

Home Bias, an Academic Puzzle*

G. Andrew Karolyi

Cornell University

Abstract

Only 16% (23%) of all empirical studies published in the top four (fourteen) Finance journals examine non-US markets, a fraction that is well below measures reflecting their economic importance. This “home bias” measure fluctuates across years with a weakly declining trend. There is also a “foreign bias” in which some non-US countries are more frequently the subject of published papers than others. I am able to explain only a small fraction of either the home-bias or the foreign-bias puzzles. Surprisingly, there are on average 2.01 higher annual cumulative citations per non-US paper published relative to cohort-matched US-focused papers.

JEL classification: G10, F60, A14

1. Introduction

Financial markets are ever increasingly global. Barriers to cross-border capital flows have been falling steadily over the past four decades and for just about every country on earth. Academic researchers were at the ready as far back as the 1970s with theoretical models of portfolio choice and asset pricing in a world without barriers for the free flow of capital (see, among others, [Black, 1974](#); [Solnik, 1974, 1983](#); [Stulz, 1981](#); [Adler and Dumas, 1983](#)). These models captured a globally integrated market in which an asset has the same

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price regardless of where it is traded and in which no finance is local. It was difficult to find much empirical support for those models in their day (see survey by Karolyi and Stulz, 2003). But, even today, empirical evidence on asset pricing models that assume financial markets to be internationally integrated is tough to find. Typically, a viable case can be made for models of the cross-section of expected returns without regard for international influences (e.g., Fama and French, 2012).

These models also have severe limitations in explaining portfolio holdings and how they change over time. The so-called “home bias puzzle” refers to the phenomenon that investors overweight the securities of their home country in their portfolio, relative to what one would expect if investors had the same information across countries and where global markets were frictionless and without barriers. Dozens of empirical studies of ownership patterns across the decades that confirm that this home-bias phenomenon persists notwithstanding the enormous growth in cross-border capital flows (see the more recent survey by Cooper, Sercu, and Vanpeé, 2013). Explanations are plentiful. They argue in many different ways that the gains from international diversification are too small to make holding foreign assets worthwhile.¹ Of course, a persistent home bias helps explain why purely local factors can still explain asset prices well even today.

In this article, I uncover a new and very different kind of home bias puzzle, what I call the academic home bias puzzle. It is one of how academics do scholarly research in Finance. What I measure is the actual extent to which we do empirical research on markets that are at or disproportionately close to home in spite of the economic importance of markets beyond. When I use the term “home” in the context of scholarship, what I mean is the fraction of empirical research that is published in our mostly US-based Finance journals and that emphasizes the study of US markets relative to the economic importance of the US markets in the world. What I show are research biases that are strikingly large in magnitude compared with the more familiar home bias of investors. Among the top four journals in Finance over the last 20 years, 16% of all empirical studies published examine non-US markets. This number ranges from 20% to 50% below measures of the economic importance of the USA such as by its relative share of world Gross Domestic Product (GDP), equity and bond market capitalizations, bank assets, and even the market value of trading. The academic home bias varies from year to year. It reveals a declining trend, but the rate of decline is slow at about 0.5% per year.

The goal of the second half of the article is to explain the academic home bias. To this end, I offer up a variety of what I call “supply” factors (such as the number of successfully published authors affiliated with non-US universities, the number of Ph.D. students graduating from non-US programs), so-called “demand” factors (like measures of market capacity, returns, volatilities, or net portfolio flows), and others that some have shown to explain the home-bias phenomenon in international portfolio holdings. None of these factors can reliably explain academic home bias.

1 Some have considered the role of real exchange rate risks (Adler and Dumas, 1983; Cooper and Kaplanis, 1994), country-specific, idiosyncratic risks to non-tradable goods, like human capital (Baxter and Jermann, 1997; Baxter, Jermann, and King, 1998; Jermann, 2002; Glassman and Riddick, 2001), asymmetric information between domestic and foreign investors (Gehrig, 1993; van Nieuwerburgh and Veldkamp, 2009, 2010), the availability of home-made alternatives to foreign assets (Errunza, Hogan, and Hung, 1999), and the presence of large, controlling shareholders that (foreign) minority shareholders fear will consume private benefits at their expense (Dahlquist *et al.*, 2003; Stulz, 2007).

To push the investigation further, I also explore the academic equivalent of the “foreign bias puzzle” in international finance, a close cousin of the home-bias puzzle. The foreign bias reflects the extent to which investors, such as those in the USA, systematically under- or overweight certain foreign markets relative to their share of total capitalization excluding their home (USA) capitalization.² One explanation for the home- and foreign bias is that investors are less familiar with foreign markets. Greater information costs discourage them from investing abroad. Chan, Covrig, and Ng (2005) show that familiarity (measured in terms of geographic distance, cultural, or even economic proximity) can explain a good fraction of the foreign bias in US mutual fund holdings. I measure an equivalent foreign bias in Finance research among those studies that focus on non-US countries and build familiarity measures akin to those of other studies. They perform poorly in my panel regression analysis across countries and years with the adjusted R^2 reaching only as high as 22%. I even explore potential behavioral factors, like country-specific or regional “momentum” in research with little additional explanatory power. I conduct a number of robustness experiments, including a cross-validation analysis of the classification scheme I employ for the published papers on non-US studies. The rate of misclassification is reassuringly low.

I perform two additional experiments. First, in addition to my examining the “quantity” of research in Finance on non-US markets, I also seek to measure its “price.” Although there may be too few non-US studies published in terms of numbers, it may be that they are rewarded with much higher citation rates than the typical US-focused study. I compute the average annual cumulative citations per year for all published papers and those of the non-US ones I identified above. These averages are computed from the date of publication through to the end of 2014 and the comparisons are made by cohorts by their years of publication. Indeed, I find that there is a large average citation “premium” for those non-US publications with an average annual cumulative citation per paper of 6.11 citations compared with only 4.10 for US studies. My second experiment examines the affiliations of the authors of non-US and US-focused studies to determine what the average fraction of US-based authors is in non-US studies and what it is for non-US-based authors of US studies. The average fraction of non-US-based authors among the 8,768 authors of US-based studies over 1990–2011 in the top journals is 13.5% and it has trended upward steadily. Most interesting in this analysis is that, for every one article on non-US topics co-authored by a non-US-based scholar, there are 1.85 articles published by them on US topics. In contrast, among US-based scholars, for every one article on US topics they have co-authored, there are only 0.17 articles published by them on non-US topics.

Of course, there are undoubtedly alternative explanations that I have not considered. Some may be hard to quantify and test.³ Obviously, concerns about the uneven quality of data in non-US markets have always dogged scholars who are actively doing research in international finance. I cannot dismiss this as a potential factor, and discuss it further in the closing remarks. I also fail to gauge all the non-US research that is generated in the form of

2 Chan, Covrig, and Ng (2005, 2009) study the foreign bias in US mutual funds and define it with a nice three-country example (p. 1497). Consider a hypothetical three-country example in which Country A is 50% of the world's market cap and countries B and C constitute 25% each. If As domestic investors invest 80% of their wealth in As securities, their “home bias” is 30%. But, if they invest the remaining 20% of their wealth by placing 15% in B and 5% in C, they display a “foreign bias” overweighting Bs assets by 5% and underweighting Cs by 5%. I changed their numbers somewhat, but the idea is the same.

working papers, but yet may not make it into published form, at least among the seventeen Finance journals that comprise my analysis. That may represent another intriguing phenomenon about the publishing process.

This study makes a contribution on several fronts. Bibliometry (a set of methods to quantitatively analyze scientific literatures) has received only some attention in the field of Finance.⁴ With this effort, I offer some evidence of one interesting puzzle in Finance research, but there are undoubtedly others worthy of study. There are more studies of citation data, the peer review process, the slowdown in the publishing process, among many other topics in mainstream Economics (Ellison, 2002a, 2002b, 2011). To the best of my knowledge, only one study has confirmed the existence of a US bias in research in Economics (Das *et al.*, 2013).⁵ Using 76,000 empirical economics papers published between 1985 and 2005, these authors find papers written about the USA are 2.5% more likely to be published in the top five economics journals after accounting for institutional affiliations and the field of study. Another by Card and Della Vigna (2013) uncovers “nine facts about top journals in Economics” in their survey study, one (Fact No. 9) of which is the rising citations to more recent papers in development and international topics. Their Online Appendix shows only 1.54% of the papers were in the set of most highly cited papers (top quartile of Google Scholar citations) in 1970–74 and their share more than doubled to 3.62% in 2010–12. Although not perfectly comparable, the size of the citation premium I uncover for non-US studies in the top Finance journals appears to exceed by a substantial margin what Card and Della Vigna find in the top Economics journals.

I begin with a discussion of the data collection effort and provide summary statistics on the publications on non-US topics in the major Finance journals over the last two decades. Next, I measure the home and foreign bias. I try to explain the academic home-bias and foreign-bias puzzles in the third section. The additional experiments on the citation analysis and the author affiliation analysis follow. The article closes with a discussion of missing elements in the analysis, opportunities for future research, as well as the potential

- 3 One hypothesis is that the bias problem may be more pronounced in some subfields of Finance than others. Indeed, the early work on the traditional home-bias puzzle and, in fact, the most prominent contributions in international finance was concentrated in the subfield of asset pricing. This has changed considerably during the last decade with the rise in international corporate finance and financial intermediation. If there is any early-mover advantage for scholars in asset pricing to pursue research on international markets, one might expect that the magnitude of the foreign bias to be weaker in the field of asset pricing and that our various competing explanations for the effect may have a better chance of success. In an early version of this article, I examined the magnitude of the foreign bias among Top four journals for asset pricing versus corporate finance studies, distinguishing between them using a blunt instrument of a word search in the article abstracts. The results did not uncover any systematic patterns. Details are available from the author upon request.
- 4 Alan Pritchard coined the term in 1969 in his study, entitled “Statistical Bibliography or Bibliometrics?” (*Journal of Documentation* 25(4), 348–349). He defines it as “the application of mathematics and statistical methods to books and other media of communication.” Citation and content analysis are common bibliometric methods.
- 5 Millet-Reyes (2013) studies the globalization of thirty-one journals in Accounting, Economics, and Finance to show that the proportion of global articles increased from a median of 15% in 2001 to a median of 25% in 2008. Improvements in rankings and in citation scores were positively affected for those journals that increased global coverage, especially in the Economics journals.

implications of the findings for young scholars, for seasoned scholars, for referees and editors, and for others involved in the development of scholarship in Finance.

