

Financial Product Design and Catering: Evidence from the Global Mutual Fund Industry

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November 12, 2016

Job Market Paper

Abstract

What drives delegated portfolio decisions? I provide novel evidence of catering-driven investments by examining a sample of international actively-managed equity mutual funds. Mutual funds cater to their investors' preference for "local" stocks, overweighting stocks headquartered in the client countries, i.e., countries where funds are sold, by 54% to 120% compared to their peers. I refer to this behavior as "client-country overweighting". Client-country overweighting is stronger in client countries where investors display stronger home bias and more pronounced in visible stocks. Client-country overweighting is not driven by the funds' familiarity bias or by an information advantage. The catering scheme helps funds attract investors, despite delivering underperforming portfolios. Overall, my results suggest that catering is an important driver for mutual funds' portfolio decisions, and that the catering-driven investment hurts fund performance.

JEL Classification: G15, G23.

Keywords: International finance, Behavioral finance, Mutual Funds, Portfolio Choice, Catering

* Tilburg University and CentER, M.Luo@tilburguniversity.edu. I gratefully acknowledge the financial support from the NWO Research Talent Grant, and thank McGill University for its hospitality while part of the work was prepared during my visit there. I would like to thank Alberto Manconi, David Schumacher, Oliver Spalt, Boris Vallée, Sebastien Betermier, Elisabeth Kempf, Ferdinand Langnickel, participants at the FMA European Doctoral Consortium, the NFA PhD session, the FMA Doctoral Consortium, the SFI Workshop in Finance, and seminar participants at Tilburg University and McGill University for useful feedback and discussions. All remaining errors are my own.

“The key first principle of modern finance, going back to Markowitz, is that preferences attach to money – to the payoffs of portfolios – not to the securities that make up portfolios.”

John Cochrane, in his commentary blog (October 9, 2016)

I. Introduction

What drives delegated portfolio decisions? A principal assumption of modern portfolio theory is that investor preferences are defined over portfolio *performance* (or the properties of portfolio return distributions). Accordingly, the literature has examined the driving motives of asset managers to deliver performance such as managerial skill, information, or contractual incentives.¹ However, growing evidence in behavioral finance suggests that investors also have non-performance-related preferences, e.g., preference for portfolio *composition*.² In this paper, I ask whether and how this affects delegated portfolio decisions.

I address this question by examining how investors’ preference for “local” stocks impact the portfolio holdings of active international equity mutual funds. In particular, I associate funds’ distribution channels, i.e., client countries where funds are sold, with investors’ local preference, and show that distribution channel characteristics matter in determining portfolio choices of asset managers worldwide.

I find that funds overweight client country stocks. I label this novel behavior as “client-country overweighting”, and show that it has a sizeable and pervasive impact on mutual fund portfolios. On average, mutual funds overweight stocks from their client countries by 54%–120% relative to peer funds with the same investment objective. Client-country overweighting is present across a large spectrum of fund home countries and client countries.

I focus on three candidate explanations for client-country overweighting: familiarity, information, and catering. First, client-country overweighting could be a form of funds’ familiarity bias. Prior

¹ For example, Stracca (2006) provides a selective review of the theoretical literature on delegated portfolio management as a principal-agent relationship in which delegated portfolio decisions respond to investors who *only* care about risk-adjusted returns.

² One form studied extensively is the preference for familiar securities (see French and Poterba (1991), Cooper and Kaplanis (1994), Coval and Moskowitz (1999), Grinblatt and Keloharju (2001), Massa and Simonov (2006), Ivković and Weisbenner (2007), Seasholes and Zhu (2010)).

literature has documented ample evidence that familiarity affects portfolio choice (Huberman (2001), Hong, Kubik, and Stein (2005), Cao et al. (2009), Pool, Stoffman, and Yonker (2012) among others). If funds are more familiar with client countries than with non-client countries (due to their prior business exposure, for example), they might overweight such countries. Second, client-country overweighting could reflect an information advantage in client countries. If funds have better access to information in client countries, they may prefer to invest in client countries and avoid non-client countries. Third, client-country overweighting could reflect an effort by funds to cater to investor preferences (or biases). Given that investors tend to display home bias (see French and Poterba (1991), Cooper and Kaplanis (1994), Coval and Moskowitz (1999), Grinblatt and Keloharju (2001), Massa and Simonov (2006), Ivković and Weisbenner (2007), Seasholes and Zhu (2010)), and their decisions can be influenced by fund holdings (Lakonishok et al. (1991), Musto (1999), Carhart et al. (2002), Meier and Schaumburg (2006), Solomon, Soltes, and Sosyura (2014) among others), client-country overweighting could be a deliberate effort to appeal to local investors.

My tests suggest that client-country overweighting is unlikely to be the result of a familiarity bias or an information advantage. For example, at the country level, the overweighting is robust to controlling for a large variety of bilateral control variables between home countries and client countries that proxy for familiarity or information advantages. More importantly, the effect is present among funds from *the same home country* that differ in their client countries. At the management firm level, the overweighting is present among funds that belong to *the same management firm* but are sold to different countries. This rules out the possibility that firm-level business ties or overall corporate strategies towards certain countries drive the overweighting. Furthermore, I show that the overweighting is unaffected by managerial rotation, suggesting that it does not reflect the biases of individual fund managers. To rule out the information alternative, I decompose each fund's portfolio into "client country" holdings and "non-client country" holdings, and compare the risk-adjusted returns of these two sub-portfolios. I find them to be identical, that is, I find no evidence that funds generate higher excess returns in client countries, which rejects the information hypothesis.

In contrast, I find strong evidence that client-country overweighting is a manifestation of catering. First, client-country overweighting is 68%–115% stronger in countries where investors display

stronger home bias, i.e., countries with a higher percentage of patriotic respondents to survey questions asking about national pride or identity importance, or countries where local funds' exhibit stronger domestic preference. In addition, when overweighting client countries, funds prefer to invest in highly visible stocks, i.e., stocks that are followed by more analysts, have higher media coverage, are more profitable, and have higher sales volumes. Taken together, these results suggest that the overweighting is a deliberate effort to cater to investors' local preference and to attract attention. Second, client-country overweighting is stronger among funds that charge load fees and have no institutional share classes, indicating that funds with less sophisticated investors are more likely to resort to catering.

Client-country overweighting is beneficial for funds, as it is associated with higher investment inflows in the cross-section. Funds in the highest client-country overweighting decile ("catering funds") attract 4% higher flows per year compared to funds in the lowest decile. This represents an average inflow of \$55 million per year, a sizeable amount given the average fund size of \$449 million in my sample. The flow response is concentrated among funds with no institutional share classes, consistent with the above finding that funds with a less sophisticated clientele are more likely to resort to catering.

In contrast, client-country overweighting is costly to investors in at least two ways. First, catering funds underperform by about 1% per year before fees compared to funds that do not cater. Second, catering funds have around 1% higher annualized idiosyncratic volatility, implying that they deliver under-diversified portfolios. Taken together, these findings suggest that catering funds perform worse and hold inefficient portfolios.

In sum, this paper identifies a novel form of catering in the global mutual fund industry and it is the first attempt to explore how investor preferences for individual securities affect mutual fund portfolio choices. The findings highlight the importance of investor preference for portfolio composition in determining the delegated portfolio decisions, and, more broadly, have important implications for understanding how institutions cater to their investors' preferences (or biases) by designing and marketing their products.

Testing whether institutions design products catering to investors' non-performance-related preferences is empirically challenging because any such test depends on a plausible proxy for investors' preferences that are robust and unrelated with portfolio performance. My empirical setting

that directly examines the impact of funds' distribution channel characteristics does not rely on any proxies and provides clean identification. Furthermore, the associated investors' local preference is strong to serve as one candidate.

In addition, the international mutual fund industry provides an ideal environment for two reasons. First, the tools that are available to mutual funds to cater to customers are limited and observable. Mutual funds can rarely use derivatives to create complex payoff structures for investors and they cannot involve themselves in complex transactions such as short-selling. Apart from different fee structures and investment objectives, the main way to tailor their product to investor preferences is via portfolio holdings. This provides a clean way to capture catering, minimizing potential confounding effects. More importantly, information on portfolio holdings is precise, detailed, and publicly disclosed, and observable to investors and the econometrician.

Second, the global setting allows me to explore clienteles across countries and provides sharp identification. Empirically, I exploit variation along three dimensions: funds invest in multiple countries, are managed worldwide, and are sold globally. This allows me to compare, say, overweighting in the U.S. of 1) two funds where one is sold to the U.S. and the other is not, 2) two aforementioned funds managed in *the same home country*, and 3) two such funds belonging to *the same management company*. In other words, the granularity of the data permits the use of stringent fixed effects (i.e., investment country \times date, investment country \times home country \times date, or investment country \times management firm \times date fixed effects).

This paper makes three contributions to the literature. First, it contributes to the recent literature that studies the impact of funds' distribution channels in the mutual fund industry. Researchers exploit how funds are distributed, i.e., broker-sold channel or direct-sold channel (Bergstresser, Chalmers, and Tufano (2009), Christoffersen, Evans, and Musto (2013), del Guercio and Reuter (2014), among others) and study how the distribution channel characteristics are related to fund characteristics. Linked to but different from these studies, I investigate the impact of the cross-country clienteles on *fund portfolios*, in

addition to *fund characteristics*. To the best of my knowledge, my work is the first to study the impact of mutual funds' worldwide distribution channels on their portfolio holdings.³

Second, it complements the few existing empirical studies on how institutions design and market financial products catering to investors. Existing empirical studies have focused on financial innovation with the underlying notion that investors might be confounded by the complexity of product features or fee structures, or be unaware of the differences in shrouded product attributes (e.g., Henderson and Pearson (2011), Anagol, Cole, and Sarkar (2013), Li, Subrahmanyam, and Yang (2014), Ru and Schoar (2014), Célérier and Vallée (2015) and others). By comparison, this paper examines a simpler product design process to appeal to investors' familiarity bias in the context of the global mutual fund industry. Hence, it suggests that institutions tailor their products to familiarize investors rather than resorting to complexity. Appealing to investor familiarity might help investors develop trust in mutual funds and invest despite the underperformance (Gennaioli, Shleifer, and Vishny (2015)). More importantly, the empirical setup provides a clean way to gauge the catering effect of the clientele characteristics on the product design process.

Third, it provides new evidence to rationalize the continuing demand for underperforming financial products.⁴ A large body of the literature explains the puzzle by examining the demand-side factors, such as investors' selection abilities (Zheng (1999), Sapp and Tiwari (2004), Ding et al. (2008), Frazzini and Lamont (2008), Entrop et al. (2014)), financial literacy (Campbell (2006), Müller and Weber (2010), Lusardi and Mitchell (2014)), and investment knowledge (Capon, Fitzsimons, and Prince (1996)). These studies suggest that the ability to identify the superior products ex-ante varies across investor groups and over time. However, this paper provides novel evidence by examining a different but equally important angle – the sell-side catering behavior, and shows that catering-driven investment hurts fund performance yet attracts flows.

The rest of the paper is organized as follows. In Section II, I describe the main data sources and the construction of main variables. In Section III, I present empirical evidence on mutual funds' client-

³ Ferreira, Massa, and Matos (2013) also use the information on funds' worldwide distribution channels, yet in a different way to examine fund characteristics. They find that funds with higher investor-stock decoupling (i.e., investor location does not coincide with that of the stock holdings) have higher performance.

