

U.S. Investors' Emerging Market Equity Portfolios:
A Security-Level Analysis

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Abstract: We use the most comprehensive data set available to analyze U.S. investors' equity portfolios in emerging markets. At a point in time, U.S. portfolios are tilted towards firms that are large, have fewer restrictions on foreign ownership, or are cross-listed on a U.S. exchange. The effect of liquidity seems to vary across regions; in Latin America, firms with high turnover rates have more U.S. investment, but we find no evidence of this in emerging Asia. Over time portfolios weights increase for firms that improve their financial health by reducing leverage. The most striking result concerns the size of the cross-listing effect. On average, among the firms in our sample that cross-listed on U.S. exchanges, U.S. investors' allocations were in line with amounts predicted by the ICAPM. That is, for cross-listed firms, there is no evidence of a home bias in U.S. portfolios.

JEL Classification: F3, G15

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1. Introduction

In this paper we analyze a security-level database of U.S. investors' equity portfolios in nine emerging markets to determine firm characteristics that attract U.S. investment, how investment patterns differ across Latin America and emerging Asia, and how emerging market portfolios have changed over time. The analysis has important implications for our understanding of international financial integration and prospects for emerging market equity flows.

The database we use to answer these questions is remarkable in that it is the most comprehensive available. It includes not only U.S. institutions' holdings of non-U.S. stocks that trade in the United States—as is available through SEC 13(f) filings—but holdings of *all* U.S. investors in *all* non-U.S. stocks, regardless of where the stocks trade. The data were collected in conjunction with benchmark surveys conducted as of March 1994 and December 1997 by the U.S. Treasury Department and the Federal Reserve Board. U.S. institutions are, to be sure, important in this data set, but the data come primarily from the firms that are entrusted to keep the securities, the major custodians such as large banks and broker-dealers, and also include U.S. holdings of the underlying foreign securities.

We focus in this paper on firms from nine large emerging markets, four in Latin America (Argentina, Brazil, Chile, and Mexico) and five in emerging Asian (Indonesia, Korea, Malaysia, Philippines, and Thailand). We find that at a point in time U.S. investors' emerging market equity portfolios are weighted towards large stocks with less onerous foreign ownership restrictions and even more so toward those that are listed on U.S. exchanges. Within regions, some differences appear. For example, the effect of turnover rates, a measure of liquidity, differs

across regions: Latin American stocks with high turnover rates attract U.S. investment, but in emerging Asia, where turnover rates are much higher, such a preference is not detectable. We also find some evidence that in Latin America U.S. portfolios are tilted towards high beta stocks with low (residual) volatility and, especially in emerging Asia, U.S. investors avoid stocks that pay no dividends. In the 1994 portfolios, there is evidence of a preference for growth stocks, especially in Latin America. We analyze portfolio reallocations between 1994 and 1997 and find a distinct move to firms that improved their financial health in the mid-1990s by reducing leverage. We also study the performance of U.S. portfolios, but here our evidence is mixed. Within many of these countries, U.S. investors' end-1997 portfolio provided higher 1998 returns than the market, but we cannot conclude that U.S. portfolios were significantly tilted towards future winners.

A positive relationship between cross-listing and U.S. ownership is not surprising. Using country-level data, Ahearne, Grier, and Warnock (forthcoming) argued that countries whose firms tended to list on U.S. exchanges had higher weights in U.S. portfolios because cross-listed firms reduce information asymmetries by opting into U.S. investor protection regulations. Cross-listing involves, as discussed in Coffee (2002), not only increased disclosure and reconciliation to U.S. GAAP, but also increased enforcement by the SEC and a more demanding litigation environment. The enhanced information environment should broaden the shareholder base (Merton (1987)), as greater transparency increases the willingness of global investors to commit capital. Consistent with this, a positive effect of cross-listing on firm value has been documented by Doidge, Karolyi, and Stulz (forthcoming) and Lang, Lins, and Miller

