

Cultural influences on home bias and international diversification by institutional investors

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Abstract

We investigate determinants of international diversification in institutionally managed portfolios from more than 60 countries. Survey-based country-specific variables on cross-cultural behaviors help to explain both home bias and diversification among foreign equities. In particular, investment funds from countries characterized by higher uncertainty avoidance behavior display greater home bias and are less diversified in their foreign holdings. Portfolios from countries with higher levels of masculinity and long-term orientation display lower levels of home bias, and portfolios from countries with higher levels of masculinity are more diversified abroad. Portfolios from culturally distant countries invest less abroad and underweight culturally distant target markets. The economic significance of cultural variables is high and comparable in magnitude to geographical distance, a consistent influence on foreign diversification in prior studies. Culture impacts investor behavior directly and not merely through indirect channels such as legal and regulatory framework.

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1. Introduction

Portfolio theory predicts that investors diversify across domestic and foreign markets to maximize portfolio efficiency (Levy and Sarnat, 1970). In practice, home-country portfolio allocations exceed benchmark weights based on market capitalization (French and Poterba, 1991). International portfolio allocations by mutual funds are influenced by stock market development and investor familiarity with various foreign markets as suggested by common language, bilateral trade flows, and geographic proximity between investor and target countries (Chan, Covrig, and Ng, 2005). Such factors could be viewed as proxies for a behavioral bias toward familiar investments. Alternatively, these factors could be viewed as proxies for ease of market access, lack of information asymmetries between investors and various foreign markets, and similar kinds of market imperfections to which rational portfolio managers would respond when making asset allocation decisions.

In this study we investigate how a nation's cultural characteristics condition equity allocations in portfolios managed by resident institutional investors. Specifically, we examine the global equity holdings of some 25,000 institutional portfolios from over 60 countries, which in turn are invested across more than 80 countries. We then investigate whether culturally-rooted behaviors condition portfolio allocations, specifically home-country bias and diversification across foreign markets. We classify national cultures based on survey-based measures developed by social psychologists (Hofstede, 1980, 2001; House, Hanges, Javidan, Dorfman, and Gupta, 2004). These measures of national culture include concepts such as uncertainty avoidance, long-term orientation, individualism, and masculinity. These measures of culture have been widely used in literatures outside of economics and finance to explain cross-cultural differences in observable practices and behaviors, and they have recently been utilized to

explain differences in economic phenomenon ranging from industrial growth to investor trading behavior (Huang, 2008; Chui, Titman, and Wei, 2010). The cultural variables we examine appear to represent manifestations of deep-rooted behaviors and preferences of individual investors in various countries rather than proxies for market imperfections that might otherwise condition portfolio allocations. Our assumption is that institutional money managers will design portfolios that cater to the culturally rooted preferences of their ultimate investors.

In empirical models for home bias and foreign diversification we find that culture indeed appears to affect portfolio allocations. Specifically, uncertainty avoidance is positively related to the degree of home bias in the cross-section of institutional portfolios after controlling for macroeconomic and familiarity variables previously investigated in the literature. Furthermore, foreign market allocations in portfolios from high uncertainty avoidance countries tend to be less diversified, underweighting a greater proportion of foreign markets compared to funds from low uncertainty avoidance countries. Cultural masculinity and long-term orientation are inversely related to home bias, and allocations to foreign equities appear more diversified for funds from countries with higher levels of masculinity. Cultural distance from the rest of the world is positively related to home bias, and culturally distant target markets tend to be underweighted.

Our results suggest that a portion of the home-country bias phenomenon is attributable to cultural characteristics that differ across investor countries. In additional analyses that control for investor countries' legal and regulatory origin, our results for culture are robust and significant. This finding suggests that the relationship between culture and a country's legal environment is complex and that culture impacts not only the legal and regulatory environment but investor behavior as well.

The paper is organized as follows. Section 2 reviews the literature on international diversification and discusses how observable differences in culture across countries may affect investment decision making. Section 3 details the data and methods used in the study. Section 4 provides the results on the global sample of funds. Section 5 provides concluding remarks with implications for future research.

2. Home bias, international diversification, and the effects of culture

2.1. International diversification and home bias

Numerous studies document geographical biases in portfolio allocations (French and Poterba, 1991; Coval and Moskowitz, 1999; Kang and Stulz, 1997; Dahlquist and Robertsson, 2001; Karlsson and Norden, 2007). Recent research focuses on how investor-specific, investor-country-specific, target-country-specific, and security-specific factors affect levels of home bias and international diversification. Amadi (2004) reports that low levels of foreign equity allocations by institutional investors tend not to be diversified across international equity markets, and factors such as common language, trade, and immigration links affect foreign investment. Chan, Covrig, and Ng (2005) find that US mutual funds under- or over-weight various world equity markets according to factors such as economic development, capital controls, stock market development, familiarity, and levels of investor protection. Aggarwal, Klapper, and Wysocki (2005) show that US funds targeting emerging markets invest more in large visible firms with more transparent accounting policies. Leuz, Lins, and Warnock (2008) report that quality of corporate governance practices at the firm level influences foreign shareholdings by US investors. Kang, Lee, and Park (2009) suggest that home bias and over/underweighting of international securities may arise from valuation differences between

domestic and foreign investors. Ferreira and Matos (2008) find that institutions prefer large, well-governed firms with high levels of stock-trading liquidity. Non-US investors, however, overweight stocks of firms that are cross-listed in the US, are members of MSCI indexes, and are globally visible through foreign sales or analyst coverage.

Few studies examine investor identity traits that influence observable aspects of portfolio allocation. Barber and Odean (2001) show that an investor's sex helps to predict self-attribution biases and trading activity, and Karlsson and Norden (2007) find that an investor's sex partially explains home bias. Graham, Harvey, and Huang (2009) show that individual investors who describe themselves as competent – perhaps overconfidently – have more internationally diversified portfolios. Grinblatt and Keloharju (2001) segment Finnish investors based on ethnic heritage and find that they tend to invest more in Finnish companies headed by CEOs who share their heritage.

2.2. Culturally rooted behaviors and financial decision making

Culture is often defined as a system of shared values, beliefs, and attitudes that influences individual perceptions, preferences, and behaviors. National culture has been a topic in many recent studies in the field of financial economics, but frequently culture has been defined or measured in order to help explain variations in institutions or legal practices rather than individual investor behavior (e.g., Stulz and Williamson, 2003). In contrast, a recent series of papers by Guiso, Sapienza, and Zingales (2004, 2006, 2008, 2009) shows that cultural differences in trust in others help to explain stock market participation and other facets of portfolio investment. Similarly, Chui, Titman, and Wei (2010) suggest that cross-cultural differences in terms of individualism versus collectivism are related to prevalence of self-

attribution biases, levels of trading activity, and the magnitude of momentum effects in security pricing across countries. In a study related to ours, Beugelsdijk and Frijns (2010) find that culture and cultural distance play an important role in explaining foreign bias in portfolio allocations,

In this study we investigate how cross-cultural differences in behavior affect international portfolio allocations. We link a well-known study by social psychologist Geert Hofstede on cross-cultural psychology to the international diversification literature. Hofstede's *Culture's Consequences* (1980, 2001) is one of the most influential works in cross-cultural psychology, and it is widely cited in marketing and international business. The study identifies primary dimensions of culture and differences in thinking, values, and social behaviors among people from more than 50 nations. Hofstede's survey-based evidence shows that countries' cultural attributes can be measured in five primary dimensions (from Geert Hofstede's website: <http://www.Geert-Hofstede.com> and from *Culture's Consequences*, 2001, 2nd edition, pages xix-xx):

“Uncertainty avoidance index (UAI) deals with a society's tolerance for uncertainty and ambiguity. It indicates to what extent a culture programs its members to feel either uncomfortable or comfortable in unstructured situations. Unstructured situations are novel, unknown, surprising, or different from usual. Uncertainty avoiding cultures try to minimize the possibility of such situations by strict laws and rules and safety and security measures, and uncertainty avoiding countries are also more emotional and motivated by inner nervous energy.

Individualism (IDV) is the degree to which individuals are integrated into groups. On the individualist side we find societies in which the ties between individuals are loose:

everyone is expected to look after herself and her immediate family. In collectivist societies people from birth onwards are integrated into strong, cohesive groups.

Power distance index (PDI) is the extent to which the less powerful members of organizations and institutions expect and accept that power is distributed unequally. It suggests that a society's level of inequality is endorsed by the followers as much as by the leaders. Power and inequality are extremely fundamental facts of any society, and while all societies are unequal, some are more unequal than others.

Masculinity (MAS) versus femininity refers to the distribution of roles between the genders. The survey studies reveal that (a) women's values differ less among societies than men's values; (b) men's values from one country to another contain a dimension from very assertive and competitive and maximally different from women's values on the one side, to modest and caring and similar to women's values on the other. The assertive pole has been called 'masculine' and the modest, caring pole 'feminine'. The women in feminine countries have the same modest, caring values as the men; in the masculine countries they are somewhat more assertive and competitive, but not as much as the men, so that these countries show a gap between men's values and women's values.

Long-Term Orientation (LTO) versus short-term orientation: this fifth dimension was found in a study among students in 23 countries around the world. Values associated with long-term orientation are thrift and perseverance.”

Hofstede's scores for all available countries are presented in Appendix A which ranks the countries in order from the lowest to highest based on uncertainty avoidance behavior. It is not immediately apparent that uncertainty avoidance would be correlated with another country

characteristic, for example with GDP per capita. Lowest uncertainty avoidance countries include both wealthy and developing countries from all continents.

In this study we focus on the uncertainty avoidance, long-term orientation, individualism, and masculinity dimensions of investor countries. Hofstede's uncertainty avoidance measure appears in the international economics and finance literature. Huang (2008) finds that countries characterized by high uncertainty avoidance grow disproportionately more slowly in industry sectors characterized by high information asymmetries. Beugelsdijk and Frijns (2010) find that more uncertainty avoiding societies are associated with lower levels of foreign equity investment. Aggarwal and Goodell (2009) find that societies with less uncertainty avoidance are more market-based and societies with higher uncertainty avoidance are more bank-based. As noted earlier, individualism has been studied previously in finance by Chui, Titman, and Wei (2010) in terms of its effect on self-attribution biases, trading activity, and momentum patterns in stock returns. Also, Beugelsdijk and Frijns (2010) find that societies with higher levels of individualism invest more in foreign equities. To our knowledge, Hofstede's measures for masculinity and long-term orientation have not been studied before in the finance literature.

As a robustness check, we also use cultural dimensions from a more recent GLOBE study by House, Hanges, Javidan, Dorfman, and Gupta (2004). GLOBE incorporates data from 17,000 managers in 951 organizations in 62 countries. GLOBE replicates the Hofstede study in some ways, but expands the cultural dimensions to nine: power distance, uncertainty avoidance, institutional collectivism and in-group collectivism, assertiveness and gender egalitarianism, future orientation, humane orientation, and performance orientation. The GLOBE scores for our sample countries and their correlations with Hofstede's measures are available in Appendix B.

2.3. Testable hypotheses

We investigate how cross-cultural differences in behavior as measured by Hofstede affect portfolio allocation decisions by investment funds from around the world. We do not discount that culture may influence decision-making by portfolio managers of various nationalities. Our implicit assumption, however, is that institutional portfolios are designed to meet the demands of ultimate investors who themselves display culturally-rooted preferences. We focus on how uncertainty avoidance, long-term orientation, individualism, and masculinity affect international diversification. We examine two aspects of international diversification: home-country bias and the extent to which the international investments are diversified across foreign markets.