⁴ See Jensen (1968), Gruber (1996), Malkiel (1995), Ackermann, McEnally, and Ravenscraft (1999), Fama and French (2010) for examples.

country overweighting. In Section IV, I examine the drivers for client-country overweighting. In Section V, I investigate the benefits for mutual funds, and the costs to investors. I conclude with Section VI.

II. Data and Variable Construction

A. Data Sources

I use several data sources: FactSet International Ownership database, Morningstar Direct, Datastream, Worldscope, I/B/E/S, and RavenPack news analytics database.

From FactSet, I obtain semi-annual international fund holdings and fund locations. I define the “home country” for a given fund as the country where its management firm is headquartered.⁵ I complement the fund-level data with fund characteristics from Morningstar Direct. These include the list of countries where a fund is “available for sale”. I label these countries the “client countries” for every fund. In addition, I collect monthly fund returns, fees, and total net assets (TNA) as well as other fund characteristics such as the inception date, the investment style from the same source.⁶

From the remaining sources, I collect stock-level data. Datastream provides international stock prices, stock locations, and stock external identifiers data to link with FactSet. Further, I complement the stock universe with the accounting information (e.g., market capitalization, book value of equity, ROE, sales, etc.) downloaded from Worldscope. Finally, I construct analyst coverage from the I/B/E/S international and U.S. files, and media coverage from RavenPack news analytics database.

B. Sample Construction

I start from all open-ended (“OEF”) mutual funds in FactSet, covering the time period from June 2000 to December 2014. I exclude offshore funds because the locations of the funds and the investors are

⁵ I do not use the legal domicile as the home country following Ferreira, Matos and Pereira (2009) and Schumacher (2016). Economically, the location of the management firm identifies the location where the actual portfolio decisions are taken and is more meaningful.

⁶ I thank David Schumacher to provide the link between FactSet and Morningstar.

uninformative.⁷ Also, I only include funds with non-missing home countries. The initial sample consists of 54,054 funds, managed in 81 countries.

I match the sample with the Global Open-End Fund section of Morningstar Direct and focus on actively managed equity funds. That is, I restrict the sample to funds that are classified as “Equity” by Morningstar and filter out index funds via the “Index” flag. I further exclude funds with missing client countries. These filters reduce the sample to 16,657 funds.

To investigate the impact of funds’ client country distributions on their portfolio choices, I further exclude funds that have no discretion to invest in multiple countries or have missing investment objectives. In particular, I exclude “country funds” which have an investment style limited to one country, e.g., “US Equity Large Cap Value”, “Canadian Equity Large Cap”, “UK Equity Mid/Small Cap”, etc. Furthermore, I define the set of available investment countries (“investment opportunity set”) for every investment style as follows. I sort all countries that funds within a given investment style have ever held in their portfolios, and focus on the top 25 countries in terms of the average portfolio weights.⁸ These filters reduce the sample to 9,688 funds.

Finally, I require information on standard control variables, e.g., TNA, fund age, total expense ratios, fund volatility, etc., leading to a final sample of 6,480 funds, which are managed in 46 countries, and sold to 62 countries.

C. Main Variables

Appendix provides a detailed description of all variables used in the paper. Here is only a brief overview of the two primary variables for every fund f at time t that quantify the extent of client-country overweighting.

The first measure, *Excess Weight*, is computed at the fund-country-date level as the excess portfolio weight in a given investment country c in percentage terms:

$$Excess\ Weight_{fct} = \frac{w_{fct} - \bar{w}_{ct}}{\bar{w}_{ct}}, \tag{1}$$

⁷ Offshore funds are classified as “OFF” in FactSet though they are defined as “OEF” in Morningstar.

⁸ The top 25 countries in total have accounted for 98% of investments in all countries. My main results still hold with the top 20, top 15, and top 10 countries which account for 96%, 90% and 80% respectively.

where w_{fct} is the portfolio weight of fund f invested in country c at time t , and \bar{w}_{ct} is the corresponding benchmark weight. A fund's portfolio weight in a given country c is computed as the total market capitalization of all the positions in the stocks in country c , divided by the fund's total equity TNA. I set the portfolio weight to zero if the fund does not invest in a country that belongs to its investment opportunity set. Hence, the *Excess Weight* variable considers all available countries, and measures the extent to which a given fund overweights or underweights a country compared to a benchmark. To account for the importance of a country to funds' portfolio choices within a given investment opportunity set, I choose the benchmark group as all funds in the sample with the same investment objective. That says, \bar{w}_{ct} is defined as the value-weighted average portfolio weight of all active funds with the same investment objective allocated to the corresponding country c at time t . I use the *Excess Weight* measure in my baseline results where I examine the portfolio choice, and present the results of alternative benchmark groups in the robustness checks in Section III.B.

To investigate the impact of funds' distribution channels on the fund-level characteristics, i.e., fund flows, performance and risk, I construct a fund-date level client-country overweighting measure in the spirit of Kacperczyk, Sialm, and Zheng (2005) and Schumacher (2016) as:

$$Client\ Country\ Overweight_{ft} = \sum_{c \in ClientCountry} (w_{fct} - \bar{w}_{ct}) \times w_{mct}, \quad (2)$$

where w_{mct} is the weight of country c in the world market portfolio at time t . It is calculated as the total market value of all stocks in the given country, divided by the total market value of all stocks in the world. The *Client Country Overweight* variable is a function of 1) how much the fund f 's portfolio weight in a given client country deviates from its peers, and 2) how large the market share of the client country is relative to the fund's sale. The underlying assumption is that the market share of a client country is in proportion to the relative size of the country's world-market portfolio weight.⁹ Finally, I aggregate the products across all client countries, rescaling the weights w_{mct} such that they add up to one. Therefore, the variable measures the extent to which a fund on average overweights or underweights a client country that is relatively more or less important to its sales.

D. Summary Statistics

⁹ In unreported results, I use an equal weighting scheme and the results still hold.

Figure 1 displays the geographical distribution of European managed mutual funds' home countries and client countries for illustrative purposes. I count the number of funds headquartered or sold in a given country. Not surprisingly, the distributions of funds' home countries and their client countries are positively correlated, since a fund is more likely to be sold to its home country. However, there is still considerable dispersion, e.g., UK is the home country for the majority of the European managed funds, yet France and Germany are the primary markets for fund sale.

Table 1 presents summary statistics. Panel A shows the detailed funds' investment styles, the total number of funds, the total assets under management, and the largest 5 investment countries per style in the sample. Funds with a "Global" objective (i.e., Global Equity, Global Equity Large Cap, Global Equity Mid/Small Cap) and an "Europe" objective (i.e., Europe Equity Large Cap and Europe Equity Mid/Small Cap, Other Europe Equity) represent 68% of the sample in terms of the total assets under management (50% and 18% respectively), and 66% of the total number of funds (30% and 36% respectively).

Panel B presents fund-level and stock-level summary statistics. During the sample period, these funds on average manage US\$ 449 million assets, managed by firms that have US\$ 29 billion in mutual fund assets. Funds on average charge an expenses ratio of 1.69%, and the average age is 9 years.

III. Evidence on Fund Client-Country Overweighting

This section presents my main results. I provide empirical evidence that mutual funds overweight stocks from their client countries, after controlling for fund locations.

A. Main Results: Do Funds Overweight Stocks in Their Client Countries?

To examine whether funds tilt their portfolios towards client countries, I first present figures emerging from the raw sample and then perform regression analyses.

Figure 2 displays the average client-country overweighting in each year over the sample period. Figure 2.A shows the average portfolio weight in client countries and non-client countries. On average, funds invest around 11% of their portfolios in their client-countries, but only 7% in non-client countries. Figure 2.B shows the excess portfolio weight (in percentage terms) in client countries, next to the excess

portfolio weight in the home countries to compare the magnitude of the client-country overweighting to the well-documented home bias. The graph indicates that mutual funds on average overweight their client countries by around 200% and their home countries by 550%, relative to peer groups. Client-country overweighting is sizeable, amounting to approximately 36% of the well-documented home bias. It maintains a stable level of around 150% over the latest ten years.

Figure 3 dissects the client-country overweighting across the largest 20 home or client countries in terms of assets under management. In particular, Figure 3.A shows that client-country overweighting is positive across funds located in 17 out of the top 20 home countries. Figure 3.B presents a similarly consistent and positive pattern across all of the top 20 client countries from 15% in the U.S. to 664% in Australia. In sum, the figures suggest that client-country overweighting is pervasive and economically substantial.

Panel regression analysis complements the preceding figures. I examine the relationship between portfolio excess weights and distribution channels in the following baseline specification:

$$Excess\ Weight_{fct} = \alpha + \beta_1 Client\ Country_{fc} + \beta_2 Home\ Country_{fct} + \gamma' x_{fct} + \varepsilon_{fct}, \quad (3)$$

$Excess\ Weight_{fct}$ is the excess portfolio weight of fund f in semi-annual period t in a given investment country c in percentage terms, as defined in the Equation (1) in Section II.C. The key independent variable of interest is $Client\ Country_{fc}$, an indicator equal to one if investment country c is a client country to fund f , and zero otherwise. $Home\ Country_{fct}$ is defined similarly, as a dummy variable equal to one if investment country c is the fund f 's home country at time t , and zero otherwise. x_{fct} is a vector of control variables, including standard fund characteristics (i.e., fund size, firm size, fund age, fund expenses ratio, fund volatility, and fund past returns), bilateral characteristics (i.e., the geographical distance and a common language indicator), as well as fixed effects. All variables are defined in the Appendix. Standard errors are clustered at the fund level.

In Panel A of Table 2, I report the baseline estimates. The results suggest that mutual funds exhibit a strong preference for their domestic stocks, as well as for their client country stocks. In Column (1), the simplest specification without control variables and fixed effects shows that mutual funds overweight their domestic stocks by 350% compared to other funds in the same investment style,

and overweight stocks from their client countries by 120%, after controlling for funds' locations. The client-country overweighting is substantial, as amounting to around one third of the home-country overweighting.

In Column (2), I add relevant fund characteristics and bilateral control variables that proxy for familiarity or information advantages, i.e., geographical distances and a common language indicator. The main results are almost identical.

In Columns (3) – (5), I further add fixed effects to ensure that my results are not driven by unobserved investment country or investment country-home country pair-wise characteristics. It is possible that funds overweight a given client country due to good investment opportunities, e.g., better economic conditions, better investor protection, etc. To mitigate the concern, I include investment country \times date fixed effects in Column (3). These fixed effects absorb any unobserved country-level heterogeneity and control for the average overweighting of all funds *at a given point in time*. Moreover, funds may prefer the client countries because of any unobserved familiarity between their home countries and the client countries, such as geographical proximity or cultural similarities.¹⁰ To control for this possibility, I include home country \times investment country fixed effects in Column (4) and more granular home country \times investment country \times date fixed effects in Column (5). These fixed effects allow me to compare the overweighting of all funds headquartered *in the same home country even at the same point in time*. Overall, my results still hold and are robust to all of these specifications.

Finally in Column (6), I orthogonalize the *Home Country* and *Client Country* by augmenting the Equation (3) with their interaction term. The coefficient of *Client Country* remains significantly positive, indicating the presence of the client-country overweighting.

B. Robustness Checks

In Panel B of Table 2, I perform a number of robustness checks. Unless otherwise mentioned, I repeat the specification in Column (5) of Panel A in Table 2.

¹⁰ Chan, Covrig, and Ng (2005) perform a detailed study of the determinants of aggregate mutual fund investments in domestic and foreign markets, showing that familiarity variables, such as physical proximity or common language, have significant effects.

