

Do Foreigners Know Better? A Comparison of the Performance of Local and Foreign Mutual Fund Managers*

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Abstract

This paper compares the performance of local versus foreign money managers using a large sample of equity mutual funds from 29 countries in the 2000-2007 period. We find a statistically and economically significant advantage of foreign money managers relative to local managers. This advantage is particularly strong in the case of global managers that operate in multiple countries. The foreign advantage is negatively related with the quality of the stock country institutions and the extent of the information asymmetry. The foreign advantage is reduced in shares of firms located in less developed countries and countries with weak investor protection, in small stocks, in stocks that are not members of the MSCI World index, and in stocks with low analyst following. Additionally, the foreign advantage disappears during bear markets. Our findings suggest that financial globalization has reduced the degree of information asymmetry across stock markets worldwide. Global managers' access to knowledge, skills, and learning opportunities seems to give them extra performance when investing overseas.

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1. Introduction

Information asymmetry is an important determinant of portfolio choices. Merton (1987) seminal paper analyses the effects on portfolio choice of investors having different levels of information about securities. Cross-border portfolio investment decisions are of particular interest because local and foreign investors are likely to have different information about securities. Geographic distance and national boundaries are important sources of information asymmetry in international stock markets as investors exhibit a strong preference for domestic stocks despite the gains from international diversification (French and Poterba (1991)).¹ However, the degree of “home bias” and information asymmetry across international stock markets may have decreased due to the financial globalization phenomenon that has taken place in recent decades. In particular, the global mutual fund industry has grown substantially (Khorana, Servaes, and Tufano (2005)) and more mutual fund managers now invest in both local and foreign stock markets.

A large literature investigates the effects of country borders and geographical distance in investors’ portfolio decisions and investment performance. Part of the literature concludes that local investors outperform foreigners on average (Shukla and Inwegen (1995), Hau (2001a, 2001b), Choe, Kho, and Stulz (2005), Dvorak (2005), Teo (2008)). Local analysts also seem to have an informational advantage relative to foreign analysts (Bae, Stulz, and Tan (2008)). Empirical evidence shows that the information asymmetry faced by foreign investors is a determinant of their investment decision (e.g., Gehrig (1993), Chen, Covrig, and Ng (2005), Leuz, Lins, and Warnock (2008)). The preference of investors for local stocks also happens domestically, not just internationally. U.S. money managers and analysts who are geographically closer to the headquarters of a firm seem to have an information advantage (Coval and Moskowitz (2001) and Malloy (2005)).

There are studies, however, that find that foreign investors who participate in a market can actually be better informed than local investors (Seasholes (2000), Grinblatt and Keloharju (2000), Froot and Ramadorai (2008), and Otten and Bams (2002)). Some other studies find no difference between the performance of local and foreign investors (Kang and Stulz (1997), Froot,

¹ See Lewis (1999) and Karolyi and Stulz (2003) for a review of the “home bias” literature.

O’Connell, and Seasholes (2001) and Agudelo (2006)). Overall, the evidence is mixed on whether locals or foreigners are at an informational advantage.

In this paper, we compare the performance of local money managers in stocks of their country to that of money managers that are not located in that country. While most of the previous studies compare investors’ performance in a single country, we use a large sample of open-end equity mutual funds in 29 countries over the 2000-2007 period. The sample limitations faced by previous papers can be in part the reason for the mixed evidence in the literature. With our worldwide sample of funds, we provide a complete picture on the performance of local and foreign investors around the world. In our tests, we employ several risk-adjusted performance measures including global single-factor alphas, global four-factor alphas (Carhart (1997)), and characteristic-adjusted returns (Daniel, Grinblatt, Titman, and Wermers (1997)).

We find that foreign money managers have, on average, an advantage over local money managers. The evidence suggests that financial globalization, the convergence of corporate governance regimes, accounting harmonization (with the adoption of IAS) and electronic trading seem to have leveled the playing field for local and foreign investors and reduced the information disadvantage of foreign investors. This is consistent with foreign money managers having better access to knowledge, skills, and learning opportunities. In many markets, foreign-based managers employ more skilled managers and offer them higher compensation packages.² Indeed, most foreign money managers are part of large global investment management companies with access to vast resources.

To corroborate our interpretation of the findings, we classify mutual funds according to the global nature of the parent company operations to which the fund belongs. Global investment houses include bank-affiliated asset managers (e.g., J.P. Morgan, UBS, HSBC), mutual fund businesses run by insurance groups (e.g., Allianz) or large fund families that operate internationally (e.g., Fidelity Investments, Invesco). Part of the growth of these large asset management groups has occurred through acquiring some local asset management firms. Local fund managers with no (or limited) foreign operations include, for example, Janus in the U.S. or Union Investment in Germany. Our results show that global money managers outperform local

² Christoffersen and Sarkissian (2008) provide evidence for the U.S. that funds based in financial centers perform better than other funds located elsewhere. The authors argue that these could be due to higher compensation to fund managers in these centers as well as these attracting higher skilled managers. A similar effect could be at play in our setting, where foreign-based managers can hire better skilled managers than local fund companies.

managers. This evidence is consistent with the idea that global money managers are able to attract higher skilled managers and access better resources. In contrast, we do not find similar evidence when we classify funds according to geographic or cultural dimensions.

We next examine how the foreign investors' advantage changes according to the characteristics of the stocks in which they invest in. We expect the foreign advantage to be negatively related to the extent of the information asymmetry. To test this hypothesis, we use several country-level and stock-level proxies of the quality of the firm's information environment. We find that the foreign advantage drops (or even disappears) in shares of firms located in less developed countries and in countries with weak investor protections and legal institutions (civil-law countries). Foreigners also have less advantage in "hard-to-value" stocks (small stocks, stocks that are not members of the MSCI World index, stocks with low analyst following). Additionally, the foreign investors' advantage disappears during bull markets when the extent of the information asymmetry is also likely to be higher.

The remainder of the paper is organized as follows. Section 2 describes the data and variables. Section 3 presents the results. Section 4 concludes.

2. Data and Variable Construction

2.1 Sample

The sample of mutual funds comes from Lipper Hindsight that covers more than 80,000 mutual funds (on-shore and off-shore), including all major financial centers worldwide. Lipper, a Thomson Reuters company, is a global leader in supplying mutual fund information, used in many websites and publications like the Wall Street Journal. We restrict the sample to open-end equity funds. Thus, we exclude from the sample bond and money market funds, close-end funds, off-shore funds, and index tracking funds. We focus on open-ended funds as they are the prevalent form across most countries and choose to exclude "off-shore" funds as these are particular investment vehicles (Khorana, Servaes, and Tufano (2005)). Our sample period runs from January 2000 to December 2007 and includes 38 countries. For some of our analysis, we restrict to 29 countries where there is coverage of both foreign and domestic-based funds. The list of these countries is detailed in Table 1.

We obtain mutual funds holdings from FactSet/Lionshares that covers mutual funds for more than 30 countries in the 2000-2007 period. FactSet/LionShares is a leading source for institutional equity holdings worldwide. The data sources are public filings by investors, such as 13-F filings (fund family level) and N-SAR (individual fund level) with the SEC in the U.S. Ferreira and Matos (2008) use this data set to study the role of institutional investors in corporations around the world. Unlike that paper, we focus only on mutual fund families and do not include other institutional investors like pension funds, bank trusts, and insurance companies. For this paper, we focus on individual fund level holdings (e.g., N-SAR type holdings for U.S. stocks) instead of institutional holdings (e.g., 13-F type holdings). Fund holdings information is updated quarterly.

We match Lipper and FactSet/Lionshares using both the mutual fund name and the investment company name to which the fund belongs. The Appendix describes the steps of our name matching procedure. We are able to match and find holdings information for over 80% of equity funds in Lipper.

Table 1 presents total holdings by our sample of equity mutual funds in December 2007. Total equity holdings add up to \$6.8 trillion, which represents 10.55% of market capitalization in the 29 countries in our sample.

Stock market data and firms' characteristics are drawn from the Datastream/Worldscope databases. We use monthly stock returns denominated in U.S. dollars to measure funds performance. To calculate excess stock returns, we use the three-month U.S. Treasury bill rate as proxy for the risk-free rate.

2.2 Classifying Local versus Foreign Holdings

For each stock, we compute the holdings by several types of investors based on the country of the fund management company that runs the fund. It is important to use the fund management company instead of the fund domicile as many funds in Europe are based in Luxembourg or Ireland, although managers are not physically located there and the stocks they invest in are in a market different from Luxembourg or Ireland (Khorana, Servaes, and Tufano (2005)).

