Home Bias Abroad:
Domestic Industries and Foreign Portfolio Choice

*David Schumacher**

McGill University

This Version: January 2015

Abstract: In their foreign portfolios, international mutual funds overweight industries that are comparatively large in their domestic stock market. This *Foreign Industry Bias* is akin to a "Home Bias Abroad" and explains between 13% and 47% of foreign benchmark deviations. The bias is associated with superior performance primarily driven by stock-picking within foreign industries by funds with a simultaneous "Home Bias" in the domestic portfolio. Such funds outperform foreign market indices and active local country funds when investing in large domestic industries abroad. The results suggest that domestic stock market compositions proxy for the comparative advantages of international investors when they invest abroad.

JEL Classification: G15, G23.
Keywords: International Mutual Funds, Portfolio Choice, International Markets.

* Desautels Faculty of Management, McGill University, 1001 Sherbrooke Street West, Montreal H3A 1G5, Canada. E-Mail: david.schumacher@mcgill.ca. Website: www.davidschumacher.info. Phone: 514-398-4778. I would like to thank Massimo Massa and Bernard Dumas for invaluable guidance and support. I further thank Adrian Buss, Stephen Brown, Kent Daniel, Denis Gromb, Gilles Hillary, Pierre Hillion, Lars Kaiser, Andrew Karolyi, Matti Keloharju, Ronald Masulis, Steffen Meyer, Steve Monahan, Terry Odean, Paolo Pasquariello, Joel Peress, Jonathan Reuter, Daniel Schmidt, Sergei Sarkissian, Clemens Sialm, Bruno Solnik, David Thesmar, Bastian v. Beschwitz, Moqi Xu, Stefan Zeume, Hong Zhang as well as seminar participants at the AFB Conference and PhD Forum 2012, DGF Annual Meetings 2012, ESSEC, INSEAD brownbag, INSEAD-LSE-LBS-HEC-Dauphine-Lausanne doctoral workshop, Warwick Business School, the Norwegian School of Economics, the University of Lugano, the ECB, IU Kelley, USC Marshall, Ivey, Baruch, Barclays, BlackRock, McGill, Copenhagen Business School, the Stockholm School of Economics and Tilburg University for helpful comments and discussions. A previous version of this paper was entitled "The Role of Domestic Industries in Foreign Portfolio Decisions". I acknowledge financial support from IFM2. All errors are mine.

1 Introduction

The Home Bias phenomenon identified by French and Poterba (1991) is perhaps the most established empirical regularity in international portfolio choice. Among the explanations of why investors forego the benefits of international diversification, theories of asymmetric information are prominent. Likewise, a large body of empirical evidence suggests that geographic proximity is reflected in both portfolio choice and superior performance of "local investors" (e.g., Coval and Moskowitz (1999, 2001)).[1]

However, there are multiple ways by which the superior performance of local investors could come about. Perhaps it is easier for local investors to collect specific, idiosyncratic pieces of news about geographically close firms. In this case, superior performance of local investors should be limited to geographically close investments. Alternatively, local investors may be particularly skilled to learn about geographically close firms in general. In that case, the benefits of geographical proximity could even extend to investments in related but geographically distant firms.

In this paper, I disentangle these questions by analyzing the foreign portfolio decisions of a large universe of international mutual funds over the period 2001 to 2010. These funds make for excellent test investors for two reasons.

First, the funds have broad geographic yet pre-determined investment mandates ("styles"). These styles proxy for the investment opportunity sets the funds face and impose an a priori constraint on how much funds can invest domestically. For example, a "Global Equity" fund managed out of Switzerland cannot invest the lion-share of the portfolio in the Swiss stock market as this would violate its mandate. Thus the question: how to invest abroad if the fund has an information advantage in Swiss stocks but is limited a priori by its mandate to exploit it? The answer to this question is the main conjecture of the paper. I propose that the relative sizes of industries in the domestic stock markets of the funds proxy for the comparative advantages the funds have when they invest abroad.

[1] See Lewis (1999), Karolyi and Stulz (2003) and Sercu and Vanpee (2007) for detailed literature reviews on the Home Bias phenomenon.

Second, funds with the same investment mandate are located around the world. International locations associate different comparative advantages with comparable funds because industry structures differ across countries. To continue the stylized example, I conjecture that a "Global Equity" fund managed out of Switzerland is likely to have an advantage in understanding, say, pharmaceutical stocks because this industry is comparatively large in the Swiss stock market. A comparable "Global Equity" fund managed out of the US may instead be better positioned to understand, say, technology stocks. As such, when both invest in Italy, the Swiss fund is likely to focus on Italian pharmaceuticals and the US fund on Italian technology stocks. As a result, both funds display a *Foreign Industry Bias* that is akin to a "Home Bias Abroad" because differences in foreign portfolio compositions are explained by differences in the industrial compositions of the domestic stock markets.

The "industry information hypothesis" captures this idea. The hypothesis states that funds overweight industries abroad that are comparatively large in their domestic stock markets. This behavior reflects superior industrial expertise of those funds: the higher the relative importance of an industry in the domestic stock market, the more likely the funds have a comparative advantage when investing in that industry abroad. I contrast the "industry information hypothesis" against alternatives below that consider diversification motives, familiarity-based investing or catering incentives to local investors.

The results strongly support the "industry information hypothesis" and reject the alternatives. Funds managed out of Switzerland (the US) indeed overweight non-Swiss (non-US) pharmaceutical (technology) stocks by 1.1%-points (1.8%-points) on average. Likewise, UK-based funds overweight foreign banks by 1.1%-points and Sweden-based funds overweight foreign industrial engineering stocks by 4.4%-points on average. These are all dominant industries in some of the largest sample countries.

These anecdotal examples hold systematically. Funds on average overweight a given industry abroad by 0.8%-points for every 10% market share the industry has in the domestic stock market (t-statistic 2.50). Alternatively, if a given industry is the largest in the fund's domestic stock market, it receives a 1.41%-points (t-statistic 2.12) higher foreign allocation on average. This is an economically sizeable bias: Across all funds and all countries, funds overweight the largest domestic industry by 12% abroad on

average (t-statistic 2.25). Put differently, the average absolute benchmark deviation is about 3%-age points in sample. This means that a one standard deviation increase in the weight of an industry in the domestic market explains about 13% of the average foreign benchmark deviation. The average deviation in the largest domestic industry abroad amounts to 47% of the average foreign benchmark deviation. Furthermore, the bias is prevalent in 78% of the sample by fund location country, in 14 out of the 20 largest sample industries, persistent over time and robust to a large number of domestic and foreign industry controls as well as different fixed effect specifications.

I further investigate the *Foreign Industry Bias* and find that it varies with specific home country and industry characteristics. For example, the bias is stronger for funds that are managed out of countries with concentrated stock markets (20% stronger on average) and with stock markets that are dominated by industries where stocks have a higher exposure to a global industry factor (51% stronger). Both suggest that more pronounced information asymmetries and a higher potential to apply domestic industry insights to foreign investments increase the bias. In contrast, the bias does not vary much with the size of the domestic stock market or the absolute sizes of domestic industries, supporting the argument that it is driven by comparative rather than absolute advantages.

Next, to separate the conjecture that the *Foreign Industry Bias* is information-driven from alternative explanations, I analyze fund performance. If information-driven, the bias should be associated with superior fund returns. Indeed, I find a 0.37% per year higher risk-adjusted performance (t-statistic 4.40) in terms of 4-factor alpha per standard deviation of *Foreign Industry Bias*. This result is concentrated and almost 3 times larger for funds with a simultaneous *Home Bias* in the domestic portfolio – for those funds, risk-adjusted performance increases by just over 1% per year (t-statistic 6.49) per standard deviation in *Foreign Industry Bias*. The result is robust to various assumptions on the underlying risk-correction (see details below) and sample splits. For example, the result is strong among the most active funds (i.e., those that have a high tracking error relative to their benchmark).

To complement the factor models, I perform detailed holding decompositions in the spirit of Daniel et al. (1997) with an industry-benchmark portfolio. Continuing the stylized example, I ask: Is the "Global

Equity" fund managed out of Switzerland (the US) capable of picking the best non-Swiss (non-US) pharmaceutical (technology) stocks? The answer is yes. The decompositions confirm the result from the factor models and allow me to attribute about 50% of the aggregate effect to foreign stock picking within industries and about 11% to foreign industry timing. When I limit the holding decompositions to foreign holdings in industries that are among the 10 largest in relative size in the domestic stock market ("top quartile industries"), I find that the stock picking (industry timing) result is almost 30% (20%) stronger. Finally, I analyze position changes and find that the correlation between buy and sell trades and future foreign stock returns for the same funds is significantly higher. For foreign trades in the top 10 domestic industries, the correlation between buy trades and future raw (industry-adjusted) stock returns increases by about 2.3% points (t-statistic 3.13) (1.4% points, t-statistic 2.02) per standard deviation increase in *Foreign Industry Bias*. These are important insights because they confirm that the lion-share of the outperformance is generated in the foreign portfolios of the funds and precisely in those positions and trades identified by the "industry information hypothesis".

All the results suggest that a sample of international funds is successful in applying domestically-rooted industry knowledge to foreign investment decisions. This comparative advantage in investing is a hitherto undocumented dimension of skill. However, it is less clear if such a comparative advantage allows foreign funds to compete with local investors or if it only mitigates the disadvantages funds face when investing abroad. Indeed, the question of whether or not foreign investors can outperform local investors has received considerable research attention (see literature below). My empirical design allows me to directly speak to this question.

Therefore, in a final step, I benchmark the foreign holding returns of the funds against both passive and active local benchmarks to understand if the same funds outperform in an absolute sense. As passive benchmarks, I select the foreign market indices. As active benchmarks, to proxy for the ability and performance of local investors, I use the universe of locally-managed, dedicated active country funds. In the context of the stylized example, I ask if the Italy sub-portfolio of the "Global Equity" fund managed out of Switzerland (the US) outperforms the Italian stock market or an active benchmark of "Italian

Equity" funds managed in Italy. Indeed, the decile of funds with the highest *Foreign Industry Bias* and a simultaneous *Home Bias* outperform both passive and active local benchmarks on average. The absolute outperformance is again concentrated in foreign holdings in the top 10 domestic industries and reaches between 0.9% and 2% per year depending on the choice of local benchmark. This final piece of evidence confirms that a comparative advantage (as captured by the *Foreign Industry Bias*) allows certain funds to compete internationally and to outperform local investors abroad, if only in selected positions that are identified a priori by the "industry information hypothesis".

The paper proceeds as follows. In section 2, I review the literature and develop the testable hypothesis and alternatives in more detail. Section 3 describes the sample and main variables. Section 4 presents the results on portfolio choice and section 5 analyses fund performance. I benchmark international fund performance against local benchmarks in section 6. Section 7 concludes.

2 Hypotheses and Literature

A key premise of the paper is that industrial expertise is important for investment outcomes. In the domestic context, Kacperczyk, Sialm and Zheng (2005) have established that mutual funds that concentrate their holdings in few industries outperform those that do not. The authors interpret this behavior as an effort to exploit superior information. As a first contribution, I identify ex-ante the industries in which a given fund is likely to concentrate by postulating that domestic industry structures proxy for international information asymmetries. I argue that this is appealing because industries have a clear fundamental anchor in the economy. In addition, industrial expertise is likely "portable" across borders because knowledge about, for example, technology or competition applies to firms worldwide. In fact, the importance of industry-affiliation for returns, predictability and co-movement is established in the literature (e.g., Moskowitz and Grinblatt (1999), Hou (2007), Hong, Torous and Vokanov (2007),

Cohen and Frazzini (2008), Menzly and Ozbas (2011)).[2] In addition, industrial structure is an established determinant of international financing decisions via cross-listings (Sarkissian and Schill (2004)).

The main contribution of this paper is to empirically show that comparative advantages drive foreign investment decisions for at least some international funds. Theoretically, this idea is supported by models of portfolio choice under asymmetric information, in particular van Nieuwerburgh and Veldkamp (2009, 2010) and Albuquerque, Bauer and Schneider (2009). These models rely on differential information endowments across investors and predict portfolio biases that are driven by information asymmetries. In both models, the predicted biases allow investors to generate performance in international markets. Indeed, van Nieuwerburgh and Veldkamp (2009) liken their results on portfolio choice due to investor specialization along differences in information endowments to the effect of a comparative advantage on trade.[3] Testing this intuition is at the core of this paper. A key ingredient to carry out this test is a mapping from theoretical differences in information endowments to an observable variable. As argued, I propose that differences in domestic industry structures provide this mapping.

From these premises, I formulate the "industry information hypothesis":

> <u>Industry Information Hypothesis:</u> *Funds overweight industries abroad that are comparatively large in their domestic stock markets. This behavior reflects superior industrial expertise of those funds: the higher the relative importance of an industry in the domestic stock market, the more likely the funds have a comparative advantage when investing in that industry abroad.*

[2] Earlier literature finds conflicting evidence on the importance of industry factors in global stock returns (e.g., Roll (1992), Heston and Rouwenhorst (1996), Griffin and Karolyi (1998)). However, recent studies identify industrial structure as an important determinant of international stock price co-movement (e.g., Dumas, Harvey and Ruiz (2003), Carrieri, Errunza and Sarkissian (2004, 2012), Dutt and Mihov (2013)).

[3] Section III.D of their paper. However, the primary goal of this paper is to test whether the observed bias is likely information driven rather than differentiating between different models of portfolio choice under asymmetric information. Van Nieuwerburgh and Veldkamp (2009, 2010) focus on information choice and learning. Albuquerque, Bauer and Schneider (2009) impose a specific signal and factor structure for returns and develop predictions on foreign trading patterns. None of these specific predictions are tested here.

A priori, any potential portfolio bias need not be driven by differences in information. Therefore, I contrast the "industry information hypothesis" against alternatives.

First, the "diversification hypothesis" states that international funds avoid (i.e., underweight) large domestic industries abroad in order to provide optimal diversification to local investors who may predominantly invest in the fund. This first alternative predicts the opposite of a *Foreign Industry Bias* and I separate it from the "industry information hypothesis" via a detailed analysis of portfolio choice.

Second, the "familiarity hypothesis" predicts that international funds overweight large domestic industries abroad for reasons other than superior expertise. The behavioral finance literature has established that investors are more inclined to invest in stocks that are salient to them or in their focus of attention without having particular information about those stocks.[4] Such behavioral biases could generate a *Foreign Industry Bias* if foreign stocks from relatively large domestic industries are more salient or "attention grabbing" to the fund managers. I separate this alternative from the "industry information hypothesis" via a detailed analysis of fund performance. While the "familiarity hypothesis" does not predict superior performance, the "industry information hypothesis" does.

Third, the "catering hypothesis" states that a *Foreign Industry Bias* is an optimal response of funds to "home biased" investors. When the fund is primarily held by domestic investors, fund managers might find themselves in a situation where investors evaluate performance against the domestic stock market. As such, the managers may face an incentive to "replicate and track" the domestic stock market as close as possible within the boundaries of their international mandate. However, this alternative also has no clear prediction on fund performance.

All hypotheses are tested against the null that the industry composition of the domestic stock market has no impact on foreign portfolio composition.

This study further contributes to various strands of the international finance literature. A large literature investigates the determinants of foreign portfolio choice. Some studies focus on firm or country

[4] E.g., Barber and Odean (2008), Engelberg and Parsons (2011) or Barber and Odean (2013) for a review of the literature.

characteristics at the investment destination (e.g., Kang and Stulz (1997), Ahearne, Griever and Warnock (2004), Gelos and Wei (2005), Covrig, Lau and Ng (2006)) while others link investment and trading decisions to destination characteristics relative to the home country of investors (e.g., Grinblatt and Keloharju (2001), Chan, Covrig and Ng (2005), Massa and Simonov (2006), Ke, Ng and Wang (2012)). To this, I add industry structure as a relevant dimension, positing that it serves as a proxy for comparative advantages in international markets.

I further contribute to the debate on whether such foreign biases are familiarity-driven or the result of information asymmetries. Both in the domestic and international context, researchers have debated whether "local" investors perform better than "non-locals" or foreigners. While some studies find superior performance in "local" or "close" investments (e.g., Kang and Stulz (1997), Coval and Moskowitz (1999, 2001), Hau (2001), Choe, Kho and Stulz (2005), Dvorak (2005)), others report no or negative implications of familiarity based investment; still others find that foreign trades have predictive power for domestic markets or even outperform domestic investors (e.g., Seasholes and Zhu (2010) and Pool, Stoffman and Yonker (2012) on the first point and Froot et al. (2001) and Bailey, Mao and Siridom (2007) on the second). I not only identify which foreigners are likely better informed but also the subset of assets in which their advantage is concentrated. This in turn suggests that foreigners may outperform locals in certain stocks (but not others). I directly test this idea in section 6.

3 Data and Sample

3.1 Data Sources

I employ multiple data sources. International mutual fund holdings are taken from the FactSet database that reports holdings of a large variety of investment vehicles from all around the world as well as information on the firm in charge of managing the portfolios. I define the "home country" or the "domestic market" of the fund as the country of residence of its management company rather than its

legal domicile.[5] I obtain semi-annual holdings (as of June and December each year) for all funds and complement them with international stock price data collected from Thomson-Datastream to which I apply the filters suggested in Ince and Porter (2006).[6] From the same source, I obtain the industry classification for every stock. This classification is quite granular (details below) and was previously used in an international setting by Bekaert et al. (2007, 2011). To construct country-level industry structures as well as risk factors, I download accounting data for every firm in every country from Worldscope.