Part 1 reports the baseline results with different choices of investment countries included in the regression. One possibility might be that client-country overweighting is biased upwards by the skewness distribution of the *Excess Weight* variable. To alleviate this argument, I reduce the number of investment countries in the regression by focusing on non-home countries, the top 20, top 15, top 10 investment countries, and the countries where funds actually invest, i.e., the corresponding portfolio weight is positive. My results still hold.

Part 2 presents very similar results if I consider alternative peer groups to construct the *Excess Weight* variable. It is possible that the benchmark weights have already deviated towards a certain set of countries, e.g., the benchmark is biased. To address the concern, I re-construct a number of benchmark groups. First, I use the passive world-market portfolio in the spirit of Chan, Covrig, and Ng (2005). Second, I consider the baseline benchmark group that consists of all active funds in the same investment objective, but excluding the fund itself. Third, I choose all actively-managed funds in the sample having at least 30 peer funds with the same benchmark index. Fourth, I choose all ETF funds with the same benchmark index to measure how much more active a given fund invests in its client countries, relative to a passive investment strategy. My results remain.

Part 3 examines sub-samples to ensure that client-country overweighting is not driven by a particular set of funds. One such set might be funds that are involved in financial mergers. These funds might experience a nominal change of their home countries because of cross-border mergers between their management companies. Therefore, the client-country tilt might be a form of home-country overweighting. The second possible set might be the E.U. managed funds. Due to the integration of the European Union, it is more likely that such funds tend to overweight client countries because of familiarity connections or (perceived) information advantages. The third set might be single-managed funds. If client-country overweighting is related to any individual managers' attributes, e.g., limited attention, experience, familiarity bias, it might be relatively harder to coordinate the overweighting decisions among teams. As a result, it is more likely that the overweighting behavior is present among single-managed funds. Therefore, I repeat the baseline specification by excluding funds whose

management firms have ever completed mergers over the sample period,¹¹ funds that are managed in the European Union, or single-managed funds. In all rows, the results still hold.

Part 4 includes more stringent and granular fixed effects to address the concern that management firm characteristics might drive the overweighting. For example, a given management firm might prefer the client countries with which it has the business connections or affiliations (e.g., Karolyi, Ng, and Prasad (2015)). To address the concern, I replace home country \times investment country \times date fixed effects with investment country \times management firm or investment country \times management firm \times date fixed effects, to control for management firms' average overweighting. Therefore, the estimate identifies the within-firm variation of overweighting of all funds managed by *the same asset management firm (at the same point in time)* that differ in their distribution channels. The baseline results are still there.

In sum, results in this section show that mutual funds tilt their portfolios towards client countries, suggesting that funds' distribution channel characteristics affect their portfolio choices.

IV. Why Do Funds Exhibit Client-Country Overweighting?

In this section, I investigate three candidate explanations, i.e., catering, familiarity bias, and information advantages, for my main result that funds overweight their client country stocks.

A. Do Funds Cater to Clients' Local Preference?

The first possibility is that funds overweight client countries to appeal to investors' local preference. Under this hypothesis, I expect that funds cater more if their investors are more responsive. In other words, client-country overweighting is stronger in client countries where investors have a higher local preference, and in the stocks that are better known to local investors. In addition, overweighting would be more prominent in funds with less sophisticated investors that may be more subject to behavioral biases. Therefore, I investigate how client-country overweighting is associated with 1) the extent to which investors are home biased, 2) the visibility of stocks for investors, and 3) investor sophistication.

¹¹ I use the data on funds affected by asset management firms' financial mergers from Luo, Manconi, and Schumacher (2015). Please refer to that paper for details about the data collection procedure.

First, I examine the cross-country variation of the overweighting in response to investors' home bias. I augment the baseline specification with a proxy for the extent of investors' home bias and its interaction term with the *Client Country* indicator as:

$$\begin{aligned}
 \text{Excess Weight}_{fct} = & \alpha + \beta_1 \text{Client Country}_{fc} + \beta_2 \text{Home Country}_{fct} \\
 & + \beta_3 \text{Investor Home Bias}_{ct} + \delta \text{Investor Home Bias}_{ct} \times \text{Client Country}_{fc} + \gamma' x_{fct} + \varepsilon_{fct}, \quad (4)
 \end{aligned}$$

*Investor Home Bias*_{ct} is a proxy for how investors in country *c* are home biased at time *t*. I use two proxy sets: one is computed from fund holdings data, and the other is based on individual survey data.

The first set has two continuous variables: equal-weighted or value-weighted average home bias of funds located in a given client country, *Client Country Funds' Excess Weight*. The variable is constructed as the equal-weighted or value-weighted average domestic portfolio weight of all sample funds located in a client country *c* at time *t*, in excess of the world market capitalization weight of the corresponding country.

The second set has two binary variables, *High National Pride* and *High Identity Importance*, measuring the cross-sectional investor patriotism. Morse and Shive (2011) find that more patriotic countries have greater home bias in equity selections. In the same spirit, I construct two indicators based on survey data. The first survey data is World Values Surveys,¹² which is conducted by social scientists in face-to-face interviews to ensure the survey validity. It consists of a questionnaire with around 250 questions, and is asked to an average of about 1000 respondents in around 90 countries. In particular, I focus on answers to the question “How proud are you to be [substitute nationality]?”, coded as “very proud”, “quite proud”, “not very proud” and “not proud at all”. For each country, I then calculate *National Pride* as the average percentage of reporters that answer “very proud” or “quite proud” over the sample period. Finally, I define *High National Pride* as an indicator equal to one if *National Pride* is above the median value, and zero otherwise.

The second survey data is National Identity Survey of International Social Survey Program.¹³ I focus on the answers to the question “How important do you think to be a citizen of [substitute nationality]?”

¹² It is administered by University of Michigan. Data can be retrieved via <http://www.worldvaluessurvey.org/wvs.jsp>.

¹³ Detailed information and data can be found at <http://www.issp.org/index.php>.

stated as “very important”, “fairly important”, “not very important”, and “not important at all”. Similarly, I compute *Identity Importance* as the average percentage of respondents that answer “very important” or “fairly important” in each country, and define *High Identity Importance* as an indicator equal to one if *Identity Importance* is above the median value, and zero otherwise.

All specifications use the same control variables in Column (5) of Panel A in Table 2, which include the standard fund and country-pair characteristics, as well as home country \times investment country \times date fixed effects.

I report the results in Table 3. It confirms the baseline result that mutual funds overinvest client country stocks with a positive coefficient on the *Client Country* variable. More importantly, the tilting is more prominent in the client countries where investors tend to display stronger local preference, by about 68% to 115%, compared to the client countries where investors are less home biased.¹⁴

Second, I perform stock-level analysis and test how stock visibility is associated with overweighting. I estimate the regression specification with fund-country-stock-date observations:

$$\begin{aligned} Excess\ Weight_{fcst} = & \alpha + \beta_1 Client\ Country_{fc} + \beta_2 Home\ Country_{fct} \\ & + \beta_3 High\ Visibility_{cst} + \delta High\ Visibility_{cst} \times Client\ Country_{fc} + \gamma' x_{fcst} + \varepsilon_{fcst}, \end{aligned} \quad (5)$$

*Excess Weight*_{fcst} is similarly defined as in the Equation (1) in Section II.C, yet at the stock level. Specifically, it is the excess portfolio weight of fund *f* in a given security *s* of a given country *c* at time *t*, relative to the average portfolio weight in the corresponding security *s* of all sample funds belonging to the same investment objective. Indicators for four stock visibility measures, in the spirit of Barber and Odean (2008), are examined. The first visibility measure is *Analyst coverage*_{cst}, measured as the aggregate number of I/B/E/S/ analysts who provide forecasts about earnings of stock *s* in country *c* in one quarter, two quarters, or one year at time *t* over semi-annual frequency. The second is a stock profitability characteristic *ROE* and the third is a stock revenue measure *Sales*. The fourth measure is *Media coverage*_{cst}, measured as the aggregate number of news articles about stock *s* in country *c* reported in Dow Jones Newswire from RavenPack at time *t* over semi-annual frequency.

¹⁴ For example, the average value of an equal-weighted *Client Country Funds' Excess Weight* is 0.48. Then the overweighting in the client countries where investors are more home bias is on average 0.48×1.42 (Column (1)) = 68% higher.

$High\ Visibility_{cst}$ is an indicator equal to one if the stock's given visibility proxy is above the median value of the characteristic in each country on a semi-annual basis, and zero otherwise. The control variables include the standard fund and country-pair characteristics, as well as home country \times investment country \times date fixed effects as in Column (5) of Panel A in Table 2. The regression only includes stocks that a given fund holds, so all of the observations have positive portfolio weights.¹⁵

I report the results in Table 4. The coefficient of the interaction term, δ , is significantly positive throughout all stock visibility measures, though the result for the measure based on media coverage is marginally significant. It suggests that the overweighting is concentrated on stocks that are followed by more analysts, are more profitable, have higher sales and greater media coverage. Economically, funds' client-country overweighting in stocks that are more visible is from 71% to 230% higher relative to their peer groups.

Third, I investigate which types of funds tend to overweight their client countries more. If a fund's investor clientele is less sophisticated, so that investors may be more subject to their local preference, then the fund is more likely to exhibit overweighting behavior. Therefore, I examine the relationship between client-country overweighting and funds' investor sophistication, i.e., whether funds have institutional share classes, and whether funds charge load fees, by estimating the specification at the fund-date level:

$$Client\ Country\ Overweight_{ft} = \alpha + \beta_1 No\ Inst.\ Share\ Class_{ft} + \beta_2 Has\ Load\ Fees_f + \gamma' x_{ft} + \varepsilon_{ft}, \quad (6)$$

$Client\ Country\ Overweight_{ft}$ measures the extent to which a given fund f overweights its client countries, computed as the Equation (2) in Section II.C. $No\ Inst.\ Share\ Class_{ft}$ is an indicator equal to one if fund f has no institutional share classes at time t (that is $Institution\% = 0$), and zero otherwise. $Has\ Load\ Fee_f$ is an indicator equal to one if fund f charges load fees, and zero otherwise. The control variables include fund size, firm size, fund age, fund expenses ratio, fund volatility, fund past returns, fund lag flows, team-managed indicator, and the number of client countries. I include style \times date fixed effects as well in all specifications. The standard errors are clustered by fund.

¹⁵ Due to dimensionality problem, I cannot include all stocks within a fund's investment universe.

Table 5 reports the results. Columns (1) – (3) do not include control variables. Columns (1) and (2) include *No Inst. Share Class_{ft}* and *Has Load Fee_f* separately, and Column (3) includes the two variables in the same specification. Columns (4) – (6) add control variables. Columns (1) and (4) show that funds targeting individual investors exhibit 19%–31% higher client-country overweighting compared to funds with only institutional investors.¹⁶ Columns (2) and (5) indicate that funds charging load fees tend to overweight more in their client countries by 25%–38%.¹⁷ These funds are likely retail funds, sold by brokers, and are more likely to attract less experienced and less knowledgeable investors that are more willing to pay for financial advice. Columns (3) and (6) include the two variables together and results do not change. All specifications suggest that funds with less sophisticated investor clientele are more likely to overweight their client countries.

Taken together, results in Table 3, 4 and 5 support the notion that client-country overweighting is a deliberate effort to cater to investors’ local preference. In particular, the overweighting is more prominent in countries where investors are more home biased, and in stocks which are more visible to investors. Additionally, funds with less sophisticated investor clientele tend to exhibit higher overweighting, suggesting the “catering hypothesis” likely.