2. Data

The first step in the data collection effort was to identify a source for all published papers in Finance. I use Business Source Complete, also known as EBSCO Publishing, an aggregator of full-text search library databases based in Ipswich, MA. Cornell's Management Library adapted their text-based search algorithms so that one can index and abstract business journals, and have full-text access for many of them. Several fields are available for the searches, including authors, their affiliations, titles, publication names, subject terms, geographic terms, industry codes, author supplied keywords and abstracts, and a variety of other items.

I leaned on the non-US geographic terms screen as a first pass, but supplemented with two searches. To compile "international" papers, I identified papers with "international," "global," "cross-border," "cross-list," "cross-country," "multinational," "world," "exchange rate," "currency," "countries," "foreign," "sovereign," "Asia," "Latin," "Europe," "Pacific," or "Emerging Market" in their titles, abstracts, or keywords. In order to identify the country-specific papers, I searched for all the papers containing a country's name or adjective in titles, abstracts, keywords, or geographic terms. For example, to collect all the China-specific papers, I searched for all papers with "China" or "Chinese" in their titles, abstracts, keywords, or geographic terms. See Online Appendix [Table F](#) for a screen capture with examples. The methodology is imperfect, but I explore a cross-validation experiment described in Section 5 that shows the misclassification rate is relatively low.

Which Finance journals did I choose? This is clearly an arbitrary choice. I decided to restrict the analysis to the top fourteen Finance journals by 2011 citation impact factor, as compiled in the Journal Citation Reports of Thomson Reuters. I add one caveat. There are journals that made the cut-off but that intentionally focus on international markets in their respective publication mandates, including Journal of International Money and Finance, Pacific-Basin Finance Journal, and the Emerging Markets Review. I treat these journals separately knowing that they will mitigate the US bias by design. But I also recognize that referees and editors at the other journals may have been influenced by their existence as an outlet in judging the relevance of international topics for their own journals. So, in almost all experiments below, I report findings both for the top fourteen journals and for the top seventeen journals (top seventeen), or the top fourteen with the additional three listed above. The final list of journals was what I refer to as the top four Finance journals (top four)—Journal of Finance, Review of Financial Studies, Journal of Financial Economics, and Journal of Financial & Quantitative Analysis—and the top fourteen Finance journals (top fourteen), which also include Journal of Corporate Finance, Financial Analysts Journal, Financial Management, Journal of Financial Intermediation, Journal of Empirical Finance, Journal of Financial Research, The Financial Review, Journal of Banking & Finance, Review of Finance, and Journal of Portfolio Management. The top four journals have a longer track record, so my data collection begin in 1990 and carry through 2011; for the top fourteen and top seventeen, the data collection begin only in 2000 given sparser coverage in the previous decade for many of them. In much of the analysis, I compare the

results of the top four, top fourteen, and top seventeen journals during the recent 2000–11 period.

Table I presents the count of non-US papers, as well as all empirical papers surveyed, and the resulting fraction. In Panel A, I report by year and, in Panel B, by country. The total sample of papers in the top four is 5,448 of which I identify 874 as non-US papers, an overall fraction around 16%. The non-US papers count as few as 18 in 1990 and reach a peak of 77 in 2008, but, of course, the number of published papers has steadily grown over time. The fraction never rises above 20%, except for 2008. There is a slight trend upward at a rate of 0.32% per year. In the top fourteen journals, the count rises from 102 in 2000 to a peak of 264 in 2011. Cumulatively across all years, I tally up 2,177 non-US papers, about 23% of all published empirical papers (9,233). The fraction is always higher than for the top four journals, ranging from 21% to around 27% in 2008 again. There is again slight upward trend of 0.34% per year. Including the three journals focused on international topics to make the top seventeen adds another 1,000 papers or so to the numerator and denominator, so the average fraction on non-US topics jumps to 30.2%. There is no detectable trend among the top seventeen journals.

I offer another important warning. There are, of course, many international studies published in Finance journals that examine multiple national stock or bond markets, national currencies. These cannot be pinned down to a particular country. If the study includes a comparison of, say, three countries, it may be easier to associate it as a country- or region-specific analysis.⁶ I mention this because the country-specific analysis of this study on the foreign bias will focus only on the subset of those studies that can be just so pinned down, up to a limit of five countries (an arbitrary choice). I restrict the sample to the forty-five countries with the greatest representation in the top fourteen journals over this period, admittedly another arbitrary screen. But this set comprises well over 95% of all country-specific studies.

In Table II, there are 306 studies in the top four journals (of the 874 total) since 1990 that focus on one or a few countries. The equivalent count is 864 for the top fourteen journals (of their 2,177 total) and 1,602 (of 10,599 in total). The countries that are well represented (near 5% of the total) in the counts include Canada, China, France, Germany, Japan, Korea, Sweden, and the UK. It is interesting to note that Australia represents well in the top fourteen (6.02%), but not the top four journals (only 1.31%), and there are interesting differences in relative representation across many countries, such as China (top fourteen over-representation by 7.14%, given 12.04% in top fourteen compared with 4.90% in top four), Japan (top fourteen under-representation by 6.76% relative to top four), and Spain (top fourteen over-representation by 3.37%). Of course, the horizons are different for the two samples of journals. The comparison of the top fourteen and top seventeen country representations reveals no obvious patterns and the differences are perhaps not surprisingly small.

6 An example is Pan and Singleton (2008), a paper entitled "Default and Recovery Implicit in the Term Structure of Sovereign CDS Spreads," which examines the viability of their single-factor model for the term structure of sovereign CDS spreads in Mexico, Turkey, and Korea.

Table I. Summary statistics on US bias in publishing papers in top Finance journals by year.

This table reports the annual count and fraction of published papers in top Finance journals on international (non-US) topics. Empirical papers published in Finance journals are determined by a search of abstracts, titles, keywords of the “international” papers (papers that include multiple non-US countries), and “country-specific” papers (papers that specifically study certain non-US countries) in the top four Finance journals (“top four,” *Journal of Finance*, *Review of Financial Studies*, *Journal of Financial Economics*, and *Journal of Financial & Quantitative Analysis*) from 1990 to 2011 and papers in the top fourteen finance journals (“top fourteen,” which also include *Journal of Corporate Finance*, *Financial Analysts Journal*, *Financial Management*, *Journal of Financial Intermediation*, *Journal of Empirical Finance*, *Financial Review*, *Journal of Financial Research*, *Journal of Banking & Finance*, *Review of Finance*, and *Journal of Portfolio Management*) from 2000 to 2011, and in the top seventeen finance journals (“top seventeen,” which is the top fourteen plus *Journal of International Money and Finance*, *Emerging Markets Review*, and *Pacific Basin Finance Journal*), also from 2000 to 2011. Data on publications are from EBSCO Publishing, an aggregator of full-text search library databases based in Ipswich, MA. See Online Appendix Table F for details on keyword search algorithms. We include forty-five different countries in the country-specific set. The top four Finance journals are studied over the full period and the top fourteen and top seventeen Finance journals for 2000–11 only.

Year	Top four journals			Top fourteen journals			Top seventeen journals		
	Fraction	Non-US papers	All papers	Fraction	Non-US papers	All papers	Fraction	Non-US papers	All papers
1990	8.91%	18	202						
1991	12.85%	23	179						
1992	11.73%	21	179						
1993	11.41%	20	175						
1994	13.46%	20	149						
1995	16.57%	28	169						
1996	11.35%	21	185						
1997	15.20%	30	197						
1998	18.79%	30	160						
1999	16.16%	34	210						
2000	18.85%	42	223	21.33%	102	478	29.89%	168	562
2001	17.62%	36	204	21.20%	106	500	30.74%	182	592
2002	17.45%	42	241	22.56%	134	594	30.62%	211	689
2003	18.14%	55	303	23.10%	152	658	29.82%	226	758
2004	12.21%	36	295	21.89%	166	758	27.95%	239	855
2005	18.69%	48	257	22.81%	163	715	29.87%	247	827
2006	14.83%	42	283	24.27%	183	754	30.91%	268	867
2007	17.49%	53	303	23.04%	194	842	28.93%	276	954
2008	25.09%	77	307	26.87%	229	852	33.16%	325	980
2009	19.53%	74	379	24.23%	237	978	30.16%	333	1,104
2010	13.47%	59	438	24.24%	247	1,019	30.66%	359	1,171
2011	15.86%	65	410	24.34%	264	1,085	29.92%	371	1,240
Total		874	5,448		2,177	9,233		3,205	10,599
count									
Average	15.71%			23.32%			30.22%		
fraction									

Table II. Summary statistics on US bias in publishing papers in top Finance journals by country

This table reports the annual count and fraction of published papers in top Finance journals on international (non-US) topics. Empirical papers published in Finance journals are determined by a search of abstracts, titles, keywords of the “country-specific” papers (papers that specifically study certain non-US countries) in the top Finance journals. See Table I for constituents of “top four,” “top fourteen,” and “top seventeen” journals. Total counts and fractions by country are reported among the non-US country-specific studies published in the top four Finance journals for 1990–2011 and for the top fourteen and top seventeen Finance journals for 2000–11 only.