We hypothesize that funds from countries which rank high on the uncertainty avoidance dimension prefer safe and familiar investments. Therefore, we expect to observe that funds from high uncertainty avoidance countries prefer investments at home and experience higher home bias than funds from relatively low uncertainty avoidance countries. More formally:

H1: Funds from countries characterized by high uncertainty avoidance display more home bias in their portfolio allocations.

We use the phrase *foreign diversification* to refer to the extent that a fund's international portfolio allocation is diversified across foreign markets relative to benchmark weights based on market capitalization or float-adjusted capitalization. Again, traditional portfolio theory recommends that international allocations be diversified across foreign markets. Merton (1987), however, argues that information imperfections prompt investors to focus on familiar opportunities. Empirical literature has shown that familiarity and/or perceived informational advantages may lead to unbalanced portfolios so that prominent or familiar firms are preferred

(Coval and Moskowitz 1999; Kacperczyk, Siam, and Zheng 2005). Empirical literature supports Merton's argument in international settings, and investments in foreign markets are typically allocated to large, less risky, and more prominent firms (Kang and Stulz 1997; Dahlquist and Robertsson 2001; Ferreira and Matos 2008). We predict that funds from countries characterized by high uncertainty avoidance will have foreign diversification concentrated in few large and visible firms from major foreign markets with less diversification to smaller riskier firms from other target markets. Formally:

H2: Funds from countries characterized by high uncertainty avoidance will display less diversification among foreign markets.

The Hofstede measure for individualism distinguishes countries based on whether their residents display individualistic versus collectivist behavioral tendencies. We predict that funds from countries characterized by higher individualism will display greater diversification among foreign markets in their portfolio allocations. We argue that countries with higher individualism scores and possibly higher degrees of overconfidence may on average think that they possess more information than investors from other countries or that they interpret information from a variety of foreign markets in a manner superior to other investors. The perceived information advantage by investors from high individualism countries would then also lead to a higher number of securities in foreign countries and more foreign diversification on average. Thus we investigate two additional hypotheses:

H3: Funds from countries characterized by high individualism have more ownership abroad and therefore lower home bias than countries with low individualism scores.

H4: Funds from countries characterized by high individualism will display more diversification among foreign markets.

The third Hofstede measure, masculinity, distinguishes countries based on whether their residents display masculine (typically aggressive) versus feminine behavioral tendencies. Barber and Odean (2001) suggest that male investors may suffer from higher degrees of overconfidence or similar self-attribution biases, which in turn translate to higher trading volume in individual portfolios. Investors who perceive themselves as competent may have lower home bias in their portfolios, so we predict that funds from countries characterized by higher masculinity will display more diversification among foreign markets in their portfolio allocations. We argue that countries with higher masculinity scores and possibly higher degrees of overconfidence may on average think that they possess more information than investors from other countries or that they interpret information from a variety of foreign markets better. The perceived information advantage by investors from high masculinity countries would then also lead to a higher number of securities in foreign countries and more foreign diversification on average. Thus we investigate the hypotheses:

H5: Funds from countries characterized by high masculinity have more ownership abroad and therefore lower home bias than countries with low masculinity scores.

H6: Funds from countries characterized by high masculinity will display more diversification among foreign markets.

Hofstede's measure of long-term orientation is associated with values of thrift and perservance. Societies with long-term views may exhibit less myopic tendencies in the equity

markets as well. In portfolio allocation, this may translate into lower trading volumes and also more diversified international portfolios. This leads to two additional hypotheses:

H7: Funds from countries characterized by high long-term orientation have more diversified portfolios and therefore lower home bias than countries with low long-term orientation scores.

H8: Funds from countries characterized by high long-term orientation will display more diversification among foreign markets.

Finally, we investigate the effect of cultural proximity between an investor country and other target markets. Geographical distance is negatively related to the amount of foreign diversification, either because of unfamiliarity or of informational disadvantage that increases with distance. The same may be true with cultural distance as well. Unfamiliar, culturally distant countries may have differences in contracting environment, power and control structures, legal systems, incentive structures, and decision making practices (Hofstede 1980; Morosini, Shane, and Singh, 1998). We therefore expect to observe lower portfolio allocations to culturally distant countries. Countries that are on average more culturally distant will as a result have higher degrees of home bias in investment portfolios. More formally:

H9: Funds from countries that are culturally distant from the rest of the world have higher home bias.

H10: Funds underweight culturally distant target markets in their portfolios.

3. Data and methods

3.1. Data

The data are collected from several different sources of public filings. Table 1 summarizes the data sources of funds' portfolio holdings, fund types, and styles. Altogether the initial data include year-end 2006 fund holdings for more than 37,000 investment institutions from over 60 countries that in turn hold securities from more than 80 countries. The total number of distinct securities held by sample funds exceeds twenty thousand. Each of the institutions in the data set is identified by a unique identifier, and the portfolio data include information on each security held in a fund's portfolio as a percentage of the fund's total portfolio. Data also include the funds' domiciles, descriptions of style of the fund, turnover, and identifiers for each of the securities held. We merge the portfolio holdings data to a securities database that consists of information collected from CRSP, DataStream, and WorldScope. For each security we have information on market value, industry, exchange, closing prices, company name, shares outstanding, and the home country. Companies with multiple listings appear with different identifiers in the data, and we treat investments in both home-country markets and cross-listed markets as an investment in the firm's home country. The world capitalization and bias measures we describe below incorporate the market values from both cross-listed and home market stocks. Shares of some firms in many countries appear difficult for foreign investors to obtain either because of legal restrictions or because of ownership by large block holders. For each security, therefore, we calculate the investable float as the percentage (and market value) of shares that are not held by large block holders as reported by WorldScope.

We discard funds from the sample that do not report their country code, whose allocations do not add up to 100%, whose non-stock positions consist of more than 50% of their

holdings, and that do not report security home country identifiers. Funds with zero percent invested abroad are not included in the calculations. Additional funds are discarded due to a lack of country-specific information, most notably Hofstede's cultural data. These screens reduce the number of institutionally managed portfolios from 37,346 to 25,420.

Other country-specific variables are collected from several different sources. GDP, GDP per capita, projected GDP growth, exchange rate data, and inflation data for investor countries are obtained from United States Department of Agriculture (www.usda.gov/wps/portal/usdahome). Hofstede's scores for the primary dimensions of culture are obtained from Geert Hofstede's website (www.geert-hofstede.com/). GLOBE's cultural variables are from House, Hanges, Javidan, Dorfman, and Gupta (2004). Bilateral trade flows are from the NBER world trade database maintained by Feenstra (www.econ.ucdavis.edu/faculty/fzfeens/). Familiarity variables - language and distance - are from Jon Haveman's international trade data source and are completed with information obtained from CIA World Factbook (<http://www.haveman.org/>; <https://www.cia.gov/library/publications/the-world-factbook/>). Tax and transaction data are from Chen, Covrig, and Ng (2005). Indexes for country level corporate governance and corruption/transparency are from Maplecroft (www.maplecroft.com). Stock market index data are from MSCI Barra (www.msibarra.com). Finally, the legal and regulatory variables are from La Porta, Lopez-de-Silanes, and Shleifer (2006), and Djankov, McLiesh, and Shleifer (2007).

3.2. Methodology

We calculate the portfolio allocation for each of the funds and investor countries in a manner similar to that of Chan, Covrig, and Ng (2005). We use the institutional holdings across securities to calculate the percentage allocated to each country J by each fund i as

$$P_{i,J} = \sum_{j \in J} p_{i,j} \quad (1)$$

where $p_{i,j}$ is the portfolio weight by fund i for security j from target country J . The under/overweighting of each of the target countries is calculated as the actual allocation by each fund in each target country less the expected allocation to each country by each fund, when the expected allocation is the percentage of a target country's capitalization relative to the world:

$$\text{bias}_{i,J} = p_{i,J} - \frac{MV_J}{\sum_J MV_J} \quad (2)$$

where MV_J is the investable market value of all equity securities in country J and the denominator is the total of all the countries' investable market capitalizations, and $p_{i,J}$ is the amount of portfolio allocated to target country J by sample fund i . When country J is firm i 's home market the equation (2) provides a measure of home bias. When country J is a foreign market equation (2) provides a measure of what Chan, Covrick, and Ng (2005) refer to as foreign bias, i.e., dispersion from the allocation benchmark for target country J . Table 2 shows the average home bias and median home bias in each of the investor countries as well as the number of investment funds in the sample. Table 2 also reports summary statistics for a limited sample of funds that also report fund size information (13,546 funds). Table 2 also includes a value-weighted average measure for home bias in this limited sample.

Benchmark capitalization weights for target countries are shown in Table 3 for the largest markets. The United States, the United Kingdom, and Japan are the largest markets based on both market capitalization and the float-adjusted market capitalization. Overall, developed

markets' capitalizations increase and emerging markets' capitalizations decrease when benchmark weights are adjusted for investability.

We also measure foreign diversification in target country portfolio allocations with an implicit adjustment for home bias. Specifically, instead of measuring the non-home country allocations relative to the entire portfolio we measure the percentage allocation relative to the value of all foreign investments for that portfolio, excluding home market investments explicitly. Similarly, the benchmark weights are calculated with the investor's home market excluded from world market capitalization. Consequently, each fund's benchmark weight for a country is specifically adjusted for that fund's measured home bias. The resulting bias measure automatically controls for the home bias in a fund's portfolio and focuses on the under/overweighting of target markets with the amount that is devoted to foreign investment. Formally, the foreign diversification bias with respect to country J by fund i is calculated as follows:

$$\text{adj.bias}_{i,J} = \frac{p_{i,J}}{\sum_{J \neq I} p_{i,J}} - \frac{MV_J}{\sum_{J \neq I} MV_J} \quad (3)$$

Again, target country weights MV_J are calculated controlling for WorldScope's measure of closely held shares. For each investor country I we similarly calculate the equally weighted and value weighted average adjusted bias across all funds from that country.

Finally, we calculate an alternative measure of foreign diversification or dispersion for funds' holdings in their international investments:

$$DISPERSION_i = \sum_J \sqrt{\frac{\left(\frac{p_{i,J}}{\sum_{J \neq I} p_{i,J}} - \frac{MV_J}{\sum_{J \neq I} MV_J} \right)^2}{J^2}} \quad (4)$$

where $DISPERSION_i$ is calculated as the squared adjusted bias in each of the target countries divided by the total number of target countries. For an investment fund whose foreign allocations are made exactly in line with benchmark weights, this measure will be zero. In contrast, the measure will be close to one hundred for a fund whose foreign investments are highly concentrated in a single small-cap foreign market. Table 2 shows the summary statistics of sample countries' average dispersion measures in addition to the summary statistics of countries' home biases.

