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ARTICLE INFO

Article history:

Received 23 September 2018

Revised 13 January 2021

Accepted 10 February 2021

Available online 11 December 2021

JEL classification:

F32

F36

G11

G15

G23

Keywords:

International mutual funds

Home bias

Mutual fund flows and performance

Information, Trust

ABSTRACT

International equity mutual funds increasingly hire managers from countries linked to their geographic mandate. We show these funds with “home-linked managers” exhibit a strong bias to invest in stocks of the managers’ home countries and attract more flows. Portfolios of stocks from countries in which a fund has a home-field advantage outperform those managed by funds without home-linked managers. We are unable to identify specific sources of an information advantage associated with the home-linked manager’s performance. But an analysis of fund flows reveals a role of investor trust in home-linked managers earned primarily through past superior performance.

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1. Introduction

Barriers to cross-border portfolio flows have been falling steadily over the past four decades and for al-

most every country. Finance theory on international portfolio choice and asset pricing from as far back as the 1970s pictured a globally integrated market in which assets have the same price regardless of where they are traded and in which no finance is local. These models by Black (1974), Solnik (1974, 1983), Stulz (1981), and Adler and Dumas (1983) predict how investors can benefit from diversifying their portfolios by investing globally. And diversify, they have. U.S. residents held \$11.3 trillion of foreign stocks, bonds, and short-term debt as of December 31, 2018, an amount about three times that held as of 2008 (Treasury International Capital, 2019). One of the most popular vehicles through which U.S. investors have pursued global opportunities is international mutual funds. As of 2018, \$2.4 trillion was held in international equity mutual funds, an amount that now constitutes 26% of all equity mutual fund assets under management (Investment Company Institute Fact Book, 2020).

[☆] We thank Warren Bailey, Matt Baron, Carina Cuculiza, Vihang Errunza, Miguel Ferreira, David Hirshleifer, Philippe Jorion, Alok Kumar, Sarah Khalaf, Mattia Landoni, Hugues Langlois, Karen Lewis, Rodolfo Martell, Phil McNinis, Pamela Moulton, Veronika Pool, Eduardo Repetto, Sergei Sarkissian, David Schumacher, Devin Shantikumar, Sophie Shive, Oliver Spalt, Stijn Van Nieuwerburgh, Laura Veldkamp, Scott Yonker, Lu Zheng, Editor Bill Schwert, an anonymous reviewer, and seminar and conference participants at Binghamton, Bristol, UBC, Cornell, Emory, Exeter, Georgetown, UC-Irvine, Maryland, SMU, UMass Amherst, the AFA, NFA, and FMA annual meetings, and the Smokey Mountain and Magnolia Finance conferences for their many suggestions. Karolyi serves as a consultant to Avantis Investors. All errors remain our own.

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Although diversifying globally with international mutual funds has several advantages, one is the access to their professional managers, who may be more familiar with the complexities of overseas markets, who may have better information about the companies that trade in those markets, or who can simply be trusted to provide peace of mind to investors who are anxious about the unique risks and costs of international investing.

In this paper, we study the professional managers of active international equity mutual funds in the U.S. We uncover a new finding about them: a large fraction (28%) of these funds is managed by individuals who grew up outside the U.S. And this fraction is steadily rising over the past 25 years. Of the foreign managers, 80% lead funds with a geographic mandate that includes their respective home countries. More importantly, we find such managers exhibit a strong bias to invest in their home countries, a special form of home bias not previously studied. We explore the motives for, and the consequences of, this overweighting of home-country stocks relative to other international fund managers with similar mandates. We call foreign managers from a country linked to a fund's geographic mandate “home-linked managers” and their funds, “home-linked funds.” What we want to understand better are the actions that home-linked managers take, how investors perceive those actions, and how those perceptions may influence why the funds hire them in the first place.

Home biases in holdings are pervasive around the world (Karolyi and Stulz, 2003; Lewis, 2011; Cooper et al., 2013), and they even arise in domestic settings (Coval and Moskowitz, 1999; Grinblatt and Keloharju, 2001; Ivković and Weisbenner, 2005; Seasholes and Zhu, 2010; Pool et al., 2012). Though well studied, an understanding as to whether home-biased investing is motivated by information advantages or by just greater familiarity remains a subject of spirited debate. In the U.S. domestic setting, Coval and Moskowitz (2001) find support for informed local investing by mutual fund managers that exhibit a strong preference for locally headquartered firms, particularly small, highly levered firms that produce non-traded goods. Pool et al. (2012), however, argue familiarity plays an important role, affirming significant home-state overweighting by U.S. mutual fund managers while also finding those over-weighted stocks are not associated with superior performance.

In the global setting, researchers have not directly tested whether informational advantages or greater familiarity motivate the actions of global asset managers, even though it may be an ideal setting in which to do so. Consider the study by Chan et al. (2005) that demonstrates empirically the predictive power of cross-country variables linked to familiarity for foreign portfolio investments, such as geographic distance, common language, culture, and colonial heritage. It does not assess whether potential information advantages among those managers also play a role in terms of superior performance.¹ At the same time, a number of studies of global asset managers assume local

ones have superior information (Brennan and Cao, 1997; Choe et al., 2005), better abilities to interpret public-information signals (Dumas et al., 2017), or even endowments of natural advantages of local customs or culture that deliver information advantages when investing in local stocks (Van Nieuwerburgh and Veldkamp, 2009). These studies evaluate implications of their respective model predictions but do not directly test whether greater familiarity plays a role in portfolio choices of professional managers in a way unrelated to information advantages.² A contribution of our study of home-linked mutual fund managers is that we evaluate the competing motives of greater familiarity versus superior information in an international setting in which the forces behind those motives may be stronger than in domestic settings in which they have been studied to now.

Of course, investors may prefer funds with home-linked mutual fund managers even in the absence of any perceived informational advantage or even of greater familiarity with their home markets. Trust may be just such a motive at work. A key contribution of our paper is new evidence on flows to home-linked mutual funds that supports the idea that trust matters. Gennaioli et al. (2015) model “trust (in the manager) as reducing the (investor's) utility cost of taking risk, much as if it reduces the investor's subjective perception of the risk of investments... Managers may have knowledge of how to diversify or even ability to earn α , but in addition, they provide investors peace of mind.” Gurun et al. (2018) document how investment advisers providing services that build trust with clients were able to avoid the large withdrawals that other investment advisors faced after the revelation of Bernie Madoff's Ponzi scheme in 2009. Although identifying origins of trust is difficult, Kumar et al. (2015) show fund flows are negatively related to a manager's foreign-sounding name, which they interpret as a form of distrust stemming from taste-based discrimination.

If an investor is more likely to trust the portfolio manager who grew up in a region of the fund's geographic objective, we would expect significantly more fund flows to the mutual funds that they manage. We may also expect attenuated flow-performance sensitivity, especially associated with performance on the downside, as investors choose to stick with a troubled fund led by a trusted manager. Performance may or may not be a driver behind the trusting investors' choice of funds, so fund flows may very well not respond to the home-linked manager's performance. We allow for fund flows to these international mutual funds to be decomposed in a way that they are related to past fund performance, to revealed home-biased holdings of those managers, or even residually in a way that the flows are unrelated to past actions. We refer to the first two components of flows as reflecting “earned trust” and distinguish this form of trust from the component of flows unrelated to past performance, which we call “en-

¹ Li (2004) emphasizes “confidence in the familiar” by showing how important investors' prior beliefs can be about expected returns and risks of foreign investments.

² Grinblatt and Keloharju (2001) show how a firm's culture and language are important attributes of familiarity and the reason investors choose local stocks. Cao, Han, Hirshleifer, and Zhang (2011) also model their familiarity bias as an investor choice.

dowed trust.” We uncover reliable evidence of earned trust in the flows of home-linked funds.

The conceptual foundations for our distinction between earned versus endowed trust lie within the seminal work on trust by Guiso et al. (2004, 2008). There, trust is the subjective probability that individuals attribute to the possibility of being cheated. It can be “generalized” reflecting a general trusting attitude or “personalized” directing trustworthiness toward a well-identified entity. The Guiso et al. (2008) study finds positive evidence in favor of personalized trust in a key survey experiment. Our assessment of earned trust can be framed within their concept of personalized trust as earned trust derives by actions taken (or not) by an entity, which in our case is the home-linked managers. Gennaioli et al. (2015) downplay the role of past performance in their definition of trust. In their study, trust has much more to do with reducing investor anxiety about taking risks, and their study emphasizes the confidence and reduced anxiety from personal relationships, persuasive advertising, and overall familiarity of the managers with circumstances they face.³ We anchor our measure of endowed trust in this framework.

To evaluate the validity of the trust, familiarity, and information hypotheses, we examine the holdings, fund flows, flow-performance sensitivity, and performance of actively-managed U.S. international equity funds with home-linked managers over three decades. A key element of our identification strategy is the definition of a home-linked manager. We associate the country in which the manager received their undergraduate degree as the manager’s home country. A manager of a fund is home-linked if the investment mandate of that fund includes the home country. These data on education are from the management profiles in Morningstar’s mutual fund reports. Of course, no identification approach is perfect. We acknowledge limitations of using the country of undergraduate degree as the manager’s home country. It is possible that the manager’s country of birth, residence, or citizenship differs from the country in which they received their undergraduate degree. And, of course, an information advantage, greater familiarity, or enhanced trust may arise from many other sources than just having studied in that country.

The extent of home bias in home-linked funds likely also factors in the geographic mandate of the fund. We make use of Morningstar categorizations for this purpose. The geographic objective of a fund may be specific to a country (e.g., Japan), be broader to include a set of countries in a region (e.g., Asia-Pacific), or represent most generally all global markets. The differences in the scope of the objectives further allow us additional experimental

variation to assess the “salience” or “intensity” of the treatment effect of the home-linked fund manager’s presence on the team. These tests are especially useful for the arguments relating to the overweighting of home-country stocks by home-linked managers, to fund flows and to flow-performance sensitivity. And if investors prefer home-linked managers because of their local knowledge or familiarity, we expect flows to home-linked funds to be stronger for country/regional funds and attenuated for global funds.

The home biases of home-linked managers are economically large. Home-linked managers of international funds invest about 14% more of their equity assets in their home-country stocks than their peer managers with similar mandates. The overweighting is more pronounced for regional (22%) and country (30%) funds. The home bias is larger among home-linked managers from emerging-market countries, from those countries with weaker disclosure and governance standards, and for those culturally more distant from the U.S. It is tempting to view this first set of findings – especially given their concentration in poor-information-quality environments – as consistent with the notion that language, culture, and institutional quality are components of an information endowment and that they reflect an informational advantage of home-linked managers (Van Nieuwerburgh and Veldkamp, 2009). But we study further investor flows and performance related to the overweighting of home-country stocks to sharpen our inferences about their motivations.

We next investigate the performance of home-linked funds. If home-linked managers have an informational advantage, it should be reflected in superior fund performance and in a way that may or may not be reflected in home-biased holdings related to their country of origin. While performance can be measured at the fund level, it is probably more informative to measure the performance of the components of the home-linked manager’s portfolio holdings related to their country of domicile. We measure it in both ways. At the fund level, we construct a long-short fund-of-funds portfolio that buys all funds with home-linked managers and sells those absent home-linked managers, and we compute alphas and factor loadings relative to Fama and French’s (2012, 2017) global four- and six-factor models. The results reveal superior performance by home-linked managers of regional/country funds, with weaker evidence for global funds.

From home-linked managers’ home-country holdings at the security level, we create as-if calendar-time portfolios that mimic the allocation of the mutual fund in a home-linked manager’s home-country stocks relative to stocks from that same country held by non-home-linked funds in the same category. Calendar-time portfolios are sorted by (a) actual holdings as of the beginning of the quarter and (b) changes in those holdings from the beginning to the end of a given quarter. Positive changes in holdings (akin to purchases) are distinguished from negative (sales) and neutral changes (holds). We find reliably positive and economically-large alphas for global, regional, and country funds that range from 31 to 65 basis points per month for as-if portfolios sorted on holdings. As-if portfolios sorted on *changes in holdings* reveal the performance advantage is concentrated in purchases (82 basis points

³ Earlier research helps us. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997) show how trust in large organizations is associated with the frequency with which employees encounter each other and how cooperation arises more among employees who interact frequently and repeatedly. That trust does not need to be related to past performance or past actions of an intermediary. Arrow (1972), one of the first studies in economics on trust, offers: “Virtually every commercial transaction has within itself an element of trust, certainly any transaction conducted over a period of time. It can be plausibly argued that much of the economic backwardness in the world can be explained by the lack of mutual confidence.”

per month) with insignificant alphas among those portfolios using sales or holds.⁴ This security-level evidence allows us with some confidence to associate the positive abnormal returns for home-linked funds with their home-country stock positions.

To pin down potential sources of information advantages among home-linked funds, we separate the as-if portfolios by countries of origin and find the performance gains are concentrated among home-linked managers from emerging-market countries, from those countries with weaker disclosure and governance standards, and for those culturally more distant from the U.S. We also hand collect data from LinkedIn® on the employment locations of home-linked managers – at home or abroad, currently or in the past – and find that those who have never worked in their home country perform as well as, if not better than, those who have ever or are currently working there. This finding suggests informational advantages likely do not arise from local social networks, in ways emphasized by [Cohen et al. \(2008\)](#). Further tests affirm home-linked managers possess no special country-timing skills, which implies the advantages do not arise from a better understanding of the local capital market or macroeconomic conditions.

Investors respond to the presence of home-linked managers. We find home-linked funds attract significantly more flows than other funds with similar fund objectives. Regional funds with home-linked managers attract, on average, 6.42% higher fund flows per year. To refine the identification strategy further, we examine fund flows around home-linked-fund manager turnover events. After a new home-linked manager is hired, fund flows significantly increase in the next four quarters relative to the other manager hires. Fund flows following home-linked manager departures recede.

An important facet of fund flows is how they respond to recent fund performance and past changes in home-biased positions. If home-linked managers instill trust from their clients because of general confidence or reduced anxiety ([Gennaioli et al., 2015](#)), the client's decision to invest with the fund may be less dependent on the home-linked managers' past performance or their home-biased holdings. As noted above, we refer to this as endowed trust. By contrast, if investors have priors that home-linked managers have an informational advantage or greater familiarity, even a modest amount of abnormal performance or revealed home-country bias can confirm their priors, boost personalized trust ([Guiso et al., 2008](#)), and inspire them to invest more in the fund. We call this earned trust. We examine the incremental sensitivity of fund flows to fund performance and separately to past home-biased holdings for home-linked funds. For global funds, we do

not find home-linked funds have significant incremental flow-performance/bias sensitivity, suggesting home-linked global funds attract flows mainly through endowed trust. But we see home-linked regional/country funds have significantly higher flow-performance sensitivity. When we allow for asymmetry of flow-performance sensitivity for positive and negative returns performance, the heightened positive sensitivity for home-linked regional/country funds is concentrated in the past positive performance. These results indicate home-linked regional/country funds attract flows mainly through earned trust. For global funds, however, we find attenuated sensitivity associated with negative past performance, which implies investors are more likely to stick with home-linked fund managers. We interpret this finding as evidence of endowed trust. Fund flows among home-linked regional/country funds are positively associated with past changes in home-country bias levels beyond their heightened positive flow-performance sensitivity.

The last part of the paper explores potential equilibrium explanations for our findings. We ask why all funds do not choose a home-linked manager if there are benefits to hiring them. After ruling out the viability of the investment strategies related to home-linked stock positions, we pursue one possibility that home-linked managers who excessively bias their fund holdings may inadvertently limit the fund's size and their own potential compensation in doing so. After all, fund managers are rewarded in absolute terms per returns on assets under management and not returns alone ([Berk and Van Binsbergen, 2015](#)). We do find evidence that these home-linked managers generate significantly more value added than their unlinked peers. Worries about limiting fund size is not an explanation. Expense ratios of home-linked funds are no different than those of unlinked ones. We then hypothesize that selection effects may play a role, particularly as they relate to key attributes of countries of origin for home-linked managers. To the extent that information advantages, greater familiarity, or trust are more valuable for funds investing in countries with more restrictive foreign access, with weaker governance standards, or with greater political uncertainty, we expect a higher likelihood of – and a greater number of – home-linked managers from such countries. Such demand-driven forces are at work. Labor supply constraints, which we proxy by the number of Chartered Financial Analyst (CFA) charter-holders awarded across country-years, seem to bind in hiring home-linked managers notwithstanding these country-of-origin needs. Selection effects do seem to matter.

2. Data and summary statistics

We obtain data from multiple sources, but the starting point is information on U.S. international fund managers that comes from Morningstar mutual fund reports. They furnish the name of each manager for a fund (including individuals on team-managed funds), their start and end dates of employment with the fund, their educational background, and work experience. Morningstar is also our source for fund returns, equity holdings, and other fund-level characteristics. Individual stock returns are obtained

⁴ These are admittedly imperfect measures of performance given the low-frequency (quarterly) holdings data. [Van Binsbergen, Ruan, and Xing \(2020\)](#) explore transaction-level data based on individual fund holdings from Morningstar to decompose mutual fund value added. Other studies that use quarterly holdings data to explore whether or which fund managers outperform include [Daniel, Grinblatt, Titman, and Wermers \(1997\)](#), [Wermers \(2000\)](#), [Kacperczyk, Sialm, and Zheng \(2005\)](#), [Cohen, Frazzini, and Malloy \(2007\)](#), [Chakrabarty, Moulton, and Trzinka \(2017\)](#), and [Busse, Chordia, Jiang, and Tang \(2019\)](#).

from Thomson Reuters' Datastream International and the Center for Research on Security Prices (CRSP). Financial statement information is obtained from Thomson Reuters' Worldscope and Compustat.