We classify each fund holding as either "local" (when a stock's country equals a fund's country) or "foreign" (when a stock's country does not equals a fund's country). We consider as a stock's country to be the country of the stock exchange where its stock is listed (primary

listing). We consider as a fund's country the country where the investment company to which the fund belongs is located.

Since FactSet/Lionshares contains quarterly holdings positions, we update the investor's holdings in each stock at the beginning of every quarter, on the basis of the reported holdings at the end of the previous quarter, and hold them constant over the subsequent three months. We then measure the overall performance of "local" versus "foreign" managers in each market by calculating the monthly value-weighted portfolio return across all stocks in each country.

We consider alternative classification of mutual funds holdings. First, we divide each fund portfolio into a "same region" and "different region" portion, using the geographic region of the fund and of the stock. We classify a fund holding as same region (Africa, Asia, Eastern Europe, Japan, Latin America, North America, Oceania, Western Europe) when a fund is located in the same region where the stock is listed. We classify a fund holding as different region when a fund is located in a different region from the one where the stock is listed.

Second, we divide each fund portfolio into a "local" and "distant" portion, using the geographic location of the fund and of the stock. We classify a fund holding as local when a fund's country is less than 1,000 km away from the stock's country. Distance is measured as the distance between capital cities. We classify a fund holding as distant when a fund's country capital city is more than 1,000 km away from the stock's country capital city.

Third, we divide each fund portfolio into a "same language" and "different language" portion, using the official language of a fund country and of a stock country. We classify a fund holding as same language when the fund's country has the same language the stock's country. We classify a fund holding as different language when the fund's country has a different language from the stock's country. Grinblatt and Keloharju (2000) show the importance of language for transmission of information and to explain portfolio decisions.

Finally, we classify each fund as a part of a "global manager" or "local manager" using the characteristics of the fund parent company. FactSet/Lionshares provides information on the investment company that runs the fund, including its location, but also its ultimate parent (i.e., the holdings company that is the ultimate owner of the investment company). We classify a fund as global manager when the parent company has more than five funds and it is present in more than two countries. We classify a fund as local manager when the parent company has less than five funds or it is present only in less than two countries. Some of the large global investment

houses in our sample include bank-affiliated asset managers (e.g., J.P. Morgan has JPMorgan Fleming in the U.K. and Asia and JPMorgan Asset Management in the U.S. and Japan). A second case are mutual funds run by investment companies that are subsidiaries of insurance groups (e.g., Allianz has many funds run by Allianz Global in European countries and run by RCM, Oppenheimer Capital and Nicholas-Applegate in the U.S.). A third case is large fund families that operate internationally (e.g., Fidelity Investments has funds in U.S. and major countries like the U.K., France, Hong Kong and Japan). Part of the growth of these large asset management groups has occurred through acquiring some local asset management firms.³ Examples of local fund managers without foreign operations include Janus Capital Group in the U.S. or Union Investment in Germany.

Table 1 presents domestic versus foreign fund holdings as a percentage of market capitalization in each country as of December 2007. We also present global and local money managers stock ownership by country. Global fund managers own 8.0% of the market capitalization in our sample, while local fund managers account for only 2.5%.

Figure 1 illustrates that the prevalence of foreign and domestic mutual funds is uneven across countries. Domestic investors hold large fractions of the market in the U.S., Sweden and U.K., but foreign mutual funds actually hold the largest fraction of local market capitalization in countries like Netherlands, Finland, and Switzerland. Figure 2 provides a break-down per country of the relative size of global versus local managers. Local funds are significant in several of the markets where domestic investors are more prevalent (like Sweden) but not in others (like U.S.). By comparing Figures 1 and 2 one can observe that the two investor classifications differ one from another.

2.3 Measuring Performance

We begin by examining the difference in performance between the local and foreign holdings of our mutual funds. We start with a simple comparison of the excess fund returns denominated in U.S. dollars from the local investments of funds relative to their foreign ones. We calculate monthly value-weighted portfolio excess returns of the local and foreign equity holdings in each

³ For example, J.P. Morgan's operation in the UK, J.P. Morgan Fleming is the results of Chase's previous acquisition of the London-based asset manager Robert Fleming & Co., which itself had large operations in several countries, including seats in several stock exchanges. Another example is AXA, the French insurer, acquisition of a controlling stake on Alliance Bernstein LP in the U.S.

market. We report the time-series average of the domestic and foreign portfolio return, as well as the t-statistic of the difference between them.

We employ several risk adjustment methods. Our first risk adjusted measure of performance is the alpha from the market model. The market model has been used extensively to measure risk-adjusted portfolio performance (see Jensen (1967)). To obtain alpha, we estimate the time series regression of the excess monthly portfolio return on the world (global) market excess return from 2000 to 2007. A positive alpha means the portfolio held by a group of investors has out-performed the global market benchmark.

We consider alternatively the four-factor Carhart (1997) model. Fama and French (1993) propose a three-factor model that improves average CAPM pricing errors by including a size and a book-to-market factor. Additionally, Carhart (1997) proposes a four-factor model by adding a factor that captures the Jegadeesh and Titman (1993) momentum anomaly. The model regression is given by:

$$R_{it} = \alpha_i + \beta_{0i} RM_t + \beta_{1i} SMB_t + \beta_{2i} HML_t + \beta_{3i} MOM_t + \varepsilon_{it}, \quad (1)$$

where R_i is the excess return in U.S. dollars of portfolio i ; RM is the excess return in U.S. dollars on the market; SMB (Small minus Big) is the average return on the small capitalization portfolios minus the average return on the large capitalization global portfolios; HML (High minus Low) is the difference in return between the portfolio with high book-to-market stocks and the portfolio with low book-to-market stocks; and MOM (Momentum) is the difference in return between the portfolio with the past-12-month winners and the portfolio with the past-12-month losers. We regress monthly excess returns of domestic and foreign holdings on factors constructed globally. The global RM , SMB , HML and MOM factors are constructed as value-weighted averages across countries.

Finally, we employ the risk adjustment method of Daniel Daniel, Grinblatt, Titman, and Wermers (1997)), who subtract from each stock return the return of a well-diversified portfolio of similar size, book-to-market, and momentum (past year return) attributes. The procedure first sorts all stocks into size quintiles, then within each size quintile sorts stocks into book-to-market quintiles, and finally within book-to-market quintiles sorts stocks into momentum quintiles. The benchmark portfolios are formed by value-weighting the stocks within each of these 125 groups

constructed at the global level. A given stock is then matched with one of the 125 portfolios on the basis of its size, book-to-market, and past-year return from the previous month. The return of the matched portfolio is subtracted from each stock return in each month to give the characteristic-adjusted return.

3. Results

3.1 Local versus Foreign-based Funds: Who Does Better?

We start by comparing the performance of mutual funds in domestic and foreign holdings, classified according to the nationality of the fund and of the stock. Table 2 presents the time-series average of monthly excess fund return obtained from domestic and foreign investments as well as the t-statistic of the difference between them. Stocks held by local investors earn 0.16% per month above the Treasury bill rate, compared to 0.65% for foreign investors, indicating that over our sample period foreign investors gained an extra 0.49 percentage points per month on their investments. This difference is statistically significant at the 10% level as there is considerable time series and cross-sectional variation.

Table 2 also reports risk-adjusted performance measures of local and foreign holdings of mutual funds. Using the global market model, locally held stocks present a slightly negative risk-adjusted performance of 22 basis points per month on average, consistent with the evidence that mutual funds are not able to beat the benchmark. More importantly, foreign holdings outperform local holdings by 48 basis points per month, which is statistically significant at the 10% level. However, we find there is no difference in performance between local and foreign held stocks when we also adjust for size, book-to-market and momentum using the global Carhart model or characteristic-adjusted returns. This evidence suggests that local and foreign holdings have different exposures to the size, book-to-market, and momentum factors. We will investigate further this issue by looking into the difference in performance local and foreign holdings using individual stock characteristics. Regarding the difference in performance between local and foreign holdings country-by-country, we find that the difference is not significant in most cases. This finding suggests that examining returns in a single country is too noisy, which may explain why single country studies are in general inconclusive.

Finally, we look into the performance of local and foreign stocks held by fund during different sub-periods. Specifically, we consider two sub-periods: 2000:04-2002:06 and 2002:07-2007:12. The first sub-period is characterized by a bear market, while the second period is characterized by a bull market. We find that the advantage of foreigners is statistically significant in the 2002:07-2007:12 period, while the advantage is insignificant in the 2000:04:2002:06 period (in this sub-period there is even a domestic advantage). The evidence suggests that the foreign advantage is more pronounced in bull markets and that in bear markets foreigners lose the edge. This is consistent with the idea that the information asymmetry is greater during bad times.