Finally, we utilize a measure of cultural distance as per Kogut and Singh (1988). Specifically, we compute an index of cultural distance with both Hofstede's and GLOBE's cultural dimensions. With Hofstede's dimensions, we omit the long-term orientation dimension because it is available for only a limited number of countries. The index is constructed in the following way:

$$CD_I = \sum_{n=1}^N \left(\frac{C_{n,I} - C_{n,J}}{V_n} \right) / N \quad (5)$$

where CD_I is the cultural distance of investor I from target country J . $C_{n,I}$ is the index for the n^{th} cultural dimension of country I , V_n is the variance of the n^{th} index, and $C_{n,J}$ is the index for the n^{th} cultural dimension of country J ,

4. Empirical results

4.1. Determinants of home bias

We begin by testing hypotheses regarding how cultural factors affect observed home bias. OLS regression estimates at fund level are used to test for the determinants of home bias in funds' portfolio allocations. These results are shown in Panels A-E of Table 4. Foreign securities used in the estimations consist only of investable securities (float), and home bias is

adjusted for investability. The dependent variable is the amount of home bias in each fund's portfolio calculated as per equation (2). The first set of independent variables comprises cultural variables. Cultural variables are Hofstede's primary dimensions of culture for investor countries including an investor country's average cultural distance from its potential target markets (from equation 5). In panels C and D we use GLOBE's future orientation in the place of long-term orientation. The second set of explanatory variables comprises the familiarity variables averaged over all of the target countries of each fund. Common language is a dummy equal to one if the countries share a common language. This dummy variable only takes a value of one if the official language(s) of the country pairs is (are) the same. We expect the aggregated common language to take on a negative sign, so that investors that have on average more targets with the same official languages are more prone to invest outside the home country and have less home bias. Distance controls for the geographical proximity of a target country to an investor country. Distance is calculated as the logarithm of distance in miles between capital cities of country pairs. We expect distance to have a positive sign because if an investor country's targets are farther away on average, the amount of home bias in funds' portfolios should be large. Scaled trade is calculated as the sum of all imports and exports between a target and an investor and it is scaled by the target's GDP similarly to Chan, Covrig, and Ng (2005). We expect trade to carry a negative sign, so that the more the investor's country has trade with others on average, the more familiarity they have with target countries and therefore the lower the home bias.

The third set of control variables includes macroeconomic and stock market control variables for funds' home countries. The signs of some of the variables are not necessarily clear, and some of them are merely included to ensure that our other independent variables are not correlated with an omitted macroeconomic characteristic of a country. These macroeconomic

variables include real GDP per capita, predicted GDP growth until 2017, three-year real exchange rate differential between the target and the investor country, and three-year historical stock market growth. Some of the fund-level analysis also includes the total market value of the investment fund as an independent variable. We also include a control for market correlations that measures benefits of diversification. In the home bias analysis, we include a control variable for the investor country's correlation with the rest of the world, similar to Becker and Hoffmann (2010). The more idiosyncratic the investor country's home market is the more we expect these investors to invest abroad. Thus, we expect that higher correlation with the rest of the world leads to higher levels of home bias.

The results for home bias regression at the fund level are displayed in panels A through E of Table 4. The estimated coefficient for uncertainty avoidance is positive and significant in a majority of the specifications, consistent with hypothesis 1. This result is more robust in specifications that include the entire sample of funds and is especially significant in open-end funds and growth funds (see panel C) and in countries outside the largest ten investor countries (see panel E). In country-level analysis (panel D), the coefficient on uncertainty avoidance is also positive and significant, especially when equally-weighted country averages are used. Uncertainty avoidance is also positive and the only significant variable besides geographical distance in country value-weighted average analysis. The magnitude of the effect is also large. A ten point increase in uncertainty avoidance (measured as an index number between 0 and 120) corresponds to a 1.3% to 5.4% increase in the observed home bias. Outside the largest ten investor countries and in the emerging markets the effect is larger, so that the 10 point increase in uncertainty avoidance corresponds to a 9% to 10% increase in the observed home bias.

The coefficient on individualism is negative, consistent with hypothesis 3, but the result is not as robust across different specifications. For example in analyses that include future orientation measures, individualism is positive. Individualism has its predicted sign, consistent with the overconfidence hypothesis, in samples that include long-term orientation.

The coefficient on masculinity is negative and significant as predicted in all specifications except at country value-weighted basis, in emerging markets, and in closed-end funds; a 10-point increase in masculinity corresponds to a 2.8% to 7.1% decrease in the level of observed home bias consistent with hypothesis 5. Also, the coefficient on long-term orientation has its predicted negative sign in most of the specifications, so that investor funds from countries with longer-term orientation have lower home bias in their portfolios. A 10-point increase in long-term orientation corresponds to a 1.8% to 4.7% decrease in the level of observed home bias. Finally, cultural closeness has a positive and significant sign in most of the specifications, except in country-level analysis and in specifications that include future orientation. This finding is consistent with hypothesis 9 that investors who are on average more culturally distant from other countries allocate more of their investments in their home countries.

The other independent variables are mostly consistent with past literature's findings. Language, in contrast, has an expected positive sign when cultural variables are included in the analysis. Geographical distance, consistent with prior literature, is positive and significant in most of the specifications, so that investors in countries that are more distant from others have higher home bias. Interestingly, in closed-end funds distance and cultural variables are mostly insignificant, indicating that closed-end funds are less sensitive to the behavioral influences. This finding suggests that close-end funds are intended to complement other portfolios by design and not be ultimate portfolios for investors. Market correlation is positive and significant in

most of the specifications as well, so that countries that are more correlated with the world invest more at home. This finding is consistent with Becker and Hoffmann's (2010) results at regional level.

The economic significance of the cultural variables is large. At the fund level, one standard deviation increase in uncertainty avoidance leads to a 3.2% to 4.0% increase in home bias, and one standard deviation increase in masculinity leads to a 4.5% to 4.9% decrease in home bias. As a comparison, one standard deviation increase in distance, which has been shown to matter the most in prior home bias literature, corresponds to a 6.9% to 13% increase in home bias. The combined effect of the cultural variables on home bias exceeds the influence of geographical distance.

Overall, the results in this section support the hypotheses 1, 5, 7, and 9. Funds from countries with higher levels of uncertainty avoidance and countries that are culturally distant from others have higher home bias in their portfolios and funds from countries with higher levels of masculinity and long-term orientation have less home bias in their portfolios. The main results are statistically and economically significant and comparable in magnitude to variables from previous literature.

4.2. Determinants of foreign diversification

Next, we turn our focus to hypotheses 2, 4, 6, and 8 and test for the determinants of foreign diversification among international equity allocations. We utilize the variable for diversification from equation (4) which measures overall dispersion from benchmark portfolio

allocations based on adjusted market capitalizations.¹ According to hypotheses 2, 4, 6, and 8, we expect funds from countries with high uncertainty avoidance to display high levels of concentration in their portfolios, and funds from countries with high levels of masculinity, individualism, and long-term orientation to display lower levels of concentration. The independent variables are the same from Table 4.

In Panels A through C of Table 5 the results for funds are the most robust for the masculinity dimension, consistent with hypothesis 6. Funds from countries with high levels of masculinity are more diversified in their holdings (see panel A). The result is the largest in magnitude for value funds and closed-end funds (see panel B), and at country level computed at equally-weighted basis (see panel C). Uncertainty avoidance also has a positive and significant sign in some of the specifications consistent with hypothesis 2, but this result is not as robust as the result for masculinity. The result for individualism is reverse to what we expected. Also, long-term orientation and future orientation have opposite results to the expected so that countries with longer-term orientation have less diversified international holdings. Geographical distance is positive and significant as expected. Also, common trade and countries' wealth measured by GDP per capita increase diversification, and investors from countries with more correlated stock markets with the world have less diversified foreign holdings.

Overall, the results in this section support hypotheses 2 and 6. Funds from countries with higher levels of uncertainty avoidance not only have higher home bias in their portfolios, but they are also less diversified abroad with the capital left over for foreign investments. Funds

¹ We use the log likelihood estimator of the Box Cox transformation parameter of that variable. We use logarithms of dispersion because the Box Cox transformation parameter is sufficiently close to zero, for practical purposes, about .11.

from countries with high levels of masculinity not only have less home bias, but they are also more diversified with the capital that is left over for foreign investment. Surprisingly, our results for individualism are opposite and significant to what we expect in hypotheses 3 and 4. It may be that instead of overconfidence, individualism is more correlated with some other behavioral characteristic, such as self-centeredness or egocentrism, which could lead to lack of knowledge or desire to learn about foreign markets, and would explain larger desire to invest at home and diversify less abroad. Investors from countries with longer-term orientation have less home biased portfolios, but less diversified holdings in foreign markets.

4.3. GLOBE cultural variables

We repeat all of our analysis for home bias and investment concentration using the GLOBE scores on national cultures, but to save space we only report selected results.² Table 6's panel A shows the results from fund-level home bias regressions similar to Table 4. Collectivism has a negative and significant sign throughout the specifications, similar to individualism, inconsistent with hypothesis 3. Assertiveness is negative in all the specifications, so that funds from countries that are more assertive have lower levels of home bias in their portfolios. This result is consistent with the overconfidence/masculinity hypothesis 5. Uncertainty avoidance is positive and significant similar to Hofstede's uncertainty avoidance only in some specifications. The less robust result is perhaps not surprising given Hofstede's (2006) criticism of the GLOBE

² Results for replicates of Tables 4-5 using GLOBE scores are available upon request. Our results are mainly consistent with Hofstede scores. Collectivism and assertiveness are consistent with our findings throughout the paper. Uncertainty avoidance is not as consistent, which is not surprising considering the difference in measurement. Future orientation is more consistent with hypothesis 8 than Hofstede's long-term orientation.

survey instruments of this aspect of culture. Future orientation is negative and significant, consistent with hypothesis 7.

Table 6's panel B shows the results from fund level analysis for determinants of foreign diversification similar to Table 5. Results for collectivism and assertiveness are similar to Table 5, although assertiveness loses its significance, so that funds from countries with high levels of collectivism and assertiveness have more diversification across foreign markets or lower dispersion scores. The assertiveness result is consistent with hypothesis 6, but the collectivism result is inconsistent with hypothesis 4. Uncertainty avoidance result has the opposite sign to the expected and to the result in Table 5. Future orientation is negative and significant, consistent with hypothesis 8. The other control variables in Table 6 have similar signs and significance levels to tables with Hofstede's cultural variables. Overall, the GLOBE cultural variables behave somewhat similarly to Hofstede's cultural variables.

4.4. Determinants of target country under/overweighting

We also test whether a target country's cultural dimensions matter in investor funds' decision making. We measure each fund's under/overweighting of all possible target markets and what target country specific and investor/target country specific characteristics cause funds to allocate more/less of their portfolio in certain countries. The dependent variable in this analysis is the adjusted bias (from equation 3), or the expected investment to target country J after controlling for a fund's home bias, less the expected investment to target country J based on J 's share of the world's market capitalization.

The independent variables are grouped into control variables specific to investor-target pairs, to target country cultural variables, and to other target country controls. The investor-target

variables include common language, distance, trade, and market correlation between the investor and the target, as well as cultural distance between the investor and the target. We expect common language and trade to be positive and geographical distance and cultural distance to be negative determinants of portfolio allocation. In the past literature, the results of market correlation have been mixed in influencing investment decisions so that some studies find that investors allocate more/less to target markets that are the most correlated with their home market (Amadi 2004/Chan, Covrig, and Ng 2005). Target country specific control variables include predicted GDP growth, tax and transaction cost, level of corporate governance, corruption and transparency, and GDP per capita.

Several interesting points are revealed in the results in Table 7. First, cultural dimensions of target countries are not significantly related to investor countries' allocation decisions. In other words, investor countries do not on average overweight a target country with a certain cultural characteristic, although masculinity of the target country is negative and significant in some of the specifications. However, cultural distance between an investor and a target country is negative and significant consistent with hypothesis 10. The economic significance of cultural closeness is roughly equal to the economic significance of geographical distance, which is consistently negative across specifications. A one standard deviation increase in cultural and geographical distance corresponds to 0.61 to 0.64% and 0.67 to 0.68% decreases respectively in the amount allocated into a foreign market from the proportion of portfolio that is not invested at home. Also, the market correlation between the investor's home market and the target market is negative and significant. Funds underweight markets that are more correlated with their home markets and overweight markets that are less correlated with their home markets. This result,

even though consistent with the diversification idea, conflicts with some previous studies that look at determinants of portfolio allocation.