Our sample is limited to actively-managed U.S. international mutual funds obtained by filtering observations using Morningstar style categories as well as by manually screening fund names. The sample contains the following Morningstar categories: World Stock, Foreign Large Blend, Foreign Large Growth, Foreign Large Value, Foreign Small/Mid Blend, Foreign Small/Mid Growth, Foreign Small/Mid Value, Diversified Emerging Markets, Diversified Pacific/Asia, Pacific/Asia excluding Japan Stocks, China Region, India Equity, Japan Stock, Europe Stock, and Latin America Stock. The sample is further limited to funds for which we can obtain information from Morningstar regarding the country where the fund managers earned their bachelor's degrees. The final sample has 24,422 quarterly fund observations with 1090 unique funds from 1991 to 2014.

We organize the Morningstar categories into three groups based on the breadth of the geographic objective: Country funds, Regional funds, and Global funds. Panel A of Table 1 shows how we group the Morningstar fund categories into these three groups. Funds in the China Region, India Equity, Japan Stock, Europe Stock, or Latin America Stock are grouped as "Country funds." All of the Country funds along with the following Morningstar categories form the "Regional funds" group: Diversified Emerging Markets, Diversified Pacific/Asia/ Pacific/Asia excluding Japan stocks. Finally, the Global fund category includes all international mutual funds, including the country and regional funds described above. On average, 254 international funds have viable data in a given quarter during our sample period. The \$885 million in average fund total net assets (TNA) for the Foreign Large Value category (26 funds) well exceeds the overall average of \$589 million in TNA across all categories of funds.

A fund manager is considered a home-linked manager if the fund's geographic objective encompasses the country where the fund manager earned a bachelor's degree (e.g., a China region fund managed by a fund manager who graduated from a Chinese university). Managers who earned their bachelor's degrees from U.S. universities are not home-linked. Consider two examples, details of which are in the internet appendix. The Lazard International Equity Fund (LZIE) lists seven managers with the deputy chairman of Lazard Asset Management, including two with degrees from Australia and Ireland, which are part of the fund's international mandate. Of the five managers listed on Franklin India Growth A fund (FINGX), four have university degrees from India. In Panel A of Table 1, we report that 28% of the U.S. international mutual funds have at least one home-linked manager. Global funds have a smaller fraction with home-linked managers than Regional funds. However, large variation exists in this fraction of home-linked managers among Country funds. For example, the India Equity funds have the highest fraction of home-linked managers at 62%, whereas the Latin America Stock funds have nearly the lowest fraction at 16%. The category with the lowest proportion managed by home-linked

managers is Diversified Emerging Markets, with an average percentage of 15%. Team-managed funds, which dominate among Global and Regional funds, have a relatively higher percentage of funds with home-linked managers (31%) compared to the percentage of single manager funds (23%).

In Panel B of Table 1, we report summary statistics of fund-specific variables categorized by the three geographic groups that we had defined earlier. Within each category of funds, we report the fund and manager characteristics in two columns: those for which at least one home-linked manager is on the portfolio management team, and those that are unlinked among managers. We report *t*-statistics of the simple differences of those time-series averages for the characteristics between the two categories. For each group of Global, Regional and Country funds, funds with home-linked managers are relatively larger, although the differences are magnified for the Regional and Country funds. The funds with home-linked managers also appear to have lower fund return volatility, have a lower turnover ratio, and hold fewer stocks in their portfolios than unlinked funds. Note some variables are available at a monthly frequency, whereas others are only available at lower frequencies (quarterly), as indicated.

There is a wide dispersion in the home countries of the managers represented, but a significant concentration also exists in the U.K. (222 managers, 169 of which are home-linked). Our sample consists of 1855 managers from 40 countries; 529 of the managers received their undergraduate degrees outside the U.S., and 435 are home-linked. The prevalence of funds with home-linked managers has grown over time. Fig. 1 exhibits time-series plots of the percentage of funds with home-linked managers (left-hand scale) and the raw count of the number of home-linked managers (right-hand scale). The plot shows the number of home-linked managers was less than a dozen in the early 1990s and the count increased to as many as 150 by 2014, the last year of our sample. The percentage has grown from around 20% back in the early 1990s and now exceeds 30%. The pace has been slower among some fund sub-categories; for example, the percentage has declined among Japan and Europe Stock funds.

3. Home-biased holdings of home-linked managers

One reason for the growth in the number of managers hired from countries where the fund has a mandate to invest is that they are being hired to invest in those countries. In this section, we investigate whether home-linked managers exhibit a preference toward investing in their home-country securities. The first panel regression tests examine a fund's country weights by quarter. The dependent variable is the equity portfolio percentage weight a fund allocates to all firms domiciled in a country during a quarter, or $w_{i,c,t}$ for fund *i* associated with country *c* in quarter *t*. The main variable of interest is the fraction of managers in the team that are home-linked managers with respect to the particular country of interest. We denote this measure as $HLMgr_{i,c,t}$, or the fraction of home-linked (HL) managers (*Mgr*) in fund *i* from country *c* in quarter *t*. Consider, as an example, a World Stock fund in a quarter

Table 1

Sample composition and summary statistics.

The table below summarizes fund and manager characteristics of active U.S. international equity mutual funds from 1991 to 2014. The data are obtained from Morningstar Mutual Fund Reports. Based on the breadth of the fund's geographical objective, we form three groups: from the broadest (Global funds) to the narrowest (Country funds). The first three columns of Panel A show how we group the Morningstar categories. The rest of Panel A reports the sample composition. Home-linked managers are managers who received their undergraduate degree from countries within the geographical mandate of the fund. Panel B reports the fund and manager characteristics based on the presence of home-linked managers on the team, classified by the three groups formed on the fund's geographical objective. *t*-statistics reported in Panel B compares the characteristics of funds with at least a home-linked manager with the characteristics of funds without any home-linked managers (unlinked funds). Fund size is the fund's total net assets in millions of dollars (\$m). Fund flow is the net inflow into a fund in a month, defined as $(TNA_{i,t} - TNA_{i,t-1}) / TNA_{i,t-1} - r_{i,t}$, where $TNA_{i,t}$ denotes fund *i*'s total net assets in month *t* and $r_{i,t}$ denotes fund *i*'s return in month *t*. Fund age is the number of years since the inception of the fund. Fund return is the fund's monthly return. Fund volatility is the time-series standard deviation of fund monthly returns in the previous 12 months. Idiosyncratic volatility is the standard deviation of residuals from regressions of the previous 12 monthly fund returns on the Fama-French Global Market, size (*SMB*), value (*HML*), and momentum (*MOM*) factors. Expense ratios and turnover are as reported in Morningstar. No. of stocks held is the unique number of stocks held by a fund in a quarter. No. of countries is the number of unique countries represented in the fund's portfolio. No. of managers is the number of managers in the management team. Manager tenure is the average tenure of all members in the management team. Prior experience is the percentage of managers with previous working experience in the investment objective regions. Percentage with MBA (Ph.D.) is the percentage of managers with an MBA (Ph.D.) degree in the management team. Reported values in Panel B of Fund flow, Fund return, Fund volatility, Idio. volatility, Expense ratio, and Turnover are annualized.

Morningstar Category	Global funds	Regional funds	Country funds	Average No. of funds	Average fund TNA (\$ millions)	Funds with home-linked managers	Team managed funds	Percent of team managed funds with home-linked managers	Single-manager funds	Percent of single-manager funds with home-linked manager
Panel A. Home-linked managers' sample composition (averages per quarter).										
World Stock	1			56	668	19%	38	26%	18	8%
Foreign Large Blend	1			54	521	37%	32	41%	23	28%
Foreign Large Growth	1			33	763	36%	19	35%	15	33%
Foreign Large Value	1			26	885	23%	18	31%	9	16%
Foreign Small/Mid Blend	1			6	495	50%	5	36%	2	77%
Foreign Small/Mid Growth	1			10	689	23%	5	28%	6	20%
Foreign Small/Mid Value	1			9	292	31%	6	36%	3	17%
Diversified Emerging Markets	1	1		34	572	15%	20	14%	15	17%
Diversified Pacific/Asia	1	1		5	379	40%	3	51%	3	32%
Pacific/Asia ex-Japan	1	1		6	481	30%	4	53%	3	13%
China Region	1	1	1	7	252	39%	5	63%	3	11%
India Equity	1	1	1	3	488	62%	2	94%	1	29%
Japan Stock	1	1	1	4	217	23%	2	31%	3	13%
Europe Stock	1	1	1	8	302	50%	3	71%	5	37%
Latin America Stock	1	1	1	3	675	16%	2	10%	2	21%
Total				254	589	28%	152	31%	102	23%

	Global Funds			Regional Funds			Country Funds		
	Funds with home-linked managers	Unlinked Funds	<i>t</i> -stat (1)-(2)	Funds with home-linked managers	Unlinked Funds	<i>t</i> -stat (3)-(4)	Funds with home-linked managers	Unlinked Funds	<i>t</i> -stat (5)-(6)
	(1)	(2)		(3)	(4)		(5)	(6)	
Panel B. Fund and manager characteristics.									
<u>Fund Characteristics</u> (fund months)									
Fund size (\$ m)	\$779	\$739	2.98***	\$733	\$555	7.28***	\$492	\$269	12.94***
Fund return	9.2%	9.2%	0.01	12.3%	8.7%	2.59***	12.9%	6.7%	2.54**
Fund flows	7.3%	7.9%	−0.84	10.8%	9.8%	0.55	8.0%	−2.5%	3.64***
Fund volatility	17.2%	17.6%	−5.32***	19.5%	21.2%	−10.3***	19.3%	22.1%	−9.40***
Idio. volatility	6.3%	6.8%	−12.1***	9.9%	11.0%	−12.3***	10.8%	12.6%	−9.86***
Expense ratio	1.42%	1.44%	−3.33***	1.63%	1.62%	0.94	1.66%	1.66%	0.16
Turnover	68.6%	73.9%	−9.93***	62.7%	76.6%	−13.00***	54.7%	76.2%	−12.74***
Ave. funds per month	76	178		18	46		8	12	
No. of fund-months	21,939	51,327		5163	13,074		2226	3417	
<u>Fund Characteristics</u> (fund quarters)									
No. of stocks held	114	157	−17.4***	101	168	−12.2***	77	129	−5.11***
Fund age	11.7	10.7	8.34***	10.8	9.4	7.18***	9.7	11.7	−5.87***
No. of countries	19.5	19.7	−2.05**	13.1	16.7	−13.9***	8.1	7.7	1.11
No. of managers	2.7	2.1	20.2***	2.3	2.0	5.92***	2.2	1.6	9.51***
<u>Manager Characteristics</u> (fund quarters)									
Manager tenure	5.3	5.6	−6.91***	5.2	5.3	−0.82	5.2	5.0	1.10
Prior experience	16.2%	5.8%	24.3***	22.8%	11.4%	10.5***	22.8%	18.6%	2.20**
Percentage MBAs	45.7%	54.5%	−14.5***	47.6%	48.3%	−0.57	35.2%	51.2%	−7.25***
Percentage PhDs	5.8%	5.4%	1.47	5.1%	4.6%	1.02	2.14%	0.94%	2.91***
Ave funds per quarter	76	178		18	46		8	12	
No. of fund-quarters	7313	17,109		1721	4358		742	1139	

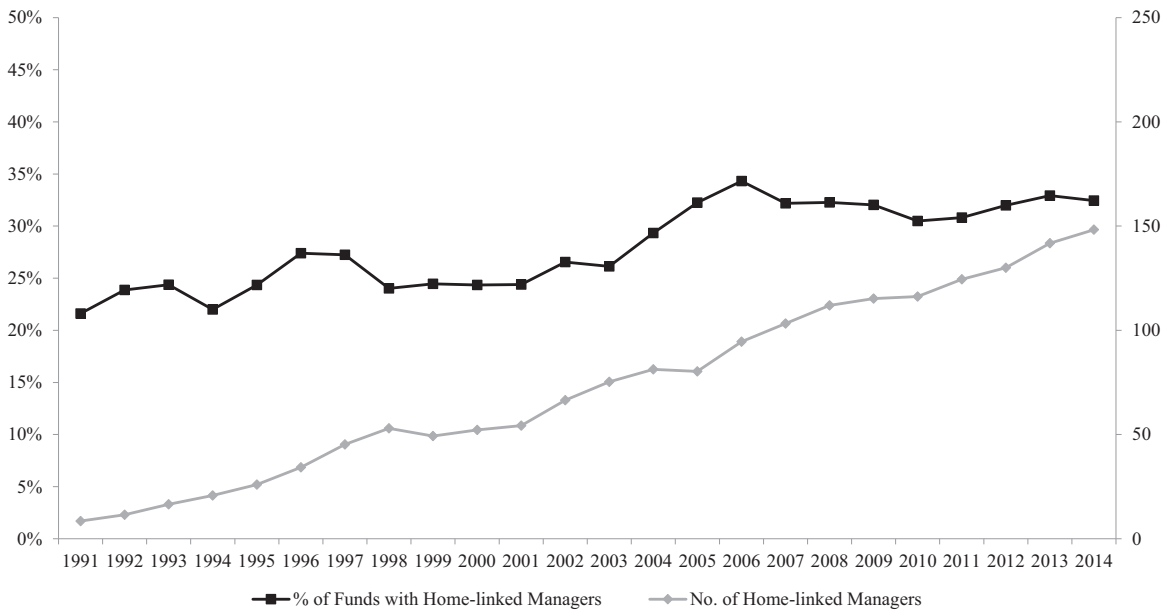


Fig. 1. Presence of active U.S. international equity mutual funds with home-linked managers. This figure shows the percentage of funds with home-linked managers (left axis, black squares) and the number of home-linked managers (right axis, grey diamonds) in active U.S. international equity funds from 1991 to 2014.

that has three managers on its team – one is from Canada, a second from Brazil, and the third from the U.S. – and invests 40% in Canada, 30% in Brazil, 20% in Japan, and 10% in the U.S. In this case, $w_{i,c,t}$ equals [40%, 30%, 20%, 10%] and the corresponding $HLMgr_{i,c,t}$ equals [33%, 33%, 0%, 0%] for that fund-quarter. This variable measures home-linkage separately by the country in its mandate. Of course, a fund can have home-linked managers with multiple home countries.

If home-linked managers tilt their portfolios toward stocks in their home countries, we should observe a positive coefficient estimate on $HLMgr$. The mean (standard deviation) of $HLMgr$ across fund-country-quarters is 0.0092 (0.0822). In Fig. 2, we exhibit the countries with significant home bias from left to right.⁵ Managers from Brazil overweight their home-country stocks the most (nearly 20%). There is also a significant bias in investing in home country stocks by home-linked managers from China, Norway, and Japan. The overweight estimates year-by-year are presented in Panel B of Fig. 2. While there is some variation over time, the estimates are always positive, suggestive of

a persistent home-bias of the overall group of home-linked managers. We do not see any time trend upward or downward.

For our formal tests, we include fund characteristics, such as Fund size, Expense ratio, Turnover, Fund age, and Number of managers, and various combinations of fixed effects as controls. Table 2 presents the coefficient estimates and key regression diagnostics. On average, a global fund in our sample allocates about 5.1% of its assets toward stocks from one country. This finding is the reported constant in the Model (1) in which the specification has no fixed effects. The weights that home-linked managers place on stocks domiciled in their home countries are considerably larger. For Global funds, the positive coefficient of $HLMgr_{i,c,t}$ is about 14%, which implies home-linked managers place 14% more of their investible assets on stocks from their home countries. This percentage is the simple average of coefficients across Models (1) to (4) featuring different specifications. The overweighting is statistically significant and economically large. The effect is even stronger when we limit our sample to Regional funds (about 22% overweight) or Country funds (about 30% overweight). In Models (2), (3), and (4), we control for different sets of fixed effects. In Model (2), we control for category-quarter fixed effects, and in Model (3), we control for fund fixed effects. With fund fixed effects, the importance of fund-level controls becomes insignificant as expected, but the home-bias overweight coefficient remains of the same magnitude. We also choose to oversaturate our specifications with country-quarter fixed effects in Model (4) to alleviate the concern that certain country characteristics drive the overweighting. The coefficient of $HLMgr_{i,c,t}$ remains largely unchanged, though its magnitude attenuates some. Overall, we find a reli-

⁵ These reported values in Panel A of Fig. 2 obtain from country-by-country fund-quarter panel regressions in which the dependent variable $W_{i,t}$ is the fraction of the fund i 's assets (total equity investments) invested in firms headquartered in that country during a quarter t and in which the independent variable is $HLMgr_{i,t}$, the ratio of the number of home-linked managers of fund i from that country to the total number of managers of fund i during quarter t . Those in Panel B are year-by-year fund-country panel regressions in which the dependent variable $W_{i,c,t}$ is the fraction of the fund i 's assets (total equity investments) invested in firms headquartered in country c during a quarter t of that year and in which the independent variable is $HLMgr_{i,c,t}$, the ratio of the number of home-linked managers of fund i from country c to the total number of managers of fund i during quarter t of that year. Category fixed effect is used in both panels.