Country	Top four journals		Top fourteen journals		Top seventeen journals	
	Fraction	Count	Fraction	Count	Fraction	Count
Argentina	0.98%	3	0.46%	4	1.37%	22
Australia	1.31%	4	6.02%	52	7.24%	116
Austria	0.33%	1	0.23%	2	0.19%	3
Belgium	0.33%	1	0.12%	1	0.06%	1
Brazil	0.65%	2	0.93%	8	1.44%	23
Canada	6.54%	20	6.48%	56	4.81%	77
Chile	1.63%	5	0.93%	8	1.06%	17
China	4.90%	15	12.04%	104	10.24%	164
Colombia	2.29%	7	0.81%	7	0.56%	9
Czech Republic	0.00%	0	0.12%	1	0.62%	10
Denmark	0.33%	1	0.35%	3	0.37%	6
Finland	3.92%	12	1.74%	15	1.06%	17
France	4.58%	14	4.28%	37	3.37%	54
Germany	5.56%	17	7.87%	68	7.62%	122
Greece	1.96%	6	0.93%	8	0.69%	11
Hong Kong	2.29%	7	3.36%	29	4.06%	65
Hungary	0.00%	0	0.23%	2	0.44%	7
India	1.63%	5	1.74%	15	1.50%	24
Indonesia	1.31%	4	0.81%	7	1.25%	20
Ireland	0.00%	0	0.12%	1	0.12%	2
Israel	0.98%	3	0.46%	4	0.25%	4
Italy	2.94%	9	3.70%	32	2.31%	37
Japan	19.61%	60	12.85%	111	13.86%	222
Korea	5.56%	17	4.63%	40	4.74%	76
Malaysia	0.33%	1	0.58%	5	1.19%	19
Mexico	2.94%	9	1.04%	9	2.31%	37
The Netherland	0.33%	1	1.62%	14	1.25%	20
New Zealand	0.00%	0	0.93%	8	1.94%	31
Norway	2.29%	7	0.81%	7	0.56%	9
Pakistan	0.65%	2	0.35%	3	0.19%	3
Peru	0.00%	0	0.00%	0	0.00%	0
Philippine	0.00%	0	0.00%	0	0.37%	6
Poland	0.00%	0	0.00%	0	0.37%	6
Portugal	0.00%	0	0.46%	4	0.31%	5
Russia	1.31%	4	0.81%	7	0.69%	11
Singapore	0.65%	2	0.69%	6	1.81%	29

(continued)

Table II. Continued

Country	Top four journals		Top fourteen journals		Top seventeen journals	
	Fraction	Count	Fraction	Count	Fraction	Count
South Africa	0.33%	1	0.12%	1	0.12%	2
Spain	0.33%	1	3.70%	32	2.50%	40
Sweden	3.92%	12	1.50%	13	1.25%	20
Switzerland	1.96%	6	0.81%	7	1.06%	17
Taiwan	1.31%	4	2.66%	23	3.37%	54
Thailand	1.63%	5	0.69%	6	1.12%	18
Turkey	0.33%	1	0.69%	6	0.44%	7
UK	12.09%	37	11.34%	98	9.36%	150
Venezuela	0.00%	0	0.00%	0	0.56%	9
Total count		306		864		1,602

3. How Big Is the Home Bias in Finance Research?

The next step is to measure the actual home bias (and associated foreign bias). In the traditional home-bias literature, the convention is to calibrate the foreign holdings of an investor by the capitalization of foreign markets relative to the world’s total capitalization.⁷ For my purposes, I will evaluate the fraction of international published papers by year in excess of the fraction of the world’s total capitalization—which includes public and private bond markets, stock markets, as well as total bank assets—that is represented by non-US markets. That is, I compute the simple difference between the two fractions. For the foreign bias, I will compute the fraction of published papers on a given country by year less the fraction of the world’s total capitalization excluding the USA that is constituted by that country’s equity and bond markets and total bank assets. Annual data on each country’s equity and bond market capitalization as well as the total private credit by deposit money banks and other financial institutions are from the World Bank’s World Development Indicators and Financial Structure and Development databases.

Figure 1 presents the home bias in Finance research by year. The excess fraction is negative (fewer international papers published than their fraction of world total capitalization), and averages –45% and ranges from a peak of –40% in 1990 to a low of –21% in 2008 for the top four journals. For the top fourteen journals, the bias is smaller averaging around –23% and only –16% for the top seventeen, but these statistics only apply from 2000 to 2011. It is interesting to note the declining trend of –0.6% per year in the bias through the 1990s, which reflects the rising raw fraction of international papers in the top four journals we saw in Table I. But this trend in the bias diminishes in the 2000s for the top four journals and is a slower decline.

7 See Karolyi and Stulz (2003, Figure 1) for the USA. Dahlquist *et al.* (2003) demonstrate how important it is for identification of the home bias to adjust the market capitalization of a country for the fraction of shares that are freely floating. For many companies with dominant controlling shareholders, large fractions of the shares are tied up in such large blocks. I make no adjustments for free float, but instead choose alternative benchmarks altogether. Cooper, Sercu, and Vanpeé (2013) also show how the measurement is influenced by the mathematical form of the expression (relative ratio, difference of fractions, re-scaling to account for near-zero base fractions, etc.).

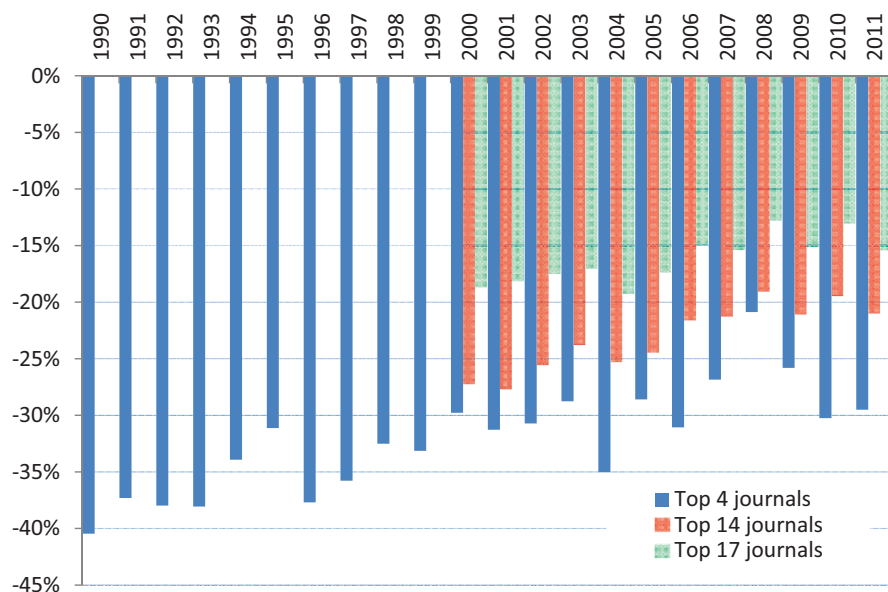


Figure 1. US home bias in publishing papers in top Finance journals, 1990–2011.

This figure presents the annual excess fraction of published papers in top Finance journals on international (non-US) topics in which it is defined in excess of the fraction of the world's total capitalization that is represented by non-US markets (including equity, private and public bond market capitalization, and total bank credit). The fraction of empirical papers published in Finance journals is determined by a search of abstracts, titles, keywords of the "international" papers (papers that include multiple non-US countries), and "country-specific" papers (papers that specifically study certain non-US countries) in the top four Finance journals ("top four," *Journal of Finance*, *Review of Financial Studies*, *Journal of Financial Economics*, and *Journal of Financial & Quantitative Analysis*) from 1990 to 2011, papers in the top fourteen finance journals ("top fourteen," which also include *Journal of Corporate Finance*, *Financial Analysts Journal*, *Financial Management*, *Journal of Financial Intermediation*, *Journal of Empirical Finance*, *Financial Review*, *Journal of Banking & Finance*, *Review of Finance*, and *Journal of Portfolio Management*) from 2000 to 2011, and papers in the top seventeen finance journals ("top seventeen," which also include *Journal of International Money and Finance*, *Pacific Basin Finance Journal*, and *Emerging Markets Review*) from 2000 to 2011. Data on publications are from EBSCO Publishing, an aggregator of full-text search library databases based in Ipswich, MA. See Online Appendix Table F for details on keyword search algorithms. We include forty-five different countries in the country-specific set. Annual data on public and private bond market capitalization and private credit by deposit money banks and other financial institutions are obtained from the World Bank's Financial Structure and Development database (November 2013 update).

Perhaps the traditional approach in the home-bias literature of using relative total capitalization as a benchmark is unsatisfactory? After all, what we really seek is some normative statement about the economic importance of non-US markets to guide research. In Table III, I report the average (and standard deviation of) annual raw and excess fraction of non-US papers for the top four journals over the full 1990–2011 and 2000–11 periods as well as for the top fourteen and top seventeen journals over the more recent sub-period. The summary statistics in the third and fourth columns are as reported above from Table I and Figure 1. In the next three columns to the right, I recomputed the excess fraction of non-US publications using three other benchmarks: the relative equity market capitalization

Table III. Explaining the US home bias in publishing papers in top Finance journals, 1990–2011

This table reports summary statistics of the annual excess fraction of published papers in top Finance journals on international (non-US) topics in which it is defined in excess of the fraction of the world’s total capitalization (including equity, private and public bond market capitalization, and total bank credit), equity market capitalization, GDP, and the market value of trading that is represented by non-US markets. The fraction of empirical papers published in Finance journals is determined by a search of abstracts, titles, keywords of the “international” papers (papers that include multiple non-US countries). See Table I for constituents of “top four,” “top fourteen,” and “top seventeen” journals. The author affiliation ratio is the fraction of non-US-affiliated authors in the top four Finance journals (Online Appendix Table A). Fraction of non-US Ph.D.s is the trailing 5-year average of the number of Finance Ph.D.s graduating from non-US universities (Online Appendix Table B). Fraction of non-US CFAs is the fraction of CFA charter-holders located outside the USA (See Online Appendix Table G). Net portfolio flows is the net purchases by US residents of foreign stocks and bonds from foreigners as a fraction of the average of their gross purchases and gross sales. Excess returns are the cumulative monthly returns each year on the Morgan Stanley Capital International (MSCI) all-capital World index (ACWI) denominated in US\$ less that of the MSCI USA index. Variance ratio is the natural log of the ratio of the annual variance of MSCI ACWI monthly returns to that of the MSCI USA index. See Online Appendix Table C for details. We include forty-five different countries in the country-specific set. Annual data on equity market capitalization, GDP, and market value of equity trading are available from the World Bank’s World Development Indicators database. Annual data on public and private bond market capitalization and private credit by deposit money banks and other financial institutions are obtained from the World Bank’s Financial Structure and Development database (November 2013 update).