4.5. Culture and legal and regulatory environment

In this last section, we attempt to identify the channel through which culture impacts home bias and foreign diversification. Specifically, we test whether the impact of culture is direct or indirect. In other words, we investigate whether culture impacts diversification through investor preferences as catered to by portfolio managers or whether culture proxies for a firm's institutional development, which in turn influences fund managers' decision making processes. We repeat the analyses of determinants of home bias and foreign diversification while controlling for the investor country's legal and regulatory framework. Our regulatory controls include a measure of disclosure standard, creditor rights, corporate governance index, level of corruption and transparency, and anti-self dealing index. We also include indicator variables for each investor country's legal origin (French origin, German origin, Scandinavian origin, UK origin, or socialism). If the effect of culture disappears while controlling for the legal and regulatory environments, we might conclude that culture affects home bias and foreign diversification via culture's relation to institutions.

Table 8 shows results from analyses that control for the investor country's legal and regulatory environment to test the channel through which culture plays the role in foreign diversification. The dependent variable is home bias in specifications 1-4 and dispersion in specifications 5-8. The results reveal that the impact of culture is more robust when we control for the investor country's legal and regulatory environment. We know from a long stream of literature on culture and its impact on institutional development that culture plays an important

role in the way societies' laws and regulatory frameworks have developed (Greif, 1994). Our results show that even though the culture impacts legal and regulatory environments of the investor countries, culture also impacts investor behavior directly. This finding is important and shows that the impact of culture is perhaps more complex than shown in previous finance studies. In addition to institutions, human behavior also plays a significant role, and researchers should not ignore the direct impact of culture in international business research.

5. Conclusion

This paper investigates home bias and the determinants of foreign diversification in portfolio allocations made by more than twenty-five thousand institutions from more than 60 countries in more than twenty thousand investable securities across more than 80 countries. Foreign market under/overweighting is measured as the deviation from allocation benchmarks based upon market capitalization weights adjusted for investability. According to traditional portfolio theory, we should expect to observe portfolio allocation decisions made according to the investable market capitalization of various global markets.

At the fund level for various groups of institutional investors, we confirm that home bias exists across broad samples of institutional portfolios invested in a wide range of global markets. Previous literature has shown that legal, regulatory, familiarity, and macroeconomic variables combine to help explain the cross-sectional variation in home bias and foreign diversification. We extend prior research by showing how previously studied familiarity variables affect home bias and foreign diversification by institutional investors based in markets outside the US, outside the largest investor countries, outside the developed world, and also across different fund types and management styles. Of previously studied influences, only the geographical distance

between the target country and the investor country has a consistently negative, large, and statistically significant impact on investment decisions. Institutional investors routinely favor close as opposed to distant investment opportunities.

We show that cross-cultural variables provide additional perspective on foreign asset allocation decisions made by institutional investors that is on a par with geographic distance in terms of economic importance. Specifically, we show that dimensions of cultural differences among countries drawn from the field of social psychology by Hofstede (1980, 2001) help explain cross-sectional variation in home bias and foreign diversification among institutional portfolios. Uncertainty avoidance, which measures the extent to which agents in a given culture feel uncomfortable in uncertain situations, appears to strongly influence the allocation of institutional portfolios among foreign markets after controlling for other known foreign portfolio allocation variables. Uncertainty avoidance is also related to home bias in that institutional investors based in countries with high uncertainty avoidance prefer to invest at home, and when they do invest abroad they are less diversified in their holdings.

We also find evidence that institutional investors from countries with higher levels of masculinity and long-term orientation display less home bias in their investment portfolios. Moreover, when such institutional investors invest abroad, their portfolios display relatively high levels of foreign diversification. Institutional investors from countries with high masculinity scores may be prone to overconfidence and believe that they have better information about foreign markets, or are able to better process information about foreign markets, than institutional investors from other countries. Specifically, we document high levels of foreign diversification for portfolios run by institutional investors from countries with high levels of masculinity.

Our findings show that culture of a target market does not necessarily impact investors' under/over weighting of the market, but investors prefer culturally close target markets over the culturally distant ones. Also, a test of whether culture impacts investor decision making directly or indirectly through law and regulatory framework reveals that both play a role. Previous studies on culture and finance have often only considered culture's importance through law and regulatory environment. The effect of culture, however, is more complex and impacts investor decision making directly as well and should not be ignored as a determinant in international diversification studies.

On an overall basis, our findings suggest that country-specific, survey-based measures of culturally distinct behaviors measured by social psychologists can help explain differences in the portfolio allocation decisions made by institutional investors from around the globe. In future research, it will become interesting to learn whether differences in culture among investors condition the performance of their international portfolio allocations.

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Table 1. Fund Characteristics

Table 1 summarizes fund characteristics for all those funds that have information available in our sample for the year ending 2006. The information is available for roughly half of the total sample including each fund's source data, fund type, and style.

Data Source	% of the sample	Style	% of the sample
13F Combined	0.51%	Large Cap	65.14%
13F Form	14.51%	Mid Cap	8.05%
13F Sub-filer	0.91%	Multi Cap	10.79%
Non-US portfolio	40.98%	Small Cap	16.02%
Sum of Funds	13.93%		
US fund (N-30D)	29.16%		
Fund Type	% of the sample	Style	% of the sample
Closed-End Fund	8.77%	Aggressive Growth	1.25%
Exchange Traded Fund	0.38%	Alternative	4.40%
Hedge Fund	0.40%	Broker/Dealer	0.94%
Insurance - Diversified	0.04%	Core Value	4.44%
Insurance - Life/Health	0.03%	Deep Value	0.30%
Insurance - P & C	0.02%	GARP	12.31%
Investment Management Co	0.03%	Generalist	0.52%
Offshore Fund	11.05%	Growth	32.50%
Open-End Fund	64.48%	Hedge Fund	13.94%
Pension Fund	0.99%	Income	1.37%
Private Portfolio	0.26%	Index	1.95%
Unit Investment Trust	0.12%	Private Equity	0.07%
Variable Annuity Fund	13.42%	Specialty	7.28%
		Value	18.73%

Table 2. Distribution of Home Bias and Foreign Diversification in Investor Countries

Home bias for each of the countries is calculated as the average percent invested in funds' home market relative to the home country's market capitalization. Foreign diversification or dispersion is calculated as the squared adjusted bias that a fund has in its portfolio allocation to each of the target countries, scaled by the number of countries the fund is invested in (equation 4). For the countries in aggregate, home bias and dispersion are calculated either as funds' equally weighted averages or value weighted averages. Value weighted averages are only available for 53% of the sample and are calculated with each fund's total market value of equity. Table also displays averages and medians for the limited sample. Market capitalizations are the float capitalizations for all the securities. Altogether we have data for 25,420 funds. Funds with zero percent invested abroad are not included in the table. Also funds from countries without GDP per capita, and language and distance data are excluded.

Country	All countries, equally weighted fund averages					Countries with funds that have size information available						
	Average		Median		Number of Funds	Average		VW		Median		Number of Funds
	Home Bias	Average Dispersion	Home Bias	Median Dispersion		Home Bias	Average Dispersion	Home Bias	Average Dispersion	Home Bias	Median Dispersion	
ARGENTINA	76.97	106.58	75.61	106.58	7	82.67	106.58	77.00	1.20	81.44	106.58	4
AUSTRALIA	51.70	51.85	54.09	36.19	143	54.94	52.04	77.54	0.32	65.06	37.48	116
AUSTRIA	5.84	12.76	0.28	4.87	172	6.61	10.91	11.09	0.05	1.67	4.27	67
BELGIUM	10.91	16.01	1.40	4.83	398	12.38	10.48	8.93	0.04	2.28	4.19	121
BRAZIL	55.74	17.63	56.26	17.61	4	56.78	17.61	56.71	0.18	56.78	17.61	2
CANADA	47.10	37.35	56.68	30.19	1,209	48.19	37.75	54.91	0.15	57.65	30.37	1,155
CHINA	42.51	35.87	34.72	20.85	9	55.88	52.71	64.14	0.55	53.49	25.61	5
CZECH REPUBLIC	14.57	8.90	5.88	8.47	19	13.53	8.88	21.86	0.11	5.42	8.36	18
DENMARK	12.36	18.99	0.59	4.88	334	10.25	17.20	14.79	0.09	0.49	4.64	232
ESTONIA	6.20	12.26	1.56	9.82	11	6.20	12.26	2.38	0.08	1.56	9.82	11
FINLAND	26.95	25.59	10.34	5.92	169	26.73	25.13	35.37	0.12	10.41	6.51	136
FRANCE	32.42	19.88	25.51	7.30	1,033	38.56	17.15	38.08	0.06	35.21	6.65	244
GERMANY	16.40	10.57	10.87	5.17	1,931	18.47	8.93	24.24	0.03	12.83	4.90	732
GREECE	12.25	12.30	0.58	5.68	87	10.84	12.97	29.07	0.20	0.39	5.01	57
HONG KONG	21.72	31.12	17.31	12.47	290	23.25	31.10	21.04	0.14	19.16	11.60	182
HUNGARY	28.71	18.96	26.32	5.93	20	30.22	19.74	27.50	0.13	27.17	7.26	19
INDIA	85.40	74.54	91.02	77.05	45	86.99	76.96	94.87	0.66	91.04	77.05	41
IRELAND	4.02	23.18	-0.51	4.95	133	6.59	23.62	7.71	0.05	0.02	4.36	77

ISRAEL	88.31	40.76	88.31	40.76	1	88.31	40.76	88.31	0.46	88.31	40.76	1
ITALY	16.63	16.62	3.34	5.71	455	18.31	11.37	21.33	0.02	12.34	3.75	96
JAPAN	14.83	23.40	-8.60	5.82	380	14.11	21.61	55.01	0.08	-8.60	5.67	332
KUWAIT	4.38	46.27	-0.08	35.62	3	4.38	46.27	0.81	0.11	-0.08	35.62	3
LUXEMBOURG	1.92	16.45	-0.13	5.27	382	2.32	16.89	1.78	0.06	-0.13	5.75	231
MALAYSIA	63.10	47.97	73.48	25.79	23	65.37	45.83	95.89	1.11	74.34	25.28	22
MEXICO	65.53	49.86	91.31	49.32	5	79.03	39.95	92.07	0.40	92.14	35.27	3
NETHERLANDS	9.88	19.35	1.30	4.25	216	9.70	21.31	13.55	0.04	1.27	4.25	118
NEW ZEALAND	70.78	57.34	67.75	46.11	7	70.78	57.34	84.01	0.46	67.75	46.11	7
NORWAY	45.25	19.71	43.41	12.90	169	46.29	20.14	20.88	0.05	46.07	13.08	136
POLAND	71.50	32.12	81.94	23.16	48	71.50	32.12	79.11	0.23	81.94	23.16	48
PORTUGAL	19.99	25.48	3.85	6.09	63	20.33	23.80	51.47	0.19	4.73	5.23	58
ROMANIA	70.92	106.17	73.24	106.47	7	70.56	105.96	76.68	0.78	76.89	106.33	6
SAUDI ARABIA	-0.21	44.56	-0.21	44.56	1	-0.21	44.56	-0.21	0.50	-0.21	44.56	1
SINGAPORE	11.23	25.40	5.89	7.41	273	12.67	25.41	33.63	0.10	6.57	7.25	192
SLOVAKIA	9.35	22.74	0.00	23.84	11	9.35	22.74	0.12	0.05	0.00	23.84	11
SOUTH AFRICA	65.65	46.99	72.69	39.46	189							
SOUTH KOREA	73.93	80.55	96.63	95.01	5	92.82	88.44	96.65	0.63	96.68	99.28	4
SPAIN	32.59	14.08	30.23	6.74	1,846	42.96	12.86	46.98	0.03	42.53	4.56	167
SWEDEN	41.43	17.73	39.60	9.71	445	41.37	17.78	45.27	0.12	39.99	9.72	406
SWITZERLAND	10.51	17.37	0.84	5.61	742	12.56	17.84	17.87	0.06	2.45	6.02	377
TAIWAN	31.47	68.06	-1.63	95.01	3	31.47	68.06	89.08	0.99	-1.63	95.01	3
THAILAND	-0.48	51.74	-0.48	51.74	1							
TURKEY	98.38	39.09	98.38	39.09	2	98.39	39.08	98.39	0.44	98.39	39.08	1
UNITED ARAB EMIRATES	-0.14	9.71	-0.14	9.71	1	-0.14	9.71	-0.14	0.11	-0.14	9.71	1
UNITED KINGDOM	20.75	21.80	6.19	4.91	2,115	25.72	23.72	44.70	0.09	10.41	5.56	1,229
UNITED STATES	42.21	26.39	56.96	12.44	12,013	43.69	26.41	44.63	0.09	57.56	12.39	6,874
Average	34.03	33.82	30.95	26.25		36.30	33.07	43.37	0.26	32.83	25.10	
Total					25,420							13,546