Table 2

Home-country biased weights of home-linked managers' portfolios.

This table presents measures of the extent of overweighting of home-country stocks by home-linked managers (*HLMgr*) of active U.S. international equity mutual funds from 1991 to 2014. Results shown are from the following regression: $w_{i,c,t} = \beta HLMgr_{i,c,t} + \delta' Z_{it} + \eta_i + \zeta_{it} + \theta_{c,t} + \varepsilon_{i,c,t}$. The dependent variable $w_{i,c,t}$ is the fraction of the fund *i*'s assets (total equity investments) invested in firms headquartered in country *c* during a quarter *t*. If a fund does not invest in firms headquartered in a country during a quarter, we set the corresponding $w_{i,c,t}$ as missing. $HLMgr_{i,c,t}$ is the ratio of the number of home-linked managers of fund *i* from country *c* to the total number of managers of fund *i* during quarter *t*. Following is a hypothetical example. During a quarter, Fund A in the World Stock Category has three managers in the management team. Suppose that one manager is educated in Canada, the second in Brazil, and the third in the U.S. Fund A invests 40% of its portfolio in Canada ($w_{A,Canada,t} = 40\%$), 30% in Brazil, 20% in Japan, and 10% in the U.S. In this case, there are two home-linked managers - Canada ($HLMgr_{A,Canada,t} = 1/3$) and Brazil ($HLMgr_{A,Brazil,t} = 1/3$). All other fund-quarter control variables, Z_{it} , are as defined in Table 1 and measured at the end of the previous quarter. Fund size, Turnover, Fund age, and No. of managers are transformed into natural logs. FE denotes fixed effects at the fund level (η_i), at the fund category-quarter level (ζ_{it}), and at the country-quarter level ($\theta_{c,t}$). Standard errors are clustered at the country and year level. *t*-statistics are reported in parentheses. *, **, and ***, represent significance at the 10%, 5%, and 1% levels, respectively.

	Global Funds				Regional Funds				Country Funds			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>HLMgr</i>	0.174*** (16.1)	0.139*** (18.1)	0.138*** (17.3)	0.121*** (9.46)	0.338*** (12.9)	0.221*** (12.9)	0.221*** (12.4)	0.203*** (11.3)	0.499*** (10.37)	0.307*** (11.23)	0.323*** (10.73)	0.096*** (5.40)
<i>Fund size</i>		−0.002*** (−13.9)	−0.001 (−0.73)	−0.001*** (−6.24)		−0.003*** (−8.72)	−0.001 (−1.43)	−0.004*** (−8.57)		−0.002 (−1.33)	−0.003 (−0.70)	−0.000 (−0.23)
<i>Expense ratio</i>		0.021 (0.43)	0.126 (0.41)	0.858*** (6.38)		0.185 (1.61)	−0.087 (−0.22)	1.182*** (4.53)		−0.171 (−0.44)	−0.496 (−0.30)	0.677 (1.19)
<i>Turnover</i>		−0.002*** (−6.36)	−0.001 (−1.27)	−0.003*** (−7.04)		−0.001** (−2.25)	−0.003** (−2.21)	−0.007*** (−9.44)		−0.002 (−0.70)	−0.007 (−1.40)	−0.004 (−1.36)
<i>Fund age</i>		0.001*** (2.62)	−0.003 (−1.30)	−0.000 (−0.05)		0.001* (1.70)	−0.001 (−0.25)	0.008*** (5.41)		−0.004 (−0.91)	0.003 (0.30)	−0.006 (−1.27)
<i>No. of managers</i>		−0.001*** (−4.71)	−0.001 (−1.17)	−0.002*** (−4.20)		−0.000 (−0.29)	−0.001 (−0.73)	−0.004*** (−4.30)		−0.006 (−1.52)	0.002 (0.21)	0.000 (0.09)
<i>Constant</i>	0.051*** (25.7)				0.062*** (27.7)				0.110*** (17.64)			
Observations	464,578	401,785	401,785	401,785	91,384	79,002	79,002	79,002	14,755	12,664	12,664	12,664
Adj R ²	0.027	0.151	0.203	0.337	0.088	0.403	0.431	0.443	0.141	0.509	0.537	0.828
Category × Qtr FE	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO
Fund FE	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES	NO
Country × Qtr FE	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES

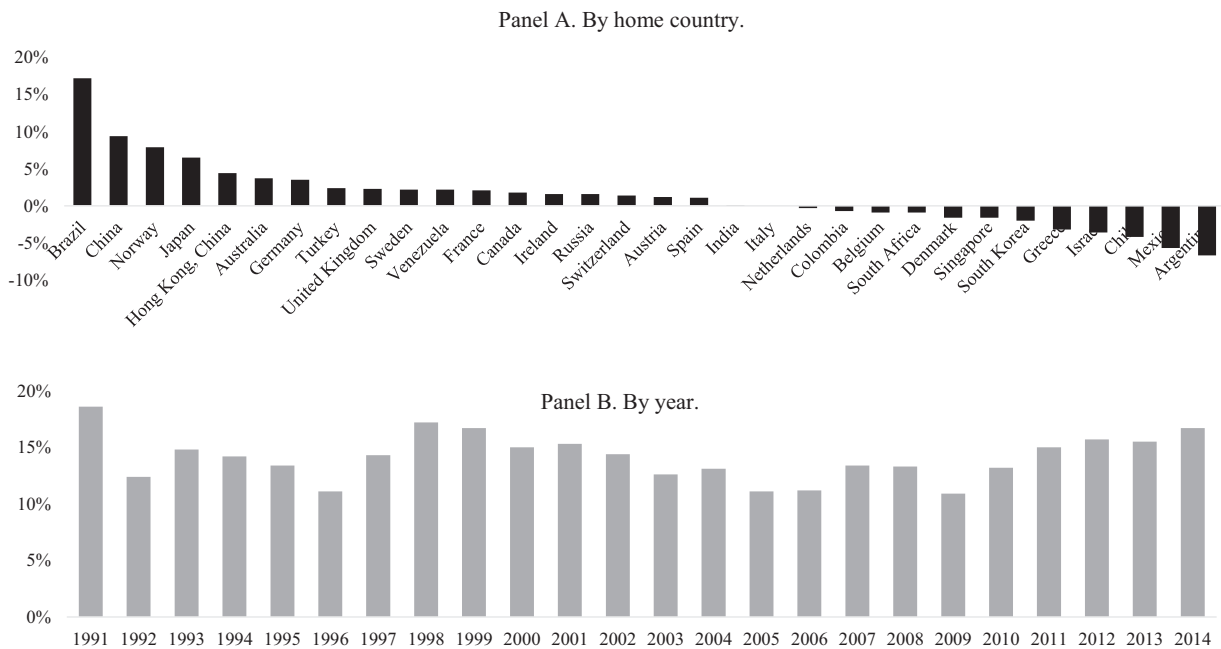


Fig. 2. Home-country biased weights of home-linked managers' portfolios by country and year. This figure displays the extent of overweighting of home-country stocks by home-linked managers (*HLMgr*) of active U.S. international equity funds from 1991 to 2014. Results in Panel A are from country-by-country fund-quarter panel regressions in which the dependent variable $w_{i,t}$ is the fraction of the fund i 's assets (total equity investments) invested in firms headquartered in that country during a quarter t and in which the independent variable is $HLMgr_{i,t}$, the ratio of the number of home-linked managers of fund i from that country to the total number of managers of fund i during quarter t . Panel B presents results from year-by-year fund-country panel regressions in which the dependent variable $w_{i,c,t}$ is the fraction of the fund i 's assets (total equity investments) invested in firms headquartered in country c during a quarter t of that year and in which the independent variable is $HLMgr_{i,c,t}$, the ratio of the number of home-linked managers of fund i from country c to the total number of managers of fund i during quarter t of that year. Category fixed effect is used in both panels.

able bias towards investing in the manager's home-country stocks even after controlling for unobservable time-varying and category-, country-, or fund-specific common factors.

We next explore whether the heterogeneity across countries in the level of economic development, the quality of the information environment, or the familiarity of the market for U.S. investors affects the extent of overweighting. We take binary cuts of the data using a variety of country-level measures – emerging versus developed markets, countries with high versus low levels of corporate transparency, and with high versus low cultural distance from the U.S. Morgan Stanley Capital International (MSCI) classifications guide us on what are emerging countries. Corporate transparency is classified using the composite index of Karolyi (2015, Chapter 7), which is available by year back to 2000 and draws heavily from the World Bank's World Governance Indicators. The index is standard normalized with positive (negative) values associated with greater (less) transparency. Cultural distance is the Euclidean distance computed based on the six cultural dimensions proposed by Hofstede (2001). High and low values are determined using median cutoffs for the corporate transparency index as well as the measure for cultural distance. The results for Global funds are presented in Table 3. We find that the overweighting is typically much stronger among home-linked managers who originate from emerging-market countries (Model (1) versus

(2)), countries with low levels of corporate transparency (Model (3) versus (4)), or countries that are more distant culturally from the U.S. (Model (5) versus (6)). F -statistics reported at the bottom of the table evaluate the differences between the coefficients on *HLMgr* for each of the pairs of country groups. Their significance confirms that these differences are not spurious. We infer from the binary cuts that home-linked managers choose to overweight their home-market securities in a way that reflects their informational advantages or greater familiarity with local markets. Useful indications that they are, the tests are not sharp enough to distinguish between these hypotheses.

We need to consider the possibility that the causality may run from the fund to the manager. Funds that prefer to invest in particular countries may choose to hire home-linked managers with a working assumption that they bring better information about, greater familiarity with those markets, or their presence on the team engenders more trust among investors toward investing in them. One natural way to examine the possible direction of the causation is to examine changes in country overweighting around turnover events for these home-linked managers. When they are appointed (and when they depart a team), we can compare the changes in the fraction invested in the home countries of newly appointed home-linked managers relative to the fraction invested in the same countries prior to their appointment (departure). A differen-

Table 3

Informational quality and home country weights of home-linked managers' portfolios.

This table presents the extent of overweighting of home-country stocks by home-linked managers of active U.S. international equity mutual funds from 1991 to 2014. Results shown are from the following regression: $w_{i,c,t} = \beta HLMgr_{i,c,t} + \delta Z_{i,t} + \eta_i + \zeta_{i,t} + \theta_{c,t} + \varepsilon_{i,c,t}$. The dependent variable $w_{i,c,t}$ is the fraction of the fund i 's assets (total equity investments) invested in firms headquartered in country c during a quarter t . If a fund does not invest in firms headquartered in a country during a quarter, we set the corresponding $w_{i,c,t}$ as missing. $HLMgr_{i,c,t}$ is as defined in Table 2, as are control variables, $Z_{i,t}$, and various fixed effects (η_i , $\zeta_{i,t}$, $\theta_{c,t}$). We categorize the sample by several country-level measures of institutional and informational quality. Countries are bifurcated into emerging and developed markets, high and low levels of corporate transparency, and high and low cultural distance from the U.S. MSCI classifications guide what are emerging countries, leaving developed markets dominated by Canada, France, Germany, Italy, Japan, the U.S., and the U.K. High and low corporate transparency are based on above- and below-median scores in Karolyi (2015, Chapter 7). Cultural distance is the Euclidean distance measure based on the six cultural dimension indexes proposed by Hofstede (2001), measured relative to the U.S. index scores by country; median values of distance are used to classify high- and low-distance countries. FE denotes fixed effects. Standard errors are clustered at the country and year level. t -statistics are reported in parentheses. F -statistics are from tests of differences between the coefficients on $HLMgr$ of each paired group. The associated p -value is reported in the row below. *, **, and ***, represent significance at the 10%, 5%, and 1% levels, respectively.

	Level of Financial Development		Corporate Transparency		Cultural Distance to the U.S.	
	(1) Emerging	(2) Developed	(3) Low	(4) High	(5) High	(6) Low
<i>HLMgr</i>	0.158*** (7.52)	0.102*** (7.54)	0.285*** (9.90)	0.052*** (13.13)	0.331*** (9.88)	0.071*** (9.24)
<i>Fund size</i>	−0.000 (−1.25)	−0.005*** (−7.36)	−0.000 (−0.90)	−0.002*** (−5.21)	−0.001*** (−4.06)	−0.001*** (−4.93)
<i>Expense ratio</i>	1.496*** (11.8)	−1.058*** (−3.73)	1.953*** (5.58)	0.343** (2.14)	1.926*** (7.20)	−0.043 (−0.36)
<i>Turnover</i>	−0.004*** (−13.1)	0.000 (0.15)	−0.005*** (−7.21)	−0.002*** (−3.55)	−0.005*** (−9.03)	−0.002*** (−5.67)
<i>Fund age</i>	−0.004*** (−9.17)	0.010*** (6.24)	−0.003** (−2.13)	0.001 (1.06)	−0.002 (−1.40)	−0.000 (−0.14)
<i>No. of managers</i>	−0.003*** (−9.15)	0.000 (0.12)	−0.007*** (−7.56)	0.000 (0.26)	−0.006*** (−7.30)	−0.002*** (−4.84)
Observations	300,958	100,827	115,505	223,461	133,500	236,580
Adj R ²	0.184	0.247	0.385	0.314	0.377	0.400
Country × Qtr FE	YES	YES	YES	YES	YES	YES
<i>F</i> -Statistics	4.88**		66.95***		60.27***	
<i>p</i> -value	0.03		0.00		0.00	

tial effect of the hiring and resignations of home-linked managers on the allocation to their home countries may exist.

In unreported tests (in the internet appendix), we assess the average holdings around manager hiring and departure events, of which there are 319 and 262 such events, respectively, among all Global funds. The overweight is computed as the actual portfolio weight in the managers' home countries less the corresponding category average weight in the same countries at the same time. In the four quarters before home-linked manager departures, funds, on average, overweight the home-country stocks of the managers by about 1.59%. During the four quarters that follow a home-linked manager's departure, the funds no longer overweight the home-country stocks of the managers (0.31%). We find no significant overweighting of the new managers' home countries before the hiring of home-linked managers (0.19%), but stocks from new managers' home countries are overweighted by 1.96% after the appointments. These differences are statistically significant. The above result indicates the overweighting is a result of exposure to the home countries of the managers. Considerable evidence suggests that manager turnover events are not exogenous (see, e.g., Fee et al., 2013). Funds that have decided to overinvest in certain countries may strategically choose to hire home-linked managers from those countries. While this implies funds are hiring them for their local informational advantage, the direction of the causality is unclear. To address this issue, we separate out turnover events with-

out negative prior three-month cumulative fund returns performance as quasi-exogenous events because they are more likely due to retirements or voluntary departures for other jobs. These unreported results (in our internet appendix) for shifts in home-country overweighting are still significant even when we only use this subset of turnovers.

4. Do home-linked funds outperform in their managers' home-country stocks?

Our results to now show home-linked managers invest significantly more in stocks in their home countries than do those who manage peer funds. This evidence can be interpreted as consistent with the familiarity hypothesis of Chan et al. (2005) and Pool et al. (2012), as it could be with the informational advantage hypothesis (Brennan and Cao, 1997; Choe et al., 2005; Coval and Moskowitz, 2001; Van Nieuwerburgh and Veldkamp, 2009). It cannot shed any light on our third hypothesis about trust until we link performance to flows, which comes in the next section. In order to differentiate between information advantage and familiarity explanations, we next test whether funds managed by home-linked managers outperform their peers. According to theory, an information endowment, such as from having grown up in a country within the mandate of the fund of which one is a manager, should be associated not only with excess investment in the stocks of one's home country, but also with an advantage that yields higher returns. Our experiments here run in two phases:

the first constructs an as-if fund-of-fund portfolio of home-linked and non-home-linked (“unlinked”) mutual funds; and the second phase performs a calendar-time portfolio performance analysis, but only of the components (measured as the individual stock level) of the home-linked and unlinked funds that relate to the home country of the home-linked managers.

4.1. Fund-level performance tests of home-linked managers

We start by computing monthly returns on equal-weighted and value-weighted portfolios of funds with and without home-linked managers, respectively. Value weights are determined by TNA as of the end of the preceding quarter for the month. The returns for each fund are computed using raw and net-of-fee returns as reported to Morningstar. We then compute monthly returns for a portfolio that goes long on funds with home-linked managers in that quarter and takes a short position in funds without home-linked managers. Rebalancing takes place quarterly. At least three funds are required in each long or short leg of the portfolio to qualify as a viable month for the analysis. The results are presented in the internet appendix. We estimate alphas from Fama-French Global factor models that include the global market index excess return portfolio ($Mkt-R_f$), the global size factor (small capitalization returns minus large capitalization returns, small-minus-big, or *SMB*), the global value factor (high market-to-book stock returns minus low market-to-book stock returns, high-minus-low, or *HML*), and a global momentum factor (recent 12-month trailing return winners less loser returns, or *MOM*).⁶ All fund returns and those associated with the factors are U.S. dollar-denominated returns.