B. Do Funds Have Familiarity Bias towards Client Countries?

The second possibility could be that client-country overweighting is a form of funds’ familiarity bias. I address the potential bias at the country level, the management firm level, and the individual manager level separately as follows.

First, at the country level and management firm level, my fixed effects strategy (i.e., investment country × home country × date and investment country × management firm × date fixed effects) in Table 2 ensures that the overweighting is robust among funds that are located in *the same country*, or

¹⁶ The average value of *Client Country Overweight* is 0.16. When funds do not have institutional share classes, they tend to exhibit $\frac{0.03(\text{Column}(4))}{0.16} = 18.75\%$ to $\frac{0.05(\text{Column}(1))}{0.16} = 31\%$ higher client-country overweighting.

¹⁷ When funds charge load fees, they tend to have $\frac{0.04(\text{Column}(4))}{0.16} = 25\%$ to $\frac{0.06(\text{Column}(2))}{0.16} = 37.5\%$ higher client-country overweighting.

managed by *the same firm at the same point in time*, yet differ in client country distributions. It already rules out that country-level or firm-level familiarity bias drives the overweighting.

Second, at the individual manager level, the overweighting might be a form of managers' familiarity bias if they grew up in funds' client countries. For example, Pool, Stoffman, and Yonker (2012) find that U.S. mutual funds overweight stocks from the states where their managers grew up. If managers are allocated abroad to manage funds which are sold back home, the funds' overweighting in the client countries might be a reflection of the individual managers' domestic biases. Because the majority of management teams only focus on one set of client countries, I lack the variation to include investment country \times management team \times date fixed effects at the first place.¹⁸ Instead, I investigate how the effect changes around managerial rotation. If client-country overweighting is driven by individual managers' familiarity bias, then it is more likely to change around managerial rotation. In particular, I augment the baseline Equation (3) with an indicator *Managerial Rotation* and its interaction term with *Client Country* as the following:

$$\begin{aligned} Excess\ Weight_{fct} = & \alpha + \beta_1 Client\ Country_{fc} + \beta_2 Home\ Country_{fct} \\ & + \beta_3 Managerial\ Rotation_{ft} + \delta Managerial\ Rotation_{ft} \times Client\ Country_{fc} + \gamma' x_{fct} + \varepsilon_{fct}, \end{aligned} \quad (7)$$

*Managerial Rotation*_{ft} equals to one if fund *f*'s management team composition changes relative to previous period at time *t*, and zero otherwise. The control variables include the standard fund and country-pair characteristics, as well as home country \times investment country \times date fixed effects.

Table 6 presents the results. I report the estimates on the entire sample in Columns (1) – (2), and on the sub-samples splitting between single-managed funds in Column (3) and team-managed funds in Column (4). The coefficient of the interaction term, δ , is not significantly different from zero, indicating that there is no change in client-country overweighting around managerial rotation. It suggests that the effect is less likely to be an individual fund manager effect.

Additionally, the stock-level cross-sectional analysis lends additional support to address the individual managers' familiarity bias concern. If client-country overweighting is familiarity-driven,

¹⁸ Only about 3% of management teams focus on more than one set of client countries. In the subsample with enough variation, I can include fund management team \times investment country fixed effects. The result holds, though less significant because of the drop in the number of observations.

then the overweighting is more likely to be stronger in *less* well known stocks, consistent with the finding in Pool, Stoffman, and Yonker (2012). They find that the U.S. fund managers' familiarity-driven home-state overweighting is more pronounced in *less* well known stocks, reflecting a perceived information advantage. However, the results in Table 4 suggest exactly the opposite that client-country overweighting is stronger in *more* well known stocks, implying an effort to attract investors.

Taken together, the results in Table 4 and 6 suggest that fund managers' familiarity bias is not driving the client-country overweighting effect. To further and more directly address the concern, I am in the process of collecting data on manager nationality. In summary, funds' familiarity bias cannot explain the client-country overweighting effect.

C. Do Funds Outperform in Their Client Countries?

The third potential explanation could be the information hypothesis that mutual funds have superior information in client countries. Thus, mutual funds might overweight client country stocks when they have positive information.¹⁹ Under the information hypothesis, I would expect that the overweighting is associated with superior (risk-adjusted) performance in their client countries.

Therefore, I conduct direct performance-based analysis. More specifically, I examine the funds' performance in their client countries and compare it to the performance in their non-client countries. I ask: does the "client-country" sub-portfolio deliver the best performance? I therefore construct the sub-portfolio holdings returns as follows. I compute the value-weighted average returns of all stock positions in each sub-portfolio and then calculate the value-weighted average returns across funds, with the weight in proportion to funds' total net assets (TNA). I use the raw returns, the market-adjusted returns, the industry-adjusted returns and the DGTW-benchmark-adjusted returns in the spirit of Daniel et al. (1997).

I present the results in Table 7. All four measures throughout Columns (1) – (4) deliver the same message that funds do not generate superior performance in their client-country positions. Economically, they underperform by 100 bps to 160 bps per year, though the difference is not statistically significant. In sum, the performance-based analysis suggests that funds do not likely have

¹⁹ Similarly, mutual funds might underweight client country stocks when they have negative information.

superior information in picking stocks in their client countries, ruling out that information is driving the overweighting in client countries.

V. What Are the Consequences of Client-Country Overweighting?

My main results show that funds tilt towards client country stocks, and the overweighting is not driven by a familiarity bias or by an information advantage. In this section, I investigate the benefits of the overweighting strategy for mutual funds and the costs to investors. I show that client-country overweighting helps mutual funds attract and retain investors, despite delivering underperforming and under-diversified portfolios.

A. What Do Funds Gain?

A.1. Attracting Investors – Fund Flows

First, I examine the investment flows and ask: do funds that heavily overweight their client countries attract higher flows? To examine this question, I estimate the specification:

$$Flow_{ft} = \alpha + \beta Client\ Country\ Overweight_{ft-1} + \gamma' x_{ft} + \varepsilon_{ft}, \quad (8)$$

The dependent variable is the semi-annual cumulative investment flows of fund f over the previous six months relative to time t . *Client Country Overweight_{ft}* measures the extent to which fund f overweighs its client countries, computed as the Equation (2) in Section II.C. x_{ft} includes a set of standard fund characteristics, i.e., fund size, firm size, fund age, fund expenses ratio, fund volatility, fund past returns, and fund past returns squared (to capture potential nonlinearity in the relationship between flows and past performance), style and date fixed effects, or style \times date fixed effects. I cluster the standard errors by fund.

I show the results in Table 8. Columns (1) and (2) show that client-country overweighting is associated with higher flows. Funds in the top client-country overweighting decile (“catering funds”)

attract 4% higher annualized flows than funds that do not cater, i.e., funds in the bottom decile.²⁰ Given that the average fund in the sample manages \$449 million assets, it represents about \$55 million inflows on average per year.²¹

In Columns (3) and (4), I present the results in sub-samples of funds with and without institutional share classes to investigate the flow response of sophisticated and less sophisticated investors. The results show that the effect is mainly concentrated on funds only with retail share classes (in Column (3)). It is consistent with the idea that individual investors are less sophisticated and are relatively easier to reward such catering funds.

A.2. Retaining Investors – Flow-Performance Sensitivity

Second, I examine whether investors are more loyal to catering funds. Hence, I investigate the flow-performance sensitivity by examining how investment flows respond to fund past performance. I use a piecewise-linear specification in the spirit of Sirri and Tufano (1998), which allows for different sensitivities at different levels of performance. Specifically, I regress investment flows on performance segments and further interact the performance buckets with a variable, *Overweight*, to capture the segmental flow response to funds with different degrees of client-country overweighting within each performance segment. The specification is:

$$\begin{aligned}
 Flow_{ft} = & \alpha + \beta_1 Low Rank_{ft} + \beta_2 Middle Rank_{ft} + \beta_3 High Rank_{ft} \\
 & + \lambda Overweight_{ft} + \delta_1 Low Rank_{ft} \times Overweight_{ft} + \delta_2 Middle Rank_{ft} \times Overweight_{ft} \\
 & + \delta_3 High Rank_{ft} \times Overweight_{ft} + \gamma' x_{ft} + \varepsilon_{ft},
 \end{aligned} \tag{9}$$

I use three *Overweight* measures. The first one is the continuous variable *Client Country Overweight_{ft}*. The second and the third ones are binary measures, *Has Overweight_{ft}* and *High Overweight_{ft}*. *Has Overweight_{ft}* (*High Overweight_{ft}*) is equal to one if *Client Country Overweight_{ft}* is positive

²⁰ The average value of *Client Country Overweight* in the top and bottom decile is 0.90 and -0.15. Therefore, the additional semi-annual flows for funds in the top decile relative to funds in the bottom decile is $(0.9 + 0.15) \times 0.0192$ (Column (1)) = 2.02%, which is equivalent to $2.02\% \times 2 = 4.04\%$ annualized flows.

²¹ The average annualized flows are 4.05% (Panel B, Table 1) $\times 2 = 8.1\%$, representing around $(8.1\% + 4.04\%) \times 449 = 54.51$ million inflows.

(above the median value), and zero otherwise. x_{ft} includes a set of standard fund characteristics (i.e., fund size, firm size, fund age, fund expenses ratio, fund volatility, and fund past returns) and style \times date fixed effects. I cluster the standard errors by fund.

The procedures to assign funds to different performance segments are as follows. First, for every fund f at time t , I first attach it a performance ranking score $Rank$ ranging from zero (worst performance) to one (best performance) based on its past performance among funds in the same investment objective in the previous one year. Funds' past performance is measured by monthly raw returns.²² Second, I assign funds into different performance level buckets which are defined, in a two-piece specification as: $Low Rank = \min(0.5, Rank)$ and $High Rank = Rank - Low Rank$, and in a three-piece specification as: $Low Rank = \min(0.2, Rank)$, $Middle Rank = \min(0.6, Rank - Low Rank)$ and $High Rank = Rank - (Low Rank + Middle Rank)$. Hence, the coefficients on these piecewise rank decompositions represent the marginal fund flows in response to different performance levels. The coefficients of the interaction terms represent how the flow responses change with the extent of funds' client-country overweighting.

Table 9 contains the results. They suggest two major points: first, there is an overall significant convexity in the flow-performance relationship such that fund flows react more to high performance and less to low performance. Taking the coefficients of $Low Rank$ and $High Rank$ in Column (1) for instance, an improvement in performance ranking from the 70th percentile to 80th percentile is associated with an increase in annualized flows of 4.5% ($0.2267 \times (0.8 - 0.7) \times 2 = 4.53\%$) whereas the same amount of improvement in low performance segment implies an increase in annualized flows of merely 1.2% ($0.0585 \times 0.1 \times 2 = 1.17\%$).

Second, the convexity is, however, attenuated if the fund has higher client-country overweighting. The coefficient of the interaction term $Low Rank \times Overweight$ is significantly negative, indicating that catering funds face a "flatter" flow-performance relation in the low performance segment. That is, the investment flows are 79% less sensitive to past performance, particularly bad performance, suggesting that investors are "loyal", or less likely to withdraw money when catering

²² Past performance measured based on 4-factor alphas gives similar results.

funds underperform.²³ Specifically, a fund in the bottom 50th percentile performance segment generally can expect an annualized 1.7% outflow; if the fund caters, however, the outflow implied by the estimate is only 0.36%.