(forthcoming).¹

The sheer size of the cross-listing effect on U.S. portfolios is striking. In our sample, U.S. investors hold on average only 7 percent of the market capitalization of firms that are not cross-listed, but 27 percent of the market capitalization of those that are cross-listed. This relationship holds even with the inclusion of many control variables. To put this in perspective, the international version of the classical capital asset pricing model (ICAPM), based on traditional portfolio theory developed by Sharpe (1964) and Lintner (1965), predicts that mean-variance optimizing investors should hold the world market portfolio of risky assets. Dahlquist, Pinkowitz, Stulz, and Williamson (forthcoming) put a finer point on this: Many shares are held by controlling insiders, so mean-variance optimizing investors should hold the world portfolio of share not held by controlling shareholders, also known as the world float portfolio, not the world market portfolio. But even when considering the world float portfolio, the country-level analysis of Dahlquist et al (forthcoming) shows evidence of home bias, the tendency of investors to underweight foreign securities.² International data on the portion of shares that are “closely held”, or held by controlling investors, are of suspect quality; that caveat aside, about 52 percent of the market capitalization of the average cross-listed firm in our sample is held by insiders. Excluding closely held shares, for cross-listed stocks the 27 percent held by U.S. investors is about 56 percent of the float-adjusted market capitalization. The ICAPM predicts that U.S. investors hold about 48 percent of each and every stock in the world; Dahlquist et al (forthcoming) put this at 58 percent of the world float portfolio. Thus, among emerging market

¹ Lins, Strickland, and Zenner (2002), Pagano, Roell, and Zechner (2002), and Reese and Weisbach (2002) examine why firms cross-list.

² See Lewis (1999) and Karolyi and Stulz (2001) for surveys of the home bias literature.

firms cross-listed on U.S. exchanges, U.S. allocations are in line with amounts predicted by a float-adjusted ICAPM model.

The finding that U.S. investors have full ICAPM weights on emerging market stocks that are cross-listed on U.S. exchanges but much lower weights on all other emerging market stocks sheds some light on previous results. It suggests, in particular, that the cross-listing is associated with a discrete increase in demand for the stock. The increased demand should lead to a sharp but temporary increase in capital flows (as found in Edison and Warnock (2002)) and increase in price (as found in Foerster and Karolyi (1999) and Miller (1999)). In light of the current results, that the equity inflows associated with a cross-listing are temporary is not surprising; after investors bring these stocks into their portfolios at full weights, there is little need for large subsequent purchases. The increased analyst coverage (Baker, Nofsinger, and Weaver (2002)) and concomitant improvement in forecast accuracy (Lang, Lins, and Miller (forthcoming)) could be due to the cross-listing or to the fact that large U.S. investors hold the stock and demand more coverage.

The paper proceeds as follows. In the next section, we describe the data on U.S. holdings and firm characteristics. In Section 3, we provide summary statistics. In Section 4, we more formally analyze the determinants of firms' weights in U.S. portfolios by presenting results from multivariate regressions. Section 5 presents a cursory analysis of the performance of U.S. portfolios. Section 6 concludes.

2. Data Description

Before presenting the data, it is worthwhile to set the scene by briefly describing the environment at the times of the benchmark surveys. Between the surveys, stock market development, as measured by the number of listed firms (Table 1), increased dramatically in emerging Asia, especially Indonesia, Korea, and Malaysia, but was roughly unchanged in Latin America. Market capitalizations paint a different picture; some Latin American markets, such as Brazil and Chile, grew sharply between the surveys, but by end-1997 the Korean, Malaysian, and Thai equity markets were (in dollar terms) just 20 to 50 percent of their March 1994 sizes, primarily because of the crisis-related and currency depreciations and drop in equity prices (Figure 1). All of the markets in our sample were open to foreign investment by March 1994 (Figure 2).³ At that time, Argentina, Mexico, and Malaysia had the fewest legal restrictions, but, by the end of 1997, the other countries had also dismantled the bulk of foreign ownership restrictions.⁴ By 1997 firms from most of these countries—Thailand and Malaysia are the exceptions—had cross-listed on U.S. exchanges. Figure 3 shows the basic message from Ahearne et al (forthcoming): Countries whose firms tended to cross-list on U.S. exchanges had greater weights in U.S. portfolios. With the firm-level analysis of this paper, we will be able to discern whether this effect was limited to only the firms that cross-listed, or also extended to

³ Financial liberalization in these countries has been studied by Bekaert and Harvey (2000), Chari and Henry (2001, 2002a,b), Edison and Warnock (forthcoming), Henry (2000a,b), and Kim and Singal (2000).

⁴ We should note that a reduction in foreign ownership restrictions need not be considered credible by investors. The reimposition of controls in Malaysia in 1998 provided an emphatic illustration of this point.

other firms in these countries.