From the Morningstar-Direct database, section global open-ended funds, I obtain monthly fund returns[7] and control variables (e.g., expenses, share-class information, etc.). The link between Morningstar and FactSet is provided by FactSet, but complemented and verified via a manual string comparison of fund names. From Morningstar, I also obtain a classification that assigns funds into investment styles based on their geographic investment focus (e.g., "Global Equity" versus "Asia ex Japan Equity") as well as stock-characteristics for major styles (e.g., "Large Cap" versus "Mid/Small Cap"). I use the external Morningstar classification instead of self-declared fund benchmarks to infer the investment opportunity set of funds, similar to Cremers et al. (2013). This avoids the problem of funds strategically picking their benchmarks. Further, I use the style classification primarily to learn about the countries in which comparable funds invest (see details below). I subsequently focus on the industry composition of portfolios (within countries) and how industry weights of funds deviate from the representation of the industry in the market which alleviates measurement error concerns.

3.2 Sample Construction

I focus on open-ended international mutual funds that have a broad mandate to invest in multiple countries and industries and that are classified as "Equity" in Morningstar. I begin with an overall sample

[5] This avoids overweighting offshore locations that attract a lot of incorporations due to preferential tax treatment or other reasons. It is also economically more meaningful in this context as the location of the management company identifies the location where portfolio decisions are taken.

[6] The key filters remove large returns that reverse in the next month, i.e. when r_t or r_{t+1} are greater than 400% but $(1 + r_t) * (1 + r_{t+1}) - 1 < 50\%$ then both are set to missing. Further, returns that are stale for two successive periods and penny stocks with a price < 0.25 US Dollar are set to missing. Finally, I treat as missing the returns that fall outside the 0.1% and 99.9% percentile ranges.

[7] I treat as missing monthly fund return observations that fall outside the bottom and top 0.5%-ile in Morningstar.

of 14,378 distinct funds for which I have both holdings information from FactSet and a link to Morningstar. First, I separate funds into dedicated "country funds", dedicated "sector funds" and broad "international funds" based on their Morningstar classification and their portfolio holdings. Funds that invest at least 90% of the total net assets (TNA) in one single country on average or that have a Morningstar mandate limited to one country (e.g., "US Equity Large Cap Value", "Japan Equity", "UK Equity Large Cap", etc.) are classified as country funds. Funds with a dedicated industry mandate (e.g., "Technology Sector Equity", "Healthcare Sector Equity", etc.) are classified as sector funds. All other funds are international funds. These funds have a mandate to invest in more than one country and industry. Overall 7,324 funds are classified as country funds, 1,774 are classified as sector funds and 5,280 are classified as international funds. I drop passive index funds, funds with less than 5 million US Dollar of TNA and a performance history of less than 2 years to compute risk-adjusted returns (see below) and to address concerns about incubation biases leaving a final sample of 3,732 distinct international funds.

Since I require fund managers to have some discretion in their investment choices along the country and industry dimension, the group of international funds forms the main sample of international investors that is used throughout the analysis. Morningstar groups them into 13 distinct international styles (details below). I interpret these styles as a description of the investment opportunity sets the funds face and verify this conjecture against their actual holdings. Essentially, this recognizes that a fund with a "Global Equity" mandate is free to invest in global stocks whereas a fund with an "Asia Equity" mandate is prohibited from investing in e.g., US or European stocks but can only chose among Asian stocks. In section 6, where I compare the foreign investment performances of these international funds against a sample of local investors, I use the sample of dedicated country funds to proxy for the performance of such local investors.

3.3 Main Variables

For every fund, I define a set of main variables. $Industry\ Weight_{i,j,t}$ is the percentage portfolio weight fund *j* allocates to industry *i* in period *t*. $Foreign\ Industry\ Weight_{i,j,t}$ is the same variable only taking foreign positions from the perspective of the fund into account. A position is considered "foreign" to the fund if the market location of the stock as stated in Datastream is different from the home country of the fund. $Excess\ Foreign\ Industry\ Weight_{i,j,t}$ is the foreign industry weight in excess of the market share of industry *i* in the foreign part of the investment opportunity set of fund *j*. Likewise, the variable $Country\ Weight_{c,j,t}$ is the percentage portfolio weight fund *j* allocates to country *c* in period *t*.

To measure portfolio composition, I follow Kacperczyk, Sialm and Zheng (2005) and define the country-level industry concentration of funds as

$$Country\ ICI_{c,j,t} = \sum_{i \in I(c)} \left(\omega_{i,c,j,t} - \Omega_{i,c,t}\right)^2, \quad (1)$$

where $\omega_{i,c,j,t}$ is the portfolio weight in industry *i* in country *c* of fund *j* in period *t* and $\Omega_{i,c,t}$ is the weight of industry *i* in the market portfolio of country *c* in period *t*.

While $Country\ ICI_{c,j,t}$ is informative, the variable does not identify the industries that are over- or underweighted because excess allocations have lost their sign. As such, I modify the variable and define a measure of *Foreign Industry Bias (FIB)* as

$$Country\ FIB_{c,j,t} = \sum_{i \in I(c)} \left(\omega_{i,c,j,t} - \Omega_{i,c,t}\right) \times \Omega_{i,h,t}, \quad (2)$$

where $\Omega_{i,h,t}$ is the weight of industry *i* in the market portfolio of home country *h* in period *t*. The summation is taken over all industries in which country *c* has firms in period *t* and $\Omega_{i,h,t}$ is scaled to sum to one given the industry structure of country *c*. All country-level market weights are calculated including the market value of equity of all firms in the Worldscope database.

$Country\ FIB_{c,j,t}$ measures the extent to which a fund over- or underweights industries that are relatively large / small in its domestic stock market. When opening the brackets, the variable expresses

the covariance of the funds' within country portfolio choice with its domestic industry structure in excess of the natural industry covariance of the two countries.

I aggregate both $Country\ ICI_{c,j,t}$ and $Country\ FIB_{c,j,t}$ over all countries in the investment opportunity set of the fund, excluding the home country of the fund. As a baseline, to obtain a fund-level measure of *Foreign Industry Bias* (or *ICI*), I take an equally weighted average over the fund-country-level measures in every period. In robustness tests in the Internet Appendix, I weight the fund-country-level measures by the fund's TNA allocation to (foreign) country *c* or by the market capitalization of (foreign) country *c*. All measures deliver similar results.

In some regressions, I separate the funds based on their domestic portfolio choices. I define a measure of *Home Bias (HB)* as

$$Home\ Bias_{j,t} = \omega_{h,j,t} - E[\omega_h], \tag{3}$$

where $\omega_{h,j,t}$ is the weight of home country *h* in the portfolio of fund *j* in period *t* and the expected weight $E[\omega_h]$ is estimated as the average weight allocated to country *h* of all funds with the same investment mandate as fund *j*. $Home\ Bias_{j,t}$ is mostly used as a conditioning variable to split the sample. To facilitate the economic interpretation, I define the dummy $Has\ Home\ Bias_{j,t}$ equal to 1 if $Home\ Bias_{j,t}$ is above the mean (about 6.7%, more details below) in sample and 0 otherwise. $Has\ Home\ Bias_{j,t}$ separates funds that overweight their domestic stock market from those that underweight or stay approximately neutral.[8]

All portfolio choice regressions include a set of standard control variables. At the fund-industry level, for every period, I include industry controls defined both for domestic and the remaining foreign industries. They include: *Market Share* (percentage share of market capitalization), *Size* (log of market capitalization), *ROS* (value-weighted average of firm-level return on sales), *BTM* (value-weighted average of firm-level book-to-market), *Leverage* (value-weighted average of firm-level total debt / assets), and

[8] The exact definition of the threshold has little impact. The results are unaffected when, for example, defining terciles, setting it arbitrarily at 5% or directly using the original $Home\ Bias_{j,t}$ variable in interactions. Robustness tests are presented in the Internet Appendix, table IA.3.

Momentum (trailing 12 month industry returns). When the regressions are run at the fund-country level, they are accordingly defined for the investment destination country and the home country. In those specifications, I further include variables that measure the distance between the home country of the fund and the investment destination country. Specifically, the main distance measures include $Industry\ Distance_{h,c,t} = \sum_{i \in I(h,c)} \left(\Omega_{i,h,t} - \Omega_{i,c,t}\right)^2$, *KM Distance* (distance in thousands of kilometers between country capitals, computed from GPS coordinates, from the CIA Factbook), *Common Language* (*Currency*) (dummy equal to 1 if both countries share an official language (a currency), from the CIA Factbook), *Bilateral Trade* (sum of bilateral exports and imports divided by home country GDP, from OECD STAN database), *IR Difference* (difference in 3-month interest rate, from Datastream), *Change Crossrate* (percentage change in the exchange rate, from Datastream, positive values indicate a depreciation of the home currency vis-à-vis the destination currency over the period), and *Change USD* (the same variable always for the home currency against the US dollar).

For every fund, I compute various measures of performance. From Morningstar-Direct, I obtain monthly US Dollar denominated fund returns net of fees to which I add back 1/12 of the annual expense ratio to obtain fund returns before fees. I subtract the risk-free rate from Kenneth French's website to compute excess fund returns.

In a first step, I correct for risk using factor corrections. For every country in the Worldscope database, I construct international Fama-French-Carhart factors using all firms, following closely the methodologies of Fama and French (1993) and Carhart (1997). The baseline factor model is a style-specific ("local") 4-factor model where the market, size, value and momentum factors are weighted averages over all country-specific factors that make up the investment opportunity set of the fund. For example, fund performance in the "Europe Equity Large Cap" style is corrected for risk using four factors that are each a weighted average of the individual country factors in Europe. This is the direct extension to the standard approach in the US domestic literature in which US domestic funds are corrected for risk using US-based factors. Cremers et al. (2013) as well as Chuprinin, Massa and Schumacher (2014) take a

similar approach. To alleviate concerns about model misspecification and in light of the ongoing debate on whether local or global factors best capture the cross-section of international stock returns,[9] I estimate alternative factor models: I estimate a global 4-factor model, the active-peer benchmark model of Hunter et al. (2014) as well as conditional factor models in the spirit of Ferson and Harvey (1991, 1999) and Ferson and Schadt (1996). The tests are presented in the Internet Appendix.

Fund performance ("alpha") is calculated by first estimating factor loadings over the previous 36-month rolling window requiring at least 24 return observations and second computing the difference between actual returns and predicted returns using the estimated loadings. This filters out funds younger than two years and addresses potential incubation biases.

In a second step, I perform a detailed decomposition of (semi-annual) holding returns in the spirit of Daniel et al. (1997) against industry benchmark portfolios. The benchmark portfolio of stock k is a value-weighted average of all stocks in the in same industry of stock k in the investment opportunity set of fund j. For example, the benchmark portfolio for a technology stock when held in the "European Equity Large Cap" style consists of all technology stocks in Europe. When the same stock is held in the "Global Equity" style, its benchmark portfolio consists of all global technology stocks. Hence, the benchmark portfolios are style specific in order to control for the investment opportunity set the funds face when assessing, for example, stock-picking ability. The decomposition is then defined in the standard fashion as

$$\begin{aligned} Holdings\ Return_{j,t+\tau} &= \textstyle\sum_{k\in K} \omega_{j,k,t} \times R_{k,t+\tau} \\ &= \sum_{k\in K} \omega_{j,k,t} \times \left(R_{k,t+\tau} - R_{BM,t+\tau}\right) + \sum_{k\in K} \left(\omega_{j,k,t} - \omega_{j,k,t-\tau}\right) \times R_{BM,t+\tau} + \sum_{k\in K} \omega_{j,k,t-\tau} \times R_{BM,t+\tau} \qquad (4) \\ &= Industry\ CS_{j,t+\tau} + Industry\ CT_{j,t+\tau} + Industry\ AS_{j,t+\tau}, \end{aligned}$$

where $\omega_{j,k,t}$ is the weight computed from the most recently published number of stocks held (adjusted for splits or other capital actions) multiplied by the last months' closing price, and $R_{t+\tau}$ is the return (of the stock or the industry benchmark) over the next six month period. The measures are computed for all

[9] While Griffin (2002) shows that local Fama-French factors best explain international stock returns and Fama and French (2012) draw similar conclusions, new evidence presented in Hou, Karolyi and Kho (2011) and Karolyi and Wu (2012) emphasizes the importance of global factors for international stock returns.

portfolio holdings, the sub-portfolio of foreign holdings and the foreign holdings in industries that are among the 10 largest in market capitalization in the domestic stock market of the fund. As a baseline, I use US Dollar returns and verify robustness using local currency returns.

Additional fund controls include *Fundsize* as the log of fund TNA, *Firmsize* as the log of 1 plus the TNA of all funds managed in the management company excluding the fund itself, *Age* as the fund age in years since inception, *Expenses* as the percentage annual expense ratio, *Inst. Shareclass* as a dummy if the fund offers a share-class dedicated to institutional investors only, *Shareclasses* as the number of different share-classes of the fund, *Pastreturn* as the cumulative fund return over the trailing 12 months, *Volatility* as the annualized standard deviation of fund returns over the trailing 12 months, and *Turnover* computed from semi-annual holdings as the change in the position of every stock multiplied by the beginning of the period price and divided by fund TNA.

[TABLE 1 ABOUT HERE]

3.4 Descriptive Statistics

Table 1 presents descriptive statistics on the sample. Panel A displays the number of funds in the sample as of December of each calendar year 2000 to 2010. The sample size grows considerably for all but the last year in the sample, reaching a peak of 2,763 distinct funds in 2009.

Panel B reports summary statistics on the fund level. The average fund in the sample has a TNA of 723.1 million US Dollars, somewhat smaller than in the domestic US literature, and is managed in a firm that manages over 29 billion US Dollars in mutual fund assets. The average expense ratio is 1.7% per year, somewhat higher than in the domestic US literature but comparable to the sample of multi-country funds in Cremers et al. (2013), and the average age is 11 years, somewhat younger than in the domestic US literature. All remaining fund variables seem to be broadly in line with other mutual fund studies. The average volatility of monthly fund returns is 18.6% annualized, average turnover is 64% over a semi-annual period, and the average gross-return is about 0.86% per month. Also consistent with the tenor in the mutual fund literature, the average 4-factor alpha is about 4.0 bp per month before fees and a negative

7.5 bp a month after fees. The average fund in the sample has a 6.7% *Home Bias (HB)*. The median *Home Bias* is 0, but the overall distribution is slightly skewed. The level of *Home Bias* is lower than, for example, in Hau and Rey (2008), who provide estimates of Home Bias from the predecessor database of FactSet on the fund level. The difference is that they do not explicitly correct for the expected level of home investment given the investment style of the fund. *Foreign Industry Bias (FIB)* is positive on average and skewed to the right, its mean being significantly larger than the median. The average *Industry Concentration* (*ICI)* is 36.7%, which is almost the same as the median (34.1%).

Panel C presents the industry classification employed. This is the same metric used by, for example, Bekaert et al. (2007, 2011). The metric is quite granular and distinguishes among 39 distinct industries.

Panel D presents the style classification as well as the sample evolution by style. The panel lists the 13 distinct Morningstar investment styles that cover the global investment universe for international equity mandates. The styles are heterogeneous and include broad global mandates that span all major capital markets in the world, as well as more regional mandates that are narrower in scope. The mandates cover both developed and emerging markets. Columns 2 to 5 show the evolution of the sample over time according to style. The relative size per style in the sample is relatively constant. The last column display the "investment focus" (i.e., the countries in which funds of that style typically invest, defined as the countries that attract at least 90% of fund TNA on average). For every style, I treat all stocks in the investment focus countries as part of the fund's investment opportunity sets.

About 47% of funds have a global investment mandate – they are part of one of the three "Global Equity" styles. These funds invest primarily in developed equity markets in North America, Europe and Asia. The second biggest group consists of European focused styles. They make up about 35% of the sample and funds focus on developed European equity markets. The remaining part of the sample focuses on Emerging Markets (11%) and mostly developed Asia (7%).

Finally, Panel E of table 1 summarizes the geographic distribution of fund locations (i.e., the countries of residence of the asset management company in charge of the portfolio) around the world. About 20% of funds are managed out of the US and almost 70% of funds are managed out of European

countries. As the table illustrates, the European funds are managed primarily in the main capital markets of Europe with the UK contributing the largest share (17% of the total sample), followed by Germany (9%) and France (8%). About 5% of all funds are managed from Asia. Important for this study, very few funds are managed from offshore locations that are known to attract fund incorporations due to preferential tax treatment but few other industries. To the contrary, the vast majority of funds are situated in countries that also have meaningful industry structures.

4 Portfolio Allocations of International Funds

In this section, after a brief description of the empirical design, I present portfolio choice regressions that analyze both industry and country allocations of international funds.

4.1 Empirical Design

The pre-determined geographic investment styles but heterogeneous fund locations around the world provide a helpful econometric identifying restriction. As described, I view the investment styles as a "soft constraint" on the geographical exposures of funds, i.e., the styles indicate the countries in which a fund is expected invest and thus define the investment opportunity set of the fund. Since the expectation is with respect to country allocations, but not industry allocations, a tension arises for funds that indeed have an information advantage in some assets. Within the boundaries of the styles, these funds will deviate from a well-diversified portfolio in a predictable fashion, depending on their comparative advantages. Analyzing these deviations and associated performance implications is the empirical strategy I take. In doing so, I am less interested in how international funds invest in, say Italy, in general but how international funds with comparable mandates but different home locations invest differently in Italy.