B. What Do Investors Lose?

So far, the results imply that mutual funds benefit from the client-country overweighting strategy by attracting higher investment flows and retaining investors when they underperform. Are there any costs to investors? In this section, I run the following regression as:

$$Cost_{ft} = \alpha + \beta Client\ Country\ Overweight_{ft} + \gamma' x_{ft} + \varepsilon_{ft}, \quad (10)$$

I examine two *Cost* variables: fund performance and fund risk. x_{ft} includes a set of standard fund characteristics, i.e., fund size, firm size, fund age, fund expenses ratio, fund volatility, fund past returns, as well as style and date fixed effects, or style \times date fixed effects. I cluster the standard errors by fund. I report results in this section in Table 10.

A direct way to examine the potential costs is to look at fund returns. Therefore, I examine how the fund risk-adjusted performance is associated with client-country overweighting. I report three performance measures: market-adjusted holdings returns, DGTW-benchmark-adjusted returns, and Sharpe ratio.²⁴

I report the results in Panel A of Table 10. The coefficient of interest throughout all specifications is economically and significantly negative, indicating that the overweighting strategy reduces fund returns. Funds in the top client-country overweighting decile underperform by 0.65%–1.24% per year compared to funds that do not cater, i.e., funds in the bottom decile, depending on the risk adjustment.²⁵ The performance test suggests that catering funds deliver worse performance.

Second, I look into portfolio diversification. I estimate the Equation (10) with fund idiosyncratic volatility as the dependent variable and report the results in Panel B of Table 10. The results show that

²³ Take Column (2) as an example. The drop in sensitivity of flows to low performance is calculated as: $0.0669/0.0847 = 79\%$.

²⁴ In unreported results, I have similar results if I use value added measures in the spirit of Berk and van Binsbergen (2015).

²⁵ The average value of *Client Country Overweight* in the top and bottom decile is 0.90 and -0.15. Therefore, the annualized underperformance for funds in the top decile relative to funds in the bottom decile is $(0.9 + 0.15) \times 0.0031$ (Column (2)) $\times 2 = 0.65\%$ to $(0.9 + 0.15) \times 0.0059$ (Column (3)) $\times 2 = 1.24\%$.

client-country overweighting is related to higher funds' idiosyncratic risk. Catering funds have approximately 1% higher annualized idiosyncratic volatility, suggesting that they do not efficiently diversify their investments.²⁶

Taken together, the results suggest that catering funds underperform and are more volatile. Under-performance and under-diversification turn out to be two costs for investors.

VI. Conclusion

I provide novel evidence of catering-driven investments by studying how distribution channel characteristics affect portfolio holdings of active international equity mutual funds. I find that funds cater to their investors' local preference, tilting the portfolios towards client-country stocks by 54% to 120% relative to their peers. Client-country overweighting is stronger in the client countries where investors display stronger home bias, more pronounced in visible stocks, and more common among funds that have less sophisticated clienteles. Client-country overweighting is not driven by funds' familiarity bias and by an information advantage in the client countries.

The overweighting scheme helps funds attract and retain investors. Catering funds attract 4% higher annualized flows than funds that do not cater. It represents an average inflow of \$55 million per year. Meanwhile, catering funds face a "flatter" flow-performance relationship in the low performance segment: investment flows are 79% less sensitive to bad past performance, suggesting that investors are less likely to withdraw money when catering funds underperform.

In contrast, the overweighting strategy is costly to investors. Catering funds underperform by about 1% per year and have around 1% higher annualized idiosyncratic volatility compared to funds that do not cater. It implies that they neither diversify efficiently nor generate outperformance.

My paper highlights the role of investor preference for portfolio composition in determining the portfolio decisions of asset managers. More broadly, it has important implications for understanding how institutions cater to their investors' preferences by designing their products, particularly in a way to appeal to investors' familiarity.

²⁶ The annualized idiosyncratic volatility for funds in the top decile relative to funds in the bottom decile is $(0.9 + 0.15) \times 0.0024$ (Column (2)) $\times \sqrt{12} = 0.87\%$ to $(0.9 + 0.15) \times 0.0029$ (Column (2)) $\times \sqrt{12} = 1.05\%$ higher.

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Appendix: Variable Description

Variable	Definition
Fund Catering Measure	
<i>Excess Weight</i>	It is calculated as $\frac{w_{fct} - \bar{w}_{ct}}{\bar{w}_{ct}}$, where w_{fct} is the portfolio weight of country c in fund f 's portfolio at time t , \bar{w}_{ct} is the value-weighted average portfolio weight of all funds in the same investment style in the corresponding country.
<i>Client Country Overweight</i>	It is calculated as $\sum_{c \in \text{ClientCountry}} (w_{fct} - \bar{w}_{ct}) \times w_{mct}$, where w_{fct} is the portfolio weight of country c in fund f 's portfolio at time t , \bar{w}_{ct} is the value-weighted average portfolio weight of all funds in the same investment style in the corresponding country, and w_{mct} is the world-market portfolio weight of country c at time t . The summation is taken over fund f 's client countries, and w_{mct} is re-scaled such that they sum up to one.
Fund Characteristics	
<i>Fund size</i>	Natural logarithm of fund TNA (USD \$ in millions).
<i>Firm size</i>	For a given fund f , it is computed as the natural logarithm of the total TNA (USD \$ in millions) of all funds managed by the same management company, excluding the fund f itself.
<i>Expenses</i>	The percentage annual expense ratio.
<i>Volatility</i>	The annualized standard deviation of fund gross returns, computed over a trailing 12-month window.
<i>Age</i>	Natural logarithm of fund age in years since its inception date.
<i>CAPM idiosyncratic volatility</i>	It is computed as the standard deviation of the residuals from a CAPM model on a monthly basis over a trailing 24-month window. The factor is the excess market return, where the benchmark portfolio comprises all the stocks in the fund's investment objective.
<i>FF4F idiosyncratic volatility</i>	It is computed as the standard deviation of the residuals from a four-factor model on a monthly basis over a trailing 24-month window. The factors are the excess market return, "SMB" "HML" and "MOM" in the spirit of Fama and French (1993), where the benchmark portfolio comprises all the stocks in the fund's investment objective.
<i>Past returns</i>	The cumulative fund gross returns, computed over a trailing 12-month window.
Stock Visibility Variables	
<i>Analyst coverage</i>	The aggregate number of I/B/E/S analysts who provide fiscal year one, or quarter one or quarter two earnings estimates for a given stock at semi-annual frequency.

Media coverage

The aggregate number of news articles about a given stock in Dow Jones Newswire at semi-annual frequency, provided by RavenPack database.

Fund Performance Variables

Raw return

Semi-annual raw holdings returns.

DGTW – adjusted return

Characteristic-adjusted return in the spirit of Daniel et al. (1997). It is a value-weighted average of the characteristic-adjusted semi-annual return on each stock in the fund's portfolio. For a given stock, the characteristic-adjusted return is defined as the raw return minus the benchmark return. The benchmark portfolio is a value-weighted average of all stocks in the same size/book-to-market/momentum portfolio, belonging to the fund's investment style.

Market – adjusted return

Market-adjusted return. It is defined as the value-weighted average of the market-adjusted semi-annual return on each stock in the fund's portfolio. For a given stock, the market-adjusted return is calculated as the raw holdings returns minus the benchmark return. The benchmark portfolio comprises all stocks in the fund's investment objective.

Industry – adjusted return

Industry-adjusted return. It is defined as the value-weighted average of industry-adjusted semi-annual return on each stock in the fund's portfolio. For a given stock, the industry-adjusted return is computed as the raw holdings returns minus the benchmark return. The benchmark portfolio comprises all stocks that are in the same industry and comprise the fund's investment objective.

Flow

On a given month t , the fund's investment flows is defined as:

$$\frac{TNA_t - TNA_{t-1} \times (1 + R_t)}{TNA_{t-1}}$$

where TNA denotes the fund's total net assets, and R is the fund's gross return. I compute the cumulative investment flow over a 6-month period to obtain the *Flow* variable.

Sharpe ratio

Calculated as the fund's cumulative 6-month raw returns minus the value-weighted average returns across all funds in the same investment style, divided by the fund's annualized volatility over the previous 12 months.

Other Variables

Client Country

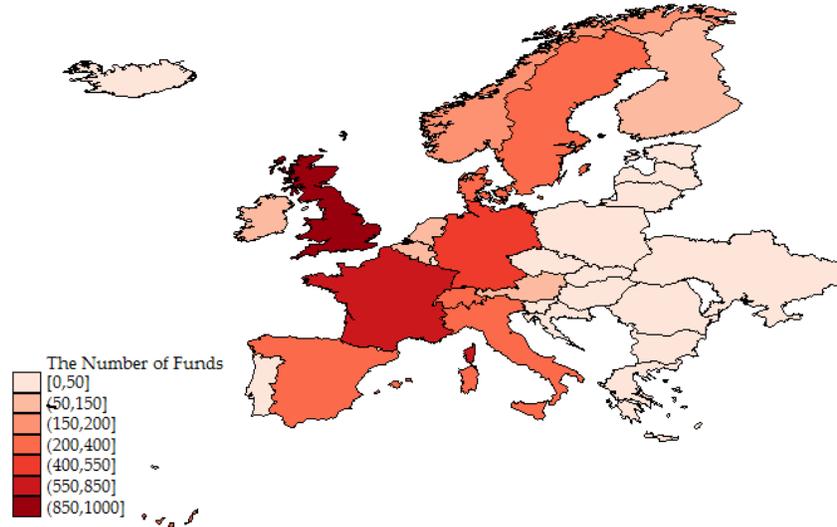
An indicator variable equal to one if the investment country is a client country to a given fund, i.e., a country that the fund is available for sale, and zero otherwise.

<i>Home Country</i>	An indicator variable equal to one if the investment country is a given fund's home country, i.e., the headquarter of its asset management firm, and zero otherwise.
<i>Managerial rotation</i>	An indicator variable equal to one if a given fund has any managerial rotation relative to the previous period, and zero otherwise.
<i>Geographical distance</i>	The logarithm of geographical distance between pair-wise countries in kilometers.
<i>Common language</i>	An indicator variable equal to one if pair-wise countries use the same language, and zero otherwise.
<i>No inst. share class</i>	An indicator variable equal to one if a given fund has no institutional share classes, and zero otherwise
<i>Has load fee</i>	An indicator variable equal to one if a given fund charges load fees, and zero otherwise.
<i>Institution%</i>	The ratio of assets in institutional share classes over total fund assets.
<i>Client country funds' excess weight</i>	For a given fund, it is calculated as the value-weighted or equal-weighted average domestic portfolio weight of all sample funds located in a given client country, in excess of the world market capitalization weight of the corresponding country.
<i>National pride</i>	For every country, it is defined as the percentage of respondents to survey question " <i>How proud are you to be [substitute nationality]?</i> " that answer "very proud" or "quite proud".
<i>Identity importance</i>	For every country, it is defined as the percentage of respondents to survey question " <i>How important do you think to be a citizen of [substitute nationality]?</i> " that answer "very important" or "fairly important",

Figure 1: The Geographical Distribution of Funds' Home Countries and Client Countries

The figure plots the geographical distribution of the mutual funds' home countries and their client countries in the sample, taking Europe as the illustrated example. I show the number of funds located and sold in a given country.