Panel A: Summary statistics on annual raw and excess fraction of non-US papers

		Fraction in excess of relative weight by:				
		Raw fraction	Total capitalization	Equity market capitalization	GDP	Value of trading
Top four (1990–2011)	Average	15.71%	–32.11%	–45.90%	–55.28%	–17.02%
	Standard deviation	3.64%	4.69%	7.82%	4.74%	12.80%
Top four (2000–11)	Average	17.43%	–29.04%	–45.29%	–52.88%	–26.30%
	Standard deviation	3.29%	3.46%	6.98%	4.27%	9.23%
Top fourteen (2000–11)	Average	23.32%	–23.15%	–39.40%	–46.99%	–20.41%
	Standard deviation	1.59%	2.94%	5.75%	2.28%	8.01%
Top seventeen (2000–11)	Average	30.22%	–16.26%	–32.50%	–40.09%	–13.51%
	Standard deviation	1.25%	2.11%	6.64%	3.02%	8.79%

Panel B: Correlations of annual excess fraction of non-US papers relative total capitalization

Correlations with:	Top four journals (1990–2011)	Top fourteen journals (2000–11)	Top seventeen journals (2000–11)
(a) Time trend	0.8078	0.9120	0.8025
(b) Author affiliation ratio (detrended)	0.1884	0.1864	0.1984
(c) Fraction of non-US Ph.D.s (de-trended)	0.2364	0.0484	–0.0890
(d) Fraction of non-US CFAs (de-trended)	–0.0437	0.2878	0.0189
(e) Net portfolio flows (de-trended)	–0.1133	–0.2647	–0.4934
(f) Excess returns (de-trended)	0.0139	0.2324	–0.1086
(g) Variance ratio (de-trended)	–0.0024	0.2592	0.1066

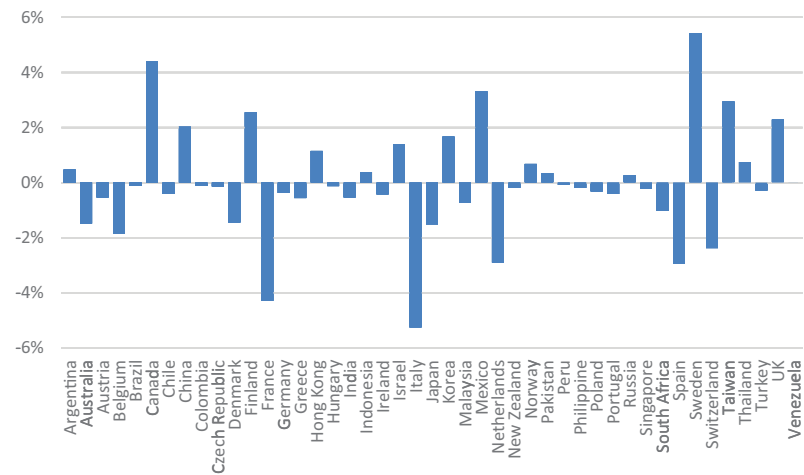
of non-US countries, the relative GDP of non-US countries, and the relative US-dollar-denominated market value of trading, respectively. The magnitude of the bias is even larger using equity market capitalization alone without public and private bond markets or bank assets. That many non-US markets are more bank-centered implies that our original benchmark of total capitalization may be more sensible. More interestingly, these data reveal a dramatic turn in the trend toward an even larger bias in the 2000s as the US share of the world's equity market capitalization diminished over the decade (see Online Appendix Figure A). The average US bias is even larger using relative GDP (-45.9% for the top four journals, -40.1% for the top seventeen). There are many reasons to be concerned about benchmarking with the relative value of trading given differences in trading systems around the world. Nevertheless, the US bias is relatively smaller on average using this alternative approach. Unreported results show how the relatively heightened trading in US markets around the technology-media-telecom "bubble" may be part of the explanation. The message is quite consistent across the benchmarks: a large, persistent US bias between 20% and 50% with a slight downward trend. I conduct all of my empirical tests trying to explain the bias in the next section using all three of these benchmark methods, but mostly focus only those tests using relative total capitalization.

How big is the foreign bias in Finance research? Are there some countries that are overweighted? Underweighted? Do these over- and under-weights by country change over time? Figure 2 provides the answer using the relative total capitalization as the benchmark. Remember my earlier caution about the fact that only about one-third of the non-US studies can be classified as focusing on a particular country or small set of countries. In Panel A, I exhibit the average annual excess fraction of published papers by country for the top four Finance journals for the period 1990–2011. The countries with the largest overweights are Sweden (just over 5%), Canada (4%), Mexico (3%), Finland (3%), and China (2%). Among the largest underweights are Italy (-5%), France (-4%), the Netherlands (-3%), Spain (-3%), and Switzerland (-2%).⁸

In Panel B of Figure 2, I compute the foreign-bias measures using the most recent decade and separately for the top four and top seventeen journals. The figure is in the form of a scatterplot with the excess fractions for the top four journals on the y-axis and the top seventeen on the x-axis. A 45-degree line plotted in the figure shows us where the excess fractions country-by-country would lie if they were equal in the two sets of journals. Countries like Sweden, Finland, Canada, and Mexico lie above the line which implies that there is a higher excess fraction of studies focused on those markets in the top four journals

8 Undoubtedly, special data advantages have been an important reason for some of these outcomes. The high-quality data on wealth, income, age, and other demographic, pension, and occupational data on Finnish and Swedish households are a factor in the large representation of such studies (12 each in Top four journals, by Table 2). Prominent examples include Giannetti and Laeven (2009) and Grinblatt, Keloharju, and Linnainmaa (2011). It is harder to make the case about countries with large underweights and a lack of special data, however. One hypothesis is that international differences in information privacy concerns may be less in some countries than others; a useful study indicates fewer privacy concerns with Internet experience (Bellman *et al.*, 2004). The World Economic Forum's Global Technology Report of Dutta, Geiger, and Langevin (2015) lists Finland, Sweden at the top of the list of countries on internet uptake (second and third, respectively). But the Netherlands and Switzerland also score well in the top six among nations.

Panel A: Average annual excess fraction of published papers by country for the Top 4 Finance journals, 1990 – 2011



Panel B: Scatterplot of average annual excess fraction of published papers by country for the Top 4 and Top 17 Finance journals, 2000 – 2011

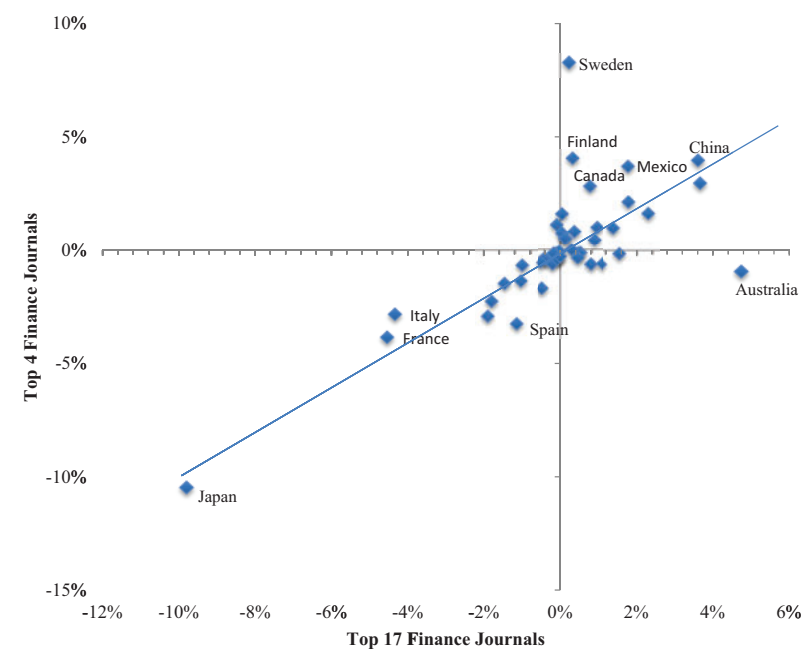


Figure 2. Foreign bias in publishing papers in top Finance journals, 1990–2011. This figure presents the annual excess fraction of published papers in top Finance journals on non-US country-specific topics in which it is defined in excess of the fraction of the world’s total capitalization (excluding the USA) that is represented by that country’s market (including equity, private and public bond market capitalization, and total bank credit). The fraction of empirical papers published in Finance journals is determined by a search of abstracts, titles, keywords of “country-specific” papers (papers that specifically study certain non-US countries) in the top four Finance journals from 1990 to 2011, and papers in the top fourteen and top seventeen finance journals from 2000 to 2011.

compared with the top seventeen journals. The overweights for those countries above are influenced strongly by their appearances in the top four journals. In contrast, Australia, Spain, and Japan lie below the line implying a relatively smaller underweight in the top seventeen journals than in the top four journals. There are some striking contrasts with Panel A. The negligible underweight for Japan using the full sample of -1.5% becomes a large underweight (-10%) in the recent decade—scholars in Finance seem to have lost interest in the study of Japanese markets. Canada's 4.5% overweight in the full period also diminishes (to fewer than 3%). However, China's overweight is even larger in the 2000s than earlier reaching in excess of 4% , which implies that this interest in Chinese markets is a distinctly recent phenomenon.