The first notable finding is that the mean returns and the alphas are not distinguishable from zero for Global funds. For Regional and Country funds, we see a more consistent pattern of superior return performance among the home-linked funds. This finding is important for our key inference about an information advantage as the salience of that information is expected to be greater for a home-linked manager from the country or region when the geographic mandate is more closely aligned with that country or region. The alphas among the value-weighted funds in the Regional and Country portfolios are positive and reliably so. They range from 32 basis points per month (3.84% per year) in Regional funds to as high as 43 basis points per month (5.16% per year) among Country funds. The equivalent alphas for the equal-weighted portfolios are close to zero for the Regional funds and weakly positive among Country funds. Among Regional funds, we also learn that the lower global market betas among home-linked managers are prevalent across both value- and equal-weighted portfolios. The same tilt is revealed among the Country funds, but the findings are not statistically precise. Here, we also notice the global size factor loadings (*SMB*) are reliably negative among Regional funds indicat-

ing the home-linked managers favor larger capitalization stocks, in general.⁷

4.2. Security-level performance tests of home-linked managers

If home-linked managers have an informational advantage, their investments in home-country securities are where we expect to observe the advantage to be played out. The advantage may be masked at the fund level, especially for more globally diversified funds, as described above. So, in the second phase of our analysis of performance, we construct portfolios of the home-linked and unlinked funds, but using *only* the home-country stocks of the overall portfolio holdings of the home-linked managers. The benchmark portfolio now comprises the home-country stocks associated with the country of domicile of the home-linked manager, but only those of the unlinked funds. Say, for a China Region fund, at the beginning of a quarter, we take a long position in all Chinese stocks held by the fund with home-linked Chinese managers and take a short position in all Chinese stocks held by China Region funds without home-linked (Chinese) managers. We hold those positions for each of the three months of the following quarter and then rebalance the portfolio based on updated holdings of both sets of China Region funds.

We use a standard calendar-time portfolio approach to examine the performance of these as-if portfolios based on only these components of the overall portfolios of the Global, Regional and Country funds. The first step is to construct a home-linked portfolio by selecting the home-country stocks of all home-linked managers. We next construct an unlinked portfolio by selecting the stocks in home-linked managers' home countries but held by the unlinked managers in the same Morningstar category and in the same quarter. Portfolios are rebalanced every calendar quarter, and within a given fund portfolio, stocks are weighted by the funds' dollar holdings. Finally, we compute value-weighted, calendar-time portfolios by averaging across funds weighting individual fund portfolios by the fund's TNA value at the end of the previous quarter. In some cases, we report our analysis of the long-only portfolios of the home-linked managers and, in other cases, we report that for the long-short portfolios net of the unlinked managers. This security-level approach has the advantage of testing whether home-linked managers have superior stock-picking ability compared to their peers in terms of picking their home-country stocks while controlling for the same investment objective. A disadvantage of the approach is that the holdings are updated quarterly, too coarsely for monthly fund returns.

Table 4, Panel A, shows key statistics for the long-short portfolio and just the long-only leg of the long-short portfolio that focuses on the returns relative to a U.S. Treas-

⁶ These data are obtained with thanks from Ken French's data library under the category of Developed Market factors and returns at: http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html. Details are in Fama and French (2012, 2017).

⁷ Alphas using the Fama-French Global 6-factor are reported in the internet appendix. The Fama-French 6-factor model adds aglobal profitability factor (robust operating profitability minus weak operating profitability returns, robust-minus-weak, or *RMW*) and, a global investment factor (conservative investment less aggressive investment returns, conservative-minus-aggressive, or *CMA*) to the 4-factor model.

Table 4

Performance of funds of home-linked managers by home-country stock holdings.

This table reports returns performance of home-linked managers' (HLMgr) home-country stocks of active U.S. international equity mutual funds from 1991 to 2014. In the first three columns of Panel A, we report the returns performance of a portfolio that buys HLMgr home-country stocks and computes returns net of U.S. Treasury bill yield. The next three columns report the returns performance of a long-short portfolio rebalanced quarterly that buys HLMgr home-country stocks and sells short stocks from the same home countries but held by unlinked managers in the same category. As an example, suppose at the beginning of a quarter for the China Region fund category there are two funds: one has only Chinese managers and the other one has only U.S. managers. In this case, the long side consists of all Chinese stocks held by the fund with Chinese managers and the short side consists of all the Chinese stocks held by the fund with U.S. managers. The last three columns of Panel A report the returns performance of a long-short portfolio that buys HLMgr non-home-country stocks and sells short non-home-country stocks of unlinked managers. In Panel B, we present the returns performance of equivalent long-short portfolios, but formed on the basis of change in positions in that quarter by HLMgrs of global funds. *Purchases (Sales)* denotes a stock for which there was an increase (decrease) in holdings of more than 500 shares by a fund during the quarter. A change of fewer than 500 shares is considered as a *Hold*. The first three columns of Panel B report the performance in the concurrent quarter of a portfolio that longs the home-country stocks purchased, held, and sold by HLMgr, respectively, and computes returns net of U.S. Treasury bill yield. Column (4) reports performance of a long-short portfolio that longs purchases of home-country stocks and shorts their sales of the HLMgr funds. Columns (5) – (7) are analogous to the first three except that performance is that of a long-short portfolio that goes long the home-country stocks purchased/held/sold by HLMgr and shorts stocks from the same countries purchased/held/sold by unlinked managers in the same corresponding category. Column (8) presents the long-short portfolios of Columns (5) and (7). Columns (9) – (11) goes long home-country stocks purchased/held/sold by HLMgr and shorts non-home-country stocks purchased/held/sold by HLMgr. Column (12) presents the long-short portfolios of Columns (9) and (11). For home-country stock return performance, we report the mean returns, respective *t*-statistics, intercept (*Alpha*), and loadings on the Fama-French International (Global ex U.S.) *Market*, size (*SMB*), value (*HML*), and momentum (*MOM*) factors. For analyses involving non-home-country stocks, we use the Fama-French Global factors instead of Global ex-U.S. factors. Robust *t*-statistics are reported in parentheses. Significant levels are denoted by *, **, and ***, which corresponds to 10%, 5%, and 1% levels, respectively.

	Home-country stocks of home-linked managers (HLMgr)						Non-home-country stocks of home-linked managers					
	Long holdings of home-linked managers (HLMgr) only			Long holdings of home-linked managers (HLMgr), Short holdings of unlinked managers			Long holdings of home-linked managers (HLMgr), Short holdings of unlinked managers					
	(1) Global Funds	(2) Regional Funds	(3) Country Funds	(4) Global Funds	(5) Regional Funds	(6) Country Funds	(7) Global Funds	(8) Regional Funds	(9) Country Funds			
Panel A. Performance of funds of home-linked managers by holdings.												
Mean Rets	0.0092*** (2.77)	0.0112** (2.43)	0.0073 (1.63)	0.0023 (1.34)	0.0049* (1.69)	0.0044* (1.80)	−0.0003 (−0.46)	0.0022 (1.37)	0.0029 (1.54)			
Alpha	0.0054*** (2.67)	0.0072** (2.33)	0.0047* (1.89)	0.0031* (1.69)	0.0065** (2.21)	0.0059** (2.29)	0.0000 (0.05)	0.0029 (1.62)	0.0049** (2.46)			
Mkt- <i>R_f</i>	0.9677*** (18.1)	1.1568*** (16.9)	1.1183*** (17.3)	−0.0001 (−0.00)	−0.0098 (−0.16)	0.0256 (0.43)	−0.0276* (−1.70)	−0.1034*** (−3.15)	−0.0932** (−2.22)			
SMB	0.1669* (1.79)	0.3395*** (2.62)	0.2010* (1.71)	0.0350 (0.42)	−0.0466 (−0.36)	0.0735 (0.54)	−0.0139 (−0.40)	−0.1223 (−1.49)	−0.0929 (−0.92)			
HML	0.0977 (0.78)	−0.2074* (−1.67)	−0.3477*** (−3.65)	−0.0204 (−0.25)	−0.2371* (−1.85)	−0.0601 (−0.59)	−0.0286 (−0.69)	−0.0814 (−0.95)	−0.2123** (−2.10)			
MOM	−0.0554 (−1.04)	0.0552 (0.71)	−0.0777 (−1.28)	−0.0931* (−1.86)	−0.0570 (−0.71)	−0.1988** (−2.53)	−0.0162 (−0.66)	0.0165 (0.35)	−0.1262** (−2.32)			
Observations	282	237	207	282	237	207	288	261	231			
R ²	0.6720	0.6000	0.7711	0.0136	0.0145	0.0533	0.0115	0.0411	0.0569			
	Long positions of home-linked managers (HLMgr) only			Long positions of home-linked managers (HLMgr), Short positions of unlinked managers			Long positions of HLMgr home-country stocks, Short positions of HLMgr non-home-country stocks					
	(1) Purchases	(2) Holds	(3) Sales	(4) Purchases - Sales	(5) Purchases	(6) Holds	(7) Sales	(8) Purchases - Sales	(9) Purchases	(10) Holds	(11) Sales	(12) Purchases - Sales
Panel B. Performance of funds of home-country stocks of home-linked managers by changes in holdings.												
Mean Rets	0.0140*** (4.16)	0.0087** (2.55)	0.0096** (2.35)	0.0032 (1.42)	0.0064*** (3.30)	−0.0005 (−0.26)	−0.0007 (−0.31)	0.0038 (1.60)	0.0056*** (2.83)	−0.0010 (−0.49)	−0.0012 (−0.47)	0.0049* (1.84)
Alpha	0.0113*** (4.63)	0.0056*** (2.88)	0.0059** (2.42)	0.0035 (1.44)	0.0082*** (3.95)	0.0010 (0.51)	−0.0012 (−0.54)	0.0053** (2.19)	0.0048** (2.13)	−0.0010 (−0.49)	−0.0017 (−0.64)	0.0045* (1.76)
Mkt- <i>R_f</i>	0.9149*** (13.6)	0.9099*** (15.3)	1.0638*** (22.1)	−0.0474 (−0.99)	−0.0527 (−1.05)	−0.0551 (−0.99)	0.1231*** (3.00)	−0.1081** (−2.25)	0.0953* (1.73)	−0.0703 (−1.08)	−0.0050 (−0.08)	0.0937 (1.61)
SMB	0.3850*** (3.04)	0.1296 (1.43)	0.1201 (1.05)	0.1694 (1.33)	0.2630*** (2.64)	0.1020 (1.12)	0.1400 (1.14)	0.0957 (0.75)	0.2657** (2.37)	−0.0417 (−0.37)	0.0053 (0.04)	0.2591 (1.37)
HML	−0.0521 (−0.51)	0.0712 (0.82)	0.0744 (0.55)	−0.0890 (−0.63)	−0.1596* (−1.89)	0.0768 (0.72)	0.1868 (1.56)	−0.2798** (−2.45)	0.1101 (1.13)	0.2557*** (3.26)	0.4123*** (3.29)	−0.2669* (−1.82)
MOM	−0.1045 (−1.29)	−0.1509*** (−3.36)	−0.1105* (−1.71)	0.0361 (0.56)	−0.1153** (−2.14)	−0.2106*** (−3.92)	−0.1008* (−1.79)	0.0214 (0.36)	−0.0336 (−0.48)	−0.0971* (−1.81)	−0.1589** (−2.36)	0.1386* (1.66)
Observations	279	240	234	234	279	240	234	234	279	240	234	234
R ²	0.6074	0.7164	0.6940	0.0271	0.0530	0.0856	0.0737	0.0614	0.0445	0.0847	0.1300	0.1068

surey bill return. They are both reported for each of the Global, Regional, and Country funds, in turn. We present the raw returns as well as the Fama-French 4-factor alphas along with the respective 4-factor loadings. The Fama-French 4-factor models employed in this exercise are based on Global ex U.S. factors.⁸ Models (1) to (3) present the raw returns, alphas and loadings of *only* the long positions (in terms of excess returns relative to the U.S. short rate, *R_f*). Indeed, we can see positive returns of 92 basis points per month and a monthly alpha that is a reliably significant 54 basis points per month using the 4-factor model. Among Regional funds, raw returns of the country-specific holdings of the home-linked managers are even larger at 112 basis points per month. The 4-factor alphas are 72 basis points per month (robust *t*-statistic of 2.33). Loadings on *HML* are not significantly different from zero using the long only excess returns for global funds, but they are negative for regional and country funds, which indicates a preference for growth stocks. The small-cap tilt of the Regional funds is noteworthy with a reliably positive loading on *SMB* for the long only leg.

To the right of the results on the long-only portfolios are those of Models (4) to (6) for the long-short portfolios of home-linked managers relative to unlinked managers. The raw returns for the Global long-short funds (Model (4)) average an insignificant 23 basis points, and its 4-factor alpha of 31 basis points is also insignificantly positive. Part of the reason for this is that the raw return difference of 23 basis points per month in part reflects the fact that the home-linked funds avoid winner momentum stocks among the holdings in their respective countries of domicile, as revealed with a negative loading on *MOM*. The findings in favor of superior performance among home-linked managers for the stocks in their home countries are statistically reliable among Regional and Country funds (Model (5) and (6)). The 4-factor alphas in the long-short portfolios are 65 basis points per month and 59 basis points per month. The negative loading on winner-momentum factors are exhibited here, where home-linked managers avoid winner momentum stocks relative to their unlinked fund peers that also invest in those same markets. Taken with the evidence in the previous section, the results suggest that the performance gains are primarily derived from the home-country stocks held by the home-linked managers and especially among Regional and Country funds, consistent with arguments about the salience of an information advantage.⁹

One potential alternative explanation for our portfolio-level and stock-level performance results to now is that

home-linked funds are simply able to attract talent from an ever-larger pool of managers globally. Thus, the superior performance may reflect the investment skills of their hires, in general, and not any information advantage they have in their home countries, in particular. To distinguish this line of reasoning, we specifically examine the performance of as-if portfolios based on the home-linked managers' holdings outside their respective home countries. If home-linked managers have unconditionally higher ability, we expect to find evidence of superior performance even on a portfolio of non-home-country stocks held. For this purpose, we construct long-short calendar-time portfolios as we did in Models (4) to (6) in Panel A of Table 5, but now take long positions in the non-home-country holdings of the home-linked managers and take short positions in the holdings of unlinked managers in their respective non-home-country stocks.¹⁰ These performance tests are presented in Models (7) to (9) for Global, Regional, and Country funds, respectively. The raw returns and the alphas are near zero for Global and Regional funds (an insignificant 29 basis points). For Country funds, however, the 4-factor alphas are 49 basis points per month (robust *t*-statistic of 2.46). These are notably smaller than the 4-factor alphas for the long-short portfolios of home-country stocks at about 30 basis points for Global funds, about 65 basis points for Regional funds, and about 60 basis points for Country funds. Although home-linked managers appear to have superior ability in choosing stocks for their portfolios, a significant portion of the abnormal returns can be attributed to the information advantage of home-linked managers in their own home-country stocks.¹¹

We conduct an additional test to evaluate this alternative hypothesis about unconditional skills among home-linked managers. Certain non-U.S. universities, such as the U.K.'s Cambridge and Oxford, are regarded as global "magnets" that attract undergraduate students from around the world. The graduates of these top universities are likely managers who deliver superior performance, but their skills are not necessarily from investing in the U.K. To examine this argument, we deleted the graduates of the universities that at some point of time during our sample period were ranked in the list of top 20 universities in the QS World University Rankings (<https://www.>

⁸ We also report the Fama-French Global ex U.S. 6-factor alphas, including the gross profitability and investment factors, in the internet appendix. Operating profitability loads positively for Global, Regional, and Country funds, but they are not reliable across all specifications. The alphas from these regressions are similar in magnitude to those from 4-factor models.

⁹ Fig. 1 shows that U.K. managers form a significant portion of the home-linked managers in our sample. We have replicated the tests with a sample of funds without U.K. managers. The results, available in the internet appendix, remain significant and the coefficients are very similar to those reported in this table. More analysis on potential country selection biases follow in Section 6.

¹⁰ Consider the hypothetical example of a Brazilian home-linked fund and their non-Brazilian holdings. If the relevant unlinked manager in an international (Global ex U.S.) fund is from the U.S., then that unlinked manager's non-home-country stocks will include all holdings outside the U.S. If, for example, the benchmark unlinked manager happens to have a home link to China, then their non-home-country stocks will include all holdings outside China.

¹¹ To further refine this experiment, we evaluate the performance of home-region stocks for home-linked managers excluding their own country of interest. That is, we want to learn whether the information advantage arises from the assets in the specific country of domicile or from learning by-product of that information advantage that arises for stocks within the region beyond the country of the home bias. We thank Stijn Van Nieuwerburgh for this additional suggestion to explore payoff spillovers that may be relevant for non-home-country but within-home-region investments. In the internet appendix, the 4-factor alphas for long-short portfolios of home-region stocks are only 2 basis points for Global funds, 23 basis points for Regional funds, and 32 basis points for Country funds. There appears to be negligible spillover benefits that accrue for home-linked manager investments in a region.

Table 5

Performance of home-linked managers' home-country stocks: By country-level measures of informational quality.