To implement this idea, I estimate portfolio choice regressions of the following form:

$$(Excess\ Foreign)Ind.Weight_{j,i,t} = \beta_1 A_{h,i,t} + \beta_2 B_{f,i,t} + \beta_3 C_{j,t} + \epsilon_{j,i,t}, \qquad (5)$$

where the vector $A_{h,i,t}$ contains a set of domestic industry characteristics such as its percentage share in the domestic stock market (*Home Industry Market Share*), its size, profitability, growth opportunities,

leverage and momentum, all defined in section 3. The vector $B_{f,i,t}$ contains the same characteristics but for the remaining foreign part of industry i. The estimation further includes the vector $C_{j,t}$ of fund characteristics that are defined in section 3 but unreported for brevity. The "industry information hypothesis" predicts a positive coefficient on the variable *Home Industry Market Share*.

To focus on the proposed identification strategy, equation (5) is augmented with fixed effects. Specifically, the baseline specification includes both time and industry fixed effects to control for how all funds invest in a given industry or a given period. Subsequently, these are replaced with a set of industry x time fixed effects. These fixed effects remove all factors that affect a given industry in a given period and only leave differences in industries across home countries to identify the point estimates.

A final concern regarding inference is that portfolio choices in different industries are correlated across funds from the same home country. I control for this effect by clustering observations along the home country-industry pair dimension.[10]

[TABLE 2 ABOUT HERE]

4.2 The Result: *Foreign Industry Bias*

I present the estimates of equation 5, the main result on portfolio choice, in table 2. As a baseline, I include the top 20 industries by market capitalization in each investment style in the regression.

Column 1 considers the all fund holdings. The results show that the market share of the industry in the domestic stock market is a significant determinant of the overall industry composition of fund portfolios. An industry with a 10% market share in the domestic stock market is associated with about a 1.1%-points excess allocation (t-statistic 3.75) in the total portfolio.

In the remaining columns, I only consider the foreign sub-portfolios and find the same result. An industry with a 10% market share in the domestic stock market receives an excess weight of 0.8%-points in the foreign portfolio of funds (t-statistic 2.48, column 3). Adding the stricter industry x time fixed

[10] As will become clear, the main results are driven by differences in industry structures across home countries and not by the evolution of industry structures within home countries. Therefore, the use of industry x home country fixed effects is not feasible.

effects leaves the result virtually unaffected (column 3). In columns 4 and 5, I reduce the number of industries in the regressions (top 10 and top 3 industries in the style respectively) to address the concern that portfolio weights ultimately have to sum to 1. The results hold.

In columns 6 and 7, I emphasize that the bias is primarily driven by differences across countries and not by the relative evolution of industries within countries. In column 6, I use the variable *Home Industry Market Share (pre-sample)* computed at the end of 2000 (i.e., before the start of the sample period). This variable is purely cross-sectional and does not vary over time. The estimates stay significant and are economically little affected. In column 7, I remove the time dimension from the data by performing a "between" estimation (a single cross-sectional regression on group means over the time series). These specifications indicate that the bias is very persistent over time. To illustrate the persistence, Figure 1 plots the point estimate of *Home Industry Market Share* year-by-year as well as the 95% confidence interval. The estimates are positive in all years and only insignificant in the early sample years where the cross-sections have fewer observations.[11] These results demonstrate that indeed structural differences in industry compositions across countries as opposed to within-country fluctuations are the primary determinants of the bias.

[FIGURE 1 ABOUT HERE]

Finally, in columns 8 to 10, I present specifications to better gauge the economic magnitude of the bias. In column 8, I use a simple dummy that equals 1 if industry *i* is the largest in the domestic stock market. Such industries receive a foreign excess weight of 1.41%-points on average (t-statistic 2.12). In column 9, I repeat the specification but scale the dependent variable by the foreign benchmark weight to express it in percentages. On average, funds overweight the largest domestic industry by 12% abroad (t-statistic 2.25). Column 10 confirms the result using the original explanatory variable *Home Industry Market Share*. These are economically sizeable estimates: The average absolute benchmark deviation in sample is about 3%-points. This means that a one standard deviation increase in the variable *Home*

[11] The 2001 cross-section only has about 1/3 the number of observations than the typical cross-section in the 2004 to 2010 periods which is why the confidence interval for that year is substantially larger.

Industry Market Share (app. 5%) explains about 13% of the average foreign benchmark deviation. The average deviation in the largest domestic industry abroad amounts to 47% of the average foreign benchmark deviation, suggesting that the industrial composition in the domestic stock market of funds explains a meaningful part of foreign investment behavior.

[FIGURE 2 ABOUT HERE]

In figure 2, I plot the estimate for the regression of column 9 in table 2 separately for the largest sample countries. That is, I measure by how much the average fund from every fund location country overweights the largest domestic industry abroad. I find that the bias is positive in 16 out of the 24 largest sample countries. These 16 sample countries contribute about 78% to the total observations. Across these 16 countries, the average foreign bias in the largest domestic industry is almost 30% (excluding the small sample of funds based in South Africa that has a tremendous preference for foreign mining stocks).[12]

[FIGURE 3 ABOUT HERE]

Finally, I graph the bias for the 20 largest global industries in sample in figure 3. These industries account for about 75% of global market capitalization on average. For every industry, the figure displays three bars: First, in grey, the average foreign excess weight of all funds for which the industry is among the top 20 in size in the domestic stock market (i.e., where the industry is relatively large in the domestic stock market). Second, in white, the average foreign excess weight of all funds for which the industry is not in the top 20 in size in the domestic stock market (i.e., where the industry is relatively small in the domestic stock market). Third, in black, the difference between the two, that captures the bias. I again scale the excess weight by the benchmark weight of the industry to express it in percentage terms.

The message of the figure is intuitive. First, the grey (white) bars are predominantly positive (negative) – that is, funds for which the industry is relatively large (small) in the domestic stock market tend to overweight (underweight) the industry abroad. As a result, the black bars are positive in 14 out of

[12] In the Internet Appendix, table IA.1, I present additional robustness tests on the estimates of table 2. In panel A of table IA.1, I successively drop the 10 largest sample countries from the sample. In panel B of the same table, I successively drop the 10 largest industries from the sample. In unreported results, I drop South Africa or the mining industry. The estimates are robust and significant in every regression.

20 cases. Second, the bias is economically large. On average it is over 10% across all industries, 21% in the 14 industries where it is positive and reaches a maximum of almost 60% in "Industrial Metals & Mining" and "Electricity".

4.3 *Foreign Industry Bias* and Country Characteristics

In table 3, I investigate how the bias varies with domestic market and industry characteristics. First, in column 1, I add home country fixed effects to the regression to illustrate that the effect does not depend on any particular fund location country in the sample. In fact, if anything, the magnitude of the estimate increases by 16% (compared to column 3 in table 2).

[TABLE 3 ABOUT HERE]

The concept of a comparative advantage postulates that relative (rather than absolute) sizes matter. In columns 2 to 4, I verify that the *Foreign Industry Bias* is not driven by simple differences in absolute sizes across countries. While the baseline specification already controls for the absolute size of the industry at home and abroad, column 2 here runs a horse race between the variable *Home Industry Market Share* and the share of the domestic industry *i* in the global industry *i* (the variable *Share of Global Industry*). Column 2 shows that while coefficient on *Share of Global Industry* is positive and marginally significant, the coefficient on *Home Industry Market Share* is virtually unchanged. In columns 3 and 4, I split the sample by the median total market capitalization of the domestic stock market. In both sub-samples, the effect of *Home Industry Market Share* is strong and significant. Thus, the bias is present in both large and small countries and countries where industries are smaller in an absolute sense.

In the remaining columns, I identify two dimensions along which the bias does vary. In columns 5 and 6, I split the sample by the industry concentration[13] of the domestic stock market to test if a more distinct and unbalanced composition of the domestic market translates into a stronger *Foreign Industry Bias*. I find supportive evidence; the bias is about 20% stronger in the sub-sample with a high domestic

[13] The measure of stock market industry concentration is a standard Herfindahl-Hirschman index over the market shares of domestic industries.

industry concentration. This suggests that funds managed from such countries are subject to more pronounced information asymmetries and exhibit a stronger bias.

In columns 7 and 8, I split the sample by industries. First, for every stock, I compute its loading on a global industry factor over the trailing 36 month period controlling for a local industry, a local market and a global market factor. I compute the average absolute loading on this global industry factor across all the stocks in the industry and split the regression by those industries in which the stocks have an above-median loading on the global industry factor. Intuitively, the extent to which industrial expertise applies even to geographically distant investments should vary with the degree by which stocks from the same industry co-move. In other words, industrial expertise, especially when domestically acquired, is less helpful for foreign investments if it pertains exclusively to idiosyncratic drivers of local returns. Column 7 confirms this intuition. If the industries with a high average loading on their global industry factor are relatively large in the domestic stock market, the *Foreign Industry Bias* is about 51% stronger and highly significant (t-statistic 3.57).

In summary, while the *Foreign Industry Bias* is not affected by differences in absolute sizes across countries, it is stronger for funds from countries with concentrated stock markets and for countries where the dominant industries are more "global" in an asset pricing sense. Both dimensions suggest that indeed information asymmetries underlie the documented foreign portfolio choices.

4.4 Does the *Foreign Industry Bias* Impact Country Allocations?

In a final test, I investigate how the *Foreign Industry Bias* impacts country allocations of funds to understand if, as a result of a preference for domestically-large industries, funds avoid countries with a high *Industry Distance* relative to home and if, conditional on investing, the *Foreign Industry Bias* is stronger in such countries.

To carry out the test, I modify equation (5) and slice fund portfolios along the country dimension (rather than the industry dimension). I include similar control variables as in equation (5) but defined on the country level. In addition, as detailed in section 3.3, I add a number of distance measures between the

home and the investment destination country that previous literature has identified as important determinants of foreign portfolio choice.

[TABLE 4 ABOUT HERE]

Table 4 presents the results. The main variable of interest is *Industry Distance*. Indeed, the first two columns show that funds have a lower *Country Weight* for countries with a high *Industry Distance* relative to the domestic stock market. The estimate in column 2 implies that a foreign country with an *Industry Distance* of 0.1 (approximately one standard deviation) receives a 0.9% points (t-statistic 2.32) lower weight in the portfolio. In columns 3 to 5, I interact the variable *Industry Distance* with the indicator variable *Has Home Bias* that equals 1 if the fund overweights the domestic stock market relative to its benchmark as defined in section 3.3. In those cases, the effect is almost 4 times as strong. Naturally, funds that overweight their domestic market need to underweight foreign markets on average. The regressions show that they especially avoid foreign markets with different industrial structures. The result is robust to the inclusion of home country fixed effects (column 4) and therefore not driven by any particular fund location country as well as robust to the inclusion of a large variety of control variables (column 5) that the previous literature has shown to be important for portfolio choice (geographic distance, common language, common currency, bilateral trade). These variables usually go in the expected direction. For example, funds with *Home Bias* also underweight countries that are geographically far and that do not share a common language or a common currency with their home country.[14]

In columns 6 to 8 of table 4, I replace the dependent variable with the variable *Country FIB* – the *Foreign Industry Bias* in the specific investment destination. The regressions in those columns are conditional on the fund investing in country *c*. These regressions address the questions if, conditional on investing, funds have concentrated country portfolios with a bias towards relatively large domestic

[14] In unreported results, I also construct alternative distance variables that capture dimensions other than industry structure that might be relevant for portfolio choice. For example, I compute the distance in the growth / value profile between two countries or the distance in the size profile (large cap vs. small cap) between two countries to see if these dimension impact foreign portfolio choice. I generally find that they have no impact or that their economic impact is negligible underlining the importance of *Industry Distance* as an informative dimension.

industries. The answer is affirmative. Indeed, in structurally different countries, funds with a *Home Bias* overweight large home industries more. The point estimates in column 8 imply that this mimicking behavior increases by 0.0055 (t-statistic 3.87), or about 0.13 standard deviations per standard deviation increase in the variable *Industry Distance*.[15] This result is again robust to the inclusion of home country fixed effects and additional interaction terms.

5 Is the *Foreign Industry Bias* likely Information-Driven?

The results in the previous section provide strong evidence in favor of the "industry information hypothesis". While they reject the "diversification hypothesis", they remain inconclusive vis-à-vis the "familiarity" and the "catering" alternatives. In this section, I analyze fund performance to rule out these alternatives, running performance regressions of the form

$$Performance_{j,t} = \beta_1 FIB_{j,t} + \beta_2 HB_{j,t} (+\beta_3 HB_{j,t} \times FIB_{j,t}) + \beta_4 C_{j,t} + \epsilon_{j,t}, \qquad (6)$$

where $Performance_{j,t}$ includes various measures of fund performance from factor models or holding decompositions, *HB* and *FIB* are the measures of *Home Bias* and *Foreign Industry Bias* measured as of June and December each calendar year and then used for the entire six month period that follows, the vector $C_{j,t}$ contains fund controls as well as time and style fixed effects. All variables are defined as in section 3.3. The "industry information hypothesis" predicts that *Foreign Industry Bias* is associated with positive performance.

[TABLE 5 ABOUT HERE]

[15] The variable *Has Home Bias* has a negative and significant level effect. This means that, if a perfect foreign replica of the home country existed, funds with a *Home Bias* would show less mimicking behavior in terms of *Foreign Industry Bias*, which may be intuitive as no over-/underweighting on the industry level is necessary to build a country portfolio with industry similarity to the home country. The mimicking behavior increases with *Industry Distance*. A one standard deviation increase in *Industry Distance* already compensates for about 74% of the level effect of *Has Home Bias*.

5.1 Factor Models

Table 5 presents the results from the factor corrections. The regressions are run at monthly frequency and use a style-specific four factor alpha as the performance measure as described in section 3.3.[16] Indeed, columns 1 to 3 show a positive performance association of both *Foreign Industry Bias* and *Home Bias*. A simple regression with only those two variables estimates a positive performance effect of about 0.3% net of risk per year for a fund with a one standard deviation *Foreign Industry Bias* (t-statistic 3.19). Also, a fund with an average *Home Bias* in the sample outperforms by 0.24% per year (t-statistic 8.59). These results strengthen when fixed effects (column 2) and control variables (column 3) are added to the table.

In column 4, I interact the *Foreign Industry Bias* variable with the *Has Home Bias* dummy and find that the significance shifts to the interaction term and that the point estimate increases by over 170%. Funds with a one standard deviation *Foreign Industry Bias* and a simultaneous *Home Bias* outperform by over 1% net of risk per year (t-statistic 6.49). This is robust to adding the industry concentration variable *ICI* to the regression (column 5) and interacting that variable with the *Has Home Bias* dummy (column 6).

In column 7, I directly focus on the sub-sample of funds with a *Home Bias* and confirm the intuition from the interaction term. The performance effect of *Foreign Industry Bias* is substantially larger in this sub-sample of funds.

Finally, in column 8, I split the sample along another measure of active management – the funds' tracking error vis-à-vis their benchmark. I use the R^2 of a regression of fund returns on benchmark returns to measure the tracking error, as in Amihud and Goyenko (2012), and find that the results are consistently strong among the sample of funds that are generally more active. As such, the variable *Foreign Industry Bias* does not implicitly separate active from passive funds but differentiates among active funds.

[16] I present additional robustness tests for equation (6) in the Internet Appendix. In table IA.2, I use a variety of different factor models to assess robustness of the performance result. I use raw fund returns, style-adjusted fund returns, 1-factor alphas, net of fees returns, a global 4 factor model, the active-peer benchmark model of Hunter et al. (2014) and conditional factor models. The performance result is robust in all specifications. In table IA.3, I present different regression specifications. I use the raw *Home Bias* variable, a value-weighted aggregation for the *Foreign Industry Bias* measure, different fixed effects and assumptions on the residuals. I estimate Fama-MacBeth (1973) regressions instead of panel regressions, truncate both dependent and independent variables to mitigate concerns about outliers and drop selected investment styles from the sample. Again, the results are robust in all tests.

The picture that emerges from these regressions support the "industry information hypothesis" and are difficult to reconcile with the "familiarity" or "catering" alternatives.[17] While funds with a *Foreign Industry Bias* perform better, it is interesting that a sub-sample of funds with a simultaneous *Home Bias* distinguishes itself with significant outperformance. This is, on the one hand, consistent with theories that explain *Home Bias* with information asymmetries, such as van Nieuwerburgh and Veldkamp (2009, 2011) (notice that the *Home Bias* measure itself has a positive and significant effect on fund performance). On the other hand, the significance of the interaction term is consistent with the idea that some funds are successful in applying domestically-rooted industry expertise to geographically distant investments. This establishes a new insight on fund manager skill in the international context.

5.2 Holding Decompositions

While the factor models of the previous sub-section support the "industry information hypothesis", they constitute only a partial test. A detailed decomposition of holding returns can address at least two weaknesses of the factor models. First, analyzing holding returns allows for a detailed investigation into the parts of the portfolio generate the overall fund-level result. This is important because the "industry information hypothesis" predicts that outperformance is generated in specific foreign holdings that are difficult to isolate with a factor-model approach. Second, factor models are subject to the critique of benchmark misspecification and holdings decomposition can offer a viable robustness test.

To complement the factor models, I perform a decomposition in the spirit of Daniel et al. (1997), focusing on the foreign sub-portfolio of funds and the foreign holdings in large domestic industries. I depart from the standard approach because I benchmark stock returns against an industry portfolio, not against a size-value-momentum sorted portfolio. In light of the hypothesis, I am interested if international

[17] A direct test to rule out the catering alternative is an analysis of flows. Catering to domestic investors should lead to flows being sensitive to fund performance net of the domestic stock market, irrespective of the international benchmarks of the funds. I present this test in the Internet Appendix, table IA.5. The regressions show that flows are not sensitive to fund performance net of the domestic stock market return but instead respond to net of (international) benchmark performance.

funds with a *Foreign Industry Bias* are able to pick stocks (time industries) abroad as this would constitute direct evidence of investment skill along the dimension of interest.