4. Can We Explain the Home-Bias and Foreign-Bias Phenomena?

There are undoubtedly as many forces at work in influencing how many articles on non-US markets Finance journals publish as there are stakeholders in the publishing process: authors, referees, editors, research assistants, data vendors, and, of course, the readership. I assemble about half a dozen of these explanations in this first effort. Some of them are inspired by the traditional home-bias literature on investor behavior and some are constrained by data availability. I organize them into three groups: (a) supply factors, which are related to the production of research on non-US markets; (b) demand factors, which are related to the potential interest of the marketplace in non-US markets; and (c) other factors, including what some might call behavioral. The experiments will also be of two types. The first part of the analysis will focus on the home bias in Finance research, which seeks to explain the excess fraction of publications on international markets (both multi-country and single-country studies). Most of the variation stems from the time series, the power of which will be limited by the short span of time. The second part of the analysis will focus on the foreign bias. Much more interesting country-year variation opens up for panel regression analysis. I outline the hypotheses and how I test them for the US bias time-series tests and then recycle the same ideas and proxy measures for the foreign-bias panel tests.

3.1 Simple Time-Series Tests of the US "Home" Bias

Panel B of Table III presents the basic time-series analysis. The dependent variable is the annual excess fraction of international publications using the relative total capitalization as the benchmark. I perform the calculations for the 22 years in the top four journals and for the 12-year horizon in the 2000s for the top fourteen and top seventeen journals. The first

See Figure 1 for the list of journals in each category. Data on publications are from EBSCO Publishing, an aggregator of full-text search library databases based in Ipswich, MA. See Online Appendix Table F and text for details on keyword search algorithms. We include forty-five different countries in the country-specific set. Panel A presents the average annual excess fraction of published papers by country for the "top four" Finance journals using publications from 1990 to 2011. Panel B presents a scatterplot of those excess fractions by country for the "top four" and "top seventeen" Finance journals from 2000 to 2011. The equation in the figure reports the intercept and slope coefficients of a best-fitted line with the associated coefficient of determination (R^2). We include forty-five different countries in the country-specific set. Annual data on public and private bond market capitalization and private credit by deposit money banks and other financial institutions are obtained from the World Bank's Financial Structure and Development database (November 2013 update).

variable I introduce is a simple time trend. The annual excess fraction of non-US papers is positively correlated with the trend averaging between 0.80 for the top four journals over 1990–2011 to 0.91 for the top fourteen over 2000–11. Using conventional tests, these correlation coefficients are statistically reliably different from zero. The statistics reaffirm what we already saw in Figure 1. Given this reliable trend in the data, I continue from here by detrending (using a simple linear functional form) the respective annual excess fractions in the groupings of journals. I then report correlations between the detrended series and that of the explanatory variables I now introduce.

My first proxy for a supply factor is what I call the “author affiliation ratio.” Each year, I identified the home institution of each author for each paper published in the top four journals. Home institutions are then assigned to the USA or one of the forty-five countries in our sample. If an author lists two affiliations and only one is a non-U institution, I assign a score of 0.5. The source is the same EBSCO database, except I needed to match each author’s affiliation with a university or other institution outside the USA. I identified 10,744 authors across all years (representing an average of 1.97 authors per paper), of which 2,015 were from non-US institutions. I report in Online Appendix Table A the author affiliation ratio by year (and by country). The ratio has been steadily rising from around 10% to almost 30% (261 authors) by 2011. My hypothesis is that the higher is the fraction of successfully published authors affiliated with non-US institutions the lower is the US “home” bias. Part of this may come from their greater penchant for the study of markets outside the USA, but those publishing in the top four journals may also create a deeper pool of referees for all journals who have a greater appreciation for attributes of non-US markets from which we can all learn. I linearly de-trend this series, in turn, and confirm that there is a positive correlation in the top four journals over the full period (0.19) and even for the top fourteen and top seventeen journals for the shorter period (0.19 and 0.20, respectively). But these correlations are not reliably different from zero using conventional criteria.⁹ The weakness of this relationship is surprising at first.

In the next section, I will decompose further author affiliations by the topic area of the papers in the top four journals to show that US-affiliated authors disproportionately comprise the set of scholars focused on non-US markets and only in the last 4 years has this abated. Even more dramatically, non-US-affiliated scholars are disproportionately focused on the study of US relative to non-US markets for most of the period of analysis. That is, for every one non-US-based study on which a non-US-based scholar is a co-author, there are 1.85 studies on US-based topics; in contrast, for a US-based scholar, every one US-based study is associated with 0.17 studies on non-US-based topics. I will defer until later some possible reasons for this finding.

Another important factor that can influence the supply of research on non-US topics is the scholarship generated by growing contingents of Finance Ph.D. students graduating from universities outside the USA. I hypothesize that recent Ph.D. students are more likely to uncover new, interesting databases on which to test economic questions and local advantages in acquiring data could prevail. To pin down this hypothesis, I collected data on non-US Finance Ph.D. students from the Worldwide Directory of Finance—a site managed by Ohio State University for the American Finance Association—from 1986 to 2011. I

9 For the longer sample period, a positive or negative correlation of at least two standard errors from zero would require an absolute value in excess of 0.40 and, for the shorter period, at least an absolute value in excess of 0.58.

computed the overall ratio relative to all Ph.D. students by 5-year cohorts (1986–90 graduates for 1990, 1987–91 for 1991, and so on) in order to allow for possible lagged effects. Online Appendix [Table B](#) reports how the international students have grown in number from around 11% in 1990 to around 30% through the 2000s. I also report the counts and fractions by country; across the whole period, the UK (569) leads, followed by India (328), Canada (317), and The Netherlands (149).

Panel B reports the correlations of the de-trended series on the fraction of non-US Ph.D.s with the annual excess fraction of non-US papers published. They are positive for the top four journals (0.24), but very close to zero for the top fourteen (0.05) and even negative for the top seventeen (−0.09). None of them is reliably different from zero. I cannot do the decomposition of published authors mentioned above to examine what kind of research these non-US Ph.D.s pursue, but it may also be disproportionately focused on US markets in a way similar to the non-US authors publishing in the top Finance journals with whom they are likely to be collaborating.

Measuring the demand for research on non-US markets is elusive at best. In some sense, our calibration of the non-US publication ratios against the relative total capitalization, relative GDP, and relative value of trading to generate the home and foreign biases already tries to capture the economic importance of those markets. But maybe we can do more. One possible source of demand for additional scholarship in Finance outside the USA may stem from the additional need for Finance training. Measuring the need for training as a concept is difficult enough let alone identifying where it may be originating geographically. I construct a rough proxy. I obtain data from the Chartered Financial Analyst (CFA) Institute on number of registered charter-holders of the CFA designation. The CFA credential is a respected and well-recognized designation in the world in which charter-holders cover a multi-year curriculum covering concepts about academic finance, best practices, ethical and professional standards for investment analysis and portfolio management skills. Of course, this is a narrow set of skills relative to the scope of research done by scholars, but it may capture the vibrancy of capital market development outside the USA and the extent to which demand for Finance training spurs scholarship on the topic, in turn. As of 2011, almost 140 countries are represented reaching as many as 105,890 charter-holders. In Online Appendix [Table G](#), I show that the fraction of charter-holders domiciled outside the USA has risen from 12.28% to 47.12%. In Panel B of [Table III](#), the detrended fraction of non-US CFA charter-holders is not significantly correlated with the annual excess fraction of non-US papers published for the top four (−0.04), top fourteen (0.29), or top seventeen (0.02) journals.

In the traditional home bias literature, studies on the nature of portfolio holdings are just as likely as those that study changes in those holdings or, in other words, cross-border portfolio flows. Flows have grown dramatically during the past three decades, especially to emerging markets. There are many studies of these portfolio flows, their volatility and potential destabilizing influences to the markets. With freer flows, markets become more closely connected which, in turn, may be associated with stronger co-movement of securities prices. Perhaps the co-movement becomes excessively strong beyond what is reasonable given fundamentals which some scholars associate with “financial market contagion” (see Section 4 of Karolyi and Stulz, 2003). [Tesar and Werner \(1995\)](#), [Brennan and Cao \(1997\)](#), among many others, show a strong link between foreign portfolio flows and stock returns across countries and over time; Brennan and Cao, in fact, develop a theory of positive feedback trading that reflects asymmetry of information for foreign investors relative

to domestic investors which they test and verify. Foreign investors know less and reveal this by chasing prior quarter's returns in a given target market.

I hypothesize that demand for Finance research on international markets may reveal similar patterns as they relate to foreign portfolio flows, relative returns, and even relative volatility of returns. Finance scholars may be linked to the marketplace's interest in non-US markets revealed as a positive link with cumulative net portfolio flows to those markets (say, by US residents purchasing foreign stocks and bonds). More studies may be published on "hotter" markets as revealed by countries and years in which their returns exceed those of, say, the US. Scholars may be just as attracted to markets with higher volatility (measured, say, as a variance ratio relative to US market volatility) as they are detracted by them given research shows foreign investors withdraw when those markets are perceived to be riskier (Pastor, 2000; Glassman and Riddick, 2001; Li, 2004). To this end, I compute cumulative annual net portfolio flows (gross purchases less gross sales as a fraction of the total) from the US Treasury's Treasury International Capital (TIC) database from US investors to all foreign markets. I also compute cumulative annual excess returns on the MSCI All-Capital World Index (ACWI) excluding the US relative to that of the USA as well as the variance ratio (in natural logarithm) using data from Datastream. (Online Appendix Table C furnishes raw flows, returns, and volatilities averaged by year and country.)