3.2 Who Does Better in Which Market?

In Table 3 we examine how the performance of local and foreign holdings and their difference varies according to characteristics of country where the firm is located. We first look into the performance by geographic regions, but we find a statistically significant difference between local and foreign stocks held only in the case of North America. The difference in performance between local and foreign stocks held is insignificant in the case of Europe and Asia Pacific.

We also consider measures of legal origin, investor protection, and economic development of the country where the firm is located. Common-law countries have higher quality of legal institutions, better law enforcement and higher investor protection (La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997)). We find that foreign holdings performance advantage relative to local holdings is larger in more-developed countries, common-law countries, countries with higher investor protection, and better quality accounting information. This is consistent with the notion that in countries with better legal institutions and information environment the information asymmetry between locals and foreigners is lower. Foreigners are not in disadvantage in more-developed countries and they are even able to outperform local by taking advantage of more resources and skills. The difference is particularly striking in the case of common-law countries versus civil-law countries. We find that foreign holdings earn 0.44% per month in common-law countries, while local holdings earn only 0.11% per month. Thus, foreign holdings in common-law countries outperform local holdings by 33 basis points, which is

statistically significant at the 5% level. In contrast, the difference is statistically insignificant in civil-law countries.

3.3 Who Does Better in Which Stock?

To gain further insights the source of the foreign advantage, in Table 4, we examine the difference in performance between local and foreign holdings across a variety of stock characteristics. We find that the foreign advantage is larger in stocks. Firm size is a commonly used proxy for information asymmetry as larger stocks are usually considered to have lower information asymmetry relative to smaller stocks. Foreigners do significantly better in larger stocks than local, while in smaller stocks the difference in performance between foreigners and locals is statistically insignificant. Foreigners earn 70 basis points per month in large stocks in excess of the risk-free rate as compared with only 32 basis points earned by locals. We conclude that the foreign advantage seems to be larger in stocks with a lower extent of information asymmetry and which are easier understood by non-locals.

We next consider value versus growth stocks (book-to-market) and stocks with past high versus low returns (momentum). Book-to-market and momentum are usually considered important factors to explain stock returns. The foreign advantage seems to be stronger in growth stocks and in stocks with high past stock returns.

We consider how the foreign advantage changes according to indicators of international stock visibility. In particular, we consider a stock is cross-listed on a U.S. stock exchange, whether a stock is included in the MSCI World index, number of analyst a firm, how much of firm revenues come from international operations. We expect to find that the foreign advantage is larger in stocks with higher visibility. We find that indeed the foreign advantage is statistically significant in stock included in the MSCI World index, while it is insignificant in stocks that are not included in the index. We also find that stocks with more analyst following are the ones in which foreigners significantly outperform locals. In terms of foreign sales, there is a foreign a significant foreigner's advantage in stocks of firms with high foreign sales. Finally, there are insignificant differences in performance between foreigners and locals in both cross-listed and non-cross-listed stocks.

We also consider on how the foreign advantage changes according to insider ownership. We expect that the foreigners have less of an advantage in firms with high insider ownership as there are more private benefits of controls. We find that foreigners significantly outperform locals in firms with low insider ownership, while this is not the case in firms with high insider ownership.

Overall, foreign-based money managers exhibit a performance gap only in large stocks, stocks in MSCI index, and with more analyst following. In contrast, there is evidence that foreigners do not have advantage in “hard-to-value” stocks or stocks with more pronounced information asymmetry.

3.4 Alternative Mutual Funds Classifications: Is It Geography or Resources?

We implement alternative classification on the origin of mutual funds than just based on the nationality of the fund management company (and the nationality of the stock). These classifications are described in more detail in Section 2.2 above.

We first consider geographical proximity. In Table 5 we split investors into those from “same region” and “different region”, using the geographic region of the fund and of the stock. We find no statistical difference overall between investors in excess returns and risk-adjusted return measures across most local markets in our sample.

Second, we look at distance as an alternative proxy for geographical proximity (Coval and Moskowitz (2001)). Specifically, we consider “local” versus “distant” investors, where “distant” are fund companies located more than 1,000 km away from the stock’s country capital city. Again, results in Table 5 show there is no statistical difference between close and distant investors.

Third, we compare funds from countries that use the “same language” and those with a “different language”, using the official languages of a fund country and of a stock country. We also find no significant difference between the performance of investors.

Finally, we consider whether difference in investor performance is not a function of pure geographical and cultural factors but rather of differential resources and organizational aspects between local-based and global-based funds. We thus classify each mutual fund into a “global manager” and “local manager”. Table 5 shows that investment returns are statistically and economically higher for global-based fund managers. Global managers earn 38 basis points per

month over the risk-free rate, while local managers earn only 23 basis points. The difference in excess returns is statistically significant at the 5% level. This performance gap between global and local managers is robust to the use of risk-adjusted performance measures. This finding is consistent with global-fund managers having better access to knowledge, skills and learning opportunities. Global-fund managers can offer higher compensation to fund managers as well as these attracting higher skilled managers by giving them better career prospects.

The last two rows of Table 5 consider the performance in two different subperiods that proxy for bear and bull markets. We see significant differences in performance in all investor classifications. Different region and distant investors outperform same region and close investors in bull markets, but this is not the case in bear markets. Different language investors outperform same language investors in bull markets, but we observe the reverse in bear markets (although the difference is statistically insignificant). Global managers do not outperform local managers in bear markets.

Tables 6 and 7 report the performance of the holdings for the local versus global manager classification for portfolios based on country and individual stock characteristics. We use the same country and stock characteristics of Tables 3 and 4. We find that that the global managers advantage is the largest in stocks of more-developed countries, common-law countries, high investor protection countries, and more disclosure of accounting information. In what regards the individual stock characteristics, we find that the global managers advantage is stronger in large stocks and stock included in the MSCI World index.

4. Conclusion

To our knowledge, this paper is the first to examine the performance of local money managers versus foreign-based managers in their portfolio investments using a large sample of local and international equity mutual funds. By comparing across many markets and analyzing the same investor group (open-end equity mutual funds), we offer new insights to the question of whether national boundaries hurt investment returns. We find that foreign-based managers outperform local-based ones in the 2000-2007 period. The advantage of international money managers is particularly pronounced for global managers that operate in several countries. This advantage is lower, however, in less-developed countries country (lower GDP per capita and weak investor

protection) or when information asymmetry is higher (small stocks, non-MSCI index stocks or stocks with low analyst following).

Our findings suggest that financial globalization has reduced the degree of information asymmetry across stock markets. Global managers' better access to knowledge, skills, and learning opportunities seems to give them extra performance when investing overseas. Results suggest that the differential performance between local and foreign fund managers is not only a function of pure geography factors, but also of differential resources and organizational aspects between local and global based funds. Exploring in more detail these global fund management companies and their ability to reap returns among a multitude of markets seems to be an interesting avenue for future research.

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Appendix: Lipper-Lionshares Matching

This appendix describes briefly the matching algorithm used to merge the Lipper and FactSet/Lionshares databases. The merge involved the following steps.

Step 1 - Preparing the data: We first “clean” the fund names for accents and non-latin characters and remove other special characters (like “.;:\|'”). Second, we drop identifiers of fund classes (as 'class X shares', 'series X' or 'X' at the end of the string). Third, we handle abbreviations (like 'small cap', 'mid cap', 'large cap', 'micro cap', 'institutional', 'international', 'equity', 'global', 'fundamental value', 'value', 'growth', 'growth and income', 'metal', 'index', 'fixed', 'aggressive', 'company', 'incorporated'). Fourth, we remove currency identifiers following the name of the fund in Lipper names (ISO currency codes are removed only if they appear at the end of the string). Finally, words are trimmed to get rid of excess blank spaces.

Step 2 - Calculate distances between fund names: We employ three metrics for the distance between Lipper and Lionshares fund names. Potential matches are then found by comparing the distance between two fund names.

1. String metric: The distance between two strings is defined as the minimum number of operations needed to transform one string into the other, where an operation is an insertion, deletion, or substitution of a single character (the Levenshtein distance). A distance of zero implies identical strings. Relying on the distance between fund names has advantages and disadvantages. The advantage is that we can get perfect or near perfect matches (distances of 0 or 1). The disadvantage is that it is too stringent: in many cases, the words are in different order (e.g. Fidelity Mid Cap Fund, Fidelity Fund Mid Cap); in others, the family is included in the name of the fund in one database but not in the other (e.g. Fidelity Advisors Fidelity Mid Cap Fund, Fidelity Mid Cap Fund); sometimes some words are omitted (e.g. 'fund'); finally, some funds have more detailed names than others.
2. Sum metric: This measure is computed as follows. For any two strings, break them down into words of 3 or more characters (ignoring those with less than that). Let (w_1, w_2, \dots) be the set of words from the first string and (W_1, W_2, \dots) the set of words from the second string. Starting with w_1 , form all combinations with words from the second string: $(w_1,$

W1), (w1, W2)... For each combination, compute the string distance and select the combination in which the distance is the smallest. This identifies the closest word in the string 2 to w1. Repeat the same for w2, w3,... and sum all the (minimum) distances. This sum is the sum metric. Now, if the strings are identical up to a rearrangement of words (instead of letters), this distance will be zero. A distance of 1 indicates that, after rearranging the words to correspond to the closest possible match, there is one substitution, in one word, that would make the strings identical.