This table reports the returns performance of home-linked managers' (HLMgr) home-country stocks of active U.S. international equity mutual funds from 1991 to 2014. We categorize the sample by several country-level measures of institutional and informational quality. The home-linked managers' home countries are bifurcated into sub-samples by emerging and developed markets, high and low levels of corporate transparency, and high and low cultural distance from the U.S. MSCI classifications guide what are emerging countries, leaving developed markets dominated by Canada, France, Germany, Italy, Japan, the U.S., and the U.K. High and low corporate transparency is based on above- and below-median scores in Karolyi (2015, Chapter 7). Cultural distance is the Euclidean distance measure based on the six cultural dimensions proposed by Hofstede (2001) and, again, median values are used to classify high-and low-distance countries. We present the returns performance of long-short portfolios formed on the basis of change in positions in that quarter by HLMgrs of global funds. *Purchases* denotes a stock for which there was an increase in holdings of more than 500 shares by a fund during the quarter. Columns (1) – (2) reports the performance in the concurrent quarter of a portfolio that goes long on the stocks purchased by HLMgr funds and computes returns net of U.S. Treasury bill yield for Emerging and Developed home countries, but Column (3) evaluates performance of a long-short portfolio of HLMgr funds by going long Emerging, short Developed by home country. Columns (4) – (6) and (7) – (9) repeat for HLMgrs in high/low corporate transparency countries and in high/low cultural distance from U.S. countries, respectively. We report the mean returns, respective *t*-statistics, intercept (*Alpha*), and loadings on the Fama-French International (Global ex U.S.) *Market*, size (*SMB*), value (*HML*), and momentum (*MOM*) factors. Robust *t*-statistics are reported in parentheses. Significant levels are denoted by *, **, and ***, which corresponds to the 10%, 5%, and 1% levels, respectively.

	(1) Emerging Markets	(2) Developed Markets	(3) Long Emerging, Short Developed Markets	(4) Corporate Trans- parency Low	(5) Corporate Trans- parency High	(6) Long Low, Short High Corporate Trans- parency	(7) Cultural Distance High	(8) Cultural Distance Low	(9) Long High, Short Low Cultural Distance
MeanRets	0.0210***	0.0100***	0.0124**	0.0099	0.0092**	0.0007	0.0187***	0.0105***	0.0091*
(<i>t</i> -stat)	(3.22)	(3.31)	(2.34)	(1.50)	(2.16)	(0.14)	(3.02)	(3.28)	(1.70)
Alpha	0.0195***	0.0071***	0.0119**	0.0106**	0.0065***	0.0040	0.0178***	0.0073***	0.0121**
(<i>t</i> -stat)	(4.06)	(4.14)	(2.29)	(2.22)	(3.91)	(0.78)	(3.37)	(4.00)	(2.17)
Mkt- <i>R_f</i>	1.1897***	0.8714***	0.2441**	1.2244***	1.0421***	0.1823**	1.0887***	0.9331***	0.0888
(<i>t</i> -stat)	(12.5)	(24.8)	(2.36)	(14.6)	(29.4)	(2.06)	(8.85)	(22.23)	(0.71)
SMB	0.7714**	0.0283	0.7755**	0.6320**	0.0417	0.5903**	0.9047***	0.0971	0.7913**
(<i>t</i> -stat)	(2.54)	(0.36)	(2.48)	(2.46)	(0.47)	(2.13)	(3.04)	(1.16)	(2.47)
HML	-0.2148	0.0264	-0.1723	-0.5668***	-0.0123	-0.5545***	-0.4041**	0.0319	-0.4412**
(<i>t</i> -stat)	(-1.08)	(0.29)	(-0.81)	(-3.25)	(-0.13)	(-2.72)	(-2.15)	(0.34)	(-2.18)
MOM	-0.0701	-0.0807	0.0199	-0.1727	-0.0458	-0.1270	-0.2840*	-0.0766	-0.1811
(<i>t</i> -stat)	(-0.47)	(-1.38)	(0.13)	(-1.22)	(-0.81)	(-0.82)	(-1.91)	(-1.23)	(-1.09)
Observations	189	279	189	180	180	180	219	279	219
R ²	0.4709	0.7029	0.0798	0.5547	0.8630	0.0970	0.4035	0.7073	0.0673

topuniversities.com/qs-world-university-rankings). Seventeen non-U.S. universities are on the list: Australian National, Ecole Polytechnique, Ecole Normale Supérieure, Paris, Imperial College London, London School of Economics, McGill University, National University of Singapore, Peking, Swiss Federal Institute of Technology Zurich, Tokyo, University College London, Cambridge, Edinburgh, University of Hong Kong, Melbourne, Oxford, and Toronto. The results (in the internet appendix) in the equivalent of Table 2 (overweighting of home-country stocks) and Table 4, Panel A (performance of home-country stocks) are similar, which we interpret as further support to the information-advantage explanation.

4.3. Identifying potential sources of information advantage among home-linked managers

Up to this point, we have evaluated the performance of as-if portfolios at the security level among home-country stocks of home-linked managers based on their holdings as of the beginning of the quarter. A more refined approach to understanding potential sources of information advantage is that the performance tests should not be about holdings, but about trades or changes in the manager's holdings. Consider that some information advantage of the manager may be negative, which might be acted upon with a negative change in holdings, or sale,

notwithstanding an overweighting of the home-market securities for the home-linked manager. Following the earlier work of Daniel et al. (1997), Wermers (2000), Kacperczyk et al. (2005), and Cohen et al. (2007), we re-define holdings for our performance tests separating out "Purchases" as instances where a fund increases its portfolio holdings in a given stock relative to its prior position by more than 500 shares during a given quarter, "Sales" as instances where a fund decreases its portfolio holdings in a given stock relative to its prior position by more than 500 shares, and "Holds," or any changes in positions smaller in absolute terms than 500 shares. Our 500-share threshold is an admittedly arbitrary one, designed to sharpen our focus on large changes in positions that might reflect actions on an information advantage.

Panel B of Table 4 presents the performance tests by changes in holdings for the long-only positions of home-country stocks of the home-linked managers (Models (1) to (4)), those in which we go long on positions of the home-linked managers and go short on those of unlinked managers (Models (5) to (8)), and finally those in which we go long on positions in the home-country stocks of the home-linked managers and go short on their non-home-country stocks (Models (9) to (12)). The four models within each set of tests focus on purchases only, holds only, sales only, and purchases net of sales. The results based on purchases relative to those on levels of holdings reveal even larger

mean returns and alphas. Model (1) reports an economically large alpha of 113 basis points (robust t -statistic of 4.63) for the Purchases, which is nearly double the magnitude of the alphas for the Holds (Model (2), 56 basis points) and the Sales (Model (3), 59 basis points). In these specifications, we see more clearly than in Panel A the tilt toward smaller-cap stocks (positive coefficient on *SMB* for Purchases, in particular) and the tilt away from stocks with recent stock-price run-ups (negative coefficients on *MOM* among Holds and Sales). Model (3) shows home-linked managers also generate an alpha of 59 basis points per month in the Sales of their home-country stocks, and Model (4) shows nets out positions in Purchases relative to Sales with an insignificant alpha of 35 basis points. These results suggest that although home-linked managers earn higher returns on their home-country holdings and purchases, they are not as effective in timing the selling of these positions.¹²

When we benchmark the performance of as-if portfolios of home-country stocks among home-linked managers by those of unlinked managers and their positions in those home countries, the superior performance of their Purchases is larger in magnitude (82 basis points, robust t -statistic of 3.95, in Model (5)) than of unlinked managers, but we see no differential skill among Holds and Sales. The outperformance of home-linked managers in Purchases and the absence for them in Sales is confirmed as a significant difference in Model (8), with its higher alpha of 53 basis points (robust t -statistic of 2.19). Relative to unlinked managers in these home-country stocks, home-linked managers appear to tilt their Purchases toward small-cap, growth stocks (positive coefficient on *SMB*, negative coefficient on *HML*). The last four columns of Panel B benchmark the home-country holdings of home-linked managers relative to the non-home-country holdings of home-linked managers for Purchases, Sales, Holds, and Purchases net of Sales. Home-linked managers' home-country holdings outperform their non-home-country holdings in Purchases by 48 basis points (robust t -statistic of 2.13). This finding further confirms that the abnormal returns of home-linked managers' home-country stock holdings is unlikely to be explained by their general stock-picking ability; a portion of the abnormal returns can

be attributed to the information advantage of home-linked managers in their own home-country stocks.

One way we can evaluate the potential sources of the information advantage among home-linked managers is to seek to falsify our findings among securities in which a relative advantage by home-linked managers should be relatively weaker. This effort is akin to the tests of binary country-level sample cuts we conducted in Table 3 for the country-level excess holdings of such funds, but now for the performance of as-if portfolios of home-linked managers in their home-country stock positions. As with our earlier investigation of the patterns in overweighting of home-linked stocks, we separate the portfolios by several country-level measures of levels of economic development (Emerging versus Developed), of information quality (Low versus High Corporate transparency), and of cultural distance from the U.S. (High versus Low). Table 5 presents the results only for home-country stocks of home-linked managers for their Purchases, and with formal tests for differences within each of these binary cuts. We find that home-linked managers perform even better on their home-country stocks if they originate from emerging-market countries (119 basis points higher than among home-linked managers from developed countries in Model (3)), and countries that are more distant culturally from the U.S. (121 basis points higher than among home-linked managers from countries more proximate culturally to the U.S. in Model (9)). The alpha for home-linked managers from more opaque countries is higher (106 basis points in Model (4) versus 65 basis points in Model (5), but the difference is not reliably different from zero. The patterns for Sales are similar to those of Purchases, except the significantly larger alphas among home-linked managers arise among low- versus high- corporate-transparency countries (available in the internet appendix). Overall, these country-level cuts suggest further that when local information is less accessible and harder to process, the informational advantage of home-linked managers may be stronger.¹³

Some sources of information advantage may be transferable to a team, while other sources may not. An example of the former might be a home-linked manager's knowledge of the existence of a home-market database that furnishes interpretations about local accounting standards and how they apply to locally-reported corporate financial statements; an example of the latter might be comparative advantages from a home-linked manager's social networks thanks to previous professional or educational connections (Cohen et al., 2008). One way to test whether the sources of information advantage are transferable to a team is to evaluate whether the performance

¹² Our finding of an asymmetry in the managers' timing of purchases and sales may not be as puzzling as it seems at first glance. Cohen, Frazzini, and Malloy (2007) examine information transfers in security markets between mutual fund managers and corporate board members via their shared education networks and find positive and significant abnormal returns arise among both purchases and sales of stocks "connected" through fund-board ties. The authors speculate that portfolio managers do not time their sells of connected stocks well because they are more likely to receive only positive news through their networks as senior firm officers may be more reluctant to disclose negative information about the firm's prospects this way. Puckett and Yan (2011) in their study of institutional trades uncover the same asymmetry and argue that purchases are more likely to be unconstrained and thus to convey positive firm-specific information. To evaluate whether our purchases are also less constrained, we evaluate separately "pick-ups," or new purchases, relative to increases in existing positions and confirm their alphas are significantly higher. Further, unlike what we see in Panel B, the alpha for a long-short portfolio of Purchases net of discretionary Sales, or Sales in quarters without significant outflows, is larger and significant.

¹³ Any information advantage for home-linked managers should be weaker among their home-market holdings in American Depositary Receipts (ADRs) form. ADRs are cross-listed shares on U.S. exchanges that need to comply with the disclosure requirements of the U.S. Securities Exchange Act of 1934. We conducted tests similar to those in Panel A of Table 5, except now only for ADRs associated with the home-country. Admittedly, the sample sizes are diminished and the power of our tests limited, but the raw returns and the 4-factor alphas of these long-short portfolios, available in the internet appendix, are small and insignificant, suggestive of the home-linked managers' diminished information advantage in these stocks, as expected.

gains in as-if portfolios of changes in holdings of home-market stocks sustain even after a home-linked manager departs the team. Among 240 turnover events in which home-linked managers depart from a team-managed fund with no other home-linked managers in the same country remaining, we find (in unreported tests in the internet appendix) that returns performance in the first quarter following the departure is 66 basis points for Purchases and –26 basis points for Sales, neither of which are statistically significantly different from zero. Whatever is the source of the information advantage that home-linked managers bring to their fund, it appears that the information is a type not easily transferable, such as those related to professional and educational connections.

Taking this effort to identify types of information advantage one step further, we hand collected data regarding the professional work experiences of the home-linked managers in our sample from their LinkedIn® pages, from additional information in Morningstar Mutual Fund Reports, and scraped from other websites. Of special interest to us is the workplace location of the home-linked managers, in the past or even currently as some managers continue to be employed by their funds from offices in their respective home countries. For example, all four home-linked managers on Franklin India Growth A fund (FINGX) that we described in Section 2 report that they currently reside in India. If home-linked managers have worked or currently work from their home countries as fund managers, we offer that they are more likely to build local social networks that can support the kind of information advantage that is not transferable to a team. And this information advantage may translate into superior performance in portfolios of their home-country positions.

Table 6 presents the findings. First, Panel A exhibits summary statistics about fund/manager characteristics, as in Table 1, but breaks down the sample of home-linked managers into those that have ever worked in their home country (51% of the fund-month or fund-quarter observations), those who are currently working in their home country (in turn, 70% of those who have ever worked at home), and finally those who have never worked in their home country (49% of the observations). Those who have worked in their home-country manage smaller funds by size with higher fund flows, less volatile returns, lower expense ratios, lower turnover ratios, and fewer stocks held. Panel B presents the mean returns, Fama-French 4-factor model alphas and factor loadings for the as-if portfolios among their Purchases (Models (1) to (3)) and Sales (Models (4) to (6)). The alphas of the home-country stock holdings by home-linked managers who have never worked in their home country are notably higher for the Purchases (173 versus 40 basis points) and somewhat higher for the Sales (62 versus 47 basis points). What we infer from this finding is that the information advantage among home-linked managers is less likely to arise from local social networks via professional connections as in Cohen et al. (2008).

In another unreported test, we evaluate whether the performance gains among home-linked managers and their home-country stocks arise from their country-timing skills

rather than their security-selection skills.¹⁴ Such skills among home-linked managers might stem from a better understanding of the local capital market or economic conditions. Country bets on performance might arise if a fund places a larger or smaller weight on a country and one candidate that lends itself to empirical testing is the past country-index returns, which represents positive-feedback trading or country momentum, or future country-index returns, which suggests timing skills. We adopt the method of Grinblatt et al. (1995) and Busse et al. (2014) for the regressions of country-index returns on one-quarter lagged, contemporaneous, and one-quarter leading changes in country weights among home-linked managers and also among unlinked managers. We find no evidence of country-timing skill among either the home-linked or unlinked managers.¹⁵

5. Fund flows and trust

The overweighting of home country stocks could arise from home-linked managers building up an initial familiarity of the local market, its capital market environment and customs (Covrig et al., 2007). However, our security-level tests provide robust evidence of much more than just greater familiarity – notably, an information advantage arises with respect to the specific home-country stocks in which they invest. The advantages are stronger for home-linked managers from emerging markets, from countries that are culturally more distant from the U.S., and from countries that have weaker corporate governance and disclosure rules. And we are able to rule out informational advantages that arise from country-momentum or timing strategies, from social networks or professional connections associated with work experience in those markets, or from unconditionally superior security selection skills as

¹⁴ We also test whether the Sharpe ratios among home-country stock returns differ for home-linked and unlinked funds. This test is important because the overweight positions in home-country stocks implies their as-if portfolios are less diversified and thus associated with higher volatility. In the internet appendix, we show that the active share (Cremers and Petajisto, 2009) of home-linked funds are higher among home-country stocks relative to unlinked funds. The industry concentration of their home-country holdings (Kacperczyk, Sialm, and Zhen, 2005) is higher than that for unlinked managers. Finally, Sharpe ratios, computed as average monthly fund excess returns net of U.S. Treasury bill yield divided by the standard deviation of monthly fund excess returns, of home-linked managers are significantly higher in spite of the higher volatility. Among Global funds, home-linked managers' Sharpe ratios average 0.1429 versus 0.1113 for unlinked funds. These are available in the internet appendix.

¹⁵ To gauge how feasible would be an investment strategy that mimics the purchases of home-linked managers, we explored whether the performance gains persist subsequent to the quarter in which the changes in holdings take place. In unreported tests in the internet appendix, we identify stocks with an increase in holdings of more than 500 shares by a fund during a quarter t and the returns of long-only as-if portfolios that go long the purchases of the home-linked managers in quarters $t + k$, where k equals 1, 2, 3, and 4. Among purchases, the significant 113 basis point alphas in t (Table 5, Panel B) decline quickly to 57 basis points by $t + 1$ and are an insignificant 30 basis points by $t + 4$. These alphas may persist but may be hard to replicate as they fall within range of estimates of the overall costs of trading global stocks by institutions of 37 basis points in price-impact and 17 basis points in commission costs (Chiyachantana, Jain, Jiang, and Wood, 2004).

Table 6

Identifying home-linked fund manager location and fund performance.

This table reports the returns performance of portfolios of home-linked managers' (HLMgr) home-country stocks conditioned on their work place location. The sample consists of active U.S. international equity mutual funds from 1991 to 2014 for which we were able to hand collect information by fund-year on home-linked managers' work experience from *LinkedIn*® and Morningstar Mutual Fund Reports. In Panel A, we summarize the manager and fund characteristics of home-linked managers. The classifications as to whether the home-linked manager has ever worked in their home country, is currently working in their home country, or has never worked in their home country, is based on information available as of a given quarter. Variable definitions are as in Table 1. Panel B is similar to Panel B of Table 5 in which we go long home-linked managers' home-country stocks and compute returns net of U.S. Treasury bill yields. *Purchases* (*Sales*) denotes a stock for which there was an increase (decrease) in holdings of more than 500 shares by a fund during the quarter. A change of fewer than 500 shares is considered as a *Hold*. Columns (1) – (3) report performance of *Purchases*, and Columns (4) – (6) for *Sales*. We report the mean returns, respective *t*-statistics, intercept (*Alpha*), and loadings the Fama-French International (Global ex U.S.) *Market*, size (*SMB*), value (*HML*), and momentum (*MOM*) factors. Robust *t*-statistics are reported in parentheses. Significant levels are denoted by *, **, and ***, which corresponds to the 10%, 5%, and 1% levels, respectively.