The Geographical Distribution of Funds' Home Countries (Europe)



The Geographical Distribution of Funds' Client Countries (Europe)

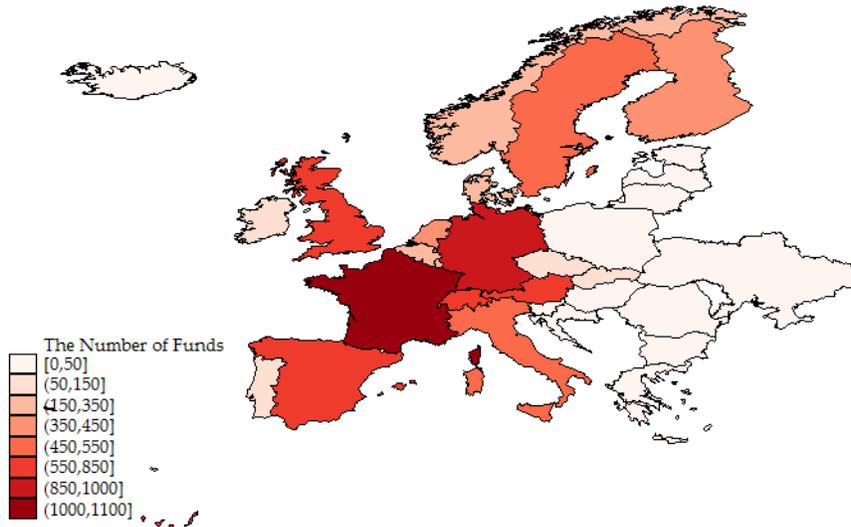
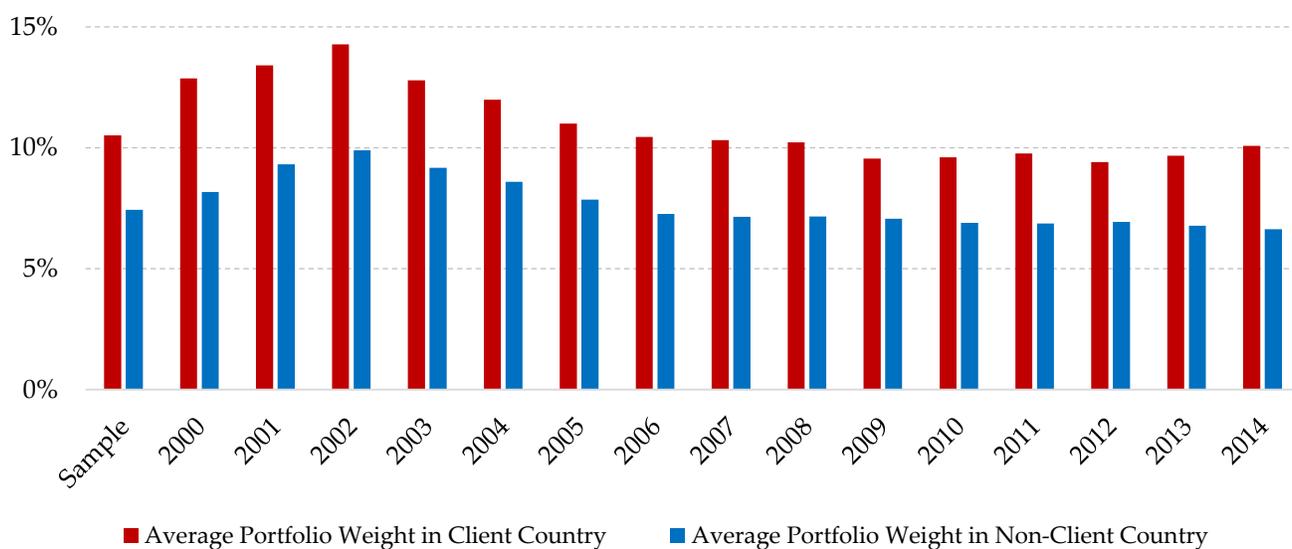


Figure 2: Fund Client-Country Overweighting Over Time

Figure 2.A displays the average portfolio weight in client countries and non-client countries over time. Figure 2.B displays the average excess weight in percentage terms in client and home countries over time.

(A) Average Portfolio Weight in Client Country and Non-Client Country



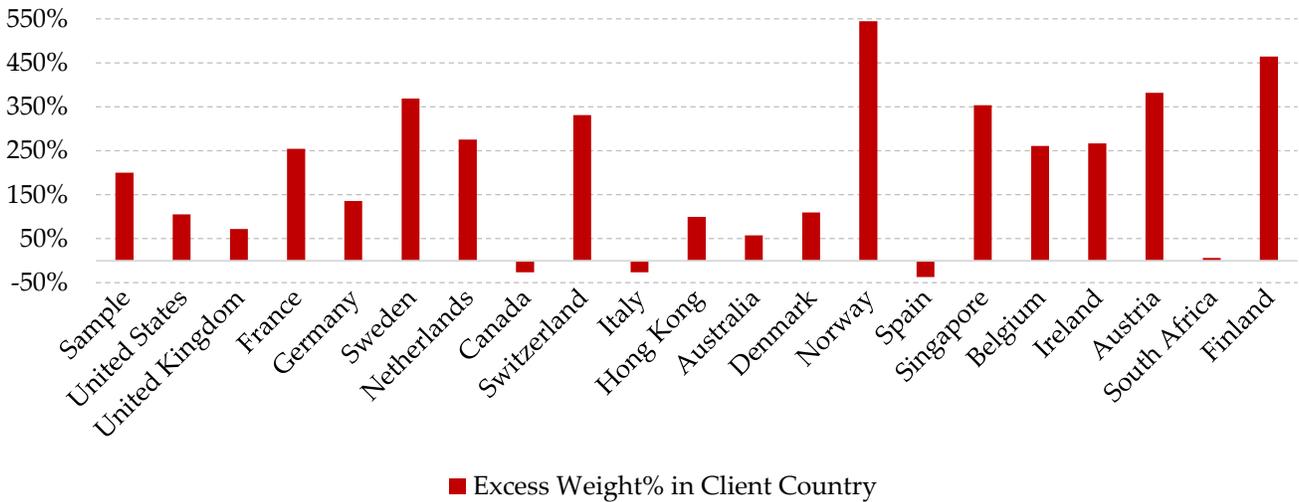
(B) Excess Weight% in Client Country and Home Country



Figure 3: Fund Client-Country Overweighting Across Home Countries and Client Countries

The figure displays the average client-country excess weight in percentage points for funds located in the top 20 home countries in Figure 3.A and for funds sold to the top 20 client countries in Figure 3.B.

(A) Client-Country Overweighting of Funds Located in the Top 20 Home Countries



(B) Client-Country Overweighting of Funds Sold to the Top 20 Client Countries



Table 1: Summary Statistics

Table 1 presents the summary statistics of the sample. Panel A shows detailed investment styles, and the total number of funds, the total assets (USD \$ in billions) under management, the top 5 investment countries for each investment style. The top 5 investment countries are based on the average portfolio weight of all funds in the given investment style allocated to the corresponding country over the entire sample period. Panel B reports the descriptive statistics.

Panel A: Fund Investment Style Characteristics

Investment Style	Assets (\$ billion)	# of Funds	Top 5 Investment Countries
	(1)	(2)	(3)
Africa Equity	9.04	65	ZA, UK, NG, EG, KE
Asia Equity	12.40	92	JP, HK, AU, KR, SG
Asia ex Japan Equity	50.01	227	HK, KR, TW, AU, SG
Communications Sector Equity	5.13	40	US, UK, JP, DE, FR
Consumer Goods & Services Sector Equity	8.51	73	US, UK, FR, JP, CH
Emerging Markets Equity	294.63	301	BR, TR, KR, RU, TW
Energy Sector Equity	32.53	89	US, CA, UK, FR, NO
Europe Equity Large Cap	187.41	1,045	FR, DE, UK, CH, IT
Europe Equity Mid/Small Cap	30.51	261	FR, DE, UK, TR, IT
Financials Sector Equity	14.67	114	US, UK, CA, DE, CH
Global Equity	274.71	405	US, UK, JP, FR, SE
Global Equity Large Cap	719.70	1,310	US, UK, JP, FR, DE
Global Equity Mid/Small Cap	59.08	200	US, UK, JP, BR, TR
Healthcare Sector Equity	33.56	149	US, CH, UK, JP, FR
Industrials Sector Equity	2.75	24	US, JP, UK, FR, DE
Islamic Equity	1.54	47	MY, ZA, US, UK, HK
Latin America Equity	33.75	46	BR, MX, CL, US, VE
Natural Resources Sector Equity	22.93	103	US, CA, UK, AU, BR
Other Asia Equity	4.10	83	MY, ID, TH, SG, VN
Other Europe Equity	162.09	1,012	DE, SE, FR, CH, NO
Other Sector Equity	9.87	125	US, UK, JP, FR, DE
Precious Metals Sector Equity	15.95	48	CA, US, ZA, AU, UK
Real Estate Sector Equity	79.32	317	US, FR, UK, JP, HK
Technology Sector Equity	45.34	274	US, TW, JP, KR, FI
Utilities Sector Equity	10.97	30	US, UK, BR, ES, CA
Total	2,120.50	6,480	

Continued – Table 1: Summary Statistics

Panel B: Descriptive Statistics

Variable	Mean	Std.	Min	25th Pct.	50th Pct.	75th Pct.	Max
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Fund Overweighting Measures							
<i>Excess Weight</i>	0.11	3.38	-1.00	-1.00	-0.89	0.03	41.79
<i>Client Country Overweight</i>	0.16	0.31	-0.25	-0.02	0.03	0.23	0.99
Fund Characteristics							
<i>Fund size</i> (\$ million)	449.03	2,213.06	0.01	20.28	68.76	254.05	104,131.60
<i>Firm size</i> (\$ million)	28,677.00	86,963.03	0.27	876.19	4,908.60	21,716.94	1,201,517.75
<i>Expenses</i> (%)	1.69	0.64	0.30	1.30	1.63	1.98	4.07
<i>Volatility</i> (% annualized)	19.44	5.63	7.28	15.70	18.93	22.55	48.60
<i>CAPM idiosyncratic volatility</i> (% monthly)	2.50	1.32	0.61	1.55	2.20	3.07	8.66
<i>FF4F idiosyncratic volatility</i> (% monthly)	2.16	1.15	0.49	1.36	1.92	2.68	7.44
<i>Age</i> (in years)	9.28	7.78	0.33	4.00	7.33	12.17	74.75
<i>Past returns</i> (%)	9.11	9.72	-54.88	5.69	9.79	14.16	74.09
<i>Institution%</i>	15.36	31.81	0.00	0.00	0.00	5.25	100.00
Fund Performance Variables							
<i>Flow</i> (% semi-annual)	4.05	20.33	-53.39	-6.19	-0.64	8.56	202.18
<i>DGTW – adjusted return</i> (% semi-annual)	0.81	3.16	-22.68	-0.34	0.73	2.19	28.27
<i>Market – adjusted return</i> (% semi-annual)	0.24	3.53	-24.43	-0.99	0.32	1.87	24.13
<i>Sharpe ratio</i> (% semi-annual)	-0.20	4.85	-35.09	-2.31	-0.24	1.78	34.25
Stock Visibility Variables							
<i>Analyst coverage</i> (semi-annual)	6.08	6.37	1.00	1.64	3.67	8.13	51.60
<i>Media coverage</i> (semi-annual)	229.35	1,063.81	1.00	20.40	89.67	180.40	55,450.50
Other Variables							
<i>Client country funds' excess weight</i> (ew)	0.48	0.32	0.02	0.24	0.42	0.82	0.99

<i>Client country funds' excess weight (vw)</i>	0.46	0.34	-0.08	0.17	0.34	0.75	0.99
<i>National pride (%)</i>	87.98	9.75	58.43	83.92	90.42	94.90	99.72
<i>Identity importance (%)</i>	80.90	9.07	44.73	77.51	82.10	86.42	94.34
<i>Geographical distance (km)</i>	5,226.22	4,452.22	0.00	1,144.88	4,617.80	8,869.16	19,875.83

Table 2: Fund Overweighting in Client Countries

The table reports the estimates of:

$$Excess\ Weight_{fct} = \alpha + \beta_1 Client\ Country_{fc} + \beta_2 Home\ Country_{fct} + \gamma' x_{fct} + \varepsilon_{fct}$$

The dependent variable is the excess portfolio weight of fund f in semi-annual period t in a given investment country c in percentage terms. It is calculated as the difference between fund f 's portfolio percentage invested in the country c at time t and the corresponding value-weighted average portfolio weight of all funds in the same investment objective in percentage terms. $Client\ Country_{fc}$ ($Home\ Country_{fct}$) is an indicator equal to one if a given investment country c is fund f 's client country (home country at time t), and zero otherwise. The set of controls includes fund characteristics (fund size, firm size, fund age, fund expenses ratio, fund volatility, fund past returns), country-pair characteristics (geographical distances, a common language indicator), and fixed effects (investment country \times date, or investment country \times home country, or investment country \times home country \times date fixed effects). Panel A reports the baseline results. Panel B reports robustness checks. In Part 1, I reduce the number of investment countries in the regression by focusing on non-home countries, the top 20, top 15, top 10 or the investment countries with positive portfolio weights. In Part 2, I consider alternative peer groups to compute the *Excess Weight* variable. In part 3, I exclude a set of funds. In Part 4, I replace investment country \times home country \times date fixed effects with investment country \times firm or investment country \times firm \times date fixed effects. The t-statistics are based on standard errors clustered by fund. *, **, and *** denote statistical significance at 10%, 5%, and 1% level.

