed low use of US literature and greater use of that from Nordic countries. This was particularly marked in the cases of Denmark and Sweden. This broadly confirms work by Pettersen et al. (2002), who studied research networks and concluded that Danish scholars mainly take part in national projects—in contrast with Sweden, Norway and Finland. Likewise, when they wrote academic papers with other authors, in 70 % of cases those were national authors. For example, the percentage of Norwegians co-authoring with other Norwegians was 36 %. These data explain that despite opening up to German and American Business Education models, Denmark—more than any other Scandinavian country—continues to follow a culturally ethnocentric approach.

In Germany's case, the results are clear-cut from a statistical point of view. After calculating the confidence limits, there is no statistically significant evidence whatsoever of home bias. Germany had a long and strong tradition of business education between 1898 and 1915. For many years, this tradition was impermeable to American influence (Byrkjeflot 2001). However, as Kieser (2004) notes, these barriers broke down when Germany began to receive aid under The Marshall Plan. Many German scholars and practitioners were forced to get to grips with the workings of the American management system in order to apply for Marshall aid. Kieser noted that the Germans even went so far as to set up universities with the aim of understanding the American model. To this, one

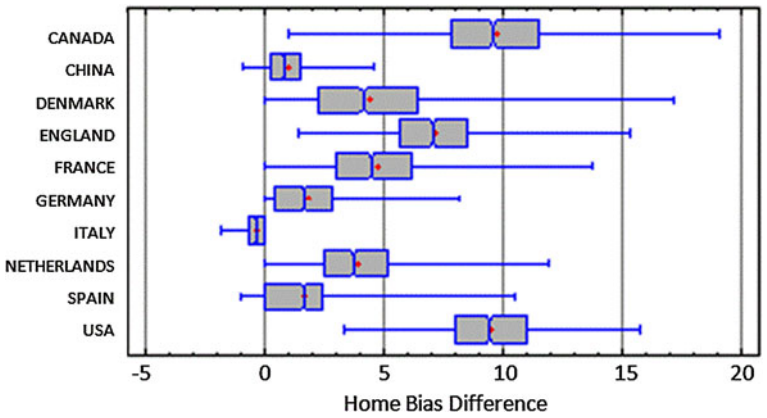

Fig. 1 Bootstrap distributions for Home Bias

should add the migration of German scholars in the 1930 s. When they returned to Germany after The Second World Warthey brought American culture with them. That is why although the country had its own well-established culture of Business Education, German academe was very open to the outside world—hence the lack of home bias.

Neither China nor Spain exhibited statistically significant home bias once the confidence limits were calculated. While it is true that the central part of the distribution reveals home bias (see Fig. 1), the bootstrap results took into account negative differences, which implies that there was no home bias in some cases. Accordingly, the home bias hypothesis was rejected. In both China's and Spain's case, the explanation for lack of home bias lies in the openness of its academic community. Here one should note the role the US plays as a net exporter of knowledge. In China's case, these results have been explained by Liang and Lin (2008) in terms of the great influence exercised by Western culture and its approach to Management. In this instance, the US, not China, is the citation benchmark. A similar explanation has been found for Spain's results. As Kipping et al. (2004) note, Management Education has a short history in Spain and there is a wide range of models in the field (model choice being affected by whether the institutions are public or private), many of them being strongly influenced by the American tradition. These results are supported by Rodriguez and Gantman (2011) study, which stresses the American models' strong influence on programmes, whose content, benchmark authors and style ape their US counterparts.

Last but not least, Italy is different from the other cases given that the sample articles studied did not throw up any self-citations. This automatically rendered any calculations meaningless.

Conclusions

This paper studied whether there was evidence of home bias in the citation pattern in the 300 most-cited articles published between 2005 and 2009 in the ten management journals having the highest average impact over the previous 5 years.

The theoretical framework was built on: (1) asymmetric information theory, furnished by Financial Economics; (2) empirical contributions made in the Bibliometrics field that

pointed to geographical proximity as the root cause of scholars' citation patterns; (3) the notion of 'paradigm', developed by the Sociology of Science.

These data led us to conclude that there was empirical evidence for home bias in citation patterns for the papers in our sample. Home bias was defined as the positive difference between the percentage of a country's self-citations less the average percentage of citations received from the other countries in the study. The criterion that helped explain whether there was home bias or not was the extent to which a local community was open to communities abroad. Given that the US is the main producer of scholarly knowledge in the field studied, the proxy chosen was the degree of Americanisation in each country's Management Education system.

To make the results more precise, the variability in the difference between proportions was calculated through bootstrap resampling of the items in the sample. This was used to set confidence limits that revealed that Canada, England, France, The Netherlands and the US show home bias at the 98 % significance level, and that Denmark did so at the 90 % significance level.

This study has implicit limitations arising from the sample structure, given that the time frame chosen, the subject, the lifespan of papers and the language they are written in may all affect the degree of home bias.

Among the potential implications of this phenomenon, one should note the following risks: (1) Failure to fully exploit resources, given that ignorance of work carried out by other research communities prevents one drawing on their contributions in one's own research; (2) Knowledge stasis in local communities in the absence of stimuli fostering new ideas and the application or new methods. Under such circumstances, an academic community can all too easily become hidebound; (3) Growing conformism arising from lack of comparison with other settings, stemming from uncritical acceptance of established models and paradigms.

Last, one hopes that home bias will diminish over time given the ease with which researchers can access the findings of others. However, the data suggest that the research community should continue to foster: (1) international academic relations; (2) international representation on journals' editorial boards; (3) information search strategies that turn up results that are both relevant and exhaustive. Such a combined approach would help reduce home bias.

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