2.1 The Security-level Holdings Data

We use confidential security-level data on U.S. holdings of emerging market stocks from comprehensive benchmark surveys conducted by the U.S. Treasury Department and the Federal Reserve Board as of March 1994 and December 1997.⁵ Data are collected from two types of reporters: U.S. custodians and U.S. institutional investors.⁶ Reporting on the survey was mandatory, and penalties could have been imposed for noncompliance. Custodians—primarily banks but also some broker-dealers—are the main source of information, reporting 97 percent of the market value of U.S. holdings of foreign long-term securities measured on the 1997 survey. Institutional investors, such as mutual funds, pension funds, insurance companies, endowments, and foundations, report in detail on their ownership of foreign securities only if they do not entrust the safekeeping of these securities to U.S.-resident custodians. If they do use U.S.-resident custodians, institutional investors report only the name(s) of the custodian(s) and the amount(s) entrusted.⁷

The requirement that institutional investors identify their U.S.-resident custodian(s) has the beneficial side effect of ensuring that all sizable U.S.-resident custodians holding foreign

⁵Publicly available country-level data from the benchmark surveys are presented in Treasury Department and Federal Reserve Board (2000), on which the description in this section is based, and analyzed in Ahearne, Grier, and Warnock (forthcoming) and Dahlquist et al (forthcoming).

⁶ Holdings of private individuals are captured as long as they are through U.S. institutional investors or are entrusted to U.S.-resident custodians.

⁷ Of the 1209 firms that reported data in the survey, 863 reported the names and amounts they had entrusted to U.S. custodians.

securities are included in the survey, because any custodian identified by an institutional investor is instructed to report. The requirement also makes it possible to check on survey accuracy, as the amount of foreign holdings each custodian should report can be estimated by summing the amounts that institutional investors as a group have entrusted to each custodian.

Data from the asset surveys are considered accurate but difficulties and complexities mean that they are not likely perfect. Accurately pricing and categorizing the universe of foreign securities—370,000 records on equity holdings were collected in the 1997 survey—is very challenging, as commercial data used to cross-check data on foreign securities are generally less complete than for U.S. securities; custodian data in asset surveys tend to have some errors and omissions; and unexpected local market quirks can lead to misinterpretations of reported data. Because of the great number of records and the various complexities, the data were edited and cleansed by Federal Reserve and Treasury staff for eighteen months.

One of the cross-checks performed by Fed and Treasury staff involves holdings of U.S. institutional investors as reported to the SEC through Form 13(f) filings.⁸ The SEC only has jurisdiction over securities that trade in U.S. markets, so only U.S.-traded securities—or, to be more specific, so-called 13(f) securities—are reportable in 13(f) filings. Non-U.S. securities are reportable to 13(f) only if they trade in U.S. markets. Therefore, 13(f) filings include U.S. institutions' holdings of, for example, American Depositary Receipts (ADRs), but not holdings of the underlying foreign security.⁹ So one check is to confirm that all U.S. investors' holdings of a particular ADR as reported to the benchmark survey are greater than the amount of U.S.

⁸ Commercial vendors sell 13(f) data in a user-friendly form. One example is the Thomson Financial Spectrum database.

⁹ See Miller (1999) for a discussion of ADR programs.

institutions' holdings of the same ADR from 13(f) data. Note that the cross-check involves only U.S. holdings of the ADR, because 13(f) does not include U.S. institutions' holdings of the underlying foreign security (except in the cases in which the underlying actually trades on a U.S. exchange). In contrast, the benchmark survey data we analyze in this paper include U.S. investors' holdings of the underlying foreign security as well as the ADR.

Another piece of evidence that speaks to the comprehensiveness of the holdings database is the number of non-zero holdings. For the nine countries in our sample, of the 727 EMDB firms in 1997 only 7 had zero U.S. holdings. The proportion of EMDB firms with zero U.S. holdings was higher in 1994 (40 of 345), but this higher proportion makes sense. In 1994, some of the Asian countries had extremely restrictive capital controls; Figure 2 shows that almost 90 percent of the Korean market was unavailable to foreign investors. By 1997, restrictions were relaxed and U.S. investment increased.

The dollar amount of U.S. holdings at the time of the two benchmark surveys are in parentheses in the left columns of Table 1. In dollar terms, U.S. positions in Latin America increased from \$53 billion in 1994 to \$84 billion in 1997. As a percent of the market capitalization in these countries, U.S. holdings amounted to 13 percent in 1994 and 15 percent in 1997. In emerging Asia, between 1994 and 1997 U.S. holdings fell from \$21 billion to \$17 billion; because market capitalizations fell much more sharply, U.S. positions increased from 4 to 8 percent in the inter-survey period. Thus, the importance of U.S. investors increased in both regions between 1994 and 1997.