Panel B of Table III shows little success with these three demand proxies for the time series on the excess fraction of non-US papers in the top journals. The correlation coefficient with net portfolio flows (de-trended) is negative for the top four, top fourteen, and top seventeen US bias, also linearly de-trended. Only that for the top seventeen journals may reliably differ from zero (-0.49) with some statistical confidence. But there is little economic intuition for a contrarian relationship between foreign portfolio flows and non-US research; it is further surprising that it would be so when measuring research in journals dedicated to the study of non-US markets. There is, however, a positive-feedback effect: Finance research on non-US markets is positively associated with higher MSCI ACWI excess returns. The correlation is positive for the top four (0.01) and top fourteen (0.23) journals, though negative for the top seventeen. Not a huge effect, but not irrelevant. The relative volatilities (Variance ratio (log)) are more likely to be positively correlated with non-US research in the top fourteen and top seventeen journals, but again the statistical relationship is weak.

Overall, these findings are disappointing. There is a large home bias in Finance research with a substantial fraction of unexplained variation over time. There is a steadily declining trend over the period of our analysis, but only weak evidence that Finance research on non-US markets is linked to any proxies of supply or demand factors beyond it.

3.2 Panel Regression Tests of the Foreign Bias

The foreign bias reflects the extent to which investors' under- or over-weight certain foreign markets among their foreign holdings. I have shown that Finance scholars have systematically under- and over-weighted certain non-US markets in terms of topics of research with the set of published studies on international markets. The actual foreign bias in portfolio holdings, as implied by an international equilibrium setting, arises from barriers to cross-border investments. These can be direct barriers, like foreign investment restrictions, differential taxes, transactions costs, but they can also be indirect barriers like a lack of familiarity with foreign markets. Kang and Stulz (1997) observed how US investors tend to invest

in larger, more internationally known manufacturing firms in Japan. Grinblatt and Keloharju (2001) show that Finnish investors whose native language is Swedish are more likely to own stocks of Finnish companies that supply annual reports in Swedish and have Swedish speaking CEOs. Beyond common language and culture, familiarity can be measured by geographic proximity (Coval and Moskowitz, 2001), and economic proximity, such as a similarity of exchange trading rules, common legal and political systems. Chan, Covrig, and Ng (2005) show how well measures of familiarity broadly defined can explain the foreign bias in US mutual funds' overseas holdings.

I construct a number of familiarity proxy variables to evaluate their explanatory power for the foreign bias effect in Finance research. The measure of openness of markets comes from the Standard & Poor's Emerging Markets Database (EMDB Openness) and from a US cross-listing ratio of the fraction of shares from a country that is cross-listed in US markets (Doidge, Karolyi, and Stulz, 2009). I identify whether the foreign market has English as one of its official languages from the CIA Fact Book. Geographic distance from New York is measured in miles (in natural logs). I measure economic proximity based on a number of variables related to the exchange trading, legal and political environment, and all computed in a related way. For each index of interest, I estimate the absolute distance in the index score for a country from that of the USA and multiply it by -1 . A higher (less negative) score implies closer proximity and greater familiarity. From the World Bank's World Governance Indicators, I select among their standardized indexes of disclosure quality, legal protections for minority investors, political stability, rule of law, and control of corruption. We also include the anti-director rights index of La Porta *et al.* (1998) and a composite index of the component scores on exchange trading rules from Cumming, Johan, and Li (2011). Some of these measures are time-invariant, others vary over time. (See Online Appendix Tables D and E for variable construction).

Table IV presents panel regressions of country-years for the foreign bias. Panel A examines the top four Finance journals for the full sample (22 years \times 45 countries or 990 observations) and Panel B does the same for the top seventeen Finance journals for the 2000s (12 years \times 45 countries or 540 observations). The same for the top fourteen journals is available upon request and is very similar to that for the top seventeen. The standard errors are double-clustered by country and year. Note that the odds are stacked against finding reliable positive support for these familiarity variables with so many country-year observations with zeroes. In each panel, the first three models assess the supply and demand factors that we tried before with the US "home" bias. Of course, these variables are constructed now by country instead of for all non-US markets in aggregate. The net portfolio flows between US residents and a particular country are also from the US Treasury's TIC database and the MSCI US dollar-denominated country index returns are all from Datastream.

The author affiliation ratio is positively related to the foreign bias. The coefficient in Model (1) is 0.1154 in Panel A, it is reliably different from zero (robust t -statistic of 5.71) and reasonably important in magnitude: a one-standard deviation increase in the country-year affiliation ratio (5.13%) is associated with a 0.59% increase in the foreign bias of a typical country, which is about 11.5% of its unconditional variation. The coefficient is larger, but its effect is much weaker in the omnibus regression of Model (8). In both models for the top seventeen journals in Panel B, the coefficient is statistically reliably different from zero. The other supply proxy associated with the number of Ph.D. students is irrelevant in most of these tests. The exception is in the omnibus Model (8) for the top seventeen journals: a larger fraction of Ph.D. students graduating from a given country is associated

Table IV. Panel regression analysis of foreign bias in publishing papers in top Finance journals, 1990–2011.

This table regresses the excess fraction of the papers published in top Finance journals on non-US topics by country in which it is defined in excess of the fraction of the country's total capitalization relative to that of all non-US countries. See Table II for the definition of the empirical papers published in Finance journals. The dependent variable is the annual excess fraction of published papers on topics related to a particular country. The author affiliation ratio is the fraction of country-affiliated authors in the top four Finance journals (Online Appendix Table A). Fraction of Ph.Ds is the trailing 5-year average of the number of Finance Ph.D.s graduating from that country's universities (Online Appendix Table B). Net portfolio flows is the net purchases by US residents of foreign stocks and bonds from foreigners as a fraction of the average of their gross purchases and gross sales is computed annually by country. Excess returns are the cumulative monthly returns on the Morgan Stanley Capital International (MSCI) country index denominated in US\$ less that of the MSCI USA index. Variance ratio is the natural log of the ratio of the annual variance of MSCI country's monthly returns to that of the MSCI USA index. Proximity measures are defined in Online Appendix Tables D and E. Own (Regional) momentum is the previous year's excess publication rate for that country (region excluding country of interest). See Table I for constituents of "top four," "top fourteen," and "top seventeen" journals. Panel A presents results for panel regressions for the top four Finance journals over the full period, Panel B, for the top seventeen Finance journals for 2000–11 only. All panel regressions use robust standard errors double clustered on year and country.

Panel A. Top four journals, 1990–2011 (22 years × 45 countries, 990 observations)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic)							
Author affiliation ratio	0.1154 (5.71)***							0.2005 (1.61)
Fraction of non-US Ph.D.s		0.0411 (0.61)						−0.1364 (−1.02)
Net portfolio flows (%)			−0.0006 (−0.18)					0.0054 (1.42)
Excess returns			−0.0011 (−0.40)					−0.0030 (−0.58)
Variance ratio (log)			0.0098 (2.47)**					0.0179 (2.15)**
<i>Proximity measures</i>								
Exchange trading rules				−0.0009 (−1.34)				
WB disclosure					−0.0005 (−0.22)			
WB protection					0.0018 (0.55)			
EMDB openness						0.0030 (0.19)		0.0033 (0.27)
US cross-listing ratio						−0.0001 (−0.14)		−0.0003 (−0.69)
Common law dummy						0.0115 (1.18)		0.0154 (1.48)
								(continued)

Table IV. Continued

Panel A. Top four journals, 1990–2011 (22 years × 45 countries, 990 observations)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic)							
Anti-director rights						−0.0024 (−0.56)		−0.0033 (−1.01)
Geographic (log miles)						0.0077 (1.26)		0.0186 (1.63)
English language dummy						−0.0037 (−0.34)		0.0043 (0.52)
WB political stability						−0.0029 (−0.70)		−0.0026 (−0.54)
WB rule of law						0.0060 (1.10)		0.0060 (1.38)
WB control of corruption						−0.0156 (−2.38)**		−0.0157 (−2.08)**
<i>Momentum measures</i>								
Own momentum							0.2192 (1.91)*	0.1709 (1.57)
Regional momentum							0.0070 (0.81)	−0.0051 (−0.29)
Observations	925	925	895	642	218	434	840	418
Adjusted R ²	0.0139	0.0012	0.0070	0.0057	0.0033	0.0257	0.0389	0.0978