Table 3. World's Market Capitalization for All Securities and Float

Table 3 shows the world market capitalizations for the largest target markets. The shares are computed based on all the securities in the sample in the second column and based on the float capitalization in column three. The target markets' market capitalizations are shown as a percentage of the total world market capitalization. All the stock market capitalizations are calculated from market values based on closing prices in December of 2006, and they are converted to US dollars. Float is calculated based on the percentage of securities that are actively traded and defined by WorldScope as widely held. United States is on top of the list with 24.8% of the World's market capitalization when all securities are included and with 32.4% of the world's float capitalization, when just the investable portion of securities is included, followed by United Kingdom and Japan. Altogether the sample has information for 112 countries market capitalizations and 29 of them have market capitalizations over 0.5% of the total. Overall, developed markets' capitalizations increase and emerging markets' capitalizations decrease, when only float of the securities is included in the computation.

Target Market	Share of World's Market Capitalization	
	All Securities	Investable Securities
United States	24.8%	32.4%
United Kingdom	9.6	12.6
Japan	8.2	8.6
China	5.5	1.6
France	5.3	5.3
Germany	3.5	3.5
Netherlands	3.1	3.5
Russia	3.1	1.7
Switzerland	2.5	2.6
Italy	2.5	2.1
Canada	2.3	2.8
Australia	2.3	2.7
Hong Kong	2.3	1.3
South Korea	1.9	1.6
Spain	1.8	1.7
India	1.7	1.2
Sweden	1.7	1.9
Others	17.9	12.9
Total	100%	100%

Table 4. Determinants of Home Bias

OLS estimates are used to test for the determinants of home bias in funds' and countries' portfolio allocations. Securities used in the estimations consist only of investable securities calculated as the float of the market capitalization defined by WorldScope. Funds included in the regressions are only those that have less than 99% home bias in their portfolios. The dependent variable is home bias in each fund's portfolio (equally or value weighted average of funds' portfolios at country level), calculated as the difference of sum of percentages owned in securities that have the same home country as the investor and investors' home market capitalization. The first set of independent variables is Hofstede's cultural variables including a measure of cultural closeness from equation (x). The rest of the independent variables are grouped in familiarity and investor macroeconomic variables. Panel B shows results for selected funds. Growth funds are all those specified as growth, aggressive growth, or GARP. Value funds are those classified as value or deep value. Specifications also include open-end funds (OEF) and closed-end funds (CEF). Panel C shows results using GLOBE study's future orientation instead of Hofstede's long term orientation measure because Hofstede's measure is available only for a limited sample of countries. Panel D shows results at country level using both equally and value weighted country averages. Panel E shows fund level results for selected markets. First two specifications exclude the US, next two specifications exclude the largest ten markets, and the last specification only includes emerging market funds. Country clustered errors are used in all specifications. Absolute values of T-statistics are reported in parentheses below the coefficient. (*10% level, ** 5% level, *** 1% level).

Panel A: Home Bias at Fund Level¹

		Dependent Variable: Fund Home Bias							
Cultural	Individualism	0.355					0.300	-0.283	
		2.31**					2.38**	2.28**	
	Masculinity			-0.416				-0.355	-0.452
				3.32***				3.08***	6.87***
	Uncertainty				0.079			0.178	0.103
					0.61			2.08**	0.71
Long Term Orientation						-0.471		-0.181	
						2.67**		2.41**	
	Cultural Closeness							19.105	
								2.47**	
Familiarity	Language	-39.315	-51.346	2.395	-33.242	-109.239	-0.199	-21.228	
		1.43	2.26**	0.13	1	6.59***	0.01	1.11	
	Distance	27.424	30.933	20.625	24.948	30.908	18.996	16.616	
		3.41***	4.08***	3.23***	2.62**	4.18***	3.82***	4.09***	
	Trade	-50.479	-57.736	27.087	-52.958	-83.758	3.896	93.310	
		0.94	1.27	0.62	0.98	2.14**	0.09	3.31***	
Macroeconomic & Stock Market	Market Correlation	68.190	44.314	64.689	68.523	105.827	45.767	181.086	
		2.50**	2.00*	2.19**	2.65**	7.06***	1.83*	8.40***	
	3-year mkt growth	-0.349	-0.292	0.003	-0.352	-0.250	-0.009	-0.063	
		3.21***	2.94***	0.02	3.43***	1.59	0.1	0.35	
	Real XΔ Diff.	2.568	4.688	-0.867	3.434	12.395	3.391	0.006	
		0.56	1.46	0.27	0.69	2.95***	1.31	0	
	Predicted Growth	-11.725	-11.069	-17.230	-9.463	-13.605	-10.749	-33.859	
		1.84*	2.25**	4.29***	1.31	1.81*	2.80***	4.96***	
	Real GDP per cap	-0.865	-0.371	-0.672	-0.768	-2.190	-0.063	-2.109	
		1.38	0.67	1.58	1.17	4.20***	0.16	3.53***	
Constant	-107.736	-165.533	22.775	-119.733	-112.519	-72.492	159.711		
	2.01*	2.79***	0.38	2.42**	2.10**	1.22	2.94***		
Observations	25,004	25,004	25,004	25,004	19,345	25,004	19,345		
Adj R ²	12.09%	12.73%	13.55%	12.17%	11.49%	14.05%	12.15%		

¹ Panel A's analysis is repeated with controls for fund size that is available for limited sample of 53% of the observations. The results are similar in magnitude to the ones presented here. The fund size is not significant.

Panel B: Home Bias at Fund Level, Selected Funds

Fund Style	Growth/Value	Growth	Growth	Value	Value	All	All	All	All
Fund Type	Closed/Open-End	All	All	All	All	CEF	CEF	OEF	OEF
Cultural	Individualism	0.38	-0.48	-0.14	-0.75	0.02	-0.01	0.21	-0.38
		9.78***	4.55***	1.46	3.37***	0.15	0.02	4.24***	2.81***
	Masculinity	-0.28	-0.70	-0.53	-0.71	0.09	0.00	-0.42	-0.46
		10.46***	9.67***	8.36***	4.78***	0.68	0.02	13.15***	5.46***
	Uncertainty	0.36	0.19	0.14	0.84	0.39	-0.09	0.13	-0.07
		16.37***	1.31	2.54**	3.43***	3.40***	0.19	4.85***	0.41
Long Term			-0.18			-0.23		-0.09	
Cultural Closen.			2.33**			1.45		0.67	0.98
			15.01			25.65		-23.99	26.39
Familiarity	Language	1.83	-4.22	80.36	132.67	81.10		2.09	-15.12
		0.31	0.23	5.96***	3.57***	2.19**		0.33	0.69
	Distance	36.76	21.34	-6.41	-9.44	-3.44	-4.04	8.00	10.88
		17.51***	4.67***	1.38	1.14	0.44	0.34	3.27***	2.20**
	Trade	111.29	307.15	5.71	91.93	-276.27	-274.04	41.35	149.96
		8.48***	11.31***	0.21	1.55	4.97***	2.66***	2.67***	4.94***
Macroeconomic & Stock Market	Market Corr.	-18.39	173.76	105.98	147.79	51.21	79.56	58.47	215.99
		3.39***	10.67***	8.12***	3.68***	1.89*	0.78	8.76***	9.77***
	3-y mkt growth	-0.15	0.18	0.48	0.11	0.06	0.51	0.02	-0.12
		3.99***	1.14	4.78***	0.43	0.29	0.67	0.44	0.64
	Real XΔ Diff.	2.18	0.29	-5.55	-12.47	-3.28	9.16	4.60	-4.25
		2.37**	0.09	2.89***	2.96***	1.20	0.60	4.28***	1.10
Predicted Gr.	-7.99	-38.62	-12.22	-35.38	-29.49	-25.67	-12.72	-42.28	
	6.11***	7.99***	3.76***	3.72***	3.95***	1.06	8.55***	7.10***	
GDP per cap	0.47	-2.36	0.24	-0.92	-0.56	-1.72	-0.28	-2.27	
	4.27***	6.16***	0.85	0.87	0.60	1.14	2.10**	4.87***	
Constant		-243.67	186.71	164.41	402.58	309.05	346.15	43.69	278.40
		12.79***	3.99***	3.68***	3.85***	4.16***	1.77*	1.84*	4.98***
Observations		16,623	13,072	3,408	2,703	1,502	1,457	14,625	10,860
Adj R ²		17.65%	17.51%	14.67%	11.36%	25.87%	24.81%	9.43%	7.38%

Panel C: Home Bias at Fund Level with Future Orientation

Funds Included	All	All	Growth	Value	CEF	OEF
MV of Equity		0.000				
		1.09				
Individualism	0.399 4.46***	0.364 3.37***	0.500 12.52***	-0.105 1.00	-0.009 0.06	0.391 7.42***
Masculinity	-0.356 3.19***	-0.358 2.79***	-0.279 8.82***	-0.623 8.28***	0.029 0.22	-0.430 11.66***
Uncertainty	0.320 2.40**	0.280 1.56	0.434 9.18***	0.180 1.45	0.159 0.81	0.203 3.57***
Future Orientation	7.376 1.02	6.712 0.81	2.123 1.09	14.827 3.01***	-8.139 0.73	7.067 3.21***
Cultural Closeness	-3.243 0.86	-3.663 0.82	-3.620 2.52**	-10.182 2.90***	-8.994 1.82*	-7.025 4.22***
Language	-19.26 1.01	-20.71 1.16	-14.83 2.02**	55.54 3.24***	85.77 1.82*	-23.07 3.07***
Distance	16.90 5.45***	12.65 3.23***	34.29 15.72***	-4.22 0.85	0.83 0.10	7.42 2.94***
Trade	-16.35 0.51	-15.43 0.43	74.27 5.31***	60.68 1.94*	-263.74 4.52***	13.61 0.81
Market Correlation	43.29 2.36**	50.36 2.20**	-19.55 3.30***	95.48 6.36***	25.49 0.83	43.37 6.04***
Real XΔ Diff.	-0.054 0.52	-0.037 0.30	-0.141 3.10***	0.540 4.35***	0.211 0.87	0.027 0.51
Predicted Growth	8.690 2.76***	9.233 2.75***	6.875 5.47***	-0.090 0.03	-4.982 0.88	10.859 7.73***
Real GDP per cap	-9.59 3.41***	-11.76 3.76***	-4.80 3.42***	-19.40 5.21***	-31.14 3.73***	-10.29 6.43***
3-year mkt growth	-0.569 1.37	-0.863 2.19**	0.188 1.12	-0.837 2.05**	-0.661 0.53	-0.831 4.85***
Constant	-104.41 2.32**	-36.42 0.66	-271.60 13.47***	188.56 3.87***	377.66 4.53***	-1.01 0.04
Observations	24,418	13,007	16,318	3,291	1,500	14,254
Adj R ²	14.15%	13.40%	17.50%	15.25%	26.34%	9.49%