Funds with home-linked managers	Ever worked in home country	Working in home country	Never worked in home country	<i>t</i> -stat (1) – (3)	<i>t</i> -stat (2) – (3)
	(1)	(2)	(3)		
Panel A. Summary statistics.					
<u>Fund Characteristics</u> (fund months)					
Fund size (\$m)	699	751	859	−6.88***	−4.17***
Fund return	9.7%	10.1%	8.7%	0.99	1.23
Fund flow	7.5%	5.7%	7.1%	0.31	−0.99
Fund volatility	16.4%	16.4%	17.9%	−12.43***	−11.20***
Idio. volatility	5.8%	6.0%	6.9%	−19.66***	−13.73***
Expense ratio	1.39%	1.46%	1.46%	−9.73***	0.40
Turnover	64.4%	68.0%	72.9%	−10.18***	−5.18***
No. of fund-months	11,250 (51%)	7650 (35%)	10,689 (49%)		
<u>Fund Characteristics</u> (fund quarters)					
No. of stocks held	111	116	118	−3.02***	−0.77
Fund age	12.0	12.0	11.4	2.57***	2.40**
No. of countries	19.8	19.4	19.1	3.96***	1.61
No. of mgrs per fund	3.0	2.6	2.4	12.90***	4.16***
No. of fund-qtrs	3750 (51%)	2550 (35%)	3563 (49%)		
<u>Manager Characteristics</u> (fund quarters)					
Manager tenure	5.3	5.1	5.2	1.01	−1.62
Percentage MBAs	34.0%	25.1%	57.6%	−25.78***	−33.69***
Percentage PhDs	1.5%	1.5%	10.1%	−18.64***	−17.61***

	Ever worked in home country	<i>Purchases</i> Working in home country	Never worked in home country	Ever worked in home country	<i>Sales</i> Working in home country	Never worked in home country
	(1)	(2)	(3)	(4)	(5)	(6)
Panel B. Performance of home-linked managers' home-country stocks by changes in holdings.						
Mean Rets	0.0074**	0.0080**	0.0190***	0.0079**	0.0080**	0.0095*
(<i>t</i> -stat)	(2.38)	(2.49)	(4.64)	(2.15)	(2.24)	(1.77)
<i>Alpha</i>	0.0040**	0.0045**	0.0173***	0.0047**	0.0052**	0.0062*
	(2.27)	(2.15)	(4.77)	(2.11)	(2.12)	(1.75)
<i>Mkt-R_f</i>	0.8865***	0.8593***	0.9208***	0.9338***	0.8606***	1.1801***
	(22.0)	(22.7)	(9.84)	(25.1)	(19.2)	(16.2)
<i>SMB</i>	−0.0436	−0.0747	0.6148***	−0.0373	0.0566	0.3356*
	(−0.50)	(−0.79)	(3.45)	(−0.33)	(0.48)	(1.90)
<i>HML</i>	0.0584	−0.0075	−0.0643	0.0068	−0.0193	0.1593
	(0.62)	(−0.07)	(−0.34)	(0.06)	(−0.15)	(0.80)
<i>MOM</i>	−0.0667	−0.0880	−0.1830	−0.0933*	−0.0865	−0.2192**
	(−1.22)	(−1.29)	(−1.55)	(−1.71)	(−1.54)	(−2.38)
Observations	276	264	276	231	231	213
R ²	0.7045	0.6551	0.4349	0.6907	0.6070	0.6009

the stock holdings outside their home country do not perform as well.

Investors may prefer to invest with home-linked fund managers even in the absence of any perceived informational advantage or greater familiarity with their home markets. Trust may be a motive at work. Exploring trust is the focus of this section and the means by which we do is the study of differential flows to U.S. international

mutual funds with home-linked managers. As discussed in the introduction, an important contribution of our paper is to allow for flows to be decomposed in a way that they can be related to past fund performance, to their actual home-biased holdings, or even residually in a way that the flows are unrelated to past performance. We refer to the first two components of flows as reflecting “earned trust” interpreted in the spirit of Guiso et al. (2004, 2008)

Table 7

Fund flows to home-linked funds.

We report results of panel regressions of monthly fund flows to active U.S. international equity mutual funds from 1991 to 2014. Results shown are for the following regression: $Flows_{i,t} = \beta \text{Home-linked}_{i,t} + \delta Z_{i,t} + \eta_i + \theta_t + \eta_i \times \theta_t + \varepsilon_{i,t}$. The dependent variable, $Flows_{i,t}$, is the flows to fund i during month t . Home-linked is a dummy variable which takes the value of one for funds with home-linked managers (HLMgr). Among the control variables, $Z_{i,t}$, we include *Fund return*, the cumulative past 12-month fund return and feature the interaction of $\text{Home-linked} \times \text{Fund return}$, in Columns (6) – (8) to assess whether home-linked manager funds are associated with different flow-performance sensitivity. The control variables *Fund size*, *Turnover*, *Fund age*, and *No. of managers* have been transformed into natural logs. See Table 1 for variable definitions. FE denotes fixed effects at the fund category level (η_i), at the year level (θ_t) and at category-year levels ($\eta_i \times \theta_t$). t -statistics are reported in parentheses. Standard errors are clustered at the fund and year level. *, **, and ***, represent significance at the 10%, 5%, and 1% levels, respectively.

	Global Funds		Regional Funds		Country Funds	Global Funds	Regional Funds	Country Funds
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Home-linked</i>	0.0023** (2.19)	0.0017** (2.08)	0.0018** (2.25)	0.0052** (2.28)	0.0075** (2.00)	0.0019* (1.71)	0.0024 (1.02)	0.0035 (0.93)
<i>Home-linked × Fund return</i>						0.0011 (0.26)	0.0181** (2.29)	0.0269* (1.94)
<i>Fund size</i>	−0.0002 (−0.51)	−0.0002 (−0.58)	−0.0008*** (−2.85)	−0.0007 (−0.93)	−0.0062*** (−4.45)	−0.0002 (−0.62)	−0.0008 (−1.05)	−0.0064*** (−4.30)
<i>Fund return</i>	0.0345*** (11.89)	0.0329*** (11.93)	0.0251*** (13.41)	0.0200*** (4.43)	0.0313*** (3.86)	0.0415*** (13.64)	0.0245*** (5.41)	0.0304*** (3.91)
<i>Fund risk</i>	0.0132 (0.38)	0.0677** (1.97)	−0.0186 (−1.11)	−0.0836 (−1.35)	−0.1033 (−1.23)	−0.0467 (−1.42)	−0.1018* (−1.68)	−0.1226 (−1.44)
<i>Expense ratio</i>	0.1215 (1.09)	0.1335 (1.57)	−0.0460 (−0.55)	0.0974 (0.42)	0.3688 (0.87)	0.1252 (1.11)	0.0679 (0.29)	0.3108 (0.75)
<i>Turnover</i>	−0.0024*** (−4.72)	−0.0023*** (−5.56)	−0.0018*** (−4.62)	−0.0030*** (−3.08)	−0.0039** (−2.39)	−0.0023*** (−4.29)	−0.0029*** (−2.85)	−0.0035** (−2.08)
<i>Fund age</i>	−0.0143*** (−17.59)	−0.0144*** (−22.72)	−0.0098*** (−16.71)	−0.0193*** (−10.14)	−0.0066* (−1.95)	−0.0143*** (−17.05)	−0.0190*** (−9.91)	−0.0057* (−1.78)
<i>No. of managers</i>	−0.0008 (−1.00)	−0.0007 (−1.26)	−0.0007 (−1.24)	0.0013 (0.75)	−0.0009 (−0.33)	−0.0007 (−0.99)	0.0014 (0.84)	−0.0005 (−0.20)
<i>Prior experience</i>	−0.0052*** (−2.58)	−0.0045*** (−2.86)	−0.0051*** (−3.27)	−0.0033 (−1.08)	0.0013 (0.24)	−0.0052*** (−2.61)	−0.0040 (−1.33)	0.0014 (0.25)
<i>Lagged flow</i>			0.2390*** (16.95)					
Observations	51,368	51,368	51,362	13,591	4262	51,368	13,591	4262
Adjusted R ²	0.0520	0.0643	0.1016	0.0569	0.0714	0.0539	0.0604	0.0773
Category FE	YES	NO	NO	YES	YES	YES	YES	YES
Yr FE	YES	NO	NO	YES	YES	YES	YES	YES
Category × Yr FE	NO	YES	NO	NO	NO	NO	NO	NO

and distinguish this form of trust from the last component of flows unrelated to past performance, which we call “endowed trust.” It is endowed because the flows to home-linked funds follow regardless of the actions associated with their home-linked managers (Gennaioli et al., 2015). Our analysis of trust and fund flows follows in several steps. We begin our analysis by testing whether home-linked funds attract relatively more fund flows than unlinked funds and allow for the salience of home-linkage to differ among Global, Regional, and Country Funds. These different investor flows for home-linked funds are then conditioned in a series of tests on past fund performance, including asymmetrically for past positive/negative returns, on past changes in home-country bias levels, and on manager turnover events.

5.1. Home-linked managers and fund flows

In Table 7, we report on panel regressions of monthly fund flows of home-linked and unlinked funds. The regression specifications include standard variables used in the mutual fund literature to predict fund-flows: Fund size, Fund return (cumulative past 12-month), Fund risk, Ex-

pense ratio, Turnover, Fund age, and Number of managers on the management team. Models (1) to (3) examine different specifications for Global Funds. We consider lagged cumulative past 12-month fund flows as an independent variable to alleviate concerns regarding fund-specific omitted variables that may be related to flows. When we exclude Lagged flow, we use fund Category and Year fixed effects or Category × Yr fixed effects. Models (4) and (5) extend the specification of Model (1) to Regional and Country funds. As can be expected from prior literature, Fund flows are positively and reliably associated with past performance as captured by Fund returns. Turnover and Fund Age are negatively related to flows, as previous research has shown. There is no empirical link between fund size and flows, except among the Country funds, for which it is negative. Similarly, we find no reliable evidence that flows are correlated with Expense ratio or the number of managers on the team (Patel and Sarkissian, 2017).

We do find that the coefficient on the home-linked fund dummy is significantly positively related to fund flows for all fund groups and specifications. The estimates increase as the breadth of the geographic objective becomes narrower, from Global to Regional and then to Country funds.

These estimates are large in economic magnitude. The coefficient of 0.0075 among Country funds in Model (5), for example, implies annual fund flows are 9.38 percentage points higher for a fund that is managed by home-linked managers, which is a meaningful increase compared to the mean fund flow of 8% per year (Panel B, Table 1). The coefficient for Model (4) on Regional funds is 0.0052 (robust *t*-statistic of 2.28) and implies annual fund flows are 6.42 percentage points higher for home-linked funds, while Model (1) for Global funds has a coefficient of 0.0023 (robust *t*-statistic of 2.19) and implies annual fund flows are 2.80 percentage points higher for home-linked funds.

5.2. Earned versus endowed trust: flow-performance sensitivity of home-linked funds

We next study how fund flows respond to past fund performance. The literature on flow-performance sensitivity often focuses on the fund manager's risk-taking incentives (Chevalier and Ellison, 1997; Sirri and Tufano, 1998) as they find funds seem to react more strongly to both extreme positive and extreme negative performance than to average past performance. Our motivation, however, is to uncover a role for trust associated with home-linked managers and their funds. According to Gennaioli et al. (2015), trust may reduce an investor's subjective perception of the risk of investments. If trust in the home-linked manager is an important determinant of how investors choose funds, we could expect the home-linked fund's past performance to have a smaller impact on fund flows relative to unlinked fund performance. In this case, we might also predict the attenuated flow-performance sensitivity is derived primarily from performance on the downside, as investors stick with a troubled fund led by a trusted home-linked manager.

There is a competing interpretation, however. Trust may not simply be “endowed” to a home-linked manager, but rather derived from their past performance or actions that enhance it. As such, “personalized” trust is targeted toward a well-identified entity, as Guiso et al. (2004, 2008) define. We call this latter form of trust as “earned trust.” If investors have priors that home-linked managers have an informational advantage in or even greater familiarity with local markets, evidence of superior past performance linked to fund positions in home-country stocks can confirm and reinforce their priors and inspire them to invest even more in the fund. This form of earned trust may be associated with *amplified*, not dampened, sensitivity of fund flows to past positive fund performance. When home-linked managers experience past superior performance, it reinforces investors' beliefs that they are informed, so such earned trust increases flow-performance sensitivity. But when home-linked managers experience poor performance, investors might give them more leeway with endowed trust and they do not redeem their shares quite as fast, so flow-performance sensitivity diminishes. We next test for endowed versus earned trust.

In Models (6) to (8) of Table 7, we estimate panel regressions similar to fund flow regressions in Models (1) to (5), except now we also interact the home-linked manager

dummy with fund performance measured by its lagged 12-month fund return. Thus, the coefficients for the home-linked fund dummy in Models (6) to (8) estimate the fund flows attracted by home-linked managers insensitive to past fund performance, which reflects the endowed trust. The coefficient for the home-linked fund dummy is 0.0019 and weakly significant in Model (6) for the Global funds. In Models (7) and (8), the coefficients for the home-linked fund dummy are 0.0024 for the Regional funds and 0.0035 for the Country funds. Both are insignificant. Endowed trust for home-linked managers appears to be less relevant for the Regional and Country funds. Meanwhile, the coefficient on the interactive variable is insignificant for Global funds (0.0011) but positive and significant for Regional and Country funds. The evidence of amplified flow-performance sensitivity among the Regional and Country funds implies earned trust matters for these funds, for which the salience of a home-linked manager's hiring and actions is greater. The coefficients on the other control variables are also mostly unchanged.

Since a home-linked manager's home-field advantage plays a more critical role in determining fund performance for the Regional/Country funds than for the Global funds, investors might rely more on past fund performance to learn about the skills of the home-linked manager and thus build their trust. In this way, earned trust appears to be more salient for Regional/Country funds. However, this working hypothesis mandates several additional tests among Global funds inspired by conceptual foundations in the earlier economics literature on trust. Indeed, there may be conditions with respect to the composition of the management team or with respect to market conditions in which earned trust may become more salient for Global funds in a way that it is for Regional/Country funds. For example, when we test for flow-return sensitivity among only those Global funds for which home-linked managers constitute the majority of the management team and for which their home-country stock holdings represent at least 30% portfolio weight of the fund, a significant amplified relationship arises for them in a way consistent with Regional/Country funds. In more volatile market conditions with a greater perception of riskiness among clients of international funds, Gennaioli et al. (2015) would predict that trust unrelated to past performance is key. We find that the incremental flow-return sensitivity for home-linked Global and Regional/Country funds becomes insignificant during months above the median level of return volatility for the MSCI World Index excluding the U.S. and that it is reliably positive even for global funds in low-volatility months. The findings for these additional tests are unreported but available in the internet appendix.

In Table 8, we conduct several additional tests to understand the patterns in fund flows for home-linked and unlinked managers as these tests are related to endowed trust versus earned trust and conditioned on past performance or past actions. Panel A breaks down the flow-performance sensitivity into past cumulative 12-month returns performance, whether positive or negative and separately for Global, Regional and Country funds. Note that there are three times the number of observations associated with positive returns (38,158 fund-months for pos-

Table 8

Evaluating flow-performance and flow-bias sensitivities.

Results from two robustness tests using panel regression analysis are reported below. The dependent variable in fund-month panel regressions in Panels A and B is the monthly fund flows to active U.S. international equity mutual funds from 1991 to 2014. The dependent variable, $Flows_{i,t}$, is the flows to fund i during month t . *Home-linked* is a dummy variable which takes the value of one for funds with home-linked managers (*HLMgr*). *Fund return* is the cumulative past 12-month fund return. Panel A presents the flow-performance sensitivity as in Table 7, but classified by whether the past 12-month returns are positive or negative. Panel B presents fund-month panel regressions of monthly fund flows on the changes in home bias levels of the home-linked managers, but only for home-linked funds. Home bias level is the percentage of fund assets allocated to home-linked managers' home-country stocks minus the average percentage of fund assets allocated to the stocks in the same countries by all the funds in the same Morningstar category. *Change in home bias level* is the change in home bias level between the end of the previous quarter and the end of the quarter before the previous quarter. For brevity, we omit the coefficients on the same set of control variables in Table 7. FE denotes fixed effects, and standard errors are clustered at the fund and year level. *, **, and ***, represent significance at the 10%, 5%, and 1% levels, respectively.