Table IV. Continued

Panel B. Top seventeen journals, 2000–11 (12 years × 45 countries, 540 observations)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic) Coefficient (<i>t</i> -statistic)							
Author affiliation ratio	0.0923 (3.03)***							0.1520 (2.17)**
Fraction of non-US Ph.D.s		0.0373 (0.01)						−0.1446 (−3.04)***
Net portfolio flows (%)			−0.0040 (−0.77)					−0.0106 (−3.18)***
Excess returns			0.0007 (0.24)					0.0044 (1.47)
Variance ratio (log)			0.0063 (1.62)					0.0058 (1.59)
<i>Proximity measures</i>								
Exchange trading rules				−0.0009 (−1.50)				
WB disclosure					−0.0011 (−0.63)			
WB protection					−0.0002 (−0.11)	−0.0346 (−2.51)**		−0.0355 (−3.15)***
EMDB openness						0.0003 (0.82)		0.0001 (0.54)
US cross-listing ratio						−0.0011 (−0.17)		0.0009 (0.12)
Common law dummy						−0.0045 (−1.12)		−0.0050 (−1.45)
Anti-director rights						−0.0055 (−1.11)		−0.0010 (−0.09)
Geographic (log miles)						0.0224 (2.32)**		0.0276 (3.01)***
English language dummy						−0.0014 (−0.53)		−0.0015 (−0.66)
WB political stability						0.0105 (1.97)**		0.0101 (1.95)**
WB rule of law						−0.0059 (−0.98)		−0.0063 (−0.91)
WB control of corruption							0.1318 (1.71)*	0.0381 (1.27)
<i>Momentum measures</i>								
Own momentum							0.0093 (0.64)	−0.0127 (−1.72)*
Regional momentum								
Observations	535	535	531	369	222	446	475	430
Adjusted R ²	0.0138	0.0016	0.0048	0.0091	0.0074	0.1640	0.0215	0.2285

with less research in Finance journals on that country. Among the demand proxies in Model (3), the most promising effect is the positive association with the variance ratio (in logs). The positive coefficient is 0.0098 in Panel A, it is precise with a (robust double-clustered by country and year) t -statistic of 2.47, but its economic magnitude is small: a one-standard deviation increase in variance ratio (4.12%) is associated with only a 0.04% increase in foreign bias. The net foreign portfolio flows are negatively linked to the foreign bias with some precision in Model (8) for the top seventeen journals, a finding that we noted above in the simple time-series tests and that again implies unintuitively that Finance research systematically avoids the study of countries which has active market interest from US investors.¹⁰ Overall, the established supply and demand factors capture as much as 2% of the unconditional variation in the foreign bias, which leaves a lot of room for improvement.

Models (4)–(7) in each panel of Table IV provide the first glimpse of the familiarity variables. I report results separately for select measures, like the proximity variable for exchange trading rules, and the World Bank disclosure and investor protection, because they constrain the sample so much. Only the World Bank's control of corruption variable shows some explanatory power for the top four journals and with an unexpected negative sign: greater proximity in control of corruption with the US decreases the foreign bias in Finance research. Among the top seventeen journals, there are more interesting relationships to study. When I open up the analysis to the broader set of familiarity variables in Model (6), the proximity measure for English language is reliably positive (coefficient of 0.0224 implies a 2.24% higher research bias) as is that for the World Bank's Rule of Law (coefficient of 0.0105 is associated with a 0.87% higher country bias), so the economic magnitudes are more meaningful. The coefficient for the EMDB openness measure is reliably different from zero for the top seventeen Finance journals but with a negative sign: the foreign bias in Finance research is positively associated with countries with much less accessibility for global investors. In the omnibus Model (8), this negative coefficient is still reliable and, in this specification, it is also negative in the top fourteen Finance journals. Overall, the explanatory power is low with adjusted R^2 around 3% for the top four journals; it does reach as high as 16% in the top seventeen journals.

Is there a momentum effect in research on non-US markets? We know momentum is a pervasive force in stock returns around the world, and that there is a strong, positive autoregressive structure to cross-border portfolio flows (among others, see Froot, O'Connell, and Seasholes, 2001). One possibility then is that Finance scholars chase opportunities to conduct research on a certain market once the first study has been successfully published. Regional momentum may also be a force: an increase in research on Asian markets may spur researchers in a given country in Asia, say Thailand. I test this hypothesis in Model (7) by introducing a 1-year's lagged value of the foreign bias for a given country (Own Momentum) or of the foreign bias for a region in which that country is located excluding that country (Regional Momentum). There is evidence of positive momentum for a country in the top four and top seventeen Finance journals. Together, they constitute a non-trivial effect with an adjusted R^2 of around 4% (2%) in the top four (top fourteen) journals. The

10 I cannot interpret these results in any causal way. Obviously, the negative coefficient could just as easily represent investors pursuing opportunities in countries which Finance scholars systematically neglect. But that gives scholarship too much credit; most likely, the observed association is spurious or due to an omitted-variables bias.

individual effects are weaker in the omnibus Model (8). Overall, we see that the omnibus model captures as much as 10% of the variation in foreign bias among the top four journals and 23%, among the top seventeen journals. As before, much unexplained variation remains.

5. Citations, Author Affiliations, and Robustness Tests

Empirical studies focused on non-US markets are underrepresented in published research in Finance and I am only able to explain a small fraction of this deficit. One missing ingredient from the analysis to now be in regards to the “price” of non-US research beyond just the “quantity” of it. The field of Finance may be able to justify the dearth of studies on non-US markets if it is the case that those studies that do get published experience the reward of greater impact by means of a higher cumulative citation count. There is evidence that this may be the case in Economics. I mentioned the indirect evidence in two studies by [Das *et al.* \(2013\)](#) and [Card and Della Vigna \(2013\)](#) in the introduction. [Johnston, Piatti, and Torgler \(2012\)](#) investigated the citation patterns of theoretical and empirical papers over a 30-year period among papers published in the *American Economic Review*. They find that empirical papers attract more citation success than theoretical studies. Moreover, they find that, among empirical papers, cross-country studies are more successful than single-country studies and single-country studies, in turn, focusing on North American data. They show (in their [Figure 2](#)) that the average annual cumulative citations for cross-country studies by Year 5 (the peak year for citation counts) after publication is 7.25, that for single-country studies in North America is 4.55 and that for other single-country studies is 5.94.

I conduct my own citation analysis of the non-US papers published in the top four Finance journals since 1990. I use Thomson Reuters’ Web of Science (www.wokinfo.com) as my data source. Of course, it is not appropriate to compare the citation counts of published papers that have been around for 10 years with those that were published only 1 year ago. While the older published papers will have had more years to attract citation interest, those published later in our period of analysis will have had many more papers published to cite the work. So, I perform a cohort-specific adjustment. Each year, I identify the empirical papers on non-US markets and those focused on US markets and obtain the average annual cumulative citations by cohort up through to October 2014 for each group. The 1990 cohorts have had 24 years of seasoning compared with the 2011 cohorts, the last year of my sample, which will have had only 3 years of seasoning. For each cohort, I compare the average annual cumulative citations overall across all papers, and per paper, and then report the ratio, which I call the “citation premium” for non-US papers. Of course, a negative premium would imply that international papers not only are less likely to be published in the top journals, they would also generate a smaller impact.

[Table V](#) presents the results. The first three columns report the number of publications involving all empirical studies (Column 1), only non-US papers (Column 2), and only US-focused papers (Column 3). The average annual cumulative citations across all publications by respective category each year is shown in Columns (4)–(6). The equivalent data per publication by cohort year are exhibited in Columns (7)–(9) and the citation premium in Column (10) by year is the ratio for non-US papers relative to US papers. The overall counts and averages across cohort years are summarized at the bottom. The number of published papers among the top four journals has been rising, as I noted earlier. This creates a larger base for citation success for papers published later in the sample period, but these papers

Table V. Citation analysis of non-US papers in top Finance journals by cohort, 1990–2011

This table compares the average cumulative citations across all publications per year and per publication per year for the papers published in top Finance journals on non-US topics by country. See Table II for the definition of the empirical papers published in Finance journals. The citation counts are obtained from Thomson Reuters' Web of Science (www.wokinfo.com) each year for each publication in the top four Finance journals. See Table I for constituents of top four journals. The analysis was conducted with cumulative citations up through October 29, 2014. Columns (1)–(3) report the number of publications by non-US and US topics identified in Table I for which Web of Science citations were available. Columns (4)–(6) report the sum of the average cumulative citations per year per article across all articles by year of publication, and separately those focused on non-US and US topics. Columns (7)–(9) divide the average cumulative citations per year across all publications by the number of publications. Finally, Column (10) shows the "citation premium" for publications on non-US topics, which is equal to the ratio of Columns (8) and (9).

Year	Number of publications			Average cumulative citations across all publications per year			Average cumulative citations per publication per year			Citation premium
	All papers (1)	Non-US topics (2)	US topics (3)	All papers (4)	Non-US topics (5)	US topics (6)	All papers (7) = (4)÷(1)	Non-US topics (8) = (5)÷(2)	US topics (9) = (6)÷(3)	
1990	220	18	202	669.4	71.1	598.3	3.04	3.95	2.96	1.3345
1991	200	23	177	551.8	55.7	496.1	2.76	2.42	2.80	0.8643
1992	198	20	178	698.5	51.7	646.9	3.53	2.58	3.63	0.7107
1993	300	19	281	892.2	171.6	720.6	2.97	9.03	2.56	3.5273
1994	272	20	252	528.0	80.0	448.0	1.94	4.00	1.78	2.2472
1995	306	29	277	785.7	154.7	631.1	2.57	5.33	2.28	2.3377
1996	282	21	261	911.0	102.2	808.8	3.23	4.86	3.10	1.5677
1997	214	27	187	1,228.1	329.5	898.6	5.74	12.20	4.81	2.5364
1998	192	29	163	963.1	171.3	791.8	5.02	5.91	4.86	1.2160
1999	213	29	184	1,092.7	256.3	836.4	5.13	8.84	4.55	1.9429
2000	223	40	183	1,358.3	418.1	940.2	6.09	10.45	5.14	2.0331
2001	220	35	185	1,207.2	229.1	978.1	5.49	6.54	5.29	1.2363
2002	241	42	199	1,497.2	407.8	1,089.5	6.21	9.71	5.47	1.7751
2003	235	55	180	1,284.8	434.4	850.4	5.47	7.90	4.72	1.6737
2004	241	35	206	1,233.6	194.9	1,038.7	5.12	5.57	5.04	1.1052
2005	241	45	196	1,476.0	331.8	1,144.2	6.12	7.37	5.84	1.2620
2006	259	42	217	1,412.0	240.0	1,172.0	5.45	5.71	5.40	1.0574
2007	291	52	239	1,354.6	290.0	1,064.6	4.66	5.58	4.45	1.2539
2008	299	75	224	1,423.0	383.7	1,039.3	4.76	5.12	4.64	1.1034
2009	373	71	302	1,783.6	314.4	1,469.2	4.78	4.43	4.86	0.9115
2010	352	57	295	1,182.0	199.8	982.2	3.36	3.51	3.33	1.0541
2011	370	64	306	1,047.0	213.5	833.5	2.83	3.34	2.72	1.2279
Total	5,742	848	4,894							
Average				1,117.3	231.9	885.4	4.38	6.11	4.10	1.5445

also need some seasoning to realize citation success.¹¹ So, it is not surprising that the peak of the average cumulative citations across all publications in a year arise closer to the second half of the sample period: the annual counts mostly exceed 1,400 between the years 2005 and 2009. On a per publication basis, the average cumulative citations reach 5.74 in 1997 at which the cohorts plateau through 2008. The peak year is 2002 with 6.21 average cumulative citations per year per paper.