[TABLE 6 ABOUT HERE]

In table 6, I present the results. I re-estimate equation (6) but replace the dependent variable with the forward looking 6-month holdings returns, decomposed as stated in equation (4) in section 3.3. The table analyzes the foreign sub-portfolio only, estimates using all holdings are presented in the Internet Appendix, table IA.3. Columns 1 to 6 consider all foreign holdings, columns 7 to 10 only foreign holdings in industries that are among the 10 largest in the domestic stock market of the fund.

The regressions that use *Foreign Holdings Returns* (columns 1, 5 and 7) replicate the results from the factor models. The interaction of *Has Home Bias* and *Foreign Industry Bias* is strongly positive and significant. From column 1, a differential performance effect of about 22 bp per year can be attributed to a one standard deviation of *Foreign Industry Bias* (t-statistic 5.46). This holds both for US Dollar returns (column 1) and local currency returns (column 5). When I only consider foreign holdings in large domestic industries (column 7), the effect is 4 times as strong – a differential performance effect of about 89 bp per year per standard deviation of *Foreign Industry Bias* (t-statistic 6.72).

When I decompose the returns against the style-specific industry benchmark portfolio as described in section 3.3, I find that the differential effect is heavily concentrated in foreign stock-picking ability (columns 2, 6 and 8). The differential effect of *Foreign Industry Bias* now amounts to 55 bp per year (t-statistic 4.68, column 2) and to 71 bp per year when only foreign holdings in large domestic industries are taken into account (t-statistic 6.10, column 8) and is robust to using local currency returns (column 6). In comparison to the factor models of the previous section (column 4 in table 5, panel A), this suggests that about 50% (64%) of the overall performance result can be attributed to superior foreign stock picking within industries (within foreign industries large at home).

In columns 3 and 9, I investigate if the same funds successfully time industries abroad and find some supportive evidence. Funds with a *Foreign Industry Bias* and funds with high *Industry Concentration (ICI)* show some timing ability (column 3). The economic effect amounts to about 11 bp (15 bp) a year

per standard deviation of *Foreign Industry Bias* (*ICI*). When I consider foreign holdings in the 10 largest domestic industries (column 9), the effect is about 20% (10%) stronger and explains about 13% of the aggregate fund effect. However, in both cases, I do not detect the same mediating effect of *Home Bias* on *Foreign Industry Bias* which suggests that the main source of outperformance comes from stock picking ability abroad.

5.3 Return Predictability from Trades

In a final test, I analyze if position changes of funds with *Foreign Industry Bias* predict future stock returns better than position changes of other funds. To measure the return predictability of trades, I define a new dependent variable, *Foreign Corr(%For.Trade, Future Ret)* as follows

$$Foreign\ Corr(\%ForTrade, Fut.Ret)_{j,t} = Correlation\left(\%ForTrade_{j,k,t-\tau\to t}, R_{k,t\to t+\tau}\right), \qquad (7)$$

where *k* indexes (foreign) stocks, *j* indexes funds and *t* indexes time periods. That is, the dependent variables are simply the correlation between percentage position changes (positive for buys / negative for sells, only when the number of stocks held changed, taking into account splits and capital actions) and future stock returns. As a horizon, I choose returns one and two quarters ahead, and I again present the measures both for all foreign trades and for the trades in those industries that make up the top 10 at home.

[TABLE 7 ABOUT HERE]

Table 7 presents the results. The correlation between trades and future stock returns is higher for funds with *Home Bias* and *Foreign Industry Bias*. Columns 1 and 2 (3 and 4) analyze all trades and future returns 1 quarter (2 quarters) ahead. The correlation between buy or sell transactions and future stock returns is between 1.5 and 1.6%-points higher for those funds. In columns 5 and 6, I limit the foreign trades to the ones in the top 10 domestic industries and the result on the buy transactions becomes about 40% stronger. While these first columns used raw returns in US Dollars, in columns 7 and 8, I use industry-adjusted stock returns and obtain the same result which shows that simple industry momentum trading does not explain the result (consistent with the results in table 6). In columns 9 and 10, I again use raw stock returns but denominated in local currency and also obtain the same result.

Finally, in columns 11 and 12, I compute the correlation between trades and the stock returns over quarters 3 and 4 in the future (excluding the 2 quarters directly following the trading period). The goal is to rule out any reversal effect that might be driving the results if some of these funds have significant price impact when they trade in less liquid international markets. The coefficients in those regressions are insignificant which makes an alternative explanation on temporary price pressure due to correlated trading unlikely.

Overall, the results of this section support the "industry information hypothesis" because funds with a *Foreign Industry Bias* (and a simultaneous *Home Bias*) generate significant outperformance. Together with the result that the *Foreign Industry Bias* is determined by the industry composition in the domestic stock markets of the funds suggests that these funds have a comparative advantage when trading abroad. They exploit this comparative advantage and generate performance in a specific part of their foreign portfolios. This supports the general conjecture that domestic industry composition identifies a dimension of asymmetric information in international financial markets.

6 *Foreign Industry Bias* versus Dedicated Country Funds

Previous literature has debated whether foreign investors under- or over-perform local investors as reviewed in section 2. The overall evidence seems mixed. The analysis here has identified the *Foreign Industry Bias* as a characteristic of international funds with relatively better performance but has not yet shown if this skill translate into absolute positive performance. Furthermore, I have focused on the sample of international funds, leaving out the large sample of country funds. In this section, I directly speak to the debate on foreign vs. local investors by benchmarking the foreign returns of international funds against local benchmarks to clarify if, and if so where, international funds can compete with local investors. This analysis not only contributes to the international finance literature but also to the mutual fund literature because Banegas et al. (2013) show that, in the European Equity space, country funds outperform pan-European funds.

I proceed as follows. I re-visit the holding decomposition of equation (4) but benchmark every foreign stock not against an industry benchmark portfolio but against local active and passive country portfolios. As the local passive benchmark, I chose the domestic market index to measure if, say, the Italy sub-portfolio of an international fund outperforms the Italian market index. To construct a local active benchmark, I rely on the sample of locally managed, dedicated country funds. These funds form a natural sample of "local" investors because they are managed in the same country where they exclusively invest. That is, I measure if, say, the Italy sub-portfolio of an international fund outperforms an "Italian Equity" fund that is managed in Italy. I select this active local benchmark in four different ways. First, I simply compute the equally weighted average of all locally-managed country funds. Second, I compute the TNA-weighted average of all locally-managed country funds. Third, I select a matching fund for every foreign country sub-portfolio of every international fund. I pick the locally-managed country-fund that is closest in TNA to the total fund TNA of the international fund. Fourth, I pick the matching fund as the locally-managed country fund that is closest in TNA to the TNA of the foreign country sub-portfolio of the international fund. Then, I compute the average outperformance for every international fund over all foreign position and over those foreign positions in the 10 largest domestic industries against the 5 different benchmarks.

[TABLE 8 ABOUT HERE]

Table 8 presents the results. Columns 1 to 5 present the average absolute outperformance across all foreign positions of international funds, columns 6 to 10 only for those foreign positions in the top 10 domestic industries. The three panels include different funds: Panel A reports the returns for all funds for which the interaction variable *Has Home Bias* * *FIB* ≤ 0, panel B reports the returns for all funds for which the same variable is > 0 and panel C reports the returns for the top decile of funds sorted on the same interaction variable.

The results in panel A confirm both the result in Banegas et al. (2013) that country funds, on average, outperform international funds and the literature that finds evidence in favor of outperformance of local vis-à-vis non-local investors. The majority of funds in the sample underperform both passive and

active local benchmarks in their foreign holdings by about 60 – 230 bp per year, depending on the choice of local benchmark and the set of foreign holdings included in the aggregation.

Interestingly, in panels B and C, the underperformance gradually disappears for the sample of funds with both *Foreign Industry Bias* and *Home Bias.* When all such funds are considered (panel B), the underperformance is substantially weaker across all foreign positions (columns 1 to 5) and disappears completely when only foreign holdings in the 10 largest domestic industries are considered (columns 6 to 10). In Panel C, that considers only the top decile of funds, the underperformance turns into absolute positive outperformance that is concentrated in foreign holdings of large domestic industries (columns 6 to 10). The effect is both statistically and economically significant and reaches between 90 and 200 bp per year net of the benchmark.

This last piece of evidence shows that the ability to apply domestically-rooted industry expertise to foreign investment decisions allows a sample of international funds to compete against dedicated local investors, if only in selected positions that are identified ex-ante by the "industry information hypothesis".

7 Conclusion

This study has shown that domestic industry structures proxy for international information asymmetries and identify a source of comparative advantages that some funds successfully exploit. While this determines a new dimension of fund manager skill in international markets it also sheds new light on the "geography of information" by highlighting that insights gathered as a result of geographical proximity are not limited to "local" investments but may be more "global" and generally applicable in nature.

The results raise a number of interesting questions for future research. For example, it would be interesting to understand how the superior industrial expertise of some funds is exactly developed. For instance, these funds could be managed in firms that manage a lot of domestic assets or whose research departments primarily reflect the structure of the domestic market. Perhaps international funds managed in the same conglomerate are able to benefit from these organizational structures. Another interesting

question pertains to the distribution of funds around the world itself. This study analyzes portfolio choice and performance taking fund locations as given. In fact, I simply use fund locations to form a prediction about the likely information advantages different funds enjoy. It would be interesting to understand to what extent domestic industry characteristics interact with the population of funds managed in the country. Over a longer time period, do comparative advantages change if domestic stock markets undergo structural changes? Or do funds re-locate when domestic conditions change? These questions are beyond the scope of the paper and I leave them for future work.

References

Ahearne, Alan G., Griever, William L. and Warnock, Frank E., 2004, Information costs and home bias: an analysis of U.S. holdings of foreign equities, *Journal of Financial Economics,* 62, 313-336.

Albuquerque, Rui, Bauer, Gregory H. and Schneider, Martin, 2009, Global Private Information in International Equity Markets, *Journal of Financial Economics,* 94, 18-46.

Amihud, Yakov and Goyenko, Ruslan, 2013, Mutual Fund's R2 as a Predictor of Performance, *Review of Financial Studies*, 26, 667-694.

Bailey, Warren, Mao, Connie X. and Sirodom, Kulpatra, 2007, Investment restrictions and the cross-border flow of information: Some empirical evidence, *Journal of International Money and Finance,* 26, 1-25.

Barber, Brad N. and Odean, Terrance, 2008, All That Glitters: The Effect of Attention and News on the Buying Behavior of Individual and Institutional Investors, *Review of Financial Studies*, 21, 785-818.

Barber, Brad N. and Odean, Terrance, 2013, The Behavior of Individual Investors, *Handbook of Economics and Finance*, 2, 1533-1570.

Bekaert, Geert, Harvey, Campbell R., Lundblad, Christian and Siegel, Stephan, 2007, Global Growth Opportunities and Market Integration, *Journal of Finance*, 62, 1081-1137.

Bekaert, Geert, Harvey, Campbell R., Lundblad, Christian and Siegel, Stephen, 2011, What segments equity markets. *Review of Financial Studies,* 24, 3841-3890.

Carhart, Marc M., 1997, On the Persistence of Mutual Fund Performance, *Journal of Finance,* 52, 57-82.

Carrieri, Francesca, Errunza, Vihang and Sarkissian, Sergei, 2004, Industry Risk and Market Integration, *Management Science,* 50, 207-221.

Carrieri, Francesca, Errunza, Vihang and Sarkissian, Sergei, 2012, The Dynamics of Geographic Versus Sectoral Diversification: Is There a Link to the Real Economy?, *Quarterly Journal of Finance*, 2, 1-41.

Chan, Kalok, Covrig, Vincentiu and Ng, Lilian, 2005, What Determines the Domestic Bias and Foreign Bias? Evidence from Mutual Fund Equity, *Journal of Finance,* 60, 1495-1534.

Choe, Hyuk, Kho, Bong-Chan and Stulz, Rene M., 2005, Do domestic investors have an edge? The trading experience of foreign investors in Korea, *Review of Financial Studies*, 18, 795-829.

Chuprinin, Oleg, Massa, Massimo, and Schumacher, David, 2014, Outsourcing in the International Mutual Fund Industry: An Equilibrium View, *Journal of Finance*, forthcoming.

Cohen, Lauren and Frazzini, Andrea, 2008, Economic Links and Predictable Returns. *Journal of Finance,* 63, 1977-2011.

Coval, Joshua D. and Moskowitz, Tobias J., 1999, Home Bias at Home: Local Equity Preferences in Domestic Portfolios. *Journal of Finance,* 54, 2045-2073.

Coval, Joshua D. and Moskowitz, Tobias J., 2001, The Geography of Investment: Informed Trading and Asset Prices. *Journal of Political Economy,* 109, 811-841.

Covrig, Vincentiu, Lau, Sie T. and Ng, Lilian K., 2006, Do Domestic and Foreign Fund Managers Have Similar Preferences for Stock Characteristics? A Cross-Country Analysis, *Journal of International Business Studies,* 37, 497-429.

Cremers, Martijn, Ferreira, Miguel A., Matos, Pedro and Starks, Laura T., 2013, The Mutual Fund Industry Worldwide: Explicit and Closet Indexing, Fees, and Performance, *Working Paper.*

Daniel, Kent, Grinblatt, Mark, Titman, Sheridan and Wermers, Russ, 1997, Measuring Mutual Fund Performance with Characteristic-based Benchmarks, *Journal of Finance,* 52, 1035-1058.

Dumas, Bernard, Harvey, Campbell R. and Ruiz, Pierre, 2003, Are correlations of stock returns justified by subsequent changes in national outputs?, *Journal of International Money and Finance,* 22, 777–811.

Dutt, Pushan and Mihov, Ilian, 2013, Stock Market Comovements and Industrial Structure, *Journal of Money, Credit and Banking, 45, 891-911.*

Dvorak, Tomas, 2005, Do Domestic Investors have an Information Advantage? Evidence from Indonesia, *Journal of Finance,* 60, 817-839.

Engelberg, Joseph E. and Parsons, Christopher, 2011, The Causal Impact of Media in Financial Markets, *Journal of Finance*, 66, 67-97.

Fama, Eugene F. and French, Kenneth R., 1993, Common Risk Factors in the Returns on Stocks and Bonds, *Journal of Financial Economics,* 33, 3-56.

Fama, Eugene F. and French, Kenneth R., 2012, Size, Value, and Momentum in International Stock Returns, *Journal of Financial Economics,* 105, 457-472.

Ferson, Wayne E. and Harvey, Campbell R., 1991, The Variation of Economic Risk Premiums, *Journal of Political Economy,* 99, 385-415.

Ferson, Wayne E. and Harvey, Campbell R., 1999, Conditioning Variables and the Cross Section of Stock Returns. *Journal of Finance,* 54, 1325-1360.

Ferson, Wayne E. and Schadt, Rudi W., 1996, Measuring Fund Strategies and Performance in Changing Economic Conditions. *Journal of Finance,* 51, 425-461.

French, Kenneth R. and Poterba, James M., 1991, Investor Diversification and International Equity Markets, *American Economic Review Papers and Proceedings*, 81, 222-226.

Froot, Kenneth A., O'Connell, Paul G. and Seasholes, Marc S., 2001. The Portfolio Flows of International Investors. *Journal of Financial Economics,* 59, 151-193.

Gelos, R. Gaston and Wei, Shang-Jin, 2005, Transparency and International Portfolio Holdings, *Journal of Finance,* 60, 2987-3020.

Griffin, John M., 2002, Are the Fama and French Factors Global or Country Specific?, *Review of Financial Studies,* 15, 783-803.

Griffin, John M. and Karolyi, Andrew G., 1998, Another look at the role of the industrial structure of markets for international diversification strategies, *Journal of Financial Economics,* 50, 351-373.

Grinblatt, Mark and Keloharju, Matti, 2001, How Distance, Language, and Culture Influence Stockholdings and Trades. *Journal of Finance,* 56, 1053-1073.

Hau, Harald, 2001, Location Matters: An Examination of Trading Profits, *Journal of Finance,* 56, 1959-1983.

Hau, Harald and Rey, Helene, 2008, Home Bias at the Fund Level, *American Economic Review, Papers and Proceedings,* 2, 333-338.

Heston, Steven L. and Rouwenhorst, K. Geert, 1996, Does Industrial Structure Explain the Benefits of International Diversification? *Journal of Financial Economics,* 36, 3-27.

Hong, Harrison, Torous, Walter and Vokanov, Rossen, 2007, Do Industries lead Stock Markets, *Journal of Financial Economics,* 83, 367-396.

Hou, Kewei, 2007, Industry Information Diffusion and the Lead-lag Effect in Stock Returns, *Review of Financial Studies,* 20, 1113-1138.

Hou, Kewei, Karolyi, Andrew G. and Kho, Bong-Chan, 2011. What Factors Drive Global Stock Returns?, *Review of Financial Studies,* 24, 2527-2574.

Hunter, David L., Kandel, Eugene, Kandel, Shmuel and Wermers, Russ, 2014, Mutual Fund Performance Evaluation with Active Peer Benchmarks, *Journal of Financial Economics* 112, 1-29.

Ince, Ozgur S. and Porter, R. Burt, 2006, Individual Equity Return Data from Thomson Datastream: Handle with Care. *Journal of Financial Research,* 29, 463-479.

Kacperczyk, Marcin, Sialm, Clemens and Zheng, Lu, 2005. On the Industry Concentration of Actively Managed Equity Mutual Funds, *Journal of Finance,* 60, 1983-2011.