2.2 Firm Characteristics

For data on firm characteristics we use balance sheet variables from Worldscope and returns data from the S&P/IFC Emerging Markets Database (EMDB); complete details are provided in the Data Appendix. The EMDB consists of all firms in the S&P/IFC Global index. All actively traded stocks of domestic companies are candidates for inclusion in a country's Global index; there are no liquidity or size screens. But the index and, hence, the database, is not comprehensive: It is constructed to represent a target 60 to 75 percent of the country's total market capitalization and an industrial composition similar to that of the overall market.¹⁰ For the nine emerging markets in our sample, EMDB firms comprise 68 percent of the \$767 billion in end-1997 market capitalization, but 88 percent of the \$100 billion in U.S. positions.¹¹

Although other classifications are possible, we group our main explanatory variables in five categories. Our priors on these variables are formed from analyses of foreigners' investments in a particular country's equities—Kang and Stulz (1997), henceforth KS, for Japanese equities and Dahlquist and Robertsson (2001), henceforth DR, for Swedish equities—and the Falkenstein (1996) and Gompers and Metrick (2001), henceforth GM, findings on the composition of domestic institutions' investments in U.S. equities.

2.2.1 Liquidity and transaction costs. The typical U.S. international investor is likely an institution for which liquidity and low transaction costs are important. Large stocks with high turnover are more liquid, so we include *size* (log market capitalization) and *turnover* (value of

¹⁰ See Standard & Poor's (2000) for a complete description of the IFC Global index and the EMDB.

¹¹ Worldscope ostensibly includes a very broad range of firms, but the coverage differs greatly by variable and, after omitting firms that have poor coverage, it is Worldscope, not the EMDB, that constrains our data set.

trading over the previous twelve months as a percentage of market capitalization). These two variables also serve as proxies for firm-level transaction costs, for which we have no direct measure.¹²

2.2.2 Prudence variables. Dividend yield (dividends per share over the year-end market price) has been used by Del Guercio (1996) and GM as a “prudence” proxy—stocks paying higher yields might be considered safer and some institutions cannot hold stocks that do not pay dividends. Yield also has predictive power for returns (Fama and French (1988), Campbell and Shiller (1988), Harvey (1995)). Another prudence proxy is the volatility of past returns, which we measure as the *residual variance* of a market model estimated over a 3-year period. We do not have a strong prior on this variable. From a prudence standpoint, U.S. ownership should be greater in firms with lower volatility. But investors may seek high risk high reward stocks; GM and Falkenstein (1996) find a positive impact of volatility on U.S. institutions’ domestic holdings.

2.2.3 Historical returns. Besides residual variance, we use four other variables that are based on historical returns: book-to-market, beta, Sharpe ratio, and momentum. *Book-to-market*, calculated as the book value per share over the year-end market price, can be viewed as a style variable; a tendency to hold low (high) book-to-market values indicates a preference for “growth” (“value”) stocks. We do not have a strong prior on book-to-market: U.S. institutions appear to favor domestic value stocks, but foreigners in Japan and Sweden reveal a preference for growth stocks. *Beta*, calculated from the same market model as residual variance, measures

¹² Because lower priced stocks have, on a percentage basis, higher bid-ask spreads and therefore higher transaction costs, price has also been used as a proxy for transaction costs. We do not include price because many foreign stocks as held as ADRs, which often bundle underlying shares to produce a higher price.

the systematic risk of a stock. We might expect a preference for high beta stocks; KS note that in the presence of proportional barriers to investment foreigners should hold high beta stocks. Past performance in a reward-to-risk sense is captured by a *Sharpe ratio* calculated over a 3-year period; whether U.S. investors move into stocks with high reward-to-risk tradeoffs is an empirical question. We also include a *momentum* variable (mean monthly return over the preceding one-year period) that will provide an indication of whether U.S. investors can be characterized as momentum traders in emerging markets. Past evidence of momentum trading by foreigners seems to be sample-specific. Whereas KS, Falkenstein (1996), and Grinblatt and Keloharju (2000) find evidence of momentum investing, GM show strong evidence that institutions do not chase past returns.