3. Sup metric: Similar to the sum metric but uses the maximum distance between the closest match for each word.

Step 3 - Calculate the distance between fund management companies: Similar to step 2 but for fund management company names.

Step 4 - Matching with scores: Use a combination of fund name distance, fund management company distance and fund domicile. This creates a score for each match. For each Lionshares fund, select the three Lipper funds with the lowest scores.

Step 5 - Manual validation: We visually check matches and “flag” the correct match. In case of doubt, we check the fund websites to validate the match.

Step 6 - Matching remaining funds: We align the funds left unmatched from previous steps using a standard Term Frequency - Inverse Document Frequency model (TF-IDF), as described in Manning, Raghavan, and Schütze (2008). For each word w , we compute a scalar value known as the word's inverse document frequency (IDF),

$$v^{(w)} = \log \frac{D}{D_w}$$

where D is the total number of unmatched funds and D_w is the number of unmatched funds in which w appears. For each fund f , we compute its term frequency (TF) vector u_f , where the w^{th} coordinate of u_f corresponds to the number of times word w appears in the fund's name. Finally, we compute the TF-IDF vector of each fund f as

$$z_f^{(w)} = u_f^{(w)} \times v^{(w)}$$

The idea behind the TF-IDF model is to represent each fund name as a vector of word counts and weight each coordinate with an estimate of the corresponding word's discriminative power. After computing the TF-IDF model for all unmatched funds, we compute the similarity between two funds as the cosine of the angle formed by their corresponding TF-IDF vectors. This measure, known as cosine similarity, is commonly used in text modeling and information retrieval. Lastly, for each Lionshares fund, we select its most similar Lipper fund and manually validate the finding.

Table 1**Mutual Fund Ownership by Country (as of December 2007)**

Country	Number of Stocks	Market Capitalization (\$ million)	Total Mutual Fund Ownership	Domestic Holdings Ownership	Foreign Holdings Ownership	Local Manager Ownership	Global Manager Ownership
Austria	104	222,606	10.59%	0.88%	9.72%	2.19%	8.41%
Australia	694	1,402,187	6.00%	1.27%	4.74%	1.66%	4.34%
Belgium	215	435,515	7.75%	0.84%	6.90%	1.72%	6.03%
Brazil	294	545,152	9.13%	0.74%	8.39%	1.09%	8.05%
Canada	1,802	1,981,954	12.77%	6.22%	6.55%	4.19%	8.58%
Switzerland	330	1,244,833	15.80%	3.03%	12.77%	3.16%	12.64%
Germany	679	2,090,840	14.55%	3.42%	11.13%	3.07%	11.48%
Denmark	158	236,775	11.76%	2.30%	9.46%	2.25%	9.51%
Spain	186	1,069,569	8.28%	1.18%	7.10%	2.02%	6.25%
Finland	145	357,682	15.02%	1.42%	13.60%	3.93%	11.08%
France	730	3,127,205	11.88%	3.95%	7.93%	2.39%	9.49%
Hong Kong	167	1,138,300	5.96%	1.53%	4.43%	0.89%	5.07%
Ireland	95	143,878	19.74%	0.92%	18.82%	4.23%	15.51%
India	949	1,250,137	8.06%	2.67%	5.38%	2.15%	5.91%
Italy	409	1,420,750	8.62%	1.43%	7.19%	1.85%	6.77%
Japan	3,234	5,021,374	7.88%	2.86%	5.02%	1.80%	6.08%
Korea (South)	622	1,101,961	10.38%	0.10%	10.28%	1.32%	9.06%
Malaysia	417	335,868	5.44%	0.37%	5.07%	1.34%	4.10%
Netherlands	225	785,288	16.85%	1.46%	15.38%	3.16%	13.68%
Norway	281	323,453	13.50%	3.13%	10.37%	3.51%	9.99%
Poland	240	191,005	12.25%	5.18%	7.06%	2.24%	10.01%
Portugal	51	123,182	6.09%	1.35%	4.75%	2.15%	3.94%
Sweden	413	525,543	20.25%	11.07%	9.19%	8.85%	11.40%
Singapore	312	419,131	9.82%	2.06%	7.77%	1.78%	8.04%
South Africa	204	395,794	7.44%	0.28%	7.17%	1.07%	6.38%
Thailand	477	175,220	9.46%	1.13%	8.34%	2.02%	7.44%
Taiwan	542	770,097	10.16%	0.26%	9.90%	1.35%	8.81%
United Kingdom	2,172	4,225,095	16.38%	10.15%	6.22%	4.77%	11.61%
United States	8,068	33,483,732	9.88%	8.63%	1.24%	2.40%	7.48%
All countries	24,215	64,544,127	10.55%	6.27%	4.28%	2.54%	8.01%

Table 2

Performance of Domestic and Foreign Holdings

Country	Excess Return			Alpha (global market model)			Alpha (global Carhart model)			Characteristics-adjusted Return		
	Domestic Holdings	Foreign Holdings	t-stat (domestic-foreign)	Domestic Holdings	Foreign Holdings	t-stat (domestic-foreign)	Domestic Holdings	Foreign Holdings	t-stat (domestic-foreign)	Domestic Holdings	Foreign Holdings	t-stat (domestic-foreign)
Australia	1.54%	1.16%	0.95	1.19%	0.78%	1.00	0.01%	-0.27%	0.59	0.01%	-0.07%	0.50
Austria	1.53%	1.62%	-0.83	1.13%	1.19%	-0.57	0.62%	0.52%	0.84	0.54%	0.63%	-0.89
Belgium	0.73%	-0.27%	2.67	0.35%	-0.73%	2.95	-0.21%	-1.34%	2.68	-0.16%	-0.49%	2.15
Brazil	3.13%	2.88%	0.62	1.80%	1.66%	0.34	1.09%	1.09%	0.00	1.05%	1.24%	-0.45
Canada	1.43%	1.40%	0.09	1.11%	0.96%	0.51	0.64%	0.65%	-0.03	0.09%	0.23%	-0.50
Switzerland	0.23%	0.29%	-0.49	-0.25%	-0.13%	-1.08	-0.17%	-0.04%	-1.10	-1.09%	-0.89%	-1.77
Germany	0.64%	0.66%	-0.24	0.11%	0.13%	-0.24	0.33%	0.39%	-0.70	-0.52%	-0.52%	-0.07
Denmark	0.59%	0.89%	-1.09	0.13%	0.38%	-0.90	-0.17%	0.07%	-0.80	-1.00%	-0.25%	-2.88
Spain	1.06%	0.90%	1.08	0.63%	0.45%	1.15	0.86%	0.95%	-0.56	-0.01%	-0.06%	0.33
Finland	1.22%	0.61%	0.95	0.37%	-0.44%	1.27	0.51%	0.95%	-0.68	-0.25%	-0.30%	0.11
France	0.58%	0.67%	-0.99	0.19%	0.30%	-1.15	0.53%	0.49%	0.41	-0.42%	-0.38%	-0.58
United Kingdom	0.48%	0.34%	1.31	0.15%	0.03%	1.12	-0.08%	-0.08%	0.02	-0.70%	-0.62%	-0.94
Hong Kong	1.19%	1.09%	0.68	0.77%	0.71%	0.43	0.08%	0.12%	-0.22	-0.05%	-0.16%	1.18
Ireland	1.04%	-0.19%	2.48	0.67%	-0.57%	2.49	0.32%	-0.96%	2.29	0.06%	-0.32%	1.16
India	2.57%	2.07%	1.28	1.99%	1.63%	0.95	0.87%	0.51%	0.84	0.98%	0.81%	0.47
Italy	0.51%	0.47%	0.47	0.03%	-0.02%	0.58	0.44%	0.42%	0.12	-0.37%	-0.40%	0.47
Japan	1.17%	2.74%	-1.18	0.90%	2.53%	-1.21	-0.05%	1.31%	-0.89	-0.62%	1.26%	-1.09
Korea (South)	1.37%	1.35%	0.05	0.79%	0.80%	-0.04	0.24%	0.30%	-0.14	0.07%	0.26%	-0.74
Malaysia	1.77%	1.95%	-1.00	0.44%	0.58%	-0.63	0.29%	0.18%	0.45	-0.97%	-0.34%	-3.80
Netherlands	0.42%	0.22%	1.39	-0.26%	-0.52%	1.98	0.15%	-0.07%	1.42	-0.36%	-0.42%	0.51
Norway	1.50%	1.54%	-0.18	0.79%	0.90%	-0.54	0.35%	0.25%	0.44	-0.62%	-0.03%	-2.61
Poland	2.07%	1.80%	1.08	1.33%	1.09%	0.96	0.69%	0.48%	0.71	-0.60%	-0.11%	-1.17
Portugal	1.09%	1.01%	0.23	0.41%	0.32%	0.27	0.66%	1.01%	-0.98	-0.34%	-0.35%	0.03
Sweden	0.78%	0.50%	2.01	-0.07%	-0.39%	2.36	0.41%	0.02%	2.59	-0.23%	-0.38%	1.27
Singapore	0.55%	0.40%	0.19	0.15%	-0.28%	0.63	-0.37%	0.19%	-0.81	-0.50%	-0.67%	0.25
South Africa	3.60%	1.76%	1.93	3.22%	0.93%	2.39	-0.41%	-1.06%	0.57	0.42%	0.26%	0.17
Thailand	1.85%	1.64%	0.76	1.45%	1.17%	0.99	0.41%	0.10%	0.97	-0.03%	-0.11%	0.33
Taiwan	0.03%	0.15%	-0.41	-0.36%	-0.35%	-0.04	-0.67%	-0.44%	-0.79	-1.12%	-1.17%	0.18
United States	0.03%	-0.02%	0.37	-0.35%	-0.38%	0.19	-0.18%	0.08%	-2.04	-0.79%	-0.77%	-0.45
All countries												
2000:04-2007:12	0.16%	0.65%	-1.74	-0.22%	0.25%	-1.68	-0.10%	0.28%	-1.18	-0.73%	-0.26%	-1.49
2000:04-2002:06	-1.54%	-1.88%	0.78	0.70%	0.14%	1.19	0.93%	0.18%	1.35	-0.89%	-0.97%	0.20
2002:07-2007:12	0.86%	1.69%	-2.42	-0.32%	0.42%	-2.03	-0.11%	0.13%	-0.58	-0.69%	-0.10%	-1.58