Kang, Jun-Koo and Stulz, Rene M., 1997, Why is there a home bias? An analysis of foreign portfolio equity ownership in Japan, *Journal of Financial Economics,* 46, 3-28.

Karolyi, Andrew G. and Stulz, Rene M., 2003. Are Financial Assets priced localy or globally? *Handbook of Economics and Finance* Ch. 16, 975-1020.

Karolyi, Andrew G. and Wu, Ying, 2012. The Role of Investability Restrictions on Size, Value, and Momentum in International Stock Returns. *Working Paper*.

Ke, Dongmin, Ng, Lilian K. and Wang, Quinghai, 2010, Home Bias in Foreign Investment Decisions, *Journal of International Business Studies,* 41, 960-976.

Lewis, Karen K., 1999, Trying to Explain Home Bias in Equities and Consumption, *Journal of Economic Literature* 37, 571-608.

Massa, Massimo and Simonov, Andri, 2006, Hedging, Familiarity and Portfolio Choice, *Review of Financial Studies,* 19, 633-685.

Menzly, Lior and Ozbas, Oguzhan, 2011, Market Segmentation and Cross-predictability of Returns, *Journal of Finance,* 65, 1555-1580.

Moskowitz, Tobias, and Grinblatt, Mark, 1999, Do Industries Explain Momemtun?. *Journal of Finance,* 54, 1249-1290.

Pool, Veronica K., Stoffman, Noah and Yonker, Scott E., 2012, No Place Like Home: Familiarity in Mutual Fund Manager Portfolio Choice, *Review of Financial Studies,* 25, 2563-2599.

Roll, Richard, 1992, Industrial Structure and the Comparative Behavior of International Stock Market Indices, *Journal of Finance,* 47, 3-41.

Sarkissian, Sergei and Schill, Michael J., 2004, The Overseas Listings Decision: New Evidence on Proximity Preference, *Review of Financial Studies,* 17, 769-809.

Sercu, Piet and Vanpee, Rosanne, 2007, Home Bias in International Equity Portfolios, *Working Paper*.

Seasholes, Marc S. and Zhu, Ning, 2010, Individual Investors and Local Bias, *Journal of Finance,* 65, 1987-2010.

van Nieuwerburgh, Stijn and Veldkamp, Laura, 2009, Information Immobility and the Home Bias Puzzle, *Journal of Finance,* 64, 1187-1215.

van Nieuwerburgh, Stijn and Veldkamp, Laura, 2010, Information Acquisition and Under-Diversification, *Review of Economic Studies,* 77, 779-805.

Figure 1: *Foreign Industry Bias* over time

The figure presents the year-by-year point estimate and the 95% confidence interval of the variable *Home Industry Market Share* from a specification as in table 2, column 3 that is run for every sample year separately and that includes industry fixed effects instead of industry x time fixed effects.

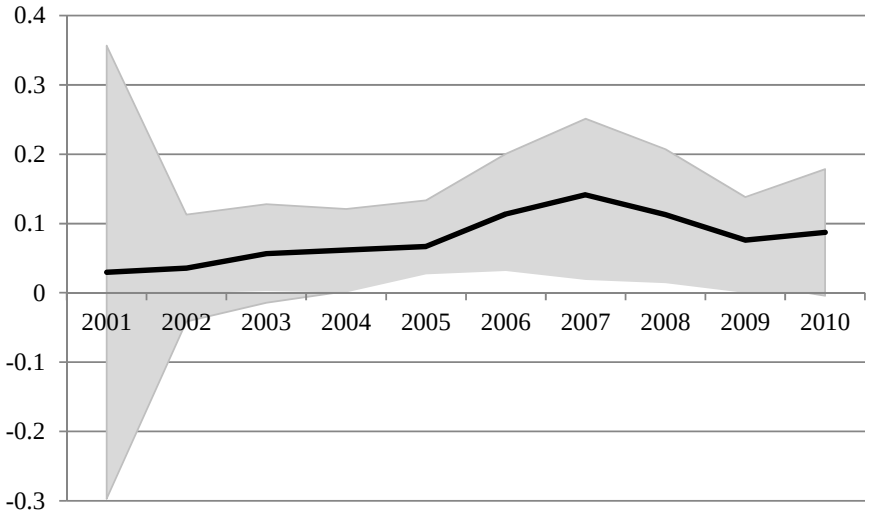

Figure 2: *Foreign Industry Bias* in the largest domestic industries across countries

This figure presents the percentage excess foreign industry weight (the variable *Excess Foreign Industry Weight* scaled by the foreign benchmark weight) in the foreign portfolio for the largest domestic industry across the sample countries reported in table 1, panel E. The excess weight is measured in a separate regression for every fund location country in a specification similar to the one presented in table 2, column 3 (with time fixed effects instead of industry * time fixed effects).

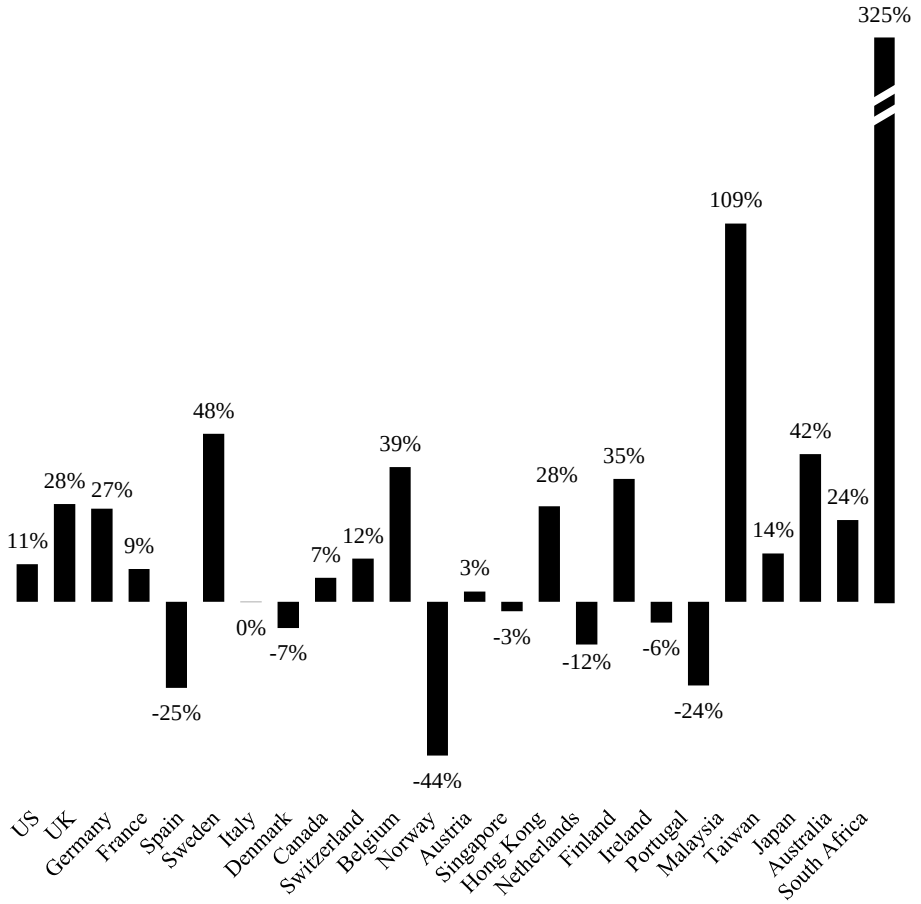

Figure 3: *Foreign Industry Bias* across industries

The figure presents the percentage *Foreign Industry Bias* for the 20 largest industries in sample. These industries account for about 75% of world stock market capitalization on average. For every industry, the figure displays the average excess portfolio weight of funds located in countries where the industry is among the largest in relative size in the domestic stock market ("top 20" industries, grey bar), the average excess portfolio weight of funds located in countries where the industry is not among the largest in relative size in the domestic stock market, ("bottom 19" industries, white bar) as well as the difference between the two bars (solid black bar). The excess weights are demeaned by industry-month to capture the regression results and converted into percentages by scaling them by the share of the industry in the foreign market portfolio (excluding the domestic market capitalization).

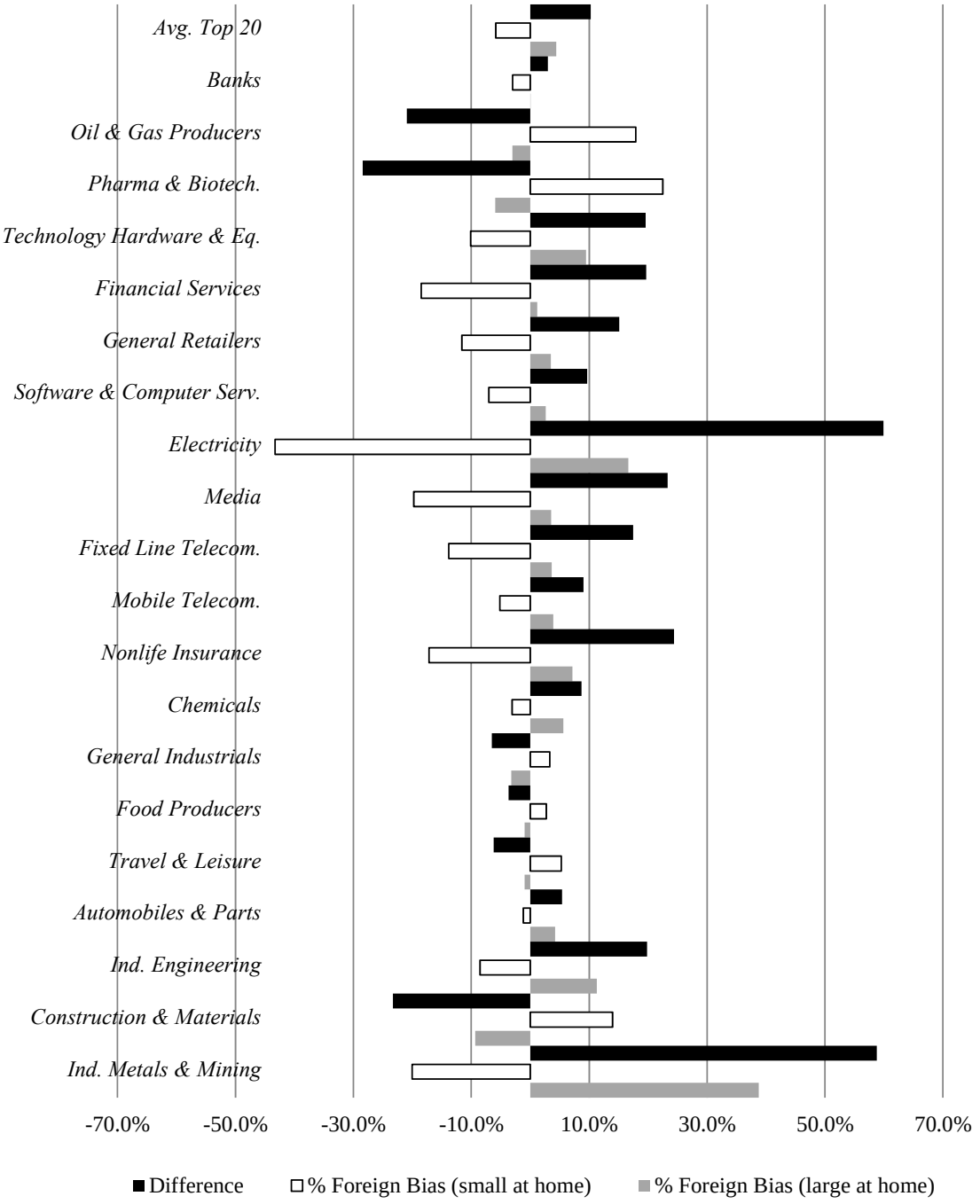

Table 1: Descriptive Statistics

The table presents descriptive statistics on the sample of international mutual funds. Panel A presents the number of funds in the sample as of December of each calendar year. Panel B presents summary statistics on the fund level. Variables are as defined in section 3. Panel C presents the Thomson-Datastream industry classification employed. Panel D shows the Morningstar style classification, the evolution of the sample composition in terms of number of funds per style as well as style characteristics. Panel E shows the sample composition in terms of fund locations where fund location is defined as the country of residence of the management company that manages the portfolio.

Panel A: Number of Funds in Sample

	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
# of Funds	683	1364	1698	1978	2193	2304	2432	2603	2665	2763	2114

Panel B: Descriptive Statistics on the Fund Level

	Mean	**StD**	**P25**	**P50**	**P75**
Fund TNA (mUSD)	723.1	3501.4	33.56	100.9	364.3
Firm TNA (mUSD)	29704.6	121089.0	1117.9	5864.3	20411.7
Expenses (% p.a.)	1.714	0.658	1.320	1.650	2.020
Shareclasses	2.181	2.000	1	1	2
Inst. Shareclass	0.014	0.120	0	0	0
Age (years)	10.99	7.756	5.772	9.341	13.95
Volatility (% p.a.)	18.62	8.559	11.97	16.99	23.28
Turnover (% semi-annually)	63.91	114.7	29.47	44.93	63.95
Gross-Return (% p.m.)	0.863	6.225	-2.410	1.367	4.636
4F Alpha (% p.m.)	0.040	2.269	-1.154	-0.035	1.136
Net-Return (% p.m.)	0.719	6.216	-2.550	1.225	4.485
4F Alpha (Net, % p.m.)	-0.075	2.263	-1.265	-0.141	1.029
Home Bias (HB-%)	6.710	22.230	-2.105	0.000	10.250
Foreign Industry Bias (FIB)	0.001	0.026	-0.011	0.000	0.010
Industry Concentration (ICI)	0.367	0.195	0.228	0.341	0.473

Panel C: Industry Classification

Aerospace & Defense	Gas, Water & Multi-utilities	Nonlife Insurance
Alternative Energy	General Industrials	Oil & Gas Producers
Automobiles & Parts	General Retailers	Oil Equipment & Services
Banks	Health Care Equipment & Service	Personal Goods
Beverages	Household Goods & Home Construction	Pharmaceuticals & Biotechnology
Chemicals	Industrial Engineering	Real Estate Investment & Services
Construction & Materials	Industrial Metals & Mining	Real Estate Investment Trusts
Electricity	Industrial Transportation	Software & Computer Services
Electronic & Electrical Equipment	Leisure Goods	Support Services
Financial Services (Sector)	Life Insurance	Technology Hardware & Eqmt.
Fixed Line Telecommunications	Media	Tobacco
Food & Drug Retailers	Mining	Travel & Leisure
Food Producers	Mobile Telecommunications	
Forestry & Paper		

Panel D: Style Classification

	Sample Evolution (Number of Funds, end-of-year)				**Style Characteristics**
	2002	*2005*	*2008*	*2010*	*Investment Focus*
Africa Equity	15	21	30	35	ZA, UK, TR, EG
Asia Equity	61	71	77	43	JP, HK, AU, KR, SG, TW
Asia ex Japan Equity	104	131	154	108	HK, KR, TW, AU, SG, CN, MY, IN
Emerging Markets Equity	120	146	187	169	BR, TR, KR, RU, TW, HK, PL, ZA, MX, CN, IN, CZ, VE, HU, MY, US
Europe Equity Large Cap	276	383	422	282	FR, DE, UK, CH, IT, NL, ES, SE, FI, BR, HK
Europe Equity Mid/Small Cap	45	75	94	51	DE, FR, UK, IT, CH, NL, ES, SE, FI, NO, TR, AT
Global Equity	168	228	293	250	US, JP, UK, FR, SE, BR, DE, CA, CH, HK, NL, IT, AU, ES, KR, FI
Global Equity Large Cap	514	676	738	649	US, JP, UK, FR, DE, CH, BR, NL, IT, HK, ES, CA, SE, AU, FI
Global Equity Mid/Small Cap	56	86	106	97	US, JP, UK, DE, FR, CA, CH, BR, AU, HK, SE, NL, FI, ES, IT, KR, TR, NO, SG
Islamic Equity	0	0	3	4	MY, US, ZA, UK, JP, BR, FR
Latin America Equity	28	32	33	26	BR, MX
Other Asia Equity	1	5	8	3	MY, TH, SG, ID, PH
Other Europe Equity	310	450	520	397	FR, IT, ES, SE, CH, DE, NL, FI, NO, RU, BE, TR, DK, PL
Total	*1698*	*2304*	*2665*	*2114*	*Median*

Panel E: Fund Locations

Fund Location	**Region**	**Percentage of Sample**
US	North America	20.97%
UK	Europe	17.03%
Germany	Europe	8.84%
France	Europe	8.37%
Spain	Europe	7.19%
Sweden	Europe	5.20%
Italy	Europe	4.62%
Denmark	Europe	3.77%
Canada	North America	3.68%
Switzerland	Europe	2.79%
Belgium	Europe	2.53%
Norway	Europe	2.32%
Austria	Europe	2.04%
Singapore	Asia Pacific	1.83%
Hong Kong	Asia Pacific	1.70%
Netherlands	Europe	1.47%
Finland	Europe	1.30%
Ireland	Europe	1.12%
South Africa	Africa	1.09%
Portugal	Europe	0.73%
Malaysia	Asia Pacific	0.32%
Taiwan	Asia Pacific	0.25%
Japan	Asia Pacific	0.23%
Australia	Asia Pacific	0.20%
Omitted Countries (<500 fund-time obs.):	Estonia, Luxembourg, Lithuania, Greece, Poland, Liechtenstein, Thailand, Croatia, Latvia, Mexico, Bermuda, Argentina	

Table 2: Industry Allocations

The table presents semi-annual investment regressions at the fund-industry level. The top 20 industries per style in terms of market capitalization are considered except for columns 4 and 5 that limit the regression to the top 10 or top 3 industries per style respectively. The dependent variable is *Excess (Foreign) Industry Weight* that measures the percentage (excess) portfolio allocation per industry. Column 1 considers the total fund portfolios, columns 2 to 10 the foreign sub-portfolios of funds only. Reported explanatory variables include home and foreign industry characteristics with the main explanatory variable *Home Industry Market Share* measuring the share of industry *i* in the domestic market portfolio. Unreported fund control variables are defined in section 3. Columns 1 to 6 and 8 to 10 presents panel regressions while column 7 presents a between-estimation, i.e., one cross-sectional regression on time-series averages of fund-industry allocations. *Market Share (pre-sample)* in column 6 is the variable *Market Share* one month before the sample begins (constant over time), and *Largest Industry* in columns 8 and 9 is a dummy that equals 1 if industry *i* is the largest in the domestic stock market of a fund and 0 otherwise. In columns 9 and 10, the dependent variable is converted to percentages by scaling *Excess Foreign Industry Weight* by the foreign benchmark weight of industry *i*. The use of fixed effects is indicated at the bottom of the panel. * / ** / *** denote statistical significance at the 10% / 5% / 1% level computed from standard errors clustered along the home country-industry pair dimension, except for column 7 where standard errors are bootstrapped.