	Global Funds		Regional Funds		Country Funds	
	Positive return	Negative return	Positive return	Negative return	Positive return	Negative return
Panel A: Flow-performance sensitivity for positive and negative fund returns.						
<i>Home-linked</i>	0.0011 (0.53)	−0.0035 (−1.54)	−0.0005 (−0.12)	−0.0009 (−0.19)	−0.0036 (−0.50)	−0.0072 (−0.95)
<i>Home-linked</i> × <i>Fund return</i>	0.0077 (0.91)	−0.0159* (−1.75)	0.0279** (2.23)	0.0035 (0.16)	0.0472** (2.11)	−0.0367 (−1.37)
<i>Fund return</i>	0.0487*** (9.39)	0.0413*** (7.58)	0.0253*** (3.55)	0.0327*** (2.71)	0.0340** (2.52)	0.0506*** (3.37)
Controls	YES	YES	YES	YES	YES	YES
Observations	38,158	13,210	9426	4165	2920	1342
Adjusted R ²	0.0565	0.0328	0.0635	0.0505	0.0808	0.0733
Category FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Panel B: Changes in home-country bias levels and fund flows to home-linked funds.						
	Global Funds		Regional Funds		Country Funds	
<i>Change in home bias level</i>	0.0460 (1.21)		0.1668*** (2.92)		0.2044** (2.35)	
<i>Fund return</i>	0.0412*** (7.80)		0.0403*** (4.47)		0.0538*** (3.95)	
Controls	YES		YES		YES	
Observations	12,723		3589		1466	
Adjusted R ²	0.0469		0.0780		0.1075	
Category FE	YES		YES		YES	
Year FE	YES		YES		YES	

itive returns versus 13,210 for negative returns among Global funds). The coefficients on the control variables are suppressed for brevity. The positive coefficients on past fund return are robust across all six specifications. For the Global funds, the coefficients on the home-linked fund dummy variable, whether for positive or negative past fund returns are now insignificant. The coefficient on the interactive variable is insignificant on positive past fund return, whereas the coefficient is negative (−0.0159), larger, and weakly significant (robust t -statistic of −1.75) on negative past fund return. Fund flows are less sensitive to negative past fund performance among home-linked Global fund managers than unlinked managers, which implies an important role of endowed trust. For Regional and Country funds, we see that the significant positive coefficients on *Home-linked* × *Fund return* in Models (7) and (8) in Table 7 are concentrated on past positive returns (0.0279 for Regional funds, 0.0472 for Country funds). We interpret this finding as robust evidence in favor of our conjecture about earned trust with fund flows that are associated with past returns in an amplified way among home-linked funds.

We next evaluate whether the actions of home-linked managers in revealing a home-country bias might also

reinforce investors' beliefs that they are informed. Such earned trust would result in increased flow-bias sensitivity among home-linked managers. Panel B of Table 8 presents fund-month panel regressions of monthly fund flows on the one-quarter-lagged changes in home-bias levels, but only of the home-linked managers. The sample sizes in these regressions represent about 30% of the samples in the equivalent specifications in Table 7 (Models (1), (4), and (5) for Global, Regional and Country funds, respectively). Coefficients on control variables are again suppressed for brevity of presentation. The coefficients on *Change in home-bias level* are positive and significant for Regional and Country funds, which again confirms the importance of earned trust in explaining the flows attracted by home-linked managers among these funds.¹⁶

¹⁶ Our conjecture about earned trust links flows to home-linked managers' performance and bias. We also ask whether performance is also linked to the extent of home-country bias. Test results in the internet appendix show there is no significant correlation between home-linked managers' bias and performance. Meanwhile, we find that for home-linked funds, the effects of fund past performance and bias on flows are not significantly mutually reinforcing. So, investors seem to use past fund performance and the extent of country-home bias independently to update

As in Section 3, we address concerns about causality by examining changes in fund flows around the turnover events for these home-linked managers. When home-linked managers are appointed (and when they depart a team), we can compare the changes in fund flows in event time around the home-linked managers' departures (new appointments) to changes in fund flows around unlinked manager appointments (departures). We first use a difference-in-difference analysis to compare fund flows around different types of turnover events to potentially control for confounding variables that drive fund manager turnover events, in general. Our sample has 29 events in which a previously unlinked fund picks up an entire team of home-linked managers and 521 pick-ups without any home-linked managers; there are 28 events in which funds with a team of home-linked managers is replaced by an entire team of unlinked managers, and a benchmark set of 1653 events involving funds engaged in replacements without any home-linked managers. In unreported tests in the internet appendix, our pooled regression of 24 fund-months centered around the manager pick-up events shows a reliably positive coefficient on the interactive variable of post-turnover and home-linked manager. This implies that positive fund flows occurred in the months following the home-linked manager's hiring. The corresponding coefficient in the panel regression of departures is negative at -0.0497 , with a robust t -statistic of -2.01 . This finding implies fund flows decline when home-linked managers leave the fund.¹⁷

Even though the turnover results suggest home-linked managers as the reason for the change in fund flows, it is possible that the turnovers arise due to partial anticipation about changes in fund flows due to other contaminating events. We address this concern by limiting the sample to "quasi-exogenous" turnover events by considering only the sub-sample of turnover events without prior negative performance. We find that our results remain unchanged. These results are also tabulated in the internet appendix.

5.3. Evidence from a quasi-natural experiment

In this section, we propose a quasi-natural experiment to shed additional light on whether funds with higher flows are more likely to hire home-linked managers or whether investor flows react to the appointment of home-linked managers. The event we examine is the November 2012 meeting of the 18th National Congress of the Communist Party of China, and our focus is on the China Region funds. There are relatively few such funds in our sample, which limits the power of our experiment. But the

identifying assumption for salience of local market information is that although major public announcements were fully anticipated, the content of those announcements were unknown. Indeed, a large number of announcements regarding the new leadership team of the party as well as important changes in economic policy were made soon after the meeting concluded.¹⁸ If home-linked managers who grew up in China are perceived to have a superior ability to interpret the economic announcements and reports released right after the 18th National Congress or if they are expected to have had access to privileged information by means of social networks, then we expect significant increases in flows to China Region funds managed by home-linked managers (Chinese managers) relative to other unlinked China Region funds during the meetings.

We use a standard difference-in-difference test around this event to examine the hypothesis. We use the year before the congressional meeting as the control period (months $t-1$ to $t-12$ relative to the meeting date), and the six months starting in the month t of the meeting as the event period (months t to $t + 5$). China Region funds without home-linked managers are our control group, and China Region funds with home-linked managers compose our treatment group. The regression specification involves 195 fund-months across 14 unique funds, ten of which have home-linked managers. Fig. 3 exhibits the findings. Flows to China Region funds run by home-linked managers (black bars) experienced a 6.0% monthly increase for the six months after the meeting. Compared to the average monthly flows (-1.42%) for China funds without home-linked managers (gray bars), this is an economically large shift (see regression specification embedded in the figure). The differential gap in monthly flows to home-linked funds relative to unlinked funds widens dramatically in October, November, December, and especially January following the close of Congress in November. No large differences arise in the flows between China Region funds with and without home-linked managers until the month before the meeting.

Together, these findings on higher fund flows to home-linked managers, on their amplified flow-performance sensitivity, and even on their revealed flow-country-bias sensitivity implies that there is more than just an information advantage associated with their superior performance and their overweight home-country holdings and positions. Indeed, these findings offer support for our conjecture that investors trust these home-linked managers and that a component of this trust is earned through their past performance and actions.

6. Potential equilibrium explanations for hiring home-linked managers

Our results on the superior performance of, and heightened fund flows to, these home-linked funds

their beliefs that home-linked managers are informed and build their trust.

¹⁷ We also conduct the analysis by only focusing on the hiring and resignations of home-linked managers and include fund fixed effects in the regression. These are simpler time-series tests of post- compared to pre-turnover events among home-linked managers. The magnitudes of the impact of hiring and resignations of home-linked managers on fund flows are very similar. And they are not dissimilar in magnitude to those findings in Kostovetsky (2016) of declines in flows of 7% of fund assets in the year following changes in the ownership of fund management companies, events that he likens to declines in trust.

¹⁸ Details about the members of the Standing Committee of the Political Bureau of the Central Committee of the Communist Party of China, including General Secretary Xi Jinping, were announced, and the full text of the Party's Constitution adopted on November 14, 2012 details economic priorities as well as the party's organizational system.

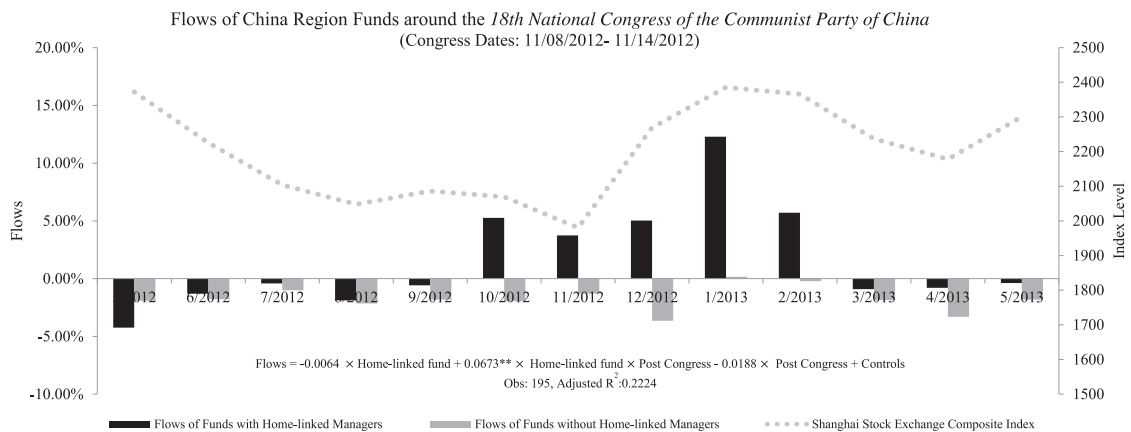


Fig. 3. Flows to U.S. China Region funds around the 18th National Congress of the Communist Party of China. This figure shows the average monthly fund flows of active U.S. China Region funds around the 18th National Congress of the Communist Party of China. The 18th National Congress was held from November 8 to 14, 2012. The black bars represent the average monthly flows to China Region funds with home-linked Chinese managers (left-hand axis); the gray bars represent the average monthly flows to China Region funds without home-linked Chinese managers (left-hand axis). The dotted line (right-hand axis) represents the level of Shanghai Stock Exchange Composite Index. At the bottom of the figure, we report results of a fund-month panel regression analysis of flows to China Region funds regressed on a dummy variable (*Home-linked fund*) which takes the value of one for funds with home-linked managers, another dummy variable which takes the value of zero for the twelve months before the November Congress and one for the six months of and following the Congress (*Post Congress*), and an interactive dummy variable (*Home-linked fund* × *Post Congress*). We control for the same set of control variables in Table 7 and the lagged monthly returns of the Shanghai Stock Exchange Composite Index. *, **, and ***, represent significance at the 10%, 5%, and 1% levels, respectively.

raises an important equilibrium question: why do so many U.S. international mutual funds not choose to hire home-linked managers? We pursue several explanations.

6.1. Measuring the value added of home-linked managers

One reason that funds might choose not to hire home-linked managers is that their tendency to bias their home-country holdings toward their respective countries of origin may limit the size of the fund. Conventional wisdom suggests that investors should widely diversify their holdings across countries and potentially even industries to reduce their portfolios' idiosyncratic risks relative to passive benchmarks that guide their decisions. While our findings to now suggest that it is skilled managers who choose to hold concentrated portfolios (Kacperczyk et al., 2005) by means of appropriately home-country-biased positions, it is also possible that some managers with lower investment abilities may have an incentive to adopt volatile investment strategies, by means of an overly concentrated, excessively large overweighting of home-country stocks that is associated with worse performance and lower subsequent investor fund flows. This may limit the size of the fund. Since fund managers are compensated not according to their gross alpha, but according to their *value added*, or the gross alpha multiplied by the assets under management (Berk and Van Binsbergen, 2015), one possibility is that notwithstanding the superior performance on home-country stocks of home-linked managers, their value added may in effect be lower.

Table 9 reports fund-month panel regressions of the value-added measure of Berk and Van Binsbergen (2015) for Global, Regional and Country funds in Mod-

els (1), (5), and (9), respectively. We include a number of control variables, such as Fund flow, Expense ratio, Turnover, Fund age, and the number of managers, along with Category and Year fixed effects. *Value added* is Fund size (in millions of dollars, as of the end of the previous month) multiplied by *Gross alpha*, which is the monthly raw fund return in that month minus the monthly return of the index assigned to the Morningstar Category. We find the coefficient on *HLMgr*, a dummy variable for home-linked funds, is insignificantly different from zero for Global funds, and yet significantly positive for Regional and Country funds (Model (5)'s coefficient of 1.0520 has a robust *t*-statistic of 2.30). These findings are consistent with those in Table 5 and we can confidently reject the notion that excessive home-country-biased positions limit the fund's asset base.

We add additional fund-month panel regression specifications for each category of funds in which we examine other related components of compensation, such as *Fund size* (Models (2), (6), and (10)), the fund's *Expense ratio* (Models (3), (7), and (11)), and finally *Total compensation* (in Models (4), (8), and (12)), which we compute as the product of the *Fund size* (as of the end of the previous month) and *Expense ratio*. These additional specifications require some adjustments in terms of which fund-specific control variables we consider (e.g., *Fund size*, *Fund return*, and *Fund risk* are excluded for the *Value added* specification as they feature in the construction of the dependent variable). We confirm that the Regional and Country funds with home-linked managers are larger in assets under management, not smaller. They have no different expense ratios from unlinked funds, and overall compensation is higher, likely due to the larger asset bases.

Table 9

Value added, fund size, expense ratio, and total compensation.

We report results of fund-month panel regressions of value added, fund size, expense ratio, and total compensation. The sample consists of active U.S. international equity mutual funds from 1991 to 2014. *Value added* is a performance measure proposed in Berk and Van Binsbergen (2015) that equals *Fund size* (in \$millions) multiplied by *Gross alpha*. *Gross alpha* is the monthly raw fund return minus the monthly return of the index assigned to the Morningstar category. *Expense ratio* is the fund's annual expense ratio. *Total compensation* is computed as *Fund size* (in \$millions) multiplied by 1/12th of the fund's annual expense ratio. *Home-linked* is a dummy variable which takes the value of one for funds with home-linked managers. *Fund size*, *Turnover*, *Fund age*, and *No. of managers* are transformed into natural logs. See Table 1 for variable definitions. FE denotes fixed effects. *t*-statistics are reported in parentheses. Standard errors are clustered at the fund and year level. For expense ratio regressions, standard errors are clustered at the fund level. *, **, and ***, represent significance at the 10%, 5%, and 1% levels, respectively.

	Global Funds				Regional Funds				Country Funds			
	Value added (1)	Fund size (2)	Expense ratio (3)	Total compensation (4)	Value added (5)	Fund size (6)	Expense ratio (7)	Total compensation (8)	Value added (9)	Fund size (10)	Expense ratio (11)	Total compensation (12)
<i>Home-linked</i>	0.1563 (0.52)	−0.0130 (−0.34)	0.0002 (0.83)	0.0102 (0.25)	1.0520** (2.30)	0.2387*** (3.03)	0.0003 (0.64)	0.1476* (1.90)	1.0713** (2.03)	0.5412*** (4.11)	0.0006 (0.79)	0.2891*** (4.12)
<i>Fund size</i>			−0.0008*** (−8.82)				−0.0005*** (−3.37)				−0.0005 (−1.62)	
<i>Fund return</i>		0.7626*** (11.17)	0.0009*** (5.04)	0.4696*** (6.30)		0.8236*** (5.97)	0.0000 (0.08)	0.5369*** (5.93)		0.7757*** (2.83)	0.0002 (0.40)	0.1857* (1.89)
<i>Fund risk</i>		−0.1577 (−0.15)	0.0006 (0.12)	−1.5974 (−1.46)		−2.1007 (−1.09)	−0.0229*** (−3.19)	−2.5431** (−2.26)		−2.7154 (−1.08)	−0.0113 (−1.25)	−0.6179 (−0.66)
<i>Fund flow</i>	2.5730 (0.99)	1.0711*** (8.13)	−0.0005 (−1.07)	1.0068*** (6.04)	4.4350*** (2.82)	1.3650*** (5.85)	−0.0003 (−0.43)	0.4579*** (3.27)	2.9390 (1.12)	0.3588 (0.98)	−0.0003 (−0.27)	0.1368 (1.14)
<i>Expense ratio</i>	−102.524*** (−2.93)	−83.438*** (−18.99)			−93.954 (−1.50)	−50.879*** (−5.02)			−22.059 (−0.39)	−27.467* (−1.91)		
<i>Turnover</i>	−0.4627*** (−3.30)	−0.2328*** (−11.37)	0.0007*** (5.55)	−0.2176*** (−11.32)	−0.3956* (−1.77)	−0.2254*** (−4.72)	0.0011*** (5.00)	−0.2108*** (−7.15)	−0.3088 (−1.20)	0.0325 (0.42)	0.0013*** (3.61)	−0.0715** (−2.45)
<i>Fund age</i>	0.8853*** (3.86)	0.7899*** (29.71)	0.0005** (2.26)	0.5737*** (21.37)	0.7981** (2.47)	1.3533*** (24.08)	0.0003 (0.71)	0.6792*** (14.18)	0.1316 (0.46)	1.5259*** (18.49)	−0.0002 (−0.34)	0.3371*** (10.47)
<i>No. of managers</i>	−0.3463 (−1.35)	0.0522* (1.76)	−0.0005** (−2.21)	0.0258 (0.90)	−0.5093 (−1.17)	0.2364*** (3.45)	−0.0006 (−1.39)	0.0098 (0.16)	−0.1900 (−0.35)	0.4336*** (3.23)	−0.0013 (−1.40)	−0.0324 (−0.47)
Observations	51,903	51,467	51,593	51,593	13,843	13,628	13,698	13,698	4338	4280	4314	4314
Adjusted R ²	0.0033	0.2763	0.3417	0.1276	0.0043	0.4538	0.3472	0.2456	0.0120	0.5180	0.4194	0.2813
Category FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

6.2. Country-of-origin effects for home-linked manager selection

One important series of findings in our paper to now associate the home-biased holdings of home-linked managers as well as the performance gains of those holdings with several country attributes, including the level of economic development, of corporate transparency, and of the cultural distance to the U.S. of the home-country of the home-linked manager. The overweighting and the magnitude of the performance gains are larger for home-linked managers from emerging markets, from countries with less transparency, and from countries that are more culturally different than the U.S. In this final section, we explore this country-of-origin conjecture more fully with an eye to explaining why home-linked managers are selected by the funds that hire them and perhaps why other funds do not.