Table 3

Performance of Domestic and Foreign Holdings and Country Characteristics

Country characteristic	Excess Return			Alpha - global market model			Alpha - global Carhart model			Characteristics-adjusted Return		
	Domestic Holdings	Foreign Holdings	t-stat (domestic-foreign)	Domestic Holdings	Foreign Holdings	t-stat (domestic-foreign)	Domestic Holdings	Foreign Holdings	t-stat (domestic-foreign)	Domestic Holdings	Foreign Holdings	t-stat (domestic-foreign)
Asia Pacific	1.11%	1.75%	-1.47	0.81%	1.39%	-1.35	0.05%	0.64%	-1.20	-0.53%	0.65%	-1.55
Europe	0.52%	0.40%	0.80	0.12%	-0.02%	0.91	0.08%	0.32%	-1.69	-0.59%	-0.45%	-1.45
North America	0.06%	0.30%	-2.24	-0.32%	-0.09%	-2.18	-0.17%	0.15%	-2.69	-0.77%	-0.57%	-2.19
Developed markets	0.16%	0.62%	-1.56	-0.23%	0.23%	-1.55	-0.10%	0.29%	-1.18	-0.72%	-0.29%	-1.35
Emerging markets	1.07%	1.11%	-0.15	0.56%	0.60%	-0.12	0.23%	0.21%	0.04	-0.29%	0.04%	-1.30
Civil law	0.42%	0.91%	-1.32	-0.03%	0.49%	-1.40	-0.03%	0.52%	-1.29	-0.64%	-0.02%	-1.23
Common law	0.11%	0.44%	-2.68	-0.28%	0.06%	-2.70	-0.14%	0.08%	-1.59	-0.75%	-0.47%	-2.66
High anti-director rights	0.86%	1.65%	-1.31	0.24%	1.02%	-1.27	-0.01%	0.82%	-1.16	-0.63%	0.21%	-1.20
Low anti-directors rights	0.27%	0.61%	-2.17	-0.43%	-0.20%	-1.65	-0.16%	0.07%	-1.35	-0.75%	-0.55%	-1.43
High accounting standards	0.81%	0.79%	0.09	0.15%	0.01%	0.61	-0.11%	0.20%	-1.30	-0.49%	-0.28%	-1.13
Low accounting standards	0.29%	1.12%	-2.24	-0.41%	0.41%	-2.15	-0.14%	0.45%	-1.35	-0.76%	-0.25%	-1.18
High GDP per capita	0.17%	0.44%	-2.41	-0.44%	-0.22%	-2.04	-0.49%	-0.15%	-2.76	-1.15%	-0.93%	-2.09
Low GDP per capita	0.97%	1.30%	-0.99	0.21%	0.54%	-0.98	0.20%	0.55%	-0.86	-0.43%	-0.02%	-1.01
English language	0.10%	0.45%	-2.60	-0.28%	0.08%	-2.75	-0.14%	0.10%	-1.70	-0.75%	-0.47%	-2.66
Non-english language	0.42%	0.90%	-1.32	-0.03%	0.48%	-1.39	-0.03%	0.51%	-1.29	-0.64%	-0.03%	-1.24
High market capitalization/GDP	0.29%	0.33%	-0.14	-0.31%	-0.37%	0.26	-0.44%	0.10%	-2.16	-0.89%	-0.68%	-1.14
Low market capitalization/GDP	0.75%	1.28%	-1.58	0.01%	0.53%	-1.53	0.09%	0.45%	-0.92	-0.53%	-0.10%	-1.09
Insider trading enforcement	0.16%	0.66%	-1.75	-0.23%	0.26%	-1.69	-0.10%	0.30%	-1.23	-0.72%	-0.26%	-1.47
No insider trading enforcement	1.19%	0.46%	1.86	0.84%	0.07%	1.93	0.48%	-0.48%	2.22	-0.14%	-0.12%	-0.10
High firm-specific return variation	0.30%	0.59%	-1.92	-0.39%	-0.17%	-1.51	-0.16%	0.03%	-1.30	-0.73%	-0.46%	-2.14
Low firm-specific return variation	1.20%	2.04%	-1.27	0.47%	1.38%	-1.37	0.46%	1.20%	-0.95	-0.64%	0.35%	-1.11