Panel D: Home Bias at Country Level

	EW Home Bias				VW Home Bias			
Individualism	0.319	0.325	0.358	0.359	0.010	0.072	0.071	0.014
	1.59	1.61	1.71	1.73*	0.04	0.05	0.25	0.24
Masculinity	-0.435	-0.480	-0.352	-0.423	-0.294	-0.323	-0.298	-0.338
	2.04*	2.17**	1.51	1.78*	1.04	1.09	0.92	1.00
Uncertainty	0.416	0.351	0.487	0.356	0.431	0.389	0.535	0.461
	2.56**	1.94*	2.18**	1.45	1.99*	1.60	1.73*	1.32
Future Orientation			1.597	-0.598			4.589	3.358
			0.14	0.05			0.28	0.20
Cultural Closeness		-7.117		-11.189		-4.633		-6.275
		0.83		1.24		0.40		0.49
Language	72.43	67.48	73.51	66.83	49.20	45.97	48.71	44.96
	2.62**	2.37**	2.58**	2.33**	1.34	1.20	1.24	1.10
Distance	17.14	17.14	16.05	14.80	31.10	31.10	28.75	28.05
	1.44	1.43	1.25	1.16	1.96*	1.93*	1.62	1.55
Trade	-52.49	-52.98	-64.41	-68.54	85.03	84.71	26.34	24.03
	0.28	0.28	0.33	0.36	0.34	0.34	0.10	0.09
Market Correlation	-7.94	-11.93	-19.79	-25.74	-43.91	-46.51	-39.34	-42.68
	0.19	0.28	0.43	0.56	0.77	0.80	0.62	0.66
Real XΔ Diff.	0.092	0.177	0.051	0.215	0.226	0.281	0.208	0.300
	0.32	0.57	0.16	0.62	0.58	0.68	0.47	0.61
Real GDP per cap	-10.85	-9.60	-11.90	-9.73	-6.88	-6.06	-7.31	-6.10
	2.21**	1.86*	2.24**	1.76*	1.05	0.87	0.99	0.77
3-year mkt growth	0.763	0.812	0.777	0.889	0.639	0.671	0.627	0.690
	1.71*	1.79*	1.69	1.92*	1.08	1.10	0.98	1.04
Constant	-51.00	-43.96	-40.88	-11.05	-165.06	-160.47	-168.31	-151.58
	0.43	0.37	0.30	0.08	1.05	1.00	0.88	0.77
Observations	38	38	35	35	38	38	35	35
Adj R ²	40.99%	40.28%	42.31%	43.63%	20.44%	17.89%	12.76%	9.77%

Panel E: Home Bias at Fund Level, Selected Countries

	All, ex. US	All, ex. US	All but Big 10	All but Big 10	Emerging
Individualism	0.167	-0.285	0.153	0.037	-0.394
	1.19	2.28**	2.18**	0.28	1.19
Masculinity	-0.373	-0.497	-0.496	-0.848	0.087
	3.52***	2.98***	9.23***	4.92***	0.21
Uncertainty	0.115	0.146	-0.026	0.905	1.012
	1.20	0.64	0.30	3.01***	3.45***
Long Term		-0.209		-0.254	
		1.92*		2.48**	
Cultural Closeness		20.006		33.932	
		2.13**		5.61***	
Language	8.296	-19.135	-8.917	104.842	67.051
	0.61	0.89	0.58	1.85*	2.68**
Distance	9.673	17.821	6.319	8.629	8.446
	1.52	2.89***	1.59	0.72	0.50
Trade	-72.017	147.201	-491.33	-471.33	-0.81
	1.02	0.74	6.74***	1.55	0.00
Market Corr.	62.728	182.841	122.08	89.478	50.919
	2.41**	7.47***	6.73***	1.66	0.76
3-year mkt growth	0.117	-0.061	-1.246	-0.677	-1.735
	1.36	0.36	2.26**	0.96	4.20***
Real XΔ Diff.	1.145	1.173	1.93	4.801	10.128
	0.44	0.26	0.86	0.82	1.69
Predicted Growth	-14.427	-33.605	-22.306	-27.136	-21.608
	3.91***	5.15***	7.31***	4.17***	2.42**
Real GDP per cap	-0.134	-2.162	-1.272	-1.574	-1.807
	0.34	3.31***	4.02***	1.33	4.13***
Constant	53.176	140.907	165.211	106.216	79.167
	0.73	1.90*	3.15***	1.04	0.57
Observations	12,991	7,332	2,437	1,252	381
Adj R ²	15.46%	16.71%	39.07%	37.19%	26.02%

Table 5. Determinants of Foreign Diversification

OLS regression estimates are used to test for determinants of foreign diversification or dispersion in international markets. Securities used in the estimations consist only of investable securities calculated as the float of the market capitalization defined by WorldScope. The dependent variable, dispersion, is the level of diversification in each fund's portfolio calculated as the squared sum of all the funds adjusted biases in target countries over the squared number of target countries (from equation 5). The higher the dependent variable the higher the fund's concentration is. The first set of independent variables is Hofstede's cultural variables. The rest of the independent variables are grouped in familiarity and investor specific macroeconomic variables. Panel A's regressions are at fund level for all funds, and for Growth, Value, open-end (OEF), and closed-end (CEF) funds in the last four specifications. Panel B shows fund level results with GLOBE study's future orientation measure instead of Hofstede's long term orientation. Panel C reports results for country level analysis using both equally and value weighted averages. Fund level analysis is done with country clustered standard errors. Absolute values of T-statistics are reported in parentheses below the coefficient. (*10% level, ** 5% level, *** 1% level).

Panel A: Dispersion at the Fund Level

Funds Included	All	All	All	Growth	Value	CEF	OEF
MV of Equity	0.000 5.93***	0.000 5.94***					
Individualism	-0.002 0.98	-0.001 0.54	-0.005 1.60	-0.003 0.76	-0.028 3.15***	-0.024 1.41	-0.001 0.18
Masculinity	-0.011 5.77***	-0.012 5.90***	-0.009 4.08***	-0.008 2.63***	-0.024 4.37***	-0.031 3.37***	-0.005 1.52
Uncertainty	0.005 2.12**	0.002 0.48	0.002 0.51	0.006 0.99	0.029 2.59***	-0.020 1.08	-0.008 1.23
Long Term	0.003 2.88***	0.002 0.82	0.002 0.79	0.007 2.15**	-0.007 1.13	0.008 0.63	0.003 0.77
Cultural Closeness		-0.121 0.69	-0.007 0.04	-0.167 0.58	0.558 1.40	0.315 0.23	0.119 0.38
Language	1.034 3.18***	0.748 1.31	0.577 1.05	1.032 1.32	4.612 2.99***		-0.699 0.82
Distance	0.470 3.59***	0.501 3.41***	0.556 4.81***	0.752 3.84***	-0.085 0.27	0.273 0.60	0.745 3.77***
Trade	-4.762 5.96***	-4.695 6.45***	-4.890 5.94***	-4.132 3.41***	1.662 0.75	-6.568 1.65*	-4.379 3.39***
Market Corr.	2.157 5.62***	1.902 3.89***	2.368 4.59***	1.036 1.50	3.639 2.32**	10.008 2.58**	3.918 4.57***
3-year mkt growth	-0.022 1.86*	-0.024 1.75*	-0.022 2.03**	-0.021 1.27	-0.032 0.81	-0.145 2.52**	-0.019 1.04
Real XΔ Diff.	0.003 0.85	0.005 1.16	0.001 0.29	-0.004 0.54	0.007 0.67	0.028 0.97	0.003 0.43
Predicted GDP growth	-0.113 2.76**	-0.062 0.79	-0.126 1.35	-0.192 1.43	-0.292 1.76*	-0.496 0.85	-0.147 1.00
Real GDP per cap	-0.642 5.48***	-0.593 4.66***	-0.630 4.43***	-0.664 3.23***	-1.188 3.32***	-2.346 2.53**	-0.788 3.40***
Constant	4.361 3.32***	4.046 3.11***	3.730 2.71***	3.042 1.50	13.851 3.53***	25.064 3.35***	2.758 1.20
Observations	10,644	10,644	17,717	12,015	2,490	1,396	9,879
Adj R ²	9.79%	9.79%	5.71%	4.77%	13.08%	30.50%	5.22%

Panel B: Dispersion at the Fund Level with Future Orientation

Funds Included	All	All	All	Growth	Value	CEF	OEF
MV of Equity	0.000	0.000					
	5.50***	5.52***					
Individualism	0.009	0.009	0.005	0.005	0.001	0.006	0.007
	3.75***	4.74***	2.80***	2.92***	0.26	1.16	3.56***
Masculinity	-0.002	-0.005	-0.004	-0.004	-0.007	-0.009	-0.004
	1.13	1.90*	1.82*	2.87***	2.56**	1.81*	2.87***
Uncertainty	0.008	0.004	-0.002	-0.001	0.008	0.008	-0.003
	2.96***	1.51	0.86	0.47	1.72*	1.05	1.20
Future Orientation	0.427	0.401	0.221	0.162	0.722	1.100	0.100
	3.24***	2.85***	1.78*	1.95*	3.70***	2.57**	1.17
Cultural Closeness		-0.191	-0.272	-0.315	-0.293	-0.456	-0.159
		2.39**	3.90***	5.22***	2.15**	2.39**	2.49**
Language	0.240	0.021	-0.514	-0.382	0.420	-1.726	-0.842
	0.51	0.05	1.14	1.24	0.62	0.95	2.85***
Distance	0.512	0.558	0.722	0.917	0.559	0.115	0.724
	4.15***	5.24***	5.28***	10.02***	2.94***	0.38	7.45***
Trade	-6.414	-5.906	-5.730	-4.504	-4.221	-15.339	-6.028
	8.30***	9.01***	9.91***	7.63***	3.58***	6.70***	9.25***
Market Correlation	0.988	0.789	1.102	0.254	1.863	3.690	1.717
	2.51**	1.93*	2.84***	1.02	3.25***	3.09***	6.28***
Real XΔ Diff.	-0.001	0.002	0.002	-0.001	0.003	0.013	0.003
	0.44	0.83	0.85	0.53	0.70	1.29	1.34
Predicted Growth	0.120	0.138	0.039	-0.004	0.061	0.424	-0.003
	1.74*	2.13**	0.62	0.08	0.50	1.95*	0.05
Real GDP per cap	-0.273	-0.291	-0.429	-0.427	-0.412	-0.690	-0.483
	3.13***	3.69***	5.93***	6.93***	2.88***	2.13**	7.66***
3-year mkt growth	-0.002	-0.008	-0.022	-0.018	-0.029	-0.101	-0.013
	0.23	1.02	2.10**	2.45**	1.77*	2.11**	1.88*
Constant	-2.866	-2.104	-0.173	-1.188	-1.898	3.580	0.180
	1.99*	1.60	0.12	1.37	1.02	1.09	0.18
Observations	11,967	11,967	22,543	15,092	3,058	1,437	13,074
Adj R ²	9.48%	9.55%	6.01%	4.19%	13.38%	29.77%	5.81%