To explain the presence and numbers of home-linked managers across countries and time, our tests come in two forms: (a) at the *extensive* margin, in which we estimate logistic regression models across country-quarters with a dependent variable that equals one if at least one home-linked manager originates from that country; and (b) at the *intensive* margin, in which we estimate a panel regression of the Log number of home-linked managers from a country, conditional on the existence of at least one in that given country-quarter. What we ask is the extent to which country attributes enhance the explanatory power of these respective specifications over and above a set of control variables. A key step for the extensive-margin tests is to build a benchmark set of country-quarters in which there may be no home-linked manager for that country at a major U.S. international fund, but there could have been given the level of investment interest in that country. To identify a viable sample, we obtained data from Treasury International Capital and its annual survey of foreign residents' portfolio holdings of U.S. securities. We identify those countries as of viable interest among U.S. residents if a country represents at least 0.5% of their overall foreign holdings in a given year. For the extensive-margin tests, we estimate a logit model separately for Global, Regional and Country funds, with quarter fixed effects and for which we report the pseudo- R^2 . For intensive-margin tests, we report OLS estimates of the panel regressions with quarter fixed effects and adjusted R^2 , but we also include increases in adjusted R^2 of the incremental explanatory power from key variables highlighted in those specifications.

There are two specifications each. Four control variables are included in every one of them: a country's trailing 12-month index return (from Datastream), GDP per capita, Population (in millions) in the prevailing year, and the actual U.S. resident holdings of corporate equity in millions of U.S. dollars. In one of the two specifications, we include a country's cultural distance from the U.S., using Hofstede's six measures (2001) as a proxy for demand forces at work in guiding the selection of home-linked managers, and the number of CFA charter-holders from a given country in the prevailing year as a proxy for supply constraints that may restrict the ability of a given fund to hire a home-linked manager. Our country-of-origin conjecture would predict a positive coefficient on cultural dis-

tance (greater distance, more demand) and a positive coefficient on No. of CFAs (more graduating charter-holders, greater supply of home-linked managers available). A second specification adds a series of country-level measures as demand proxies for the quality of institutions across 58 countries from 2000 to 2014 from Karolyi (2015). These standardized indexes reflect the quality of the investment environment for foreign portfolio investors, including Corporate transparency (a measure of governance and reporting quality), Foreign accessibility (openness to foreign investors), Market capacity (the size of the investable market), Operational efficiency (the liquidity and quality of the trading systems in a country), Political stability (the fractionalization of political decision making), and Investor protections (the legal protections afforded to minority investors). For all six indexes, the higher the score, the better the quality of the investment environment is. The latter specification is separate as it significantly constrains the sample given the availability of the six measures (only 15 of the 24 years in our analysis). We expect negative coefficients for these indexes as demand proxies for our country-of-origin conjecture as we expect the demand for home-linked managers to be higher for more complex and problematic home-country environments.

Table 10 presents the findings. Across all 12 specifications, the coefficients for the control variables are as expected: there is a greater likelihood of a home-linked manager and more in numbers conditional on at least one for countries with higher GDP per capita, larger populations, and higher U.S. resident holdings. The coefficient for *Country market return* is just as often negative (or below one for the odds ratios reported in the logit models) as positive (or above one). The expected positive and significant coefficient on the number of CFA charter-holders arises for the extensive-margin tests for Global funds, those for Regional funds are mixed, and we see one surprisingly negative coefficient among Country funds; a similar pattern arises for the intensive-margin tests. Supply constraints as proxied by the number of charter-holders graduating in a given year from a country appear to matter more for Global funds with a broader mandate than among those in which the salience of their country-of-origin information advantages or greater familiarity matter more. Surprisingly, we see that cultural distance as a demand proxy reveals a negative coefficient among Global funds in both the extensive-and intensive-margin tests. The findings are mixed among Regional/Country funds. Part of the problem is that Hofstede's (2001) indicators of national culture are time-invariant, which limits their explanatory power in a panel setting.

In the specifications including the country-level measures of institutional quality as demand proxies, we uncover reliable positive coefficients for Political stability and Investor Protections in the extensive-margin tests and across all types of funds. We find mixed evidence for Corporate transparency, Foreign accessibility, and Market capacity across fund types: more home-linked managers associated with countries with poorer governance standards and openness to foreign investors are hired in Regional/Country funds, but not so in Global funds, more associated with countries with less market capacity con-

Table 10

Explaining the presence and numbers of home-linked managers across countries and time.

We analyze the presence of home-linked managers in active U.S. international equity mutual funds from 1991 to 2014. We include all country-quarters during which U.S. residents hold at least 0.5% of their overall foreign holdings in a given country (Source: Treasury International Capital [website](#)). Extensive-margin tests in the first six columns include a dependent variable of a dummy variable taking the value of one if at least one home-linked manager originates from that country in a quarter. Marginal effects coefficients are reported from logit regressions. The last six columns are intensive- margin tests of panel regressions of the log number of home-linked managers from a country in a quarter conditional on the sample of funds with at least one home-linked manager in that country-quarter. We count each manager once. *Corporate transparency*, *Foreign accessibility*, *Market capacity*, *Operational efficiency*, *Political stability*, and *Investor protections* are standardized indices in Karolyi (2015). Higher scores indicate more transparency, greater capacity, efficiency, stability, and better protections. *Cultural Distance* is the Euclidean distance measure based on the six cultural dimensions proposed by Hofstede (2001). *No. of CFAs* is the number of CFA chart-holders in a country scaled by the country's population in millions. *GDP per capita* is a country's GDP in the U.S. dollar divided by its population. *Population* is a country's population in millions. *Country market return* is the cumulative returns of a country's value-weighted Datastream market index in the previous 12 months. *U.S. resident holdings* is the market value of equity held in a country by U.S. residents in US\$ millions. *Population*, *GDP per capita*, and *U.S. resident holdings* are in natural logs. Δ Adjusted R^2 (Supply) shows the change in adjusted R^2 when adding No. of CFA in regressions. Δ Adjusted R^2 (Demand) shows the change in adjusted R^2 when adding cultural distance and/or the six indices in regressions. FE denotes fixed effects. Robust t -statistics are in parentheses. *, **, and ***, represent significance at the 10%, 5%, and 1% levels, respectively.

	Extensive Margin (at least one home-linked manager from a country)						Intensive Margin (Log number of home-linked managers from a country)					
	Global Funds		Regional Funds		Country Funds		Global Funds		Regional Funds		Country Funds	
<i>Cultural distance</i>	0.9739*** (−11.09)		1.0032 (1.24)		1.0039 (1.62)		−0.0125*** (−16.52)		0.0046*** (5.68)		−0.0020 (−1.42)	
<i>Corporate transparency</i>		2.4148*** (9.16)		0.8306** (−2.20)		0.5168*** (−7.18)		−0.0623*** (−2.92)		−0.1220*** (−4.16)		−0.2444*** (−2.79)
<i>Foreign accessibility</i>		0.9179 (−0.55)		0.1374*** (−9.80)		0.3852*** (−4.56)		0.1858*** (5.11)		−0.5092*** (−6.38)		−0.6756*** (−4.94)
<i>Market capacity</i>		0.9086 (−0.82)		1.6084*** (3.81)		2.7647*** (6.61)		−0.1158*** (−4.23)		0.2170*** (5.95)		0.1443 (1.35)
<i>Operational efficiency</i>		0.5974*** (−3.57)		0.6341*** (−3.42)		0.7329* (−1.67)		0.1676*** (6.64)		−0.0480 (−1.21)		0.2215*** (3.67)
<i>Political stability</i>		2.5881*** (4.69)		4.4000*** (6.95)		12.7718*** (10.19)		−0.0143 (−0.25)		−0.0661 (−0.80)		−0.5569*** (−5.93)
<i>Investor protections</i>		4.8275*** (14.27)		5.9295*** (9.35)		12.2127*** (10.17)		0.6239*** (18.26)		0.1652*** (2.76)		0.1050 (0.96)
<i>No. of CFAs</i>	1.0045*** (8.97)	1.0017** (2.05)	1.0049*** (8.29)	1.0011 (1.49)	1.0034*** (5.38)	0.9973*** (−3.56)	0.0021*** (14.44)	0.0015*** (7.34)	0.0002 (1.09)	−0.0004 (−1.42)	0.0004** (2.11)	−0.0015** (−2.11)
<i>GDP per capita</i>	1.6831*** (4.33)	3.6821*** (6.03)	1.1508 (1.05)	19.3210*** (9.47)	0.9789 (−0.13)	19.2074*** (8.69)	0.1791*** (5.23)	0.5409*** (12.49)	−0.0320 (−0.57)	0.4205*** (6.24)	−0.0384 (−0.54)	0.1810 (1.36)
<i>Population</i>	2.4977*** (9.93)	9.1187*** (14.97)	2.3101*** (8.63)	18.0020*** (11.34)	1.9321*** (6.61)	41.4639*** (11.67)	0.4683*** (17.04)	0.8357*** (21.38)	0.1625*** (3.81)	0.2970*** (4.37)	0.1458*** (2.67)	−0.3768*** (−3.29)
<i>Country market return</i>	0.6150** (−1.98)	0.6480 (−1.06)	0.9588 (−0.31)	2.7158** (2.08)	1.2562* (1.69)	5.0527*** (2.68)	0.1358* (1.90)	0.0510 (0.70)	0.2043* (1.70)	0.0755 (0.64)	−0.2522** (−2.00)	−0.4164*** (−3.33)
<i>U.S. resident holdings</i>	1.2975*** (2.64)	0.8339 (−1.36)	1.7100*** (4.26)	0.2202*** (−5.81)	2.8223*** (5.86)	0.1279*** (−6.55)	0.1170*** (6.41)	−0.0993*** (−3.76)	0.1926*** (6.73)	0.0503 (0.94)	0.0720** (2.08)	0.3180*** (3.13)
Observations	2284	1499	2284	1499	2284	1499	1436	1194	635	523	397	329
Adjusted R^2 (Pseudo R^2)	0.3077	0.3915	0.2621	0.4206	0.2653	0.4465	0.4931	0.6238	0.3656	0.5475	0.2337	0.4541
Quarter FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Δ Adjusted R^2 (Supply)							0.0530	0.0153	−0.0004	0.0005	0.0035	0.0061
Δ Adjusted R^2 (Demand)							0.0938	0.2245	0.0233	0.2052	0.0026	0.2230

straints in Regional/Country funds, but not so among Global funds.

In the intensive-margin tests, the numbers of home-linked managers among those country-quarters with at least one such manager are negatively correlated with corporate transparency and with foreign accessibility (for Regional/Country funds only), but are positively (as expected) correlated with demand related to market capacity (for Regional/Country funds only) and with investor protections (for Global and Regional funds). There appear to be different motivating country-of-origin forces at work in the hiring decisions among home-linked managers for Global funds as distinct from Regional/Country funds. For Regional/Country funds, home-linked managers' home-country stocks represent an important component of the overall investment mandate. Their home-field advantage can, to a larger extent, alter the performance of the overall fund portfolio and the flow-performance sensitivity. Regional/Country funds have a stronger motivation to hire home-linked managers and this may be why we observe different motivating forces at work. One important finding to note, however, is that the demand proxies as a group appear to be economically important: the incremental adjusted R^2 (reported in the bottom two rows as Δ Adjusted R^2) associated with the demand proxies are much higher than that associated with supply proxy (*No. of CFAs*).

Overall, there is considerable evidence in support of important country-of-origin effects in how home-linked managers are hired across U.S. international mutual funds. We acknowledge that this analysis cannot represent a complete selection analysis as there are many unobservable forces at work in the endogenous selection and endogenous variation that we miss.¹⁹ Rather, we offer our evidence on country-of-origin effects as potentially important components of what might be a more complete selection model.

7. Conclusion

Consistent with the interest to diversify geographically and lower barriers to investing worldwide, the U.S. international mutual fund industry has grown to over \$2 trillion in assets under management today. In this paper, we uncover a new finding that a significant number of these

international funds hire managers who grew up in a country linked to the fund's investment mandate. These home-linked managers reveal a home-country bias in the assets they help manage and they perform better than unlinked peer managers with similar investment objectives. It is possible that the advantage arises from their building up an initial familiarity of the local market, its capital market environment and customs (Covrig et al., 2007). However, our security-level tests provide robust evidence of much more than just greater familiarity – notably, an information advantage arises with respect to the specific home-country stocks in which they invest. The advantages are stronger for home-linked managers from emerging markets, from countries that are culturally more distant from the U.S., and from countries that have weaker corporate governance and disclosure rules. And we are able to rule out informational advantages that arise from country-momentum or timing strategies, advantages that arise from social networks or professional connections associated with work experience in those markets, or from unconditionally superior security selection skills as the stock holdings outside their home country do not perform as well. Most importantly, our paper provides evidence from the study of investor flows associated with home-linked funds that home-linked managers offer more than just an endowed information advantage. Our findings on the incremental flow-performance and flow-home-country-bias sensitivities of home-linked managers relative to their unlinked peers suggest a form of trust that is built or earned by these managers.

Our paper's new findings are relevant to the international finance and asset management scholars, but they contribute most importantly to studies about how funds invest internationally.²⁰ Several recent papers emphasize how international funds utilize information advantages to make such investments. Choi et al. (2017) find that returns to domestic institutions are higher when their portfolios are more concentrated, consistent with local informational advantage in international investments. Schumacher (2018) documents that funds invest internationally by concentrating specifically in industries that are large in their domestic market. Unlike these papers, our paper's main finding on the growing presence of home-linked managers among U.S. international funds implies that it may be more than just an information advantage or even greater familiarity that is reflected in the performance of their funds or the investor flows that follow. Trust, whether endowed or earned through past performance or past changes in positions, also appears to play an important role. We see potential for much additional work on this front.

¹⁹ The internet appendix exhibits results from an analysis of home-linked manager-fund matching as a partial explanation for the return performance of home-linked managers using a switching regression framework. Switching regression is a two-stage procedure. In the first stage, we model the selection of home-linked managers by fund attributes with two instrumental variables in which we show that there is evidence of selection bias based on the breadth of mandate of the funds and on the competition among peer category funds to hire them. We specify two second-stage models – one for funds with home-linked managers, and another for unlinked funds – and then evaluate the characteristics of the funds managed by home-linked managers in the unlinked manager regressions and those of the funds managed by unlinked managers in the home-linked manager regressions. We ask what the outcome would have been (e.g. Fama-French four-factor alpha) had the home-linked fund been managed by an unlinked manager. The instruments prove to be empirically valid, and the hypothetical improvements in alphas would have been 22 basis points per month lower for home-linked funds had they had the attributes of unlinked funds. These tests also suggest selection effects matter.

²⁰ Related research on the performance of asset managers with international mandates includes: Busse, Goyal, and Wahal (2014) that finds international funds do not generate positive alphas; Cremers, Ferreira, Matos, and Starks (2016) which shows how important a country's regulatory environment is for fund competition and how active they are; Karolyi, Ng, and Prasad (2020) which uncovers country-specific biases in foreign holdings among the “new wave” of investors from emerging markets, and Luo (2017) that shows global funds cater to the retail investors' home bias by overweighting the countries in which the fund is available for sale.

Our study also explores reasons behind the growth in international mutual funds and specifically why increasing numbers of them choose home-linked managers across countries and time. Robust country-of-origin effects appear to be at work. We show how the number of professionally qualified candidate fund managers originating from a country seems to bind on the supply side and further the unique challenges of investing in culturally unfamiliar, emerging markets with poor corporate governance rules and more foreign accessibility restrictions influence on the demand side. This finding, in particular, suggests a number of promising directions for further inquiry. Consider, for example, how U.S. investments in a foreign country are increasingly related to the number of residents in the U.S. originating from that country (Bhattacharya and Groznik, 2008). The choice of home-linked managers may very well be related to immigration trends in the U.S. Our findings should prompt new questions about how the trust in home-linked managers we reveal might have arisen in the first place. Perhaps the initially successful international funds are managed by home-linked managers, and other funds seek to mimic them by hiring managers with similar backgrounds. We leave it to future research to explore these important questions that undoubtedly lie behind our findings.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:[10.1016/j.jfineco.2021.11.002](https://doi.org/10.1016/j.jfineco.2021.11.002).

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