Table 4

Performance of Domestic and Foreign Holdings and Stock Characteristics

Stock characteristic	Excess Return			Alpha - global market model			Alpha - global Carhart model			Characteristics-adjusted Return		
	Domestic Holdings	Foreign Holdings	t-stat (domestic-foreign)	Domestic Holdings	Foreign Holdings	t-stat (domestic-foreign)	Domestic Holdings	Foreign Holdings	t-stat (domestic-foreign)	Domestic Holdings	Foreign Holdings	t-stat (domestic-foreign)
Large stocks (above 50th pct)	0.32%	0.70%	-2.70	-0.38%	-0.08%	-2.27	-0.14%	0.09%	-1.57	-0.70%	-0.46%	-1.97
Small stocks (below 50th pct)	2.27%	8.08%	-1.11	1.60%	8.17%	-1.24	0.77%	6.52%	-0.93	-1.73%	3.66%	-0.93
High B/M (above 70th pct)	0.56%	2.49%	-1.38	-0.11%	1.87%	-1.39	-0.08%	1.80%	-1.12	-0.88%	0.79%	-1.10
Low B/M (below 30th pct)	0.18%	0.60%	-2.45	-0.52%	-0.15%	-2.11	-0.28%	0.03%	-1.76	-0.72%	-0.51%	-1.44
High momentum (above 70th pct)	1.03%	1.46%	-2.35	0.35%	0.70%	-1.93	-0.44%	-0.18%	-1.23	-0.99%	-0.73%	-1.54
Low momentum (below 30th pct)	0.42%	3.18%	-1.27	-1.00%	2.14%	-1.40	0.52%	3.30%	-1.06	-1.02%	1.30%	-1.06
ADR stocks	0.65%	1.06%	-0.72	0.29%	0.67%	-0.66	0.24%	0.89%	-0.99	-0.26%	0.40%	-0.90
Non-ADR stocks	0.11%	0.40%	-1.57	-0.27%	-0.01%	-1.46	-0.14%	-0.11%	-0.17	-0.78%	-0.65%	-0.94
MSCI stocks	0.11%	0.67%	-1.87	-0.24%	0.28%	-1.74	0.00%	0.39%	-1.15	-0.68%	-0.19%	-1.40
Non-MSCI stocks	0.33%	0.61%	-1.23	-0.12%	0.15%	-1.23	-0.26%	-0.09%	-0.63	-0.89%	-0.68%	-1.32
High insider ownership (above 50th pct)	0.81%	2.65%	-1.42	0.08%	2.01%	-1.46	0.11%	1.75%	-1.06	-0.66%	0.95%	-1.09
Low insider ownership (below 50th pct)	0.28%	0.56%	-1.98	-0.41%	-0.20%	-1.57	-0.17%	0.02%	-1.30	-0.74%	-0.59%	-1.28
High analyst following (above 50th pct)	0.28%	0.66%	-2.84	-0.41%	-0.11%	-2.42	-0.14%	0.11%	-1.78	-0.70%	-0.46%	-2.03
Low analyst following (below 50th pct)	0.79%	0.89%	-0.30	0.03%	0.07%	-0.13	-0.23%	-0.24%	0.02	-1.03%	-0.67%	-1.43
High foreign sales (above 50th pct)	0.34%	0.68%	-2.45	-0.43%	-0.11%	-2.31	-0.02%	0.12%	-0.92	-0.63%	-0.53%	-0.85
Low foreign sales (below 50th pct)	0.38%	3.03%	-1.23	-0.18%	2.65%	-1.29	-0.30%	2.23%	-0.98	-0.84%	1.71%	-1.08
High institutional ownership (above 50th pct)	0.56%	1.04%	-3.31	-0.44%	-0.13%	-2.33	-0.14%	-0.05%	-0.62	-0.76%	-0.43%	-2.71
Low institutional ownership (below 50th pct)	0.96%	1.31%	-1.90	-0.14%	0.13%	-1.47	0.32%	0.16%	0.77	-0.62%	-0.34%	-1.54
High turnover (above 50th pct)	0.28%	0.65%	-2.56	-0.45%	-0.16%	-2.11	-0.15%	0.07%	-1.40	-0.74%	-0.56%	-1.39
Low turnover (below 50th pct)	0.78%	1.04%	-1.33	0.22%	0.30%	-0.50	0.02%	0.19%	-0.98	-0.59%	-0.51%	-0.62

Table 5

Performance of Domestic and Foreign Holdings: Alternative Fund Classifications

Country	Excess Return											
	Same Region	Different Region	t-stat	Close Investors (<1000 km)	Distant Investors (>1000 km)	t-stat	Same Language	Different Language	t-stat	Local Manager	Global Manager	t-stat
Australia	0.46%	1.64%	-2.28	0.97%	1.16%	-0.75	0.95%	1.16%	-0.81	1.14%	1.09%	0.27
Austria	1.43%	1.61%	-1.76	1.53%	1.62%	-0.83	1.59%	1.58%	0.06	1.27%	1.71%	-3.65
Belgium	0.09%	-0.84%	1.98	0.09%	-0.60%	1.82	0.43%	-0.66%	2.62	-0.28%	-0.06%	-0.66
Brazil	2.42%	2.36%	0.34	3.13%	2.88%	0.62	3.13%	2.84%	0.72	2.24%	2.41%	-0.79
Canada	1.36%	1.17%	0.88	1.36%	1.37%	-0.02	1.39%	0.83%	2.52	1.07%	1.41%	-0.72
Switzerland	0.22%	0.36%	-0.52	0.21%	0.34%	-0.56	0.20%	0.25%	-0.29	0.27%	0.21%	0.59
Germany	0.63%	0.68%	-0.59	0.63%	0.72%	-1.16	0.63%	0.61%	0.23	0.67%	0.66%	0.06
Denmark	0.91%	0.65%	0.75	0.95%	0.60%	1.13	0.59%	0.87%	-1.04	0.81%	0.60%	1.10
Spain	0.80%	0.73%	0.44	1.06%	0.90%	1.08	1.06%	0.89%	1.06	0.72%	0.76%	-0.44
Finland	0.24%	0.31%	-0.31	0.59%	0.38%	0.56	0.87%	0.67%	0.50	0.23%	0.39%	-1.08
France	0.61%	0.66%	-0.55	0.61%	0.71%	-1.24	0.56%	0.63%	-0.80	0.58%	0.67%	-1.78
United Kingdom	0.42%	0.31%	1.14	0.44%	0.35%	0.81	0.41%	0.01%	2.40	0.19%	0.48%	-2.42
Hong Kong	1.13%	1.06%	0.61	1.19%	1.09%	0.68	1.08%	1.35%	-0.72	1.11%	1.11%	0.04
Ireland	0.43%	-0.47%	1.59	0.75%	-0.52%	1.98	-0.05%	-0.34%	1.16	-0.15%	-0.14%	-0.02
India	1.80%	1.75%	0.13	2.57%	2.07%	1.28	1.78%	0.90%	2.27	1.67%	1.62%	0.16
Italy	0.42%	0.43%	-0.09	0.50%	0.48%	0.34	0.50%	0.47%	0.38	0.43%	0.43%	0.04
Japan	1.38%	2.84%	-1.18	1.17%	2.74%	-1.18	1.17%	2.82%	-1.18	2.53%	2.49%	0.17
Korea (South)	1.36%	1.41%	-0.13	1.53%	1.32%	0.93	1.37%	1.41%	-0.10	1.32%	1.35%	-0.31
Malaysia	0.51%	0.85%	-3.35	0.53%	0.81%	-2.38	1.52%	1.57%	-0.19	0.55%	0.80%	-2.25
Netherlands	0.21%	0.20%	0.11	0.22%	0.24%	-0.16	0.37%	0.19%	1.46	0.15%	0.24%	-0.64
Norway	1.08%	1.69%	-1.54	1.53%	1.47%	0.20	1.50%	1.52%	-0.08	0.93%	1.51%	-1.86
Poland	1.18%	1.45%	-1.08	1.53%	1.53%	-0.02	2.07%	1.80%	1.08	1.09%	1.37%	-1.44
Portugal	0.29%	0.50%	-0.94	0.92%	0.84%	0.26	1.09%	1.01%	0.23	0.56%	0.47%	0.59
Sweden	0.27%	0.24%	0.17	0.22%	0.24%	-0.16	0.77%	0.43%	2.37	0.08%	0.28%	-1.92
Singapore	0.70%	0.35%	0.41	0.55%	0.40%	0.19	0.48%	0.55%	-0.11	0.46%	0.44%	0.07
South Africa	3.60%	1.76%	1.92	3.60%	1.76%	1.93	1.70%	1.58%	0.61	1.91%	1.80%	0.39
Thailand	1.33%	1.34%	-0.08	1.85%	1.64%	0.76	1.85%	1.64%	0.76	1.24%	1.31%	-0.30
Taiwan	0.04%	0.17%	-0.67	0.03%	0.15%	-0.41	0.03%	0.17%	-0.68	0.05%	0.15%	-1.25
United States	0.03%	-0.27%	1.75	0.03%	-0.06%	0.65	0.03%	-0.36%	2.90	-0.03%	0.05%	-1.68
All countries												
2000:04-2007:12	0.24%	0.69%	-1.07	0.22%	0.70%	-1.38	0.22%	0.65%	-1.12	0.23%	0.38%	-2.68
2000:04-2002:06	-1.53%	-2.17%	1.43	-1.51%	-2.02%	1.12	-1.52%	-2.32%	1.47	-1.84%	-1.49%	-2.39
2002:07-2007:12	0.97%	1.86%	-1.63	0.92%	1.81%	-1.97	0.92%	1.86%	-1.94	1.08%	1.15%	-1.40