Panel C: Dispersion at Country Level

	EW Dispersion				VW Dispersion			
Individualism	-0.005	-0.005	-0.004	-0.004	-0.002	-0.002	-0.001	-0.002
	1.04	1.00	0.81	0.81	0.83	0.71	0.69	0.79
Masculinity	-0.013	-0.015	-0.012	-0.014	-0.003	-0.003	-0.003	-0.003
	2.59**	3.05***	2.11**	2.63**	1.30	1.24	1.41	1.47
Uncertainty	0.007	0.004	0.008	0.003	0.003	0.003	0.002	0.003
	1.68	0.89	1.51	0.63	1.92*	1.36	0.85	1.40
Future Orientation			0.033	-0.058		-0.025	-0.044	
			0.11	0.21		0.21	0.36	
Cultural Closeness		-0.337		-0.401			-0.084	-0.073
		1.80*		1.96*			0.90	0.89
Language	2.112	1.863	2.126	1.859	0.509	0.524	0.468	0.455
	3.24***	2.91***	3.07***	2.79**	1.86*	1.77*	1.54	1.62
Distance	0.494	0.507	0.488	0.471	0.083	0.068	0.065	0.086
	1.57	1.68	1.42	1.46	0.63	0.47	0.44	0.65
Trade	-6.112	-6.118	-6.430	-6.535	-1.296	-1.538	-1.560	-1.297
	1.45	1.51	1.40	1.51	0.73	0.78	0.79	0.73
Market Correlation	1.366	1.151	1.218	0.945	-0.051	-0.019	-0.076	-0.098
	1.34	1.17	1.07	0.87	0.12	0.04	0.15	0.23
Real XΔ Diff.	0.007	0.011	0.006	0.011	0.002	0.003	0.004	0.003
	0.93	1.45	0.73	1.39	0.79	0.77	1.03	1.01
Real GDP per cap	-0.455	-0.392	-0.465	-0.376	-0.027	-0.019	0.000	-0.013
	3.75***	3.23***	3.32***	2.70**	0.53	0.31	0.00	0.25
3-year mkt growth	-0.018	-0.015	-0.018	-0.013	0.001	0.002	0.003	0.002
	1.51	1.32	1.40	1.03	0.28	0.30	0.48	0.40
Constant	2.500	2.679	2.462	3.230	-0.323	-0.179	-0.018	-0.284
	0.76	0.85	0.67	0.93	0.23	0.11	0.01	0.20
Observations	37	37	34	34	37	34	34	37
Adj R ²	65.02%	67.81%	62.68%	66.93%	13.06%	6.15%	5.32%	12.37%

Table 6. Determinants of Home Bias and Dispersion with GLOBE Cultural Variables

OLS estimates are used to test for the determinants of home bias and dispersion in funds' portfolio allocations. Securities used in the estimations consist only of investable securities calculated as the float of the market capitalization defined by WorldScope. Funds included in the regressions are only those that have less than 99% home bias and dispersion in their portfolios. The dependent variable in panel A is the home bias in each fund's portfolio, calculated as the difference of sum of percentages owned in securities that have the same home country as the investor and investors' home market capitalization. The dependent variable in panel B is the level of dispersion in each fund's portfolio calculated as the squared sum of all the funds' adjusted biases in target countries over the squared number of target countries (from equation 5). The first set of independent variables is the GLOBE cultural variables. The rest of the independent variables are grouped into familiarity and investor macroeconomic variables. Regressions are run with country clustered standard errors. Absolute values of T-statistics are reported in parentheses below the coefficient. (*10% level, ** 5% level, *** 1% level).

Panel A: Home Bias at Fund Level

	Fund Home Bias				
MV of Equity	0.000	0.000			
	1.27	1.78*			
Collectivism	-5.40	-11.54	-7.55	-11.12	-10.31
	1.04	2.05**	1.94*	2.22**	2.51**
Assertiveness	-14.42	-9.96	-10.78	-9.53	-10.67
	2.10**	1.45	1.71*	1.58	2.04**
Uncertainty	-13.52	2.27	-9.80	16.76	3.07
	1.54	0.20	1.32	2.52**	0.33
Future Orientation	-21.94	-11.51	-25.05		-17.27
	2.77***	1.46	3.62***		2.02*
Cultural Closeness		2.785		2.147	3.457
		1.36		0.85	1.40
Language	2.91	36.21	20.94	48.88	64.80
	0.13	1.87*	0.68	1.97*	2.32**
Distance	25.66	6.67	30.12	-2.85	7.30
	3.76***	1.04	4.01***	0.31	0.93
Trade	19.11	-12.51	3.99	-8.34	-9.18
	0.38	0.26	0.07	0.15	0.19
Market Corr.	32.75	45.63	9.47	49.87	24.39
	1.50	2.57**	0.44	2.65**	1.36
Real XΔ Diff.	-0.266	-0.115	-0.228	-0.098	-0.070
	2.42**	1.24	1.50	0.77	0.55
Predicted GDP growth	3.829	2.360	1.606	-0.485	-0.238
	1.00	0.64	0.33	0.13	0.06
Real GDP per cap	-13.03	-18.98	-10.47	-13.90	-12.78
	2.73**	4.22***	2.18**	3.23***	3.03***
3-year mkt growth	-0.268	-0.561	0.447	-0.180	0.316
	0.54	1.20	0.68	0.28	0.49
Constant	146.42	260.24	77.56	176.05	205.25
	1.89*	3.66***	0.98	2.18**	2.25**
Observations	11,967	10,852	22,543	20,591	20,591
Adj R ²	13.68%	13.95%	13.84%	13.71%	13.89%

Panel B: Dispersion at Fund Level

	Fund Dispersion				
MV of Equity	0.000	0.000			
	5.52***	6.95***			
Collectivism	-0.269	-0.352	-0.159	-0.214	-0.204
	4.89***	7.17***	3.11***	5.77***	4.91***
Assertiveness	-0.013	0.011	-0.106	-0.107	-0.122
	0.14	0.12	1.25	1.40	1.68
Uncertainty	-0.470	-0.205	-0.492	-0.044	-0.218
	6.18***	2.21**	6.83***	0.75	2.75***
Future Orientation	-0.368	-0.107	-0.519		-0.220
	3.78***	1.12	3.97***		2.16**
Cultural Closeness		-0.028		-0.051	-0.035
		1.15		1.81*	1.27
Language	1.123	1.184	1.026	0.927	1.129
	4.09***	4.41***	3.68***	2.66**	3.66***
Distance	0.698	0.378	0.746	0.221	0.350
	8.10***	4.31***	9.63***	1.51	3.23***
Trade	-6.456	-6.595	-6.087	-5.953	-5.964
	9.16***	10.55***	9.35***	8.81***	9.71***
Market Corr.	0.232	0.559	0.187	0.950	0.626
	1.06	2.44**	0.79	4.34***	2.99***
Real XΔ Diff.	0.004	0.005	0.002	0.003	0.004
	3.65***	4.33***	1.73*	2.67**	3.00***
Predicted GDP growth	0.080	0.091	0.016	0.020	0.023
	2.28**	2.75***	0.52	0.49	0.65
Real GDP per cap	-0.475	-0.531	-0.495	-0.525	-0.510
	9.14***	9.80***	9.41***	10.73***	10.89***
3-year mkt growth	-0.001	-0.009	0.002	-0.011	-0.005
	0.18	1.54	0.32	2.72**	1.07
Constant	5.302	6.700	5.920	6.891	7.263
	5.97***	7.59***	5.08***	5.69***	6.55***
Observations	11,967	10,852	22,543	20,591	20,591
Adj R ²	9.73%	9.92%	6.28%	6.51%	6.52%

Table 7. Determinants of Target Country Under/Overweighting

Table 7 shows results from analyses where the dependent variable is each fund's under/overweighting of each possible target market (adjusted bias from equation (3)). The first set of independent variables includes investor-target country specific controls, including cultural distance between the investor and the target computed based on Hofstede's cultural dimensions. Next, we include target countries' primary dimensions of culture from Hofstede. Third set of controls includes other target country controls. OLS regressions are run with target country clustered standard errors. Absolute values of T-statistics are reported in parentheses below the coefficient. (*10% level, ** 5% level, *** 1% level).²

		Dependent Variable: Adjusted Bias					
Investor-Target Controls	Language	-0.507 0.89	-0.418 0.78	0.137 0.37	-0.695 1.65		
	Distance	-0.703 3.15***	-0.725 3.53***	-1.657 2.83**	-0.722 2.71***		
	Trade	6.393 2.27**	6.811 2.26**	6.435 2.09*	7.094 2.35**		
	Real X Change Diff.	0.044 1.94*	0.043 1.99*	0.024 2.41**	0.030 2.57**		
	Mkt Correlation, USD	-3.644 1.97*		-2.887 1.16	-0.838 0.49		
	Mkt Correlation, local Currency		-4.319 2.37**				
	Cultural Distance	0.107 0.73	0.114 0.82	-0.327 1.61	-0.542 2.37**	-0.597 1.50	-0.568 2.27**
	Individualism			-0.132 3.00***	-0.045 1.53	-0.038 1.12	-0.032 1.40
	Masculinity			-0.025 1.63	-0.024 1.90*	-0.069 2.51**	-0.046 2.10**
	Uncertainty			0.182 3.48***	0.023 1.24	0.018 0.78	0.015 1.29
Long Term Orientation			-0.053 2.55**		-0.002 0.15		
Target Controls	GDP growth			1.679 3.00***	0.292 0.90		
	Tax			0.621 2.40**	0.045 0.27		
	Transaction			-0.062 2.05*	-0.007 0.65		
	Corporate Gov Index			-1.342 2.78**	-0.600 1.80*		
	Corruption/Transparency			5.957 3.52***	1.186 1.74*		
	GDP per Capita			-7.121 3.43***	-1.702 1.61	-0.826 1.94*	-0.451 1.66
	Constant	6.691 2.75***	6.946 3.54***	38.076 2.58**	18.453 1.72*	11.294 2.82***	6.910 2.15**
Observations	1,100,440	1,100,440	505,871	975,533	555,882	1,100,440	
Adjusted R ²	3.41%	3.59%	18.73%	8.81%	5.79%	3.82%	

² Analyses are repeated using bias from equation (2) as a dependent variable. Also, the analyses are repeated using GLOBE cultural variables. The results are mainly similar and are available upon request.

Table 8. Home Bias and Dispersion with Legal/Regulatory Controls

Table 8 shows results from analyses that control for investor country's legal and regulatory environment to test the channel through which culture plays the role in foreign diversification. The dependent variable is home bias in specifications 1-4 and dispersion in specifications 5-8. The first set of independent variables is Hofstede's cultural variables with GLOBE's future orientation and a measure of cultural closeness from equation 5. The rest of the independent variables are grouped in familiarity, macroeconomic, and legal and regulatory variables. Country clustered errors are used in all specifications. Absolute values of T-statistics are reported in parentheses below the coefficient. (*10% level, ** 5% level, *** 1% level).