Continued – Table 2: Fund Overweighting in Client Countries

Panel A: Baseline Results						
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Client Country</i>	1.1965*** (12.24)	1.1456*** (12.01)	1.1555*** (11.83)	0.5386*** (6.20)	0.5447*** (6.26)	0.3488*** (3.89)
<i>Home Country</i>	3.5378*** (23.98)	3.1682*** (18.12)	3.4333*** (17.11)			
<i>Home Country × Client Country</i>						1.4980*** (5.93)
Fund and country-pair characteristics	N	Y	Y	Y	Y	Y
Investment country × date f.e.	N	N	Y	N	N	N
Investment country × home country f.e.	N	N	N	Y	N	N
Investment country × home country × date f.e.	N	N	N	N	Y	Y
R ²	0.051	0.054	0.063	0.143	0.167	0.168
N	2,396,897	2,396,897	2,396,897	2,396,897	2,396,897	2,396,897

Continued – Table 2: Fund Overweighting in Client Countries

Panel B: Robustness Checks

	<i>Client Country Coefficient</i>	<i>t-stat.</i>	<i>R²</i>	<i>N</i>
	(1)	(2)	(3)	(4)
Baseline Result	0.5447***	(6.26)	0.167	2,396,897
<i>Part 1: The selection of investment countries</i>				
Baseline, exclude home countries	0.3391***	(3.78)	0.056	2,300,949
Include top 20 investment countries	0.5403***	(5.98)	0.206	1,936,202
Include top 15 investment countries	0.5309***	(5.78)	0.243	1,471,542
Include top 10 investment countries	0.4125***	(4.63)	0.257	986,528
Include $w_{fct} > 0$ investment countries	0.6726***	(5.17)	0.309	907,104
<i>Part 2: Alternative definitions of peer groups</i>				
World-market portfolio	1.2795***	(8.41)	0.343	2,396,241
Baseline, exclude the fund itself	0.5713***	(6.28)	0.161	2,396,103
Active funds, the same benchmark index	0.1424***	(2.60)	0.048	1,660,572
ETFs, the same benchmark index	0.2060***	(6.75)	0.164	1,353,130
<i>Part 3: Excluding a set of funds</i>				
Exclude funds involved in mergers	0.5705***	(6.00)	0.167	1,990,338
Exclude funds managed in the EU	1.1145***	(4.97)	0.137	967,713
Exclude single-managed funds	0.4926***	(4.94)	0.165	1,285,074
<i>Part 4: Alternative fixed effects tests</i>				
Include investment country \times firm f.e.	0.5423***	(5.54)	0.276	2,396,897
Include investment country \times firm \times date f.e.	0.5360***	(4.55)	0.438	2,396,897

Table 3: Investor Home Bias and Fund Overweighting in Client Countries

The table reports the estimates of:

$$\begin{aligned} & \text{Excess Weight}_{fct} \\ &= \alpha + \beta_1 \text{Client Country}_{fc} + \beta_2 \text{Home Country}_{fct} + \beta_3 \text{Investor Home Bias}_{ct} \\ &+ \delta \text{Investor Home Bias}_{ct} \times \text{Client Country}_{fc} + \gamma' x_{fct} + \varepsilon_{fct} \end{aligned}$$

The dependent variable is the excess portfolio weight of fund f in semi-annual period t in a given investment country c in percentage terms. It is calculated as the difference between fund f 's portfolio percentage invested in the country c at time t and the corresponding value-weighted average portfolio weight of all funds in the same investment objective in percentage terms. $\text{Client Country}_{fc}$ ($\text{Home Country}_{fct}$) is an indicator equal to one if a given investment country c is fund f 's client country (home country at time t), and zero otherwise. $\text{Investor Home Bias}_{ct}$ is a proxy for the extent to which investors are home biased. In Columns (1) – (2), the proxy is *Client Country Funds' Excess Weight*, calculated as the equal-weighted (in Column (1)) or value-weighted (in Column (2)) average domestic portfolio weight of all sample funds located in country c at time t in excess of the world market capitalization weight of the corresponding country. In Columns (3) – (4), the proxy is an indicator that equals to one if the country-level investor patriotism measure is above the median value, and zero otherwise. In particular, in Column (3), the patriotism measure is *National Pride*, the average percentage of reporters that answer “very proud” or “quite proud” to the question “How proud are you to be [substitute nationality]?” in World Values Surveys database. In Column (4), the patriotism measure is *Identity Importance*, the average percentage of reporters that answer “very important” or “fairly important” to the question “How important do you think to be a citizen of [substitute nationality]?” in International Social Survey Program database. The set of controls includes fund characteristics (fund size, firm size, fund age, fund expenses ratio, fund volatility, fund past returns), country-pair characteristics (geographical distances, a common language indicator) and investment country \times home country \times date fixed effects. The t-statistics are based on standard errors clustered by fund. *, **, and *** denote statistical significance at 10%, 5%, and 1% level.

Continued – Table 3: Investor Home Bias and Fund Overweighting in Client Countries

	Client Country Fund's Excess Weights		Patriotism Measure	
	Equal- Weighted	Value- Weighted	<i>High National Pride</i>	<i>High Identity Importance</i>
	(1)	(2)	(3)	(4)
<i>Client Country</i>	0.0777 (0.62)	0.3098*** (3.01)	0.4568*** (4.93)	0.2332*** (3.05)
<i>Investor Home Bias</i> × <i>Client Country</i>	1.4223*** (3.76)	0.7722*** (2.88)	0.5293** (2.53)	1.1523*** (2.75)
Fund and country-pair controls	Y	Y	Y	Y
Investment cnt. × home cnt. × date f.e.	Y	Y	Y	Y
R ²	0.178	0.178	0.184	0.161
N	2,055,542	2,055,542	1,886,045	1,991,533

Table 4: Firm Visibility and Fund Overweighting in Client Countries

The table reports the estimates of:

$$\begin{aligned}
 & \text{Excess Weight}_{fcst} \\
 & = \alpha + \beta_1 \text{Client Country}_{fc} + \beta_2 \text{Home Country}_{fct} + \beta_3 \text{High Visibility}_{cst} \\
 & + \delta \text{High Visibility}_{cst} \times \text{Client Country}_{fc} + \gamma' x_{fcst} + \varepsilon_{fcst}
 \end{aligned}$$

The dependent variable is the excess portfolio weight of fund f in semi-annual period t in a given security s headquartered in investment country c in percentage terms. It is calculated as the difference between fund f 's portfolio percentage invested in the security s headquartered in the country c at time t and the corresponding value-weighted average portfolio weight of all funds in the same investment objective in percentage terms. *Client Country* $_{fc}$ (*Home Country* $_{fct}$) is an indicator equal to one if a given investment country c is fund f 's client country (home country at time t), and zero otherwise. *High Visibility* is an indicator variable equal to one if stock visibility (proxied by its *Analyst coverage*, *ROE*, *Sales* and *Media coverage*) is high, sorted based on the median value of the given characteristic in every country each semi-annual frequency, and zero otherwise. The set of controls includes fund characteristics (fund size, firm size, fund age, fund expenses ratio, fund volatility, fund past returns), country-pair characteristics (geographical distances, a common language indicator) and investment country \times home country \times date fixed effects. The sample is restricted to stocks that a given fund has actually invested, i.e., the stocks with positive portfolio weights. The t-statistics are based on standard errors clustered by fund. *, **, and *** denote statistical significance at 10%, 5%, and 1% level.

Sorted based on	<i>Analyst cov.</i>	<i>ROE</i>	<i>Sales</i>	<i>Media cov.</i>
	(1)	(2)	(3)	(4)
<i>Client Country</i>	-1.3027 (-1,57)	-0.3740 (-0.49)	0.4356 (0.78)	-0.2106 (-0.31)
<i>High Visibility</i>	-7.5379***	-7.0072***	-2.2761***	-8.1580***
<i>High Visibility</i> \times <i>Client Country</i>	(-14.19) 2.3134*** (3.71)	(-17.13) 1.1787** (2.37)	(-17.18) 0.7144*** (4.46)	(-18.36) 0.9124* (1.92)
Fund and country-pair controls	Y	Y	Y	Y
Investment cnt. \times home cnt. \times date f.e.	Y	Y	Y	Y
R ²	0.180	0.174	0.158	0.193
N	5,660,797	5,660,797	5,660,797	5,660,797

Table 5: The Determinants of the Fund Level Client-Country Overweighting

The table reports the estimates of:

$$Client\ Country\ Overweight_{ft} = \alpha + \beta_1 No\ Inst.\ Share\ Class_{ft} + \beta_2 Has\ Load\ Fees_f + \gamma' x_{ft} + \varepsilon_{ft}$$

The dependent variable is a measure of fund f 's degree of portfolio overweighting in its client countries at time t . *No Inst. Share Class* is an indicator variable that is equal to one if the fund has no institutional share classes (i.e., *Institution%* = 0), and zero otherwise. *Has Load Fee* is an indicator variable that is equal to one if the fund charges load fees, and zero otherwise. The set of controls includes fund size, firm size, fund age, fund expenses ratio, fund volatility, fund past returns, fund lag flows, team-managed indicator, the number of client countries and style \times date fixed effects. The t-statistics are based on standard errors clustered by fund. *, **, and *** denote statistical significance at 10%, 5%, and 1% level.