Table 5: Continued

Country	Characteristics-adjusted return											
	Same Region	Different Region	t-stat	Close Investors (<1000 km)	Distant Investors (>1000 km)	t-stat	Same Language	Different Language	t-stat	Local Manager	Global Manager	t-stat
Australia	-0.31%	0.36%	-2.93	-0.43%	0.16%	-3.09	-0.44%	0.14%	-2.88	-0.20%	0.01%	-1.32
Austria	0.55%	0.62%	-0.67	0.54%	0.63%	-0.89	0.61%	0.54%	0.93	0.39%	0.66%	-2.89
Belgium	-0.32%	-0.64%	1.48	-0.32%	-0.60%	1.53	-0.26%	-0.54%	1.54	-0.44%	-0.40%	-0.28
Brazil	1.17%	1.24%	-0.44	1.05%	1.24%	-0.45	1.05%	1.24%	-0.45	1.25%	1.22%	0.18
Canada	0.23%	0.02%	1.07	0.23%	-0.01%	1.11	0.22%	-0.06%	1.65	0.33%	0.20%	0.61
Switzerland	-1.03%	-0.71%	-1.68	-1.04%	-0.78%	-1.64	-1.04%	-0.85%	-1.50	-0.95%	-0.95%	-0.01
Germany	-0.54%	-0.47%	-0.81	-0.54%	-0.44%	-1.28	-0.52%	-0.53%	0.13	-0.52%	-0.51%	-0.04
Denmark	-0.58%	0.00%	-2.14	-0.57%	-0.09%	-2.47	-1.00%	-0.28%	-2.77	-0.53%	-0.36%	-1.06
Spain	-0.06%	-0.05%	-0.11	-0.01%	-0.06%	0.33	-0.01%	-0.06%	0.36	-0.08%	-0.04%	-0.63
Finland	-0.38%	-0.22%	-0.78	-0.35%	-0.29%	-0.16	-0.38%	-0.28%	-0.27	-0.46%	-0.26%	-1.42
France	-0.41%	-0.34%	-0.73	-0.40%	-0.37%	-0.43	-0.42%	-0.38%	-0.67	-0.44%	-0.38%	-1.55
United Kingdom	-0.68%	-0.62%	-0.62	-0.68%	-0.63%	-0.47	-0.67%	-0.64%	-0.47	-0.75%	-0.63%	-2.97
Hong Kong	-0.04%	-0.14%	1.41	-0.05%	-0.16%	1.18	-0.11%	-0.05%	-0.75	-0.09%	-0.14%	0.59
Ireland	-0.16%	-0.38%	0.52	-0.10%	-0.40%	0.75	-0.29%	-0.42%	0.64	-0.37%	-0.29%	-0.60
India	0.84%	0.81%	0.11	0.98%	0.81%	0.47	0.78%	0.63%	0.96	0.85%	0.79%	0.36
Italy	-0.36%	-0.51%	1.32	-0.35%	-0.41%	0.86	-0.35%	-0.40%	0.83	-0.36%	-0.40%	0.77
Japan	-0.38%	1.36%	-1.10	-0.62%	1.26%	-1.09	-0.62%	1.33%	-1.09	0.99%	0.95%	0.29
Korea (South)	0.07%	0.31%	-0.92	0.36%	0.24%	0.57	0.07%	0.31%	-0.92	0.31%	0.26%	0.45
Malaysia	-0.43%	-0.10%	-3.70	-0.57%	-0.13%	-4.14	-0.97%	-0.34%	-3.80	-0.39%	-0.16%	-2.33
Netherlands	-0.44%	-0.44%	-0.01	-0.43%	-0.42%	-0.09	-0.34%	-0.44%	0.91	-0.51%	-0.39%	-1.16
Norway	-0.52%	0.28%	-2.74	-0.55%	0.03%	-2.52	-0.62%	-0.05%	-2.52	-0.73%	-0.08%	-2.60
Poland	-0.53%	0.41%	-2.93	-0.79%	0.08%	-3.71	-0.60%	-0.11%	-1.18	-0.60%	-0.17%	-3.10
Portugal	-0.34%	-0.35%	0.04	-0.31%	-0.35%	0.13	-0.34%	-0.35%	0.03	-0.29%	-0.38%	0.57
Sweden	-0.35%	-0.29%	-0.32	-0.29%	-0.32%	0.22	-0.23%	-0.44%	1.69	-0.30%	-0.32%	0.24
Singapore	-0.56%	-0.66%	0.13	-0.50%	-0.67%	0.26	-0.63%	-0.65%	0.04	-0.75%	-0.61%	-0.66
South Africa	0.42%	0.25%	0.19	0.42%	0.26%	0.17	0.39%	0.21%	0.85	0.38%	0.41%	-0.27
Thailand	-0.21%	-0.02%	-1.13	-0.03%	-0.11%	0.33	-0.03%	-0.11%	0.33	-0.10%	-0.12%	0.07
Taiwan	-1.15%	-1.18%	0.13	-1.12%	-1.17%	0.18	-1.15%	-1.18%	0.14	-1.26%	-1.16%	-0.93
United States	-0.79%	-0.81%	0.32	-0.79%	-0.79%	0.05	-0.79%	-0.83%	0.56	-0.81%	-0.78%	-1.23
All countries												
2000:04-2007:12	-0.67%	-0.20%	-0.92	-0.69%	-0.22%	-1.13	-0.68%	-0.21%	-1.03	-0.65%	-0.56%	-1.80
2000:04-2002:06	-0.86%	-1.25%	1.24	-0.85%	-1.18%	0.89	-0.86%	-1.23%	0.72	-1.03%	-0.85%	-1.50
2002:07-2007:12	-0.62%	0.04%	-1.07	-0.65%	-0.01%	-1.30	-0.64%	0.03%	-1.21	-0.56%	-0.50%	-1.22

Table 6

Performance of Domestic and Foreign Holdings and Country Characteristics: Local versus Global Managers

Country characteristic	Panel A: Local vs Global Manager											
	Excess Return			Alpha - global market model			Alpha - global Carhart model			Characteristics-adjusted Return		
	Local Manager	Global Manager	t-stat (local-global)	Local Manager	Global Manager	t-stat (local-global)	Local Manager	Global Manager	t-stat (local-global)	Local Manager	Global Manager	t-stat (local-global)
Asia Pacific	1.76%	1.67%	0.48	1.40%	1.32%	0.45	0.65%	0.57%	0.39	0.53%	0.47%	0.31
Europe	0.27%	0.46%	-2.07	-0.16%	0.06%	-2.60	0.19%	0.26%	-0.80	-0.56%	-0.48%	-1.57
North America	0.03%	0.10%	-1.42	-0.37%	-0.28%	-1.87	-0.16%	-0.14%	-0.31	-0.76%	-0.74%	-0.82
Developed markets	0.21%	0.35%	-2.39	-0.20%	-0.04%	-2.92	0.00%	0.04%	-0.80	-0.65%	-0.58%	-1.59
Emerging markets	1.02%	1.14%	-1.06	0.49%	0.62%	-1.16	0.12%	0.24%	-0.93	0.00%	0.05%	-0.49
Civil law	0.67%	0.85%	-1.12	0.22%	0.43%	-1.31	0.52%	0.39%	0.79	-0.28%	-0.14%	-0.81
Common law	0.09%	0.19%	-1.99	-0.30%	-0.19%	-2.54	-0.13%	-0.09%	-0.76	-0.72%	-0.68%	-1.69
High anti-director rights	1.09%	1.43%	-1.97	0.41%	0.81%	-2.32	0.44%	0.55%	-0.59	-0.29%	-0.07%	-1.21
Low anti-directors rights	0.33%	0.38%	-1.35	-0.42%	-0.34%	-2.23	-0.12%	-0.09%	-0.93	-0.72%	-0.68%	-1.62
High accounting standards	0.65%	0.83%	-1.18	-0.15%	0.12%	-1.86	0.17%	0.05%	0.91	-0.46%	-0.34%	-1.34
Low accounting standards	0.42%	0.56%	-2.46	-0.31%	-0.14%	-3.04	-0.04%	0.04%	-1.36	-0.69%	-0.60%	-1.84
High GDP per capita	0.29%	0.27%	0.16	-0.41%	-0.35%	-0.43	-0.37%	-0.36%	-0.01	-1.05%	-1.09%	0.36
Low GDP per capita	1.04%	1.25%	-1.94	0.26%	0.50%	-2.34	0.32%	0.41%	-0.76	-0.28%	-0.11%	-1.38
English language	0.09%	0.19%	-1.96	-0.31%	-0.19%	-2.49	-0.13%	-0.09%	-0.74	-0.72%	-0.68%	-1.64
Non-english language	0.67%	0.84%	-1.08	0.22%	0.41%	-1.30	0.49%	0.38%	0.67	-0.29%	-0.15%	-0.86
High market capitalization/GDP	0.14%	0.29%	-1.05	-0.57%	-0.36%	-1.54	-0.09%	-0.20%	0.80	-0.89%	-0.79%	-1.12
Low market capitalization/GDP	0.84%	0.96%	-2.02	0.06%	0.20%	-2.68	0.13%	0.19%	-0.90	-0.42%	-0.36%	-1.30
Insider trading enforcement	0.23%	0.38%	-2.67	-0.18%	-0.01%	-3.13	0.01%	0.06%	-0.89	-0.64%	-0.56%	-1.77
No insider trading enforcement	0.30%	0.53%	-1.40	-0.11%	0.16%	-1.63	-0.54%	-0.43%	-0.65	-0.22%	-0.09%	-1.05
High firm-specific return variation	0.34%	0.41%	-1.34	-0.39%	-0.30%	-2.24	-0.12%	-0.10%	-0.38	-0.69%	-0.64%	-1.99
Low firm-specific return variation	1.67%	1.94%	-1.48	0.93%	1.28%	-1.94	0.99%	1.09%	-0.51	-0.01%	0.17%	-0.70