	All Holdings	**Foreign Holdings Only**								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dependent Variable:	*Excess Ind. Weight*	*Excess Foreign Industry Weight*							*Excess Foreign Industry Weight (in %)*	
Home Industry Controls										
Market Share	0.1055***	0.0810**	0.0827**	0.1010***	0.0818***		0.0925***			0.9455***
	(3.75)	(2.48)	(2.50)	(2.74)	(2.83)		(11.57)			(2.60)
Market Share (pre-sample)						0.0733**				
						(2.24)				
Largest Industry								0.0141**	0.1217**	
								(2.12)	(2.25)	
Size	0.0002	-0.0007*	-0.0006	-0.0011	-0.0011	-0.0005	-0.0007***	-0.0001	-0.0000	-0.0073
	(0.63)	(-1.74)	(-1.49)	(-1.59)	(-0.80)	(-1.24)	(-6.74)	(-0.13)	(-0.00)	(-0.97)
ROS	-0.0000	-0.0000	-0.0000	0.0000	-0.0050	-0.0000	0.0000	-0.0000	-0.0037***	-0.0038***
	(-1.11)	(-0.49)	(-0.12)	(0.16)	(-1.11)	(-0.08)	(0.06)	(-0.10)	(-4.41)	(-4.45)
BTM	-0.0006	-0.0009	-0.0008	-0.0005	0.0009	-0.0009	-0.0013***	-0.0009	-0.0059	-0.0050
	(-1.30)	(-1.51)	(-1.21)	(-0.52)	(0.40)	(-1.36)	(-4.10)	(-1.34)	(-0.48)	(-0.41)
Leverage	0.0038	0.0033	0.0019	0.0032	-0.0107	0.0015	0.0055***	0.0004	0.0445	0.0618
	(1.05)	(0.84)	(0.47)	(0.50)	(-0.78)	(0.38)	(3.29)	(0.10)	(0.51)	(0.70)
Momentum	-0.0000	-0.0000	-0.0000	0.0000	-0.0000	0.0000	-0.0000**	-0.0000	-0.0001	-0.0001
	(-1.11)	(-0.64)	(-0.16)	(0.33)	(-1.51)	(0.10)	(-2.48)	(-0.16)	(-0.56)	(-0.54)
Foreign Industry Controls										
Market Share	0.0837									
	(0.99)									
Size	0.0062**	-0.0011	-0.0002	-0.0019	0.0073	0.0002	-0.0006	0.0004	-0.0325	-0.0404
	(2.20)	(-0.40)	(-0.05)	(-0.40)	(0.67)	(0.05)	(-0.78)	(0.12)	(-0.47)	(-0.58)
ROS	0.0320***	0.0265***	0.1117***	0.1028**	0.1618	0.1052***	0.0481***	0.1017***	1.9232***	2.0680***
	(3.63)	(2.61)	(3.05)	(2.36)	(1.37)	(2.88)	(3.29)	(2.81)	(2.97)	(3.25)
BTM	0.0117**	-0.0052	0.0104	-0.0089	0.0156	0.0110	-0.0059	0.0089	0.4596	0.4701

		(2.28)	(-0.81)	(0.70)	(-0.41)	(0.46)	(0.74)	(-1.55)	(0.63)	(1.45)	(1.49)
	Leverage	0.0153	-0.0098	-0.0008	-0.0199	-0.2358**	0.0035	-0.0036	0.0025	0.5502	0.4914
		(0.93)	(-0.56)	(-0.03)	(-0.50)	(-2.07)	(0.12)	(-0.45)	(0.09)	(0.89)	(0.81)
	Momentum	0.0000	0.0000	0.0001	0.0000	-0.0003	0.0001	0.0000	0.0001	0.0014	0.0014
		(0.10)	(1.39)	(1.28)	(0.19)	(-1.24)	(1.16)	(1.08)	(1.10)	(1.10)	(1.17)
									-0.0174		
Industries:		Top 20	Top 20	Top 20	Top 10	Top 3	Top 20	Top 20	(-0.31)	(-0.12)	(0.00)
Fund controls:		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects:		Industry, Time			Industry * Time			Industry		Industry * Time	
Specification:				Panel Regression				Between		Panel Regression	
Observations		778708	776990	776990	391207	118041	776990	776990	776990	769749	769749
Adjusted R^2		0.03	0.03	0.04	0.07	0.14	0.04	0.04	0.04	0.04	0.04

Table 3: Industry Allocations – Sample Splits

The table presents robustness tests and sample splits of the regressions in table 2. All regressions are panel regressions and include the top 20 industries per style in terms of market capitalization. Fund controls and industry x time fixed effects are estimated but unreported. In column 1, home country fixed effects are included in the estimation; in column 2, the variable *Share of Global Industry*, that measures the market share of industry *i* in the global industry *i* is added; columns 3 and 4 split the sample based on the median market capitalization of the domestic stock market, columns 5 and 6 based on the median Herfindahl-Hirschman index of industry concentration of the domestic stock market and columns 7 and 8 based on the median absolute loading on a global industry factors for every industry. The loadings are estimated in a first-stage regression for every stock where the trailing 36 months stock returns are regressed on both a local and global country as well as a local and global industry factor. The stock-specific loadings are then averaged for every global industry. Section 3 gives details on the construction of the factor loadings. * / ** / *** denote statistical significance at the 10% / 5% / 1% level computed from standard errors clustered along the home country-industry pair dimension.

Specification:	**Home F.E.**		**Domestic MCAP**		**Domestic Industry Concentration**		**Abs. Global Industry Beta**	
			High	**Low**	**High**	**Low**	**High**	**Low**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable:	*Excess Foreign Industry Weight*							
Home Industry Controls								
Market Share	0.096**	0.0855**	0.1233**	0.0888**	0.0990**	0.0413	0.125***	0.0222
	(2.28)	(2.57)	(2.39)	(2.15)	(2.19)	(1.18)	(3.57)	(0.50)
Share of Global Industry		0.0370*						
		(1.91)						
Size	-0.0011	-0.001**	-0.001**	-0.0002	0.0002	-0.001**	-0.0007	-0.0003
	(-1.45)	(-2.06)	(-2.12)	(-0.32)	(0.31)	(-1.98)	(-1.32)	(-0.51)
ROS	-0.0000	-0.0000	-0.01***	0.0001	0.0001	-0.01***	-0.0000	0.0000
	(-0.12)	(-0.09)	(-5.95)	(0.88)	(0.88)	(-4.12)	(-0.29)	(0.18)
BTM	-0.0007	-0.0009	-0.00***	0.0003	0.0007	-0.00***	-0.0006	-0.0008
	(-1.12)	(-1.34)	(-2.92)	(0.50)	(0.93)	(-2.64)	(-0.69)	(-0.96)
Leverage	0.0020	0.0019	-0.0095	0.0031	0.0055	-0.02***	0.0054	-0.0029
	(0.39)	(0.49)	(-1.58)	(0.71)	(1.23)	(-2.72)	(1.29)	(-0.50)
Momentum	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	-0.0000*	0.0000
	(-0.01)	(-0.13)	(-0.62)	(0.75)	(0.86)	(-1.46)	(-1.96)	(0.53)
Foreign Industry Controls								
Size	0.0013	0.0218*	-0.0046	0.0103	0.0298	-0.0015	-0.0015	0.0011
	(0.32)	(1.95)	(-1.65)	(0.39)	(0.78)	(-0.54)	(-0.34)	(0.31)
ROS	0.11***	0.10***	0.062***	0.1792	0.377***	0.0286	0.107***	0.1156**
	(2.97)	(2.69)	(2.99)	(1.21)	(2.67)	(1.05)	(3.29)	(2.22)
BTM	0.0110	0.0106	0.0020	0.2029**	0.2329**	0.0025	0.0008	0.0192
	(0.77)	(0.74)	(0.25)	(2.54)	(2.05)	(0.24)	(0.05)	(1.06)
Leverage	0.0031	-0.0014	-0.0116	0.2173	0.3533*	-0.072**	-0.0079	0.0225
	(0.10)	(-0.05)	(-0.52)	(1.50)	(1.73)	(-2.50)	(-0.32)	(0.56)
Momentum	0.0001	0.0001	0.0000	0.0020	0.0015	0.0001	-0.0000	0.0002*
	(1.32)	(0.97)	(1.08)	(1.49)	(1.44)	(1.24)	(-0.38)	(1.69)
Unreported:	Controls, Time x Industry F.E.							
Observations	776990	776990	396581	380409	392097	384893	392575	384415
Adjusted R^2	0.04	0.04	0.04	0.06	0.05	0.04	0.03	0.04

Table 4: Country Allocations

The table presents semi-annual investment regressions at the fund-country level. The dependent variable in columns 1 to 5 is *Country Weight* that measure the percentage portfolio allocation per country, in columns 6 to 8 it is *Country FIB*, the *Foreign Industry Bias* as defined in section 3. Columns 1 to 5 are unconditional on the fund investing while columns 6 to 8 are conditional on investing. Explanatory variables include measures of distance between home and investment destination as well as (unreported) destination country, home country and fund characteristics which are defined in section 3. All specifications include time and destination country fixed effects, columns 4, 5, 7 and 8 add home country fixed effects. * / ** / *** denote statistical significance at the 10% / 5% / 1% level computed from standard errors clustered along the home country-destination country pair dimension.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable:			*Country Weight*				*Country FIB*	
Industry Distance	-0.172**	-0.093**	0.0286	0.0547	0.0268	-0.0256*	-0.0213	-0.0220
	(-2.48)	(-2.32)	(0.76)	(1.32)	(0.86)	(-1.81)	(-1.50)	(-1.57)
*Has Home Bias * Industry Distance*			-0.38***	-0.37***	-0.22***	0.056***	0.051***	0.055***
			(-2.86)	(-2.77)	(-3.30)	(3.33)	(3.36)	(3.87)
*Has Home Bias * KM Distance*					-0.01***			0.0005*
					(-4.12)			(1.94)
*Has Home Bias * Com. Language*					0.117***			0.0021
					(4.45)			(0.71)
*Has Home Bias * Com. Currency*					0.099***			-0.0009
					(4.75)			(-0.36)
*Has Home Bias * Bilateral Trade*					-0.004**			0.0000
					(-2.33)			(0.15)
Has Home Bias			0.0400*	0.0365	0.0076	-0.004**	-0.00***	-0.01***
			(1.72)	(1.62)	(0.55)	(-2.26)	(-2.66)	(-2.97)
Common Language		0.0089	0.0092	0.0124	-0.03***	-0.01***	-0.01***	-0.01***
		(1.20)	(1.27)	(1.56)	(-3.03)	(-2.76)	(-2.67)	(-2.61)
KM Distance		0.0008	0.0005	0.0017	0.0021	0.0001	-0.0001	-0.0002
		(0.44)	(0.27)	(0.70)	(0.96)	(0.45)	(-0.38)	(-0.71)
Common Currency		0.0054	0.0044	0.0026	-0.026**	-0.0006	-0.0030	-0.0026
		(0.88)	(0.70)	(0.29)	(-2.57)	(-0.20)	(-0.92)	(-0.74)
Bilateral Trade		0.0011	0.0010	0.0011	0.0019*	-0.0000	0.0000	0.0000
		(1.58)	(1.50)	(1.43)	(1.91)	(-0.20)	(0.40)	(0.35)
Change Crossrate		0.0007	-0.0015	-0.0018	-0.0018	-0.0054*	-0.0047	-0.0047
		(0.23)	(-0.50)	(-0.61)	(-0.62)	(-1.84)	(-1.65)	(-1.64)
IR Differential		-0.0011	-0.0012	-0.00***	-0.00***	0.0000	0.0003	0.0003
		(-1.33)	(-1.41)	(-2.86)	(-3.03)	(0.02)	(1.48)	(1.48)
Change USD		-0.0055	-0.0067	-0.0074	-0.0065	0.0037	0.0058	0.0058
		(-0.70)	(-0.85)	(-1.41)	(-1.32)	(0.69)	(1.25)	(1.23)
Home Country		0.114***	0.110***	0.114***	0.092***	-0.0024	-0.0029	-0.0028
		(3.04)	(3.03)	(3.31)	(3.15)	(-0.55)	(-0.73)	(-0.70)
Time & Country F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Home F.E.	No	No	No	Yes	Yes	No	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	552636	552636	552636	552636	552636	377539	377539	377539
Adjusted R^2	0.17	0.23	0.24	0.25	0.33	0.05	0.06	0.06

Table 5: Performance Effects of *Foreign Industry Bias (FIB)* – Factor Models

This table presents monthly panel regressions on fund performance where fund performance is measured by *4F Alpha*. Table IA.2 in the Internet Appendix presents the same specification with different fund performance measures, their details are described in section 3. Table IA.3 presents more robustness tests using different econometric specifications and sub-sample analysis. The main explanatory variables include the fund-level *Foreign Industry Bias (FIB)*, raw *Home Bias* (the dummy *Has Home Bias)* and the interaction. The use of fixed effects is indicated at the bottom of the panel. * / ** / *** denote statistical significance at the 10% / 5% / 1% level computed from standard errors that allow for clustering at the fund-level.

	Full Sample						**Has Home Bias**	**High Track. Error**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dep. Variable:				*4F Alpha*				
FIB	0.9458***	1.1479***	1.1856***	-0.4131	-0.3508	-0.2720	2.1537***	-1.1487*
	(3.19)	(4.43)	(4.40)	(-1.09)	(-0.91)	(-0.69)	(6.30)	(-1.77)
Home Bias	0.3033***	0.2256***	0.2123***				0.2553***	
	(8.59)	(6.28)	(6.22)				(4.06)	
Has Home Bias				0.0493***	0.0448***	0.0796***		0.0528***
				(3.87)	(3.54)	(2.65)		(2.68)
*Has Home Bias * FIB*				3.2349***	3.1392***	3.0727***		3.2037***
				(6.49)	(6.24)	(6.02)		(4.38)
ICI					0.0495	0.0947*		
					(1.33)	(1.87)		
*Has Home Bias * ICI*						-0.0889		
						(-1.29)		
Fundsize			-0.0021	-0.0040	-0.0038	-0.0038	-0.023***	-0.0145**
			(-0.57)	(-1.09)	(-1.01)	(-1.01)	(-3.09)	(-2.10)
Firmsize			0.0032	0.0024	0.0027	0.0028	-0.0023	0.0126***
			(1.40)	(1.08)	(1.20)	(1.21)	(-0.52)	(3.26)
Age			-0.0005	-0.0002	-0.0002	-0.0002	0.0013	0.0001
			(-0.88)	(-0.38)	(-0.28)	(-0.27)	(0.94)	(0.10)
Expenses			-0.5821	-0.4956	-0.6288	-0.6561	-3.4530**	-1.4281
			(-0.54)	(-0.46)	(-0.58)	(-0.60)	(-2.06)	(-0.70)
Pastreturn			0.1796***	0.1639**	0.1608**	0.1629**	0.0448	-0.0916
			(2.60)	(2.38)	(2.32)	(2.36)	(0.37)	(-0.92)
Inst. Shareclass			-0.0034	-0.0094	-0.0090	-0.0091	-0.0444	-0.0650
			(-0.10)	(-0.29)	(-0.28)	(-0.29)	(-0.73)	(-1.11)
Shareclasses			0.0041	0.0012	0.0012	0.0013	0.0026	-0.0081
			(1.62)	(0.50)	(0.50)	(0.53)	(0.41)	(-1.59)
Volatility			0.4164**	0.4088**	0.4084**	0.4178**	1.2729***	1.4678***
			(2.35)	(2.31)	(2.31)	(2.36)	(4.05)	(5.62)
Turnover			-0.015***	-0.016***	-0.016***	-0.016***	-0.031***	-0.010*
			(-4.56)	(-4.75)	(-4.72)	(-4.70)	(-2.87)	(-1.87)
Time & Style F.E.	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	252853	252853	236718	236718	236718	236718	69410	99144
Adjusted R^2	0.00	0.07	0.07	0.07	0.07	0.07	0.08	0.05

Table 6: Performance Effects of *Foreign Industry Bias (FIB)* – Holding Decompositions

The table presents decompositions of holding returns at the semi-annual frequency. Holding returns are computed from the most recent semi-annual holdings and returns over the following 2-quarter period and decomposed following the methodology in Daniel et al. (1997) with a style-specific industry benchmark. Columns 1 to 6 consider all foreign positions of the funds, columns 7 to 10 only foreign positions in industries that are among top 10 in terms of market capitalization in the domestic stock market of the fund. All holdings returns are in US Dollar terms except for the estimates in columns 5 and 6 where holdings returns are reported in local currency (LC). All regressions include (unreported) fund-level controls, style and time fixed effects. * / ** / *** denote statistical significance at the 10% / 5% / 1% level computed from standard errors that allow for clustering at the fund-level.