The more interesting facts for my purposes arise when we decompose those publications into the non-US- and US-focused studies using the classifications developed earlier. Comparing the total cumulative citations by year (Columns 5 versus 6) is not helpful given the disproportionately larger number of US-focused studies published (Column 3). On a per publication basis, we can compare Columns (8) and (9) and the ratio of the two in Column (10). Each year between 1990 and 2011, the non-US publications accrue a larger annual average cumulative citation count with the exception of only 3 years (1991, 1992, and 2009). In some years, the gap is large (12.20 versus 4.81 in 1997 and 10.45 versus 5.14 in 2000).¹² The average across all cohorts is 6.11 cumulative citation counts per paper for non-US studies compared with 4.10 for US-specific ones, what I call a citation premium of 54.5%. The *p*-value associated with a simple *t*-statistic of the difference between these pairs of average annual cumulative citations is 0.0029 (two-way, unequal variance), which implies this premium is reliably different from zero.

How does author affiliation relate to whether a paper is non-US or US focused? How are the affiliations in the two categories of publications evolving over time? The second experiment identifies the affiliation of the authors for the papers published in the top four Finance journals. As described earlier (and summarized in Online Appendix Table A), I identify the home institution of each author for each paper. Table VI reports the findings. The first three columns report the total count of co-authors across all, non-US, and US-specific papers and the equivalent count for only non-US-affiliated authors are shown in Columns (4)–(6), respectively. Fractional counts are possible given multiple affiliations listed per author are divided equally. Across years, the number of non-US-affiliated co-authors has grown from around 30 in the early 1990s to well over 200 in 2011. The most interesting features of the data are two-fold. First, the fraction of non-US papers is dominated over time by scholars domiciled in US research institutions. The average is 69.23% across years. Column (7) shows that only in 2011 did non-US scholars finally eclipse US-based scholars in publishing the majority of those studies (54.24% in 2011). Second, non-US scholars disproportionately publish papers on US topics. That is, on average, 66.94% publish work on US capital markets. The trend is declining slowly (0.66% per year) and it saw a peak as high as 93.02% in 1996. Another way to read these data is as follows: for every one article co-authored by a

11 The median citation half-life—or, the age of an article that accounts for the median citation during a year—is in excess of eight years for the top four Finance journals, according to the Thomson Reuters' Journal Citation Reports. See <http://thomsonreuters.com/journal-citation-reports/>.

12 The distributions of average annual cumulative citations per publication are positively skewed. In 1997, for example, the Journal of Finance published Rafael La Porta, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert Vishny's "Legal Determinants of External Finance," which accrued 97.12 average annual cumulative citations through 2014. In 2000, the Journal of Financial Economics study by Stijn Claessens, Joseph Fan, and Larry Lang, "The Separation of Ownership and Control in East Asian Corporations," has yielded 65.04 average annual cumulative citations through 2014.

non-US-based scholar on a non-US-based topic, there are 1.85 articles co-authored on a US-based topic.¹³ What these additional findings imply is that the US bias in academic research is lower than (by about 16% on average) but still prevalent and persistent almost as much among non-US-domiciled scholars as it is among US-domiciled scholars. I hesitate to imply any causality out of what is simply an empirical association. One interpretation consistent with this association is that non-US scholars perceive that they need to work on US topics to be successfully published in the top Finance journals.

In one final experiment, I conduct a cross-validation analysis of the search procedures described in Section 1 and detailed in Online Appendix Table F to identify published papers in the top Finance journals on non-US topics. Recall that I used data from EBSCO Publishing, an aggregator of full-text search library databases to compile the list of papers using a number of title, abstract, keyword, or geographic code searches. I employed a host of robustness checks, but one may still be concerned about the reliability of the procedures. I also performed a manual check using a team of research assistants who were hired to read individual publications for select volumes in select years for certain journals. They were asked to study the papers to identify whether it was empirical and to classify it as a US-based study, an international study or a non-US country-specific study. Over 230 individual papers were validated of which 51 were determined to be actual non-US papers when the algorithm determined there to be only 44. The average absolute error rate across the papers is 6.5%, which I deem to be reasonably low, and surprisingly the bias of the error is actually in favor of an underreporting of the actual number of non-US papers. Online Appendix Table H details the experiment.

6. Closing Remarks

There is a large and persistent US (home) bias in academic research in Finance. Over the last two decades, 16% (23%) of all empirical studies published in the top four (top fourteen) journals examine non-US markets, a fraction that is well below measures that reflect the potential economic importance of those markets. There is also a foreign bias among the non-US markets featured in these published studies; some countries like Canada, China, and Sweden are relatively overrepresented, while others like Switzerland, Spain, and the Netherlands are underrepresented. I am unable to explain much of either the US home-bias or foreign-bias puzzles in Finance research using a variety of supply factors (like the number of published authors affiliated with non-US universities), demand factors (like net portfolio flows, market excess returns, and volatilities), and even other factors that have been shown to explain the home- and foreign-bias puzzles in international portfolio holdings. The US bias in Finance research is prevalent among non-US-domiciled scholars. And, notwithstanding the significant home and foreign bias, I offer evidence that there is a potential reward for this risky research strategy in the form of a sizeable citation premium for non-US papers of 6.10 cumulative annual average citations per paper compared with 4.11 for US-focused papers.

One important supply factor that undoubtedly represents a binding constraint for the study of many non-US markets is poor data quality and lack of availability. It is a hard case to rebut. The fact is that many scholars on non-US capital markets have used the

13 That is, among the 2,015 co-authorships involving non-US-based scholars, 694 focused on non-US topics and 1,282, on US-based topics. The ratio of 1,282 to 694 is 1.85. In contrast, among the 8,768 co-authorships involving US-based scholars, 7,447 focused on US topics and 1,321 on non-US-based topics. This is a ratio of 1,321 to 7,447, or 0.18.

Datastream/Worldscope databases since they were launched as early as the mid-1990s, even before they became part of the Thomson Reuters suite of products. They are expensive subscriptions and not all institutions have been able to access these data.¹⁴ The University of Rhode Island had developed the Pacific Basin Capital Markets Research Center and their database product in the late 1980s. Perhaps the quality was uneven in its early days, and perhaps its cost was also prohibitive to many scholars at the time, but it was available. I did a targeted qualitative analysis of the databases that were featured in many of the successful publications in the early 1990s and uncovered the Trans-Canada Options database, the London Business School Share Price database, Nihon Keizai Shimbun, ASX's Seats Online, Daily Stock Market database of the Stock Exchange of Thailand, Official Daily Quote Sheet and Meitav Stock Guide of the Tel Aviv Stock Exchange, and Oslo Bors Informasjon AS. Enterprising scholars could dig up sources for successful outcomes. What I can say with reasonable confidence is that high-quality data are now widely available and argue that there is too much unexplained variation in the home- and foreign-bias puzzles for the unevenness of data quality to really matter much in the past decade.

What is my takeaway message? To the many young, emerging scholars in Finance, my paper offers a fair warning about the odds you face in publishing work on non-US markets. The low acceptance rates at the top four Finance journals combined with the fact that only 16% successfully feature non-US data makes it a challenging barrier to surmount. The higher potential impact in terms of positive citation premium may tempt, but I am not sure the trade is a fair one. It may be that things will change with time, but the absence of any trend during the past decade or two may give pause.

To seasoned scholars in Finance, the findings may alert them about the great potential in exploring important ideas that lie at the core of our discipline with new data in new settings. There are undoubtedly fascinating experiments to be had with an effort that involves more than just with CRSP, Compustat, or TAQ. Seasoned scholars are regularly called upon to serve as a referee for a paper, so knowing these odds for non-US published research may help tip a decision in favor of a study that meets a quality threshold but that also explores a world beyond the USA. To those called upon to serve as department chairs, deans and associate deans at their universities, some understanding of the base publication rates for scholars who do research on non-US markets may help them make more informed decisions about promotion and tenure. I make a special call to those decision-makers at universities outside the USA who appear to impose the same standards for publishing in the top Finance journals among their own faculty colleagues. Think hard on those choices, especially given how much scholars can offer in their research on their home markets.

Those involved in organizing conferences seek corporate sponsorship in many forms to support the activities, but most often in terms of best-paper prizes. One way to nudge the odds in favor of more research on international markets would be to identify sponsors of best-paper prizes on non-US markets as much as on subfields such as investments, corporate finance, market microstructure, or banking. Those in industry who can support conferences and who sponsor scholarship may find it valuable to direct the support in favor of

14 A casual web-based search of academic subscriptions to Worldscope or Datastream yielded over 100 universities as subscribers as of early 2015. I judged named universities as subscribers if they had designed a site describing the database with access to manuals and data definitions for their respective users.

research on non-US markets to follow closely the globalization in actual capital flows in which they are directly involved.

Supplementary Material

Supplementary data are available at *Review of Finance* online.

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