	Dependent Variable: Fund HB				Dependent Variable: Fund Dispersion			
Individualism	0.310 3.28***	0.334 3.86***	0.338 3.86***	0.301 3.00***	0.291 5.22***	0.255 5.05***	0.255 4.91***	0.274 4.50***
Masculinity	-0.621 4.05***	-0.430 4.35***	-0.423 4.43***	-0.639 3.88***	-0.233 3.52***	-0.283 3.65***	-0.284 3.70***	-0.247 3.99***
Uncertainty	0.328 2.43**	0.209 1.59	0.215 1.71*	0.310 2.63**	-0.108 1.19	-0.151 1.96*	-0.151 1.97*	-0.119 1.40
Future Orientation		3.397 0.78	2.360 0.44			-9.122 2.35**	-9.091 2.09**	
Cultural Closeness			1.223 0.48	-1.711 0.65			-0.036 0.02	-1.772 1.45
Language	39.28 1.47	94.17 3.89***	95.40 3.59***	38.57 1.48	-34.86 2.60**	-39.34 2.30**	-39.38 2.16**	-35.78 2.42**
Distance	2.392 0.42	14.799 3.59***	14.697 3.48***	3.131 0.55	10.68 3.70***	12.11 5.55***	12.11 5.42***	11.59 3.78***
Trade	60.98 1.65	0.87 0.04	-3.15 0.14	62.27 1.62	-217.1 13.68***	-228.2 10.54***	-228.1 10.03***	-216.7 14.37***
Mkt Correlation	83.20 6.93***	85.12 6.97***	85.73 6.91***	79.93 5.85***	15.79 2.25**	1.07 0.12	1.05 0.12	12.05 1.48
Real X Change App.	0.094 0.80	-0.007 0.07	-0.020 0.22	0.115 1.09	0.030 0.43	0.061 0.96	0.061 1.05	0.046 0.68
GDP growth	7.401 4.26***	9.025 5.12***	8.986 4.91***	7.157 4.03***	-1.148 1.11	-3.118 2.96***	-3.117 2.91***	-1.416 1.49
GDP per capita	-20.23 4.21***	-24.48 6.46***	-24.81 6.94***	-19.93 4.32***	-3.23 1.28	-4.34 1.71*	-4.34 1.71*	-3.11 1.43
3-year mkt growth	-0.563 1.21	-1.479 3.93***	-1.441 3.49***	-0.616 1.30	0.351 1.34	0.473 2.06**	0.471 1.91*	0.266 0.96
Disclosure	33.88 3.09***	4.39 0.43	4.43 0.44	33.69 3.32***	4.89 0.60	10.38 1.30	10.39 1.28	5.31 0.72
Creditor Rights	-2.634 1.14	-0.812 0.45	-0.904 0.49	-2.395 1.03	-2.294 1.52	-1.824 1.80*	-1.819 1.73*	-1.890 1.28
Corporate Gov Index	-8.187 3.84***	-3.230 2.25**	-3.237 2.27**	-7.939 3.84***	1.821 1.89*	2.352 2.84***	2.354 2.83***	2.180 2.03*
Corr/Transp	5.295 2.55**	2.344 1.45	2.539 1.67	4.976 2.59**	-3.650 3.95***	-2.974 1.61	-2.979 1.65	-3.943 4.37***
Anti Self Dealing	67.92 2.38**	49.70 2.08**	49.36 2.11**	65.86 2.20**	5.69 0.38	-9.75 0.66	-9.78 0.65	1.58 0.10
Legal Origin Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	75.22 2.01*	-6.57 0.14	-3.25 0.07	76.99 2.09**	-20.30 0.98	38.76 0.78	38.69 0.77	-17.28 0.75
Observations	24,908	24,341	24,341	24,908	23,021	22,476	22,476	23,021
Adjusted R ²	15.17%	14.88%	14.88%	15.17%	8.88%	9.00%	9.00%	8.89%

Appendix A. Hofstede Scores for Five Dimensions of Culture

Cultural dimensions are from Geert Hofstede's Culture Consequences (1980, 2001), which is one of the most cited studies in the entire SSCI and one of the most influential researches in cross-cultural psychology. The "IBM study" on dimensions of culture and differences in thinking, values, and social actions among people from more than 50 nations describes the five underlying factors of culture. PDI is the measure of power-distance index, which describes the extent to which less powerful agents accept unequal distribution of power in a society. IDV measures individualism/collectivism or the extent to which individuals look after themselves or remain integrated. MAS measures masculinity, or tough versus tender societies. UAI measures uncertainty avoidance, which describes the extent to which members feel uncomfortable or comfortable in unstructured situations. LTO measures long-term versus short-term orientation, or the extent to which members are willing to accept delayed gratification. Countries on this table are ranked based on the uncertainty avoidance score from lowest uncertainty avoidance to the highest.

UAI Rank	COUNTRY	PDI	IDV	MAS	UAI	LTO	COUNTRY	PDI	IDV	MAS	UAI	LTO
1	SINGAPORE	74	20	48	8	48	36 AUSTRIA	11	55	79	70	n/a
2	JAMAICA	45	39	68	13	n/a	37 LUXEMBOURG	40	60	50	70	n/a
3	DENMARK	18	74	16	23	n/a	38 PAKISTAN	55	14	50	70	0
4	HONG KONG	68	25	57	29	96	39 CZECH REPUBLIC	57	58	57	74	13
5	SWEDEN	31	71	5	29	33	40 ITALY	50	76	70	75	n/a
6	CHINA	80	20	66	30	118	41 BRAZIL	69	38	49	76	65
7	VIETNAM	70	20	40	30	80	42 VENEZUELA	81	12	73	76	n/a
8	IRELAND	28	70	68	35	n/a	43 COLOMBIA	67	13	64	80	n/a
9	UNITED KINGDOM	35	89	66	35	25	44 ISRAEL	13	54	47	81	n/a
10	MALAYSIA	104	26	50	36	n/a	45 HUNGARY	46	80	88	82	50
11	INDIA	77	48	56	40	61	46 MEXICO	81	30	69	82	n/a
12	PHILIPPINES	94	32	64	44	19	47 BULGARIA	70	30	40	85	n/a
13	UNITED STATES	40	91	62	46	29	48 SOUTH KOREA	60	18	39	85	75
14	CANADA	39	80	52	48	23	49 TURKEY	66	37	45	85	n/a
15	INDONESIA	78	14	46	48	n/a	50 ARGENTINA	49	46	56	86	n/a
16	NEW ZEALAND	22	79	58	49	30	51 CHILE	63	23	28	86	n/a
17	SOUTH AFRICA	49	65	63	49	n/a	52 COSTA RICA	35	15	21	86	n/a
18	NORWAY	31	69	8	50	20	53 FRANCE	68	71	43	86	n/a
19	AUSTRALIA	36	90	61	51	31	54 PANAMA	95	11	44	86	n/a
20	SLOVAKIA	104	52	110	51	38	55 SPAIN	57	51	42	86	n/a
21	EAST AFRICA	64	27	41	52	25	56 PERU	64	16	42	87	n/a
22	NETHERLANDS	38	80	14	53	44	57 ROMANIA	90	30	42	90	n/a
23	WEST AFRICA	77	20	46	54	16	58 JAPAN	54	46	95	92	80
24	TRINIDAD	47	16	58	55	n/a	59 SURINAM	85	47	37	92	n/a
25	SWITZERLAND	34	68	70	58	n/a	60 POLAND	68	60	64	93	32
26	FINLAND	33	63	26	59	n/a	61 BELGIUM	65	75	54	94	n/a
27	IRAN	58	41	43	59	n/a	62 EL SALVADOR	66	19	40	94	n/a
28	BANGLADESH	80	20	55	60	40	63 RUSSIAN FEDERATION	93	39	36	95	n/a
29	ESTONIA	40	60	30	60	n/a	64 MALTA	56	59	47	96	n/a
30	THAILAND	64	20	34	64	56	65 URUGUAY	61	36	38	100	n/a
31	GERMANY	35	67	66	65	31	66 GUATEMALA	95	6	37	101	n/a
32	ECUADOR	78	8	63	67	n/a	67 PORTUGAL	63	27	31	104	n/a
33	ARAB WORLD	80	38	52	68	n/a	68 GREECE	60	35	57	112	n/a
34	MOROCCO	70	46	53	68	n/a						
35	TAIWAN	58	17	45	69	87						

Appendix B. GLOBE Cultural Variables

Panel A shows selected cultural dimensions from the GLOBE study. Collectivism is the in-group collectivism that is most related to Hofstede’s individualism dimension. Assertiveness is the second part of Hofstede’s masculinity. Uncertainty avoidance is the “should be” uncertainty avoidance dimension, although measured differently from Hofstede’s uncertainty avoidance. Panel B shows the correlation matrix for Hofstede’s and GLOBE’s three primary dimensions of culture used in this study for our sample countries. Collectivism has a high negative correlation with Hofstede’s individualism because high levels of collectivism are the same as low levels of individualism. Assertiveness, future orientation, and uncertainty are positively correlated with Hofstede’s masculinity, long term orientation, and uncertainty avoidance.

Panel A: GLOBE Cultural Dimensions

COUNTRY	FUTURE ORIENTATION	ASSERTIVENESS	IN-GROUP COLLECTIVISM	UNCERTAINTY AVOIDANCE
ARGENTINA	3.08	4.22	3.66	4.66
AUSTRALIA	4.09	4.28	4.29	3.98
AUSTRIA	4.46	4.62	4.30	3.66
BRAZIL	3.81	4.20	3.83	4.99
CANADA	4.44	4.05	4.38	3.75
CHINA	3.75	3.76	4.77	5.28
DENMARK	4.44	3.80	4.80	3.82
FINLAND	4.24	3.81	4.63	3.85
FRANCE	3.48	4.13	3.93	4.26
GERMANY	4.27	4.55	3.79	3.32
GREECE	3.40	4.58	3.25	5.09
HONG KONG	4.03	4.67	4.13	4.63
HUNGARY	3.21	4.79	3.53	4.66
INDIA	4.19	3.73	4.38	4.73
IRELAND	3.98	3.92	4.63	4.02
ISRAEL	3.85	4.23	4.46	4.38
ITALY	3.25	4.07	3.68	4.47
JAPAN	4.29	3.59	5.19	4.33
KUWAIT	3.26	3.63	4.49	4.77
MALAYSIA	4.58	3.87	4.61	4.88
MEXICO	3.87	4.45	4.06	5.26
NETHERLANDS	4.61	4.32	4.46	3.24
NEW ZEALAND	3.47	3.42	4.81	4.10
POLAND	3.11	4.06	4.53	4.71
PORTUGAL	3.71	3.65	3.92	4.43
SINGAPORE	5.07	4.17	4.90	4.22
SOUTH AFRICA	4.13	4.60	4.62	4.79
SOUTH KOREA	3.97	4.40	5.20	4.67
SPAIN	3.51	4.42	3.85	4.76
SWEDEN	4.39	3.38	5.22	3.60
SWITZERLAND	4.73	4.51	4.06	3.16
TAIWAN	3.96	3.92	4.59	5.31
THAILAND	3.43	3.64	4.03	5.61
TURKEY	3.74	4.53	4.03	4.67
UNITED KINGDOM	4.28	4.15	4.27	4.11
UNITED STATES	4.15	4.55	4.20	4.00

Panel B: Correlation Matrix

		GLOBE				Hofstede			
		Future Orientati on	Assertiven ess	Collectivi sm	Uncertai nty Avoidan ce, G	Individuali sm	Masculin ity	Uncertai nty Avoidan ce, H	Long Term Orientati on
GLOBE	Future Orientation	1.00							
	Assertiveness	0.03	1.00						
	Collectivism	0.33	-0.59	1.00					
	Uncertainty Avoidance, G	-0.57	-0.18	-0.08	1.00				
Hofstede	Individualism	0.04	0.15	-0.26	-0.71	1.00			
	Masculinity	-0.31	0.24	-0.27	0.18	0.11	1.00		
	Uncertainty Avoidance, H	-0.57	0.11	-0.14	0.23	-0.02	0.32	1.00	
	Long Term Orientation	-0.12	-0.06	0.19	0.65	-0.79	0.13	0.04	1.00