	All Foreign Holdings						**Foreign Holdings in Top 10 Domestic Industries Only**			
	USD Returns				**LC Returns**		**USD Returns**			
Dependent Variable:	(1) *Foreign Holdings Return*	(2) *Foreign Industry-CS*	(3) *Foreign Industry-CT*	(4) *Foreign Industry-AS*	(5) *Foreign Hold. Ret. (LC)*	(6) *Foreign Industry-CS (LC)*	(7) *Foreign Holdings Return*	(8) *Foreign Industry-CS*	(9) *Foreign Industry-CT*	(10) *Foreign Industry-AS*
FIB	-18.9444***	-9.9063***	2.0538***	-11.1270***	-16.1551***	-7.3830***	-17.1952***	-14.4564***	2.4647***	-5.6641***
	(-7.10)	(-4.14)	(2.58)	(-6.05)	(-6.31)	(-3.16)	(-5.42)	(-4.78)	(3.06)	(-2.58)
Has Home Bias	-0.2475**	-0.1798**	0.0153	-0.0840	-0.2765***	-0.2643***	-0.0952	-0.0081	0.1186***	-0.2027***
	(-2.50)	(-2.35)	(0.60)	(-1.48)	(-2.90)	(-3.49)	(-0.79)	(-0.08)	(4.01)	(-2.83)
*Has Home Bias * FIB*	23.3492***	20.5376***	-0.6686	2.9604	22.9087***	20.1132***	35.0150***	28.1901***	-1.1809	6.5044*
	(5.46)	(4.68)	(-0.44)	(0.95)	(5.57)	(4.73)	(6.72)	(6.10)	(-0.71)	(1.78)
ICI	0.4753	-0.8449**	0.3625***	0.9615***	0.7529**	-0.4479	1.6409***	0.3916	0.4110***	0.8002***
	(1.46)	(-2.47)	(3.32)	(4.33)	(2.36)	(-1.34)	(3.78)	(0.99)	(3.21)	(3.44)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time, Style F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	38095	38094	38076	38076	38095	38094	37814	37797	37683	37771
Adjusted R^2	0.85	0.12	0.09	0.91	0.81	0.10	0.79	0.11	0.05	0.87

Table 7: Foreign Trading and Return Predictability

The table presents regressions on return predictability of foreign trades, decomposed into buy and sell transactions at the semi-annual frequency. The dependent variables are the correlation of foreign trades with future stock returns. Columns 1 to 4 consider all foreign trades, columns 5 to 12 only foreign trades in industries that are among top 10 in terms of market capitalization in the domestic stock market of the fund. Columns 1 and 2 use future stock returns over a 1 quarter horizon, columns 3 to 10 use a 2 quarter horizon into the future. Columns 1 to 6 use raw stock returns in US Dollars, columns 7 and 8 use industry-adjusted stock returns in US Dollars, columns 9 and 10 use raw stock returns in local currency (LC). Columns 11 and 12 test for reversals via the correlation of foreign trades with stock returns over quarters 3 and 4 in the future. All regressions include (unreported) fund-level controls, style and time fixed effects. * / ** / *** denote statistical significance at the 10% / 5% / 1% computed from standard errors that allow for clustering at the fund-level.

	All Foreign Trades				**Foreign Trades in Top 10 Domestic Industries Only**							
Horizon:	**1 Quarter ahead**		**2 Quarters ahead**		**2 Quarters ahead**		**2 Quarters ahead**		**2 Quarters ahead**		**Over Quarters 3 & 4 in the future**	
Measure of Future Return:	**Raw Stock Returns (USD)**		**Raw Stock Returns (USD)**		**Raw Stock Returns (USD)**		**Industry-adjusted Stock Returns (USD)**		**Raw Stock Returns (LC)**		**Raw Stock Returns (USD)**	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Dependent Variable:	*Corr(%ForBuys, FutRet)*	*Corr(%ForSells , FutRet)*	*Corr(%ForBuys, FutRet)*	*Corr(%ForSells, FutRet)*	*Corr(%ForBuys , FutRet)*	*Corr(%ForSells , FutRet)*	*Corr(%ForBuys , FutRet)*	*Corr(%ForSells , FutRet)*	*Corr(%ForBuys , FutRet)*	*Corr(%ForSells , FutRet)*	*Corr(%ForBuys , FutRet)*	*Corr(%ForSells , FutRet)*
FIB	-0.1268*	-0.0805	-0.1494**	-0.0839	-0.0308	0.1273	0.0386	0.0646	0.0140	0.1100	-0.1902*	0.0085
	(-1.84)	(-1.28)	(-2.18)	(-1.31)	(-0.26)	(1.19)	(0.32)	(0.58)	(0.11)	(1.04)	(-1.70)	(0.09)
Has Home Bias	0.0007	0.0036	0.0021	0.0012	0.0057	0.0016	-0.0017	-0.0032	0.0040	-0.0005	0.0036	0.0001
	(0.26)	(1.57)	(0.85)	(0.50)	(1.40)	(0.41)	(-0.41)	(-0.84)	(0.97)	(-0.14)	(0.84)	(0.02)
Has Home Bias *	0.5584***	0.5631***	0.5947***	0.6180***	0.8753***	0.3069	0.5427**	0.2550	0.8074***	0.2669	0.2763	-0.2516
FIB	(2.79)	(3.66)	(2.91)	(3.95)	(3.13)	(1.25)	(2.02)	(1.08)	(2.90)	(1.13)	(1.02)	(-1.19)
ICI	0.0277***	0.0187**	0.0314***	0.0299***	0.0439***	0.0477***	0.0345**	0.0174	0.0420***	0.0441***	0.0059	0.0384***
	(2.67)	(2.17)	(2.82)	(2.84)	(3.13)	(3.46)	(2.47)	(1.29)	(2.94)	(3.29)	(0.41)	(3.00)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time, Style F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	34699	35902	34691	35895	32040	34702	31937	34626	32043	34704	29804	32311
Adjusted R^2	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.01

Table 8: *Foreign Industry Bias (FIB)* and Dedicated Country Funds

The table benchmarks foreign holdings returns of international funds against passive foreign market indices as well as against the performance of local, dedicated country funds. Every cell reports the average foreign holdings return of international funds over the sample period where every foreign stock held is benchmarked against the local foreign market index (columns 1 and 6), against the performance of the average local country fund (against an equally weighted benchmark of all local country funds in columns 2 and 7, against a value-weighted (by fund TNA) benchmark of all local country funds in columns 3 and 8), or against a matching country fund where the matching fund is selected individually for every investment destination country of the international fund as the local country fund closest to the international fund in terms of fund TNA (columns 4 and 9) or the local country fund closest to the destination country TNA (CTNA) of the international fund. The set of local country funds that proxy for the performance of local, domestic investors comprises of all the funds that are both managed in the investment destination country and that invest exclusively in the investment destination country according to their investment mandate. Columns 1 to 5 report returns for all foreign positions, columns 6 to 10 only for the foreign position in industries that are among top 10 in terms of market capitalization in the home country of the fund. Panel A reports the returns of all funds that display no simultaneous Foreign Industry Bias and Home Bias (i.e., where the variable *Has Home Bias * FIB ≤ 0*), panel B reports the returns of all funds that display a simultaneous Foreign Industry Bias and Home Bias, and panel C reports the returns of the top decile of funds that display a simultaneous Foreign Industry Bias and Home Bias. * / ** / *** denote statistical significance at the 10% / 5% / 1% computed from standard errors that allow for clustering at the fund-level.

	All Foreign Holdings					**Foreign Holdings in Top 10 Domestic Industries**				
Performance Measure : Holdings Return in excess of	(1) *Local Market Index*	(2) *Avg. Local Country Fund (EW)*	(3) *Avg. Local Country Fund (VW)*	(4) *Matched Country Fund (TNA)*	(5) *Matched Country Fund (CTNA)*	(6) *Local Market Index*	(7) *Avg. Local Country Fund (EW)*	(8) *Avg. Local Country Fund (VW)*	(9) *Matched Country Fund (TNA)*	(10) *Matched Country Fund (CTNA)*
					*Panel A: All funds for which Has Home Bias * FIB ≤ 0*					
Avg. Excess Return	-0.3150***	-0.5828***	-0.3402***	-0.5633***	-0.5484***	-0.8568***	-1.1447***	-0.8873***	-1.1391***	-1.1631***
	(-7.95)	(-15.28)	(-8.82)	(-13.54)	(-13.31)	(-18.98)	(-24.70)	(-19.02)	(-22.71)	(-23.42)
Observations	33505	33499	33499	33499	33498	33214	33189	33189	33189	33182
					*Panel B: All funds for which Has Home Bias * FIB > 0*					
Avg. Excess Return	0.1337	-0.2588**	0.0490	-0.2531**	-0.3490***	0.0283	-0.1714	0.1564	-0.1656	-0.2315
	(1.31)	(-2.30)	(0.44)	(-2.07)	(-3.08)	(0.19)	(-1.01)	(0.92)	(-0.93)	(-1.36)
Observations	5961	5921	5921	5921	5906	5908	5851	5851	5851	5830
					*Panel C: Top-decile funds of Has Home Bias * FIB*					
Avg. Excess Return	0.4425***	0.2079	0.4974***	0.2040	-0.0524	0.6356***	0.6709***	0.9954***	0.6470**	0.4686*
	(2.86)	(1.23)	(2.97)	(1.13)	(-0.31)	(3.02)	(2.67)	(3.96)	(2.50)	(1.88)
Observations	3557	3517	3517	3517	3502	3507	3451	3451	3451	3430

INTERNET APPENDIX

to

"Home Bias Abroad: Domestic Industries and Foreign Portfolio Choice"

This Internet Appendix presents additional results and robustness tests that are referred to, but unreported, in the main body of the article. Specifically:

- Table IA.1 presents robustness test on table 2 of the main body, successively dropping the 10 largest sample countries (panel A) or the 10 largest sample industries (panel B) from the regression.
- Table IA.2 presents robustness tests on table 5 of the main body, using different fund performance measures.
- Table IA.3 presents additional robustness tests and sub-sample analysis for table 5 of the main body.
- Table IA.4 presents robustness tests for table 6 of the main and reports holdings decompositions for the entire fund portfolio.
- Table IA.5 presents flow performance sensitivity regressions to rule out the alternative explanation that funds with *Foreign Industry Bias* cater to home-biased investors.

Table IA.1: Robustness of *Foreign Industry Bias* – dropping sample countries or industries

The table presents robustness tests on the portfolio choice regressions of table 2. In panel A, the 10 largest sample countries are successively dropped from the estimation. In panel B, the 10 largest sample industries are successively dropped from the estimation. The specification is as in table 2, column 10, which is repeated here in the first column in both panels.

Panel A: Dropping 10 largest sample countries

Sample :	**Full sample**	**Excl. US**	**Excl. UK**	**Excl. France**	**Excl. Germany**	**Excl. Spain**	**Excl. Sweden**	**Excl. Italy**	**Excl. Canada**	**Excl. Denmark**	**Excl. Switzerl.**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Dependent Variable:	*Excess Foreign Industry Weight (in%)*										
Home Industry Controls											
Market Share	0.9455***	0.7052*	1.0208***	0.9493**	1.1783***	0.8460**	0.8177***	0.9170**	0.9750***	0.9857***	0.9858**
	(2.60)	(1.65)	(2.69)	(2.56)	(2.96)	(2.23)	(2.93)	(2.42)	(2.60)	(2.63)	(2.56)
Size	-0.0073	-0.0061	-0.0110	-0.0102	0.0034	-0.0084	-0.0136**	-0.0067	-0.0064	-0.0049	-0.0072
	(-0.97)	(-0.64)	(-1.38)	(-1.30)	(0.47)	(-1.09)	(-2.05)	(-0.87)	(-0.83)	(-0.58)	(-0.94)
ROS	-0.0038***	-0.0031***	-0.0036***	-0.0037***	-0.0035***	-0.0035***	-0.0033***	-0.0038***	-0.0038***	-0.0041***	-0.0038***
	(-4.45)	(-3.69)	(-3.57)	(-4.35)	(-4.80)	(-4.28)	(-4.18)	(-4.43)	(-4.44)	(-4.53)	(-4.45)
BTM	-0.0050	0.0044	-0.0067	-0.0066	0.0072	-0.0037	-0.0157	-0.0069	-0.0031	-0.0030	-0.0048
	(-0.41)	(0.35)	(-0.54)	(-0.46)	(0.58)	(-0.32)	(-1.32)	(-0.56)	(-0.26)	(-0.24)	(-0.39)
Leverage	0.0618	0.0925	0.0649	0.0496	0.1460	0.0513	-0.0290	0.0623	0.0806	0.0717	0.0553
	(0.70)	(1.04)	(0.68)	(0.54)	(1.60)	(0.56)	(-0.33)	(0.68)	(0.91)	(0.77)	(0.60)
Momentum	-0.0001	-0.0001	-0.0000	-0.0001	0.0000	-0.0002	-0.0002	-0.0001	-0.0001	-0.0001	-0.0001
	(-0.54)	(-0.43)	(-0.01)	(-0.66)	(0.09)	(-0.84)	(-1.47)	(-0.49)	(-0.40)	(-0.38)	(-0.61)
Foreign Industry Controls											
Size	-0.0404	-0.2681	-0.0512	-0.0626	0.0055	-0.0503	-0.0766	-0.0408	-0.0316	-0.0264	-0.0404
	(-0.58)	(-0.82)	(-0.62)	(-0.86)	(0.08)	(-0.73)	(-1.20)	(-0.59)	(-0.42)	(-0.37)	(-0.58)
ROS	2.0680***	3.6160***	1.3618*	2.0210***	2.1653***	2.0851***	2.0785***	2.0631***	2.0586***	2.0935***	2.0733***
	(3.25)	(2.78)	(1.77)	(3.18)	(3.75)	(3.35)	(3.52)	(3.25)	(3.13)	(3.32)	(3.26)
BTM	0.4701	2.1574***	0.4034	0.4142	0.3949	0.3828	0.4744	0.4760	0.5093	0.5203*	0.4840
	(1.49)	(3.05)	(1.13)	(1.27)	(1.29)	(1.22)	(1.58)	(1.52)	(1.53)	(1.65)	(1.53)
Leverage	0.4914	4.6109***	-0.3392	0.3554	0.8175	0.4867	0.3190	0.4664	0.5205	0.5989	0.4499
	(0.81)	(3.33)	(-0.51)	(0.56)	(1.36)	(0.81)	(0.54)	(0.76)	(0.81)	(0.97)	(0.73)
Momentum	0.0014	-0.0001	0.0015	0.0012	0.0014	0.0010	0.0014	0.0016	0.0016	0.0016	0.0014
	(1.17)	(-0.02)	(1.14)	(1.00)	(1.13)	(0.86)	(1.10)	(1.29)	(1.24)	(1.28)	(1.14)
Unreported :	Controls, Industry x Time F.E.										
Observations	769749	592425	629531	704680	699975	717237	732835	732960	739974	744500	749578
Adjusted R^2	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04