	(1)	(2)	(3)	(4)	(5)	(6)
<i>No Inst. Share Class</i>	0.0494*** (9.23)		0.0372*** (6.55)	0.0295*** (5.53)		0.0216*** (3.88)
<i>Has Load Fees</i>		0.0557*** (7.07)	0.0433*** (5.19)		0.0401*** (5.09)	0.0341*** (4.15)
Fund controls	N	N	N	Y	Y	Y
Style \times date f.e.	Y	Y	Y	Y	Y	Y
R ²	0.535	0.535	0.538	0.564	0.565	0.566
N	51,042	51,042	51,042	51,042	51,042	51,042

Table 6: Fund Client-Country Overweighting around Managerial Rotation

The table reports the estimates of:

$$\begin{aligned}
 & Excess\ Weight_{fct} \\
 & = \alpha + \beta_1 Client\ Country_{fc} + \beta_2 Home\ Country_{fct} + \beta_3 Managerial\ Rotation_{ft} \\
 & + \delta Managerial\ Rotation_{ft} \times Client\ Country_{fc} + \gamma' x_{fct} + \varepsilon_{fct}
 \end{aligned}$$

The dependent variable is the excess portfolio weight of fund f in semi-annual period t in a given investment country c in percentage terms. It is calculated as the difference between fund f 's portfolio percentage invested in the country c at time t and the corresponding value-weighted average portfolio weight of all funds in the same investment objective in percentage terms. $Client\ Country_{fc}$ ($Home\ Country_{fct}$) is an indicator equal to one if a given investment country c is fund f 's client country (home country at time t), and zero otherwise. The set of controls includes fund characteristics (fund size, firm size, fund age, fund expenses ratio, fund volatility, fund past returns), country-pair characteristics (geographical distance, a common language indicator) and investment country \times home country \times date fixed effects.

	Entire Sample		Single-Managed	Team-Managed
	(1)	(2)	(3)	(4)
<i>Client Country</i>	0.4892***	0.5000***	0.5894***	0.3784***
	(5.14)	(5.27)	(4.77)	(3.38)
<i>Managerial Rotation</i>	-0.0189	-0.0087	-0.0587***	-0.0026
	(-1.25)	(-0.59)	(-2.68)	(-0.14)
<i>Managerial Rotation</i> \times <i>Client Country</i>	-0.0439	-0.0512	-0.0311	-0.0337
	(-0.56)	(-0.65)	(-0.22)	(-0.39)
Fund and country-pair controls	N	Y	Y	Y
Investment cnt. \times home cnt. \times date f.e.	Y	Y	Y	Y
R ²	0.171	0.172	0.201	0.167
N	1,888,277	1,888,277	1,111,823	776,454

Table 7: Fund Sub-portfolio Performance

This table reports the sub-portfolio performance for holdings in the client countries (*Client Country*) and non-client countries (*Non Client Country*) at the semi-annual frequency. For each fund f at time t , I first compute a value-weighted sub-portfolios returns, and then make an average across funds, weighting each fund's sub-portfolio returns by the fund's total net assets (TNA). Holdings returns are raw holdings returns, industry-adjusted returns, market-adjusted returns and characteristics-adjusted returns. I report the value and the t-statistics for the difference between the two sub-portfolios. In all panels, *, **, and *** denote statistical significance at 10%, 5%, and 1% level.

	Raw returns	Industry-adj. returns	Market- adj. returns	DGTW- adj. returns
	(1)	(2)	(3)	(4)
<i>Client Country</i>	0.0428 (1.27)	0.0089 (0.66)	0.0094 (0.65)	0.0135 (1.09)
<i>Non Client Country</i>	0.0511 (1.52)	0.0142 (1.05)	0.0153 (1.06)	0.0194 (1.57)
Coeff (<i>Client Cnt. – Non Client Cnt.</i>)	-0.0083	-0.0053	-0.0059	-0.0059
t-stat (<i>Client Cnt. – Non Client Cnt.</i>)	(0.17)	(0.28)	(0.29)	(0.34)

Table 8: Fund Flows and Fund Overweighting in Client Countries

The table reports the estimates of:

$$Flow_{ft} = \alpha + \beta Client\ Country\ Overweight_{ft-1} + \gamma'x_{ft} + \varepsilon_{ft}$$

The dependent variable is the semi-annual cumulative flows into fund f at time t over the previous six months. *Client Country Overweight_{ft}* is a measure of fund f 's degree of portfolio overweighting in its client countries at time t . The set of controls includes fund size, firm size, fund age, fund expenses ratio, fund volatility, fund past returns, and fund past returns squared, as well as style and date fixed effects (in Column (1)), or style \times date fixed effects (in Columns (2) – (4)). Columns (1) – (2) report the results on the full sample, and Columns (3) – (4) report the results on sub-samples splitting based on funds' institutional ownership variable *Institution%*, which is the percentage of fund assets in institutional share classes over the total fund assets. The t-statistics are based on standard errors clustered by fund. *, **, and *** denote statistical significance at 10%, 5%, and 1% level.

	Full Sample		<i>Institution%</i> = 0	<i>Institution%</i> > 0
	(1)	(2)	(3)	(4)
<i>Client Country Overweight</i>	0.0192*** (3.05)	0.0180*** (2.77)	0.0199*** (2.89)	-0.0008 (-0.05)
Fund controls	Y	Y	Y	Y
Style and date f.e.	Y	N	N	N
Style \times date f.e.	N	Y	Y	Y
R ²	0.061	0.098	0.098	0.150
N	59,795	59,795	40,229	19,550

Table 9: Fund Flow-Performance Sensitivity and Fund Overweighting in Client Countries

The table reports the estimates of:

$$\begin{aligned}
 Flow_{ft} = & \alpha + \beta_1 Low Rank_{ft} + \beta_2 Middle Rank_{ft} + \beta_3 High Rank_{ft} + \lambda Overweight_{ft} + \delta_1 Overweight_{ft} \\
 & \times Low Rank_{ft} + \delta_2 Overweight_{ft} \times Middle Rank_{ft} + \delta_3 Overweight_{ft} \times High Rank_{ft} \\
 & + \gamma' x_{ft} + \varepsilon_{ft}
 \end{aligned}$$

The dependent variable is the semi-annual cumulative flows into fund f at time t over the previous six months. In Columns (1) – (3), the two piecewise-linear fund performance segments are defined as: $Low Rank_{ft} = \min(0.5, Rank_{ft})$ and $High Rank_{ft} = Rank_{ft} - Low Rank_{ft}$. In Columns (4) – (6), the three piecewise-linear segments are defined as: $Low Rank_{ft} = \min(0.2, Rank_{ft})$, $Middle Rank_{ft} = \min(0.6, Rank_{ft} - Low Rank_{ft})$ and $High Rank_{ft} = Rank_{ft} - (Low Rank_{ft} + Middle Rank_{ft})$. The fund performance rank variable $Rank_{ft}$ ranges from 0 (worst performance) to 1 (best performance), and is assigned to each fund on semi-annual frequency based on the decile value of its average raw return within all funds in the same investment style in the previous twelve months. In Columns (1) and (4), $Overweight$ is *Client Country Overweight*, the measure of fund f 's degree of portfolio overweighting at time t in its client countries. In Columns (2) and (5), $Overweight$ is an indicator variable *Has Overweight*, which is equal to one if *Client Country Overweight* is positive, and zero otherwise. In Columns (3) and (6), $Overweight$ is an indicator variable *High Overweight*, which is equal to one if *Client Country Overweight* is above the median, and zero otherwise. The set of controls includes fund size, firm size, fund age, fund expenses ratio, fund volatility, fund past returns, as well as style \times date fixed effects. The t-statistics are based on standard errors clustered by fund. *, **, and *** denote statistical significance at 10%, 5%, and 1% level.

Continued – Table 9: Fund Flow-Performance Sensitivity and Fund Overweighting in Client Countries

<i>Overweight Measure</i>	<i>Client Country Overweight</i>	<i>Has Overweight</i>	<i>High Overweight</i>	<i>Client Country Overweight</i>	<i>Has Overweight</i>	<i>High Overweight</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Low Rank</i>	0.0585*** (4.79)	0.0847*** (5.08)	0.0834*** (5.43)	0.2278*** (4.50)	0.3251*** (4.68)	0.3245*** (4.88)
<i>Middle Rank</i>				0.1093*** (16.42)	0.1179*** (13.17)	0.1065*** (13.06)
<i>High Rank</i>	0.2267*** (20.31)	0.2244*** (14.51)	0.2037*** (14.80)	0.5313*** (15.28)	0.5087*** (10.43)	0.5023*** (11.35)
<i>Overweight × Low Rank</i>	-0.0780** (-2.43)	-0.0669*** (-3.17)	-0.0731*** (-3.49)	-0.3089** (-2.44)	-0.2547*** (-2.83)	-0.2720*** (-3.02)
<i>Overweight × Middle Rank</i>				-0.0725*** (-4.13)	-0.0327*** (-2.88)	-0.0147 (-1.34)
<i>Overweight × High Rank</i>	-0.1065*** (-3.41)	-0.0214 (-1.09)	0.0172 (0.91)	-0.1945** (-2.23)	-0.0117 (-0.19)	0.0000 (0.00)
<i>Overweight</i>	0.0549*** (4.55)	0.0351*** (4.32)	0.0320*** (3.99)	0.0934*** (4.00)	0.0646*** (3.87)	0.0620*** (3.69)
Fund controls	Y	Y	Y	Y	Y	Y
Style × date f.e.	Y	Y	Y	Y	Y	Y
R ²	0.119	0.119	0.119	0.122	0.122	0.122
N	61,252	61,252	61,252	61,252	61,252	61,252

Table 10: Investors' Costs and Fund Overweighting in Client Countries

This table reports the estimates of:

$$Cost_{ft} = \alpha + \beta Client\ Country\ Overweight_{ft} + \gamma' x_{ft} + \varepsilon_{ft}$$

The dependent variable is a *Cost* variable (i.e., fund performance measures and fund risk measures). *Client Country Overweight_{ft}* is a measure of fund *f*'s degree of portfolio overweighting in its client countries at time *t*. The set of controls includes fund size, firm size, fund age, fund expenses ratio, fund volatility, fund past returns, as well as style and date fixed effects, or style × date fixed effects. In Panel A, the dependent variable is the fund level market-adjusted holdings returns (in Columns (1) – (2)), or the characteristics-adjusted holdings returns (in Columns (3) – (4)), or Sharpe ratio (in Columns (5) – (6)). In Panel B, the dependent variable is the fund idiosyncratic volatility computed from a CAPM model (in Columns (1) – (2)) or from a Fama-French 4-factor model (in Columns (3) – (4)). In all panels, the t-statistics are based on standard errors clustered by fund. *, **, and *** denote statistical significance at 10%, 5%, and 1% level.

Panel A: Fund Performance and Overweighting in Client Countries

	Market-adj. returns		DGTW-adj. returns		Sharpe Ratio	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Client Country Overweight</i>	-0.0050*** (-3.13)	-0.0031* (-1.92)	-0.0059*** (-3.94)	-0.0050*** (-3.36)	-0.0055** (-2.41)	-0.0043** (-2.00)
Fund controls	Y	Y	Y	Y	Y	Y
Style and date f.e.	Y	N	Y	N	Y	N
Style × date f.e.	N	Y	N	Y	N	Y
R ²	0.076	0.413	0.176	0.427	0.061	0.187
N	95,783	95,783	93,882	93,882	99,036	99,036

Panel B: Fund Risk and Overweighting in Client Countries

	<i>CAPM Idiosyncratic Volatility</i>		<i>FF4F Idiosyncratic Volatility</i>	
	(1)	(2)	(3)	(4)
<i>Client Country Overweight</i>	0.0026*** (4.23)	0.0024*** (4.05)	0.0029*** (4.83)	0.0028*** (4.79)
Fund controls	Y	Y	Y	Y
Style and date f.e.	Y	N	Y	N
Style × date f.e.	N	Y	N	Y
R ²	0.713	0.757	0.693	0.735
N	90,635	90,635	90,635	90,635