Table 7

Performance of Domestic and Foreign Holdings and Firm Characteristics: Local versus Global Managers

Firm characteristic	Excess Return			Alpha - global market model			Alpha - global Carhart model			Characteristics-adjusted Return		
	Local Manager	Global Manager	t-stat (local-global)	Local Manager	Global Manager	t-stat (local-global)	Local Manager	Global Manager	t-stat (local-global)	Local Manager	Global Manager	t-stat (local-global)
Large stocks (above 50th pct)	0.40%	0.47%	-1.67	-0.35%	-0.24%	-2.53	-0.08%	-0.06%	-0.32	-0.66%	-0.60%	-1.86
Small stocks (below 50th pct)	4.49%	6.01%	-1.27	4.13%	5.82%	-1.39	3.06%	4.46%	-0.99	0.45%	1.76%	-0.98
High B/M (above 70th pct)	0.96%	1.24%	-1.48	0.26%	0.59%	-1.76	0.33%	0.56%	-1.06	-0.54%	-0.32%	-1.09
Low B/M (below 30th pct)	0.26%	0.33%	-1.14	-0.48%	-0.38%	-2.06	-0.18%	-0.21%	0.44	-0.70%	-0.64%	-1.57
High momentum (above 70th pct)	1.19%	1.22%	-0.67	0.46%	0.50%	-0.80	-0.36%	-0.33%	-0.58	-0.89%	-0.87%	-0.54
Low momentum (below 30th pct)	0.91%	1.27%	-1.43	-0.44%	-0.03%	-1.55	1.03%	1.36%	-1.10	-0.63%	-0.30%	-1.30
ADR stocks	0.58%	0.99%	-1.86	0.15%	0.61%	-2.13	0.63%	0.71%	-0.32	-0.04%	0.25%	-1.27
Non-ADR stocks	0.14%	0.24%	-2.15	-0.26%	-0.15%	-2.57	-0.10%	-0.08%	-0.57	-0.76%	-0.73%	-1.33
MSCI stocks	0.18%	0.37%	-2.75	-0.20%	0.01%	-3.39	0.12%	0.16%	-0.71	-0.57%	-0.49%	-1.40
Non-MSCI stocks	0.37%	0.44%	-1.29	-0.08%	-0.02%	-1.19	-0.19%	-0.18%	-0.16	-0.85%	-0.82%	-0.96
High insider ownership (above 50th pct)	1.37%	1.78%	-1.57	0.62%	1.10%	-1.83	0.65%	0.94%	-0.95	-0.21%	0.16%	-1.29
Low insider ownership (below 50th pct)	0.33%	0.39%	-1.33	-0.41%	-0.32%	-2.15	-0.12%	-0.11%	-0.25	-0.70%	-0.67%	-1.27
High analyst following (above 50th pct)	0.35%	0.43%	-1.73	-0.39%	-0.28%	-2.60	-0.07%	-0.06%	-0.31	-0.65%	-0.60%	-1.63
Low analyst following (below 50th pct)	0.82%	0.90%	-1.07	0.02%	0.13%	-1.39	-0.21%	-0.19%	-0.26	-0.98%	-0.85%	-2.06
High foreign sales (above 50th pct)	0.41%	0.49%	-1.67	-0.39%	-0.28%	-2.40	0.03%	0.03%	-0.03	-0.61%	-0.58%	-0.84
Low foreign sales (below 50th pct)	0.66%	0.87%	-1.21	0.08%	0.34%	-1.51	-0.06%	0.15%	-0.97	-0.61%	-0.38%	-1.23
High institutional ownership (above 50th pct)	0.69%	0.72%	-1.28	-0.36%	-0.32%	-1.46	-0.09%	-0.10%	0.28	-0.68%	-0.65%	-1.51
Low institutional ownership (below 50th pct)	1.02%	1.13%	-2.41	-0.13%	-0.02%	-2.36	0.25%	0.28%	-0.45	-0.65%	-0.49%	-3.22
High turnover (above 50th pct)	0.35%	0.42%	-1.67	-0.43%	-0.32%	-2.57	-0.11%	-0.08%	-0.69	-0.71%	-0.66%	-1.75
Low turnover (below 50th pct)	0.87%	0.96%	-1.15	0.20%	0.32%	-1.59	0.14%	0.08%	0.75	-0.54%	-0.54%	-0.09

Figure 1

Domestic and Foreign Mutual Fund Ownership (% of market capitalization as of December 2007)

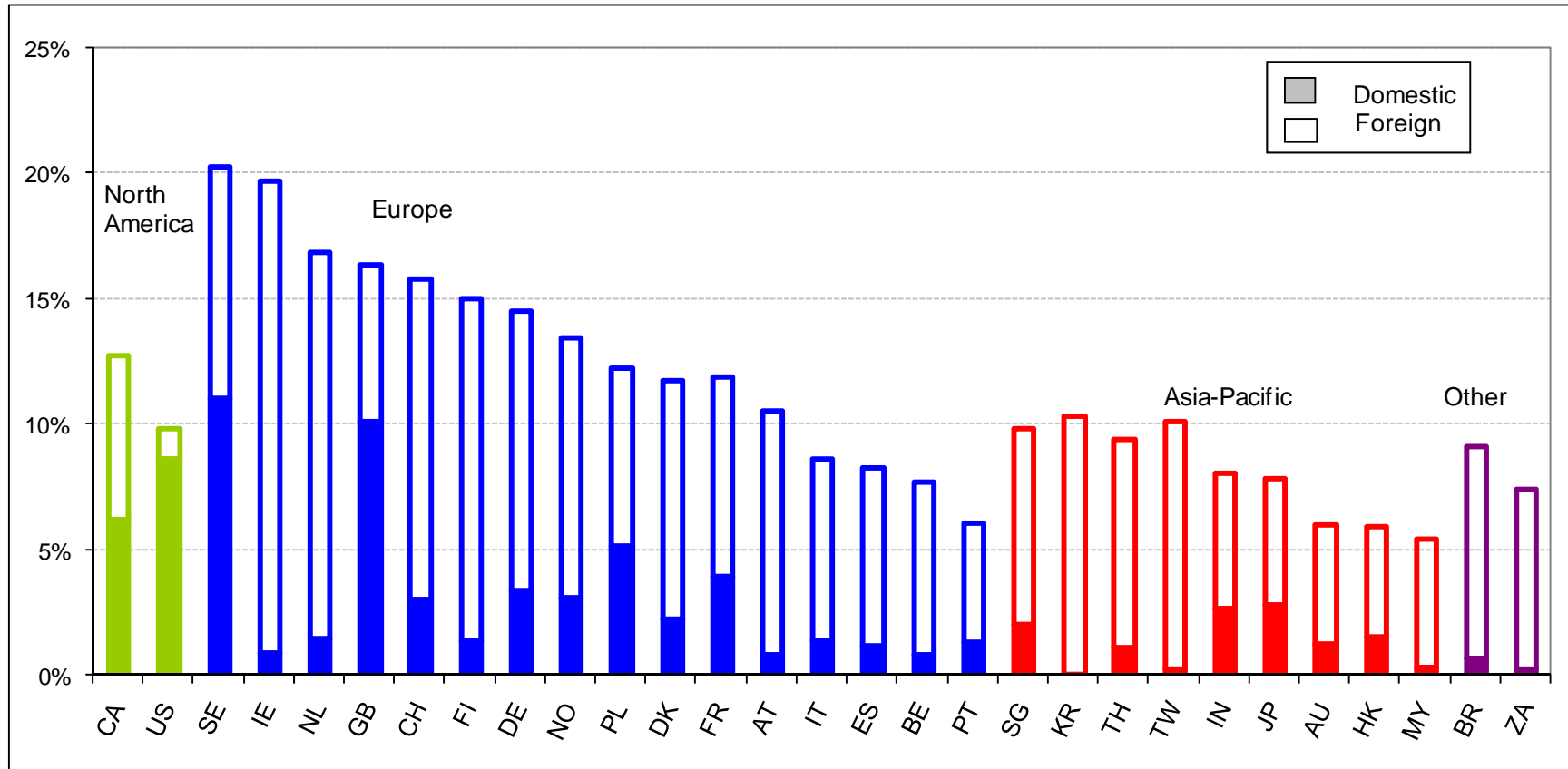


Figure 2

Global and Local Mutual Fund Ownership (% of market capitalization as of December 2007)