2.2.4 Financial health. We use three measures of financial health. *Return on assets* (ROA) is an accounting performance measure calculated as net income over total assets. If there is persistence in accounting performance, U.S. investors might favor emerging market stocks with high ROA. Firms with higher *leverage*, calculated as the ratio of total debt to total assets, are more financially vulnerable and, thus, might attract less foreign investment. *Current ratio*, calculated as current assets over current liabilities, indicates the firm's ability to meet short-term obligations. Firms with a high current ratio are in better financial health (at least in the short-term) and, thus, might be more attractive to foreign investors.

2.2.5 Barriers to international investment. Barriers to international investment can be direct or indirect. Direct barriers, such as capital controls, are captured by a firm-level measure of the legal availability of a stock to foreigners, the *investable weight*. The investable weight, which is the basis of the Edison and Warnock (forthcoming) capital controls measure, is an

openness measure that represents the portion of a firm's equity that is legally available to a foreign investor. A barrier that is both direct and indirect is the extent to which a stock is held by insiders—stocks with a high concentration of insiders are less available to foreign investors for algebraic reasons but also because insiders' objectives might not align with those of atomistic investors. *Closely held*, as in Dahlquist et al (forthcoming), is calculated as the percent of outstanding common shares that are held by insiders. Based on the findings of Holland and Warnock (forthcoming), we adjust the closely held variable by subtracting the percentage closely held that Worldscope incorrectly attributes to depositary banks. We also include two cross-listing dummy variables. *US Listed* takes the value of one if the firm is listed on a U.S. exchange. Such a cross-listing alleviates two type of barriers to international investment: direct (through lower transaction costs and better settlement) and indirect (through an improved information environment due to stricter investor protection regulations). Some foreign firms trade in U.S. OTC markets as Level I ADRs or private placements (Rule 144a). For these firms, captured by a *Level I ADR* dummy, direct costs might be lower, but we expect no improvement in the information environment.

3. U.S. Positions in Emerging Equity Markets – Descriptive Statistics

In this section we take two basic cuts of the holdings data, first by industry and then by firm characteristic.

3.1 Holdings by Industry

Our first cut of the holdings data is by industry. KS and DR found that foreign investors tended to overweight industries that produce internationally traded goods—manufacturing in Japan and engineering in Sweden—and underweight “local” or non-tradeable sectors. Table 2 shows that foreign holdings in emerging markets may have different characteristics. The table presents the relative weights of eight industries in U.S. investors’ emerging market equity portfolio as of end-1997. A value of one indicates that the share of an industry in U.S. investors’ emerging market equity portfolio is identical to the share of that industry in these markets. Any value less than one indicates an underweighting of that industry; any value over one implies overweighting. Contrary to the industrial country results of KS and DR, U.S. investors overweight a “local” sector—transportation and communication—and underweight manufacturing.¹³ In line with the previous results, however, they also overweight agriculture and mining firms, which, in these economies, produce internationally traded goods. Thus, we conclude that compared to holdings of foreigners in Japan and Sweden, the sectoral composition of U.S. holdings in these emerging markets are similar (a tradeable sector is overweighted) but different (the most overweighted sector produces nontradeable goods). Sectoral weights for 1994 (not shown) follow a similar pattern.

¹³ Cai and Warnock (2003) find that in foreign investors’ U.S. equity portfolios, the overweighting is greatest on some “local” sectors (such as services and agriculture).

3.2 Holdings by Firm Characteristic¹⁴

Before discussing the relationship between firm characteristics and U.S. holdings, we first describe some of the features of the data. Summary statistics are provided for our full sample (Table 3a) and separately for each region (Tables 3b and 3c). For now we focus on the columns labeled Average, which provides sample averages for each characteristic, and N, the number of firms. In Table 3a we see that we have in our sample at most 724 firms and that coverage is greatest for EMDB variables such as returns-based variables, market capitalization, and investability. Also, from Table 3a the average firm in our sample has market capitalization of \$963 million, of which 43 percent is held by insiders (the average of *Closely Held*), 62 percent can be held by foreigners (*Investability weight*), and 9 percent is held by U.S. investors. The typical firm has a turnover rate of just over one; a dividend rate of 2.2 percent; a Sharpe ratio over the 1994-1997 period of -0.48; negative returns (-7.5%) in 1997; a beta greater than one; and a book-to-market ratio greater than one. In 1997, the typical firm had total debt of about 39 percent of total assets; current assets that were 1.46 times current debt; and a return on assets of positive 3 percent. Eight percent of the firms are listed on U.S. exchanges and another 7 percent trade as Level I ADRs.