Panel B: Dropping 10 largest sample industries

Sample :	**Full sample**	**Excl. Banks**	**Excl. Oil & Gas Producers**	**Excl. Pharma & Biotech.**	**Excl. Tech. Hardware**	**Excl. Financial Services**	**Excl. General Retailers**	**Excl. Software, Comp. Eq.**	**Excl. Electricity**	**Excl. Media**	**Excl. Fixed Line Telecom.**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Dependent Variable:	*Excess Foreign Industry Weight (in%)*										
Home Industry Controls											
Market Share	0.9455***	0.9213*	1.0764***	1.1627***	0.9141**	0.9413**	0.9839***	0.9910***	0.9686***	0.9410***	0.7755**
	(2.60)	(1.92)	(2.70)	(3.07)	(2.37)	(2.57)	(2.69)	(2.69)	(2.61)	(2.59)	(2.16)
Size	-0.0073	-0.0075	-0.0042	-0.0048	-0.0075	-0.0059	-0.0062	-0.0099	-0.0080	-0.0094	-0.0067
	(-0.97)	(-0.93)	(-0.54)	(-0.63)	(-0.97)	(-0.76)	(-0.79)	(-1.26)	(-1.04)	(-1.21)	(-0.92)
ROS	-0.0038***	-0.0037***	-0.0034***	-0.0037***	-0.0038***	-0.0037***	-0.0038***	-0.0038***	-0.0038***	-0.0039***	-0.0037***
	(-4.45)	(-4.47)	(-4.59)	(-4.50)	(-4.41)	(-4.51)	(-4.45)	(-4.47)	(-4.45)	(-4.38)	(-4.44)
BTM	-0.0050	-0.0069	-0.0012	-0.0044	-0.0066	0.0013	-0.0074	-0.0066	-0.0058	-0.0054	-0.0032
	(-0.41)	(-0.56)	(-0.09)	(-0.36)	(-0.55)	(0.10)	(-0.62)	(-0.54)	(-0.41)	(-0.44)	(-0.26)
Leverage	0.0618	0.0601	0.0743	0.0728	0.0555	0.0161	0.0369	0.0565	0.0636	0.0689	0.0351
	(0.70)	(0.67)	(0.81)	(0.79)	(0.62)	(0.16)	(0.41)	(0.61)	(0.70)	(0.76)	(0.39)
Momentum	-0.0001	-0.0001	-0.0000	-0.0003*	-0.0002	-0.0001	-0.0001	-0.0001	-0.0001	-0.0000	-0.0001
	(-0.54)	(-0.50)	(-0.06)	(-1.93)	(-0.74)	(-0.72)	(-0.60)	(-0.41)	(-0.60)	(-0.19)	(-0.43)
Foreign Industry Controls											
Size	-0.0404	-0.0441	-0.0200	-0.0246	-0.0395	-0.0217	-0.0254	-0.0797	-0.0396	0.0037	-0.0597
	(-0.58)	(-0.63)	(-0.28)	(-0.34)	(-0.57)	(-0.30)	(-0.34)	(-1.07)	(-0.56)	(0.06)	(-0.88)
ROS	2.0680***	2.0255***	2.0982***	1.9245***	2.4612***	1.8913**	2.0594***	1.7750***	1.9912***	1.8432***	2.4539***
	(3.25)	(3.15)	(3.28)	(3.04)	(4.23)	(2.28)	(3.19)	(2.74)	(3.14)	(2.62)	(4.14)
BTM	0.4701	0.4738	0.5130	0.4565	0.5075	0.4879	0.5170	0.4212	0.4588	0.7605***	0.4311
	(1.49)	(1.48)	(1.59)	(1.43)	(1.58)	(1.41)	(1.59)	(1.31)	(1.44)	(2.61)	(1.40)
Leverage	0.4914	0.5080	0.5716	0.5186	0.7049	0.6956	0.4788	0.6234	0.5647	0.6494	0.4632
	(0.81)	(0.83)	(0.92)	(0.83)	(1.17)	(1.07)	(0.76)	(0.99)	(0.93)	(1.00)	(0.77)
Momentum	0.0014	0.0016	0.0016	0.0012	0.0016	0.0012	0.0009	0.0025*	0.0016	0.0018	0.0012
	(1.17)	(1.26)	(1.29)	(0.98)	(1.27)	(0.93)	(0.76)	(1.80)	(1.26)	(1.37)	(0.97)
Unreported :	Controls, Industry x Time F.E.										
Observations	769749	728675	734485	731842	731441	735499	736192	735270	757162	732754	735768
Adjusted R^2	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04

Table IA.2: Performance Regression with Alternative Factor Corrections

The table presents robustness tests on the performance regressions of table 5. Fund performance is measured using different measures and factor corrections. In column 1, the dependent variable *Grossret-RF* measures the raw fund return before fees in excess of the risk-free rate from Kenneth French's website. In column 2, *Grossret-Style* is the raw fund return before fees in excess of the average before-fee fund returns of all funds in the same Morningstar investment style. In column 3, *1F Alpha* uses a 1-factor market model to correct for risk, *4F Alpha* in column 4 uses fund returns after fees in the first stage estimation of the first-stage Fama-French-Carhart factor model, *4F Global* in column 5 corrects fund returns for risk using global market, size, value and momentum factors in the first stage that do not vary by Morningstar. Column 6 implements the Active-Peer-Benchmark model of Hunter et al. (2013) that augments the first stage 4-factor model with a style-specific factor that captures the average return of all funds in the Morningstar investment style. Finally, columns 7 and 8 implement conditional factor models. Column 7 uses the style-specific dividend yield, as well as the yield spread of long-term over short-term treasuries, and the credit spread of Moody's BAA – Moody's AAA rated bonds as instruments. Column 8 replaces the style-specific dividend yield with the US dividend yield. Otherwise, the regression specifications are as in column 4 of table 5 and include unreported style and time fixed effects. * / ** / *** denote statistical significance at the 10% / 5% / 1% level computed from standard errors that allow for clustering at the fund-level.

Dependent Variable:	(1) *Grossret-RF*	(2) *Grossret-Style*	(3) *1F Alpha*	(4) *4F Alpha (Net)*	(5) *4F Alpha (Global)*	(6) *Active PeerBM Alpha*	(7) *C-Alpha*	(8) *C-Alpha*
FIB	-3.056***	-2.212***	-2.029***	-0.3364	-1.423***	-0.636**	-0.784***	-0.717***
	(-8.70)	(-7.61)	(-5.34)	(-0.87)	(-3.49)	(-2.21)	(-3.05)	(-2.91)
Has Home Bias	0.0292**	0.0351***	-0.0011	0.0450***	0.0597***	0.0474***	0.0069	0.0098
	(2.22)	(3.14)	(-0.08)	(3.56)	(4.59)	(4.36)	(0.89)	(1.29)
*Has Home Bias * FIB*	3.1536***	2.8543***	3.0904***	3.1389***	2.5354***	2.0289***	1.1622***	1.0486***
	(6.77)	(7.60)	(6.34)	(6.24)	(4.71)	(5.42)	(3.43)	(3.21)
ICI	0.118***	0.086***	0.143***	0.0484	0.0425	0.0352	-0.0335	-0.0283
	(3.00)	(2.60)	(3.58)	(1.30)	(1.09)	(1.11)	(-1.39)	(-1.21)
Fundsize	0.0079**	0.0056*	0.011***	-0.0035	-0.008**	-0.01***	-0.01***	-0.01***
	(2.21)	(1.83)	(3.05)	(-0.94)	(-2.01)	(-2.76)	(-4.22)	(-5.17)
Firmsize	0.0022	0.0041**	0.0016	0.0029	0.0020	0.0043**	0.0005	0.0010
	(0.93)	(2.03)	(0.66)	(1.26)	(0.81)	(2.15)	(0.36)	(0.68)
Age	-0.001**	-0.0006	-0.0008	-0.0002	-0.0004	0.0001	-0.00***	-0.00***
	(-2.11)	(-1.21)	(-1.40)	(-0.35)	(-0.68)	(0.17)	(-3.12)	(-2.94)
Expenses	-0.6249	0.5589	1.3209	-7.01***	-2.0290*	-0.9843	-0.4371	-0.4964
	(-0.56)	(0.66)	(1.17)	(-6.31)	(-1.70)	(-1.06)	(-0.67)	(-0.76)
Pastreturn	0.714***	1.321***	1.067***	0.1527**	-1.32***	-0.0614	-0.52***	-0.47***
	(9.16)	(21.62)	(14.87)	(2.20)	(-16.33)	(-1.03)	(-11.00)	(-10.18)
Inst. Shareclass	0.0289	0.0144	-0.0250	-0.0091	0.0034	0.0442	-0.0075	-0.0115
	(0.85)	(0.49)	(-0.72)	(-0.29)	(0.09)	(1.54)	(-0.30)	(-0.46)
Shareclasses	0.009***	0.007***	0.009***	0.0010	0.009***	0.0007	-0.0030*	-0.0031*
	(3.08)	(3.15)	(3.42)	(0.41)	(2.92)	(0.32)	(-1.76)	(-1.88)
Volatility	-0.3058	0.78***	-0.3325*	0.3682**	-0.0015	-0.52***	-0.66***	-0.62***
	(-1.50)	(4.51)	(-1.71)	(2.08)	(-0.01)	(-3.03)	(-5.42)	(-4.98)
Turnover	-0.02***	-0.01***	-0.0025	-0.02***	-0.01***	-0.02***	-0.006**	-0.0049
	(-5.15)	(-3.12)	(-0.74)	(-4.80)	(-3.73)	(-6.00)	(-2.10)	(-1.61)
Unreported:	Time, Style F.E.							
Observations	236718	236718	236718	236718	236718	236718	235804	235804
Adjusted R^2	0.86	0.02	0.08	0.07	0.17	0.02	0.06	0.06

Table IA.3: Robustness Tests on Performance Regression

The table presents robustness tests on the performance regressions of table 5. Unless otherwise indicated, all are monthly panel regressions with (unreported) control variables, style and time fixed effects and * / ** / *** denote statistical significance at the 10% / 5% / 1% level computed from standard errors that allow for clustering at the fund-level. Column 1 uses the raw *Home Bias* variable, column 2 uses a weighted version of *FIB* where the weights are the country-level portfolio-weights of the fund, column 3 adds additional home country controls, column 4 adds home country fixed effects, column 5 present inference from a double cluster along both the fund and time dimensions, column 6 estimates the regression using the procedure of Fama and MacBeth (1973), column 7 truncates the *Home Bias* variable at the bottom and top 5%, column 8 truncates the *4F Alpha* at the bottom and top 5%, column 9 drops all global styles from the regression, column 10 drops all regional styles, column 11 drops all emerging market ("EM") styles and column 12 drops very narrow funds that only invest in 2 or 3 countries.

Robustness Test:	**Raw Home Bias**	**Weighted FIB**	**Home Controls**	**Home F.E.**	**Double Cluster**	**FMB**	**Trunc. Home Bias**	**Trunc. Alpha**	**Regional Styles Only**	**Global Styles Only**	**Excl. EM Styles**	**Excl. Narrow Funds**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Dependent Variable:	*4F Alpha*	*4F Alpha*	*4F Alpha*	*4F Alpha*	*4F Alpha*	*4F Alpha*	*4F Alpha*	*4F Alpha*	*4F Alpha*	*4F Alpha*	*4F Alpha*	*4F Alpha*
FIB	0.1342	-0.3806	-0.2391	-0.1957	-0.3508	-2.1855***	-0.4308	-0.2736	0.3042	-1.5169***	0.0489	-0.4863
	(0.37)	(-1.15)	(-0.61)	(-0.49)	(-0.52)	(-3.58)	(-1.11)	(-0.95)	(0.59)	(-3.08)	(0.11)	(-1.26)
Has Home Bias		0.0330**	0.0530***	0.0318**	0.0448	0.0521	0.0249*	0.0310***	0.0719***	0.0367**	0.0433***	0.0245*
		(2.55)	(4.22)	(2.56)	(1.35)	(1.64)	(1.94)	(3.22)	(3.58)	(2.55)	(3.46)	(1.95)
Home Bias	0.1964***											
	(5.71)											
*Has Home Bias * FIB*			2.8142***	2.0360***	3.1392**	2.9566***	2.7942***	1.4159***	2.8562***	2.8704***	2.6804***	2.6218***
			(5.58)	(4.05)	(2.53)	(3.94)	(4.25)	(3.78)	(4.51)	(3.79)	(5.02)	(4.22)
*Home Bias * FIB*	3.3477***	2.8745***										
	(4.78)	(6.09)										
Home Concentration			-0.3951									
			(-1.32)									
Log Home MCAP			-0.0300***									
			(-3.25)									
KM Distance			-0.0124***									
			(-2.95)									
Common Language			-0.0266									
			(-0.91)									
Common Currency			-0.3056***									
			(-7.92)									
Delta FXtoUS			-1.0825***									
			(-8.81)									
IR Difference			0.0013									
			(0.25)									
Unreported:	Fund Controls, Fund & Time (except column (6)) F.E.											
Observations	236718	236718	236516	236718	236718	236718	212348	226219	130692	106026	210306	227508
Adjusted R^2	0.07	0.07	0.07	0.08	0.07		0.08	0.06	0.09	0.12	0.06	0.08

Table IA.4: Holdings Decompositions – All Holdings

The table presents robustness tests on the holdings decompositions of table 6. The specification are as in columns 1 to 4 of table 6 but the dependent variable include all fund holdings, not just foreign holdings as in table 6. All holdings returns are in US Dollar terms. All regressions include (unreported) style and time fixed effects. * / ** / *** denote statistical significance at the 10% / 5% / 1% level computed from standard errors that allow for clustering at the fund-level.

Dependent Variable:	(1) *Total Holdings Return*	(2) *Total Industry-CS*	(3) *Total Industry-CT*	(4) *Total Industry-AS*
FIB	-18.5434***	-8.2920***	1.3816**	-11.6329***
	(-7.42)	(-3.61)	(2.16)	(-6.91)
Has Home Bias	0.0123	-0.0181	0.0161	0.0143
	(0.14)	(-0.27)	(0.81)	(0.27)
*Has Home Bias * FIB*	14.7423***	10.9637***	-1.8548**	5.6333***
	(4.41)	(3.69)	(-2.37)	(2.61)
ICI	0.2664	-0.3259	0.2296***	0.3626**
	(0.96)	(-1.44)	(4.06)	(2.31)
Fundsize	-0.0521*	-0.0562**	-0.0082	0.0123
	(-1.84)	(-2.34)	(-1.15)	(0.78)
Firmsize	-0.0024	0.0054	0.0107***	-0.0186*
	(-0.13)	(0.36)	(2.71)	(-1.85)
Age	-0.0022	-0.0026	0.0013	-0.0008
	(-0.51)	(-0.80)	(1.31)	(-0.34)
Expenses	-15.8909**	-2.3509	-4.6088***	-8.9311**
	(-2.24)	(-0.44)	(-3.02)	(-2.21)
Pastreturn	1.9797***	5.5425***	-0.2468**	-3.3161***
	(3.36)	(11.41)	(-2.24)	(-8.06)
Inst. Shareclass	0.3960	0.2086	0.0286	0.1588
	(1.28)	(0.75)	(0.31)	(1.28)
Shareclasses	0.0715***	0.0567***	-0.0056	0.0204**
	(3.17)	(2.90)	(-0.93)	(1.99)
Volatility	8.8086***	12.8401***	-0.5448*	-3.4867***
	(6.50)	(11.77)	(-1.91)	(-4.66)
Turnover	-0.1039**	-0.0527	-0.0048	-0.0465**
	(-2.44)	(-1.22)	(-0.32)	(-2.37)
Unreported:	Style & Time F.E.			
Observations	38095	38095	38095	38095
Adjusted R^2	0.87	0.15	0.12	0.92

Table IA.5: Catering to Domestic Investors? Analysis of Flow Performance Sensitivities

The table presents flow performance sensitivity regressions at the monthly frequency to rule out the alternative that funds with *Foreign Industry Bias* cater to home-biased investors. The dependent variable is *Flows* defined in the standard fashion as $Flows_{j,t} = (TNA_{j,t} - TNA_{j,t-1} \times R_{j,t-1\to t})/TNA_{j,t-1}$ where monthly TNA is obtained from Morningstar and $R_{j,t-1\to t}$ are monthly fund returns before fees also obtained from Morningstar. The main explanatory variables are lagged fund gross-returns in excess of the average benchmark return and lagged fund gross-returns in excess of the domestic home market index return of the fund. To capture the well-known convexity in the relationship, the specification allows for a kink in the flow-performance sensitivity and estimates the sensitivities both for negative and positive values of lagged fund performance. The specification also controls for lagged flows as well as all other fund control variables, style and time fixed effects (unreported). * / ** / *** denote statistical significance at the 10% / 5% / 1% level computed from standard errors that allow for clustering at the fund-level.

Sample	**All Funds**	**Has Home Bias = 1**	**Has Home Bias = 0**	**FIB > 0**	**FIB ≤ 0**
	(1)	(2)	(3)	(4)	(5)
Dependent Variable :	*Flows*	*Flows*	*Flows*	*Flows*	*Flows*
Lag Grossret-Benchmark (+)	0.0014***	0.0013*	0.0015***	0.0012**	0.0014**
	(3.43)	(1.78)	(3.09)	(2.25)	(2.36)
Lag Grossret-Benchmark (-)	0.0007**	0.0018***	0.0002	0.0010**	0.0006
	(2.16)	(3.35)	(0.42)	(2.09)	(1.43)
Lag Grossret-Home Index (+)	0.0003	0.0007	0.0003	0.0003	0.0003
	(1.36)	(1.23)	(1.08)	(1.06)	(0.73)
Lag Grossret-Home Index (-)	0.0003	-0.0002	0.0005*	-0.0000	0.0007**
	(1.36)	(-0.34)	(1.80)	(-0.02)	(2.15)
Lag Flows	0.0097	-0.0089	0.0181	0.0062	0.0119
	(0.96)	(-0.62)	(1.36)	(0.44)	(0.83)
Fundsize	-0.0008***	-0.0003	-0.0011***	-0.0005	-0.0013***
	(-2.92)	(-0.59)	(-3.33)	(-1.24)	(-3.22)
Firmsize	-0.0001	-0.0003	-0.0000	-0.0001	-0.0001
	(-0.53)	(-0.96)	(-0.19)	(-0.30)	(-0.32)
Age	-0.0004***	-0.0004***	-0.0004***	-0.0004***	-0.0004***
	(-7.52)	(-4.16)	(-6.43)	(-6.25)	(-5.04)
Expenses	-0.2484***	-0.2730***	-0.2554***	-0.2821***	-0.2631***
	(-3.84)	(-2.58)	(-3.21)	(-2.92)	(-3.04)
Pastreturn	0.0611***	0.0568***	0.0636***	0.0419***	0.0751***
	(15.37)	(7.46)	(13.41)	(7.64)	(13.61)
Inst. Shareclass	-0.0031	-0.0160***	-0.0010	-0.0028	-0.0039
	(-1.14)	(-2.84)	(-0.33)	(-0.90)	(-0.98)
Shareclasses	0.0008***	0.0006	0.0008***	0.0007***	0.0009***
	(4.10)	(1.59)	(3.90)	(3.05)	(3.25)
Volatility	-0.0216**	0.0076	-0.0350***	0.0136	-0.0513***
	(-2.03)	(0.40)	(-2.74)	(0.96)	(-3.44)
Turnover	0.0020***	0.0066***	0.0013***	0.0018***	0.0022***
	(5.97)	(3.77)	(4.31)	(3.52)	(4.91)
Unreported :			Style & Time F.E.		
Observations	134882	38592	96290	66651	68231
R^2	0.02	0.02	0.02	0.02	0.02