Comparing Tables 3b and 3c, we see that the sample is comprised mainly of Asian firms (524 of the 724). Compared to the typical Latin American firm in our sample, the typical Asian firm is about three times smaller; has a three times higher turnover rate; pays lower dividends; is

¹⁴ Some data used in previous studies are not available. Most importantly, adequate foreign sales data do not exist for these emerging market firms. DR find a significant relationship between foreign sales and foreign ownership, but in our sample U.S. investors tend to overweight some firms for which international trade is not important, such as transportation and communications firms.

slightly more volatile; has a worse reward-to-risk tradeoff, lower 1997 returns, and lower beta; has a much higher book-to-market ratio; is in worse financial health with higher leverage, lower current ratio, and lower return on assets; is less closely held by insiders but less available to foreigners; and is less likely to be listed on a U.S. exchange or trade as a Level I ADR. Perhaps not surprising, U.S. investors hold less of the typical Asian firm (6 percent) than the typical firm in Latin America (16 percent).

Tables 3a - 3c also present two indicators of simple bivariate relationships between holdings and firm characteristics: quintile analysis and t-statistics from regressions of y_i on a characteristic. In the quintile analysis, firms are ranked and sorted into quintiles based on the characteristics discussed in Section 2. For each quintile, we report the average of the characteristic and the percentage of the market capitalization held by U.S. investors. By design, the quintiles are increasing in the firm characteristic. If they are also increasing in U.S. ownership, a positive bilateral relationship is revealed.

The two liquidity variables show conflicting results in Table 3a. U.S. ownership is, as expected, increasing with firm size: U.S. investors hold only 5.3 percent of the smallest firms, but 13.4 percent of the largest firms, and this relationship is also evident from the positive and highly significant t-statistic (7.34) on a regression of U.S. ownership on firm size. However, there is also evidence that firms with higher turnover rates have lower U.S. ownership. The t-statistic on the turnover regression is negative, and the quintile analysis shows that U.S. investors avoid the highest turnover stocks in this sample. Tables 3b and 3c provide further information on this counterintuitive result. In Latin America (Table 3b), U.S. positions are indeed increasing in turnover rates and the relationship is dramatic: U.S. ownership is only 7.4 percent in Latin

American stocks that trade the least but increases to 24.7 percent in those that trade the most. The counterintuitive results owes to turnover rates in emerging Asia (Table 3c). Turnover rates can be very high in emerging Asia—in 1997 the 105 firms in the highest quintile had annual trading that was on average over four times market capitalization—but U.S. ownership is quite low (3.9 percent) in Asian firms with the highest turnover rates. This example underscores differences across regions. In the multivariate regressions of the next section, we will include country dummies and also report results by region.

There is weak evidence of a role for prudence factors. In the whole sample, dividend yields are positively related to U.S. ownership (t-stat=4.46), but the quintiles show that this is, in fact, a distaste for stocks that pay no dividends. If we omit stocks that do not pay dividends, the relationship is negative: U.S. ownership in quintiles 2 through 5 is decreasing in dividend yields. At the regional level, we see that this avoidance of zero dividend stocks is actually a emerging Asian phenomenon. U.S. ownership in Latin American stocks that pay no dividends is 17 percent, in line with U.S. ownership in all Latin American firms, but is much lower in the many Asian firms that pay no dividends. For volatility (residual variance), there is little evidence of a significant relationship with U.S. ownership, although ownership is greater in the most volatile emerging Asian firms.

Historical returns appear to be very important. Table 3a shows that at the end of 1997 U.S. investors had larger relative weights on stocks that had strong performance in a reward-to-risk sense over the past three years (high Sharpe ratio), strong returns over the past year (momentum), and a high beta. Momentum and beta are also important in both regions. The Sharpe ratio, however, is not significantly related to U.S. ownership in either region, suggesting

the positive relationship apparent in Table 3a may be spurious: U.S. positions are greater in Latin America than in emerging Asia and Latin American stocks had higher Sharpe ratios from 1994 to 1997, but there is little evidence that within regions firms with higher Sharpe ratios had higher U.S. ownership. Finally, for book-to-market, there is little evidence in the whole sample of a significant relationship, although U.S. investors do seem to prefer low book-to-market (growth) firms in Latin America and higher book-to-market (value) firms in Asia.

We see only weak evidence in the bivariate relationships that the financial health of the firm affects U.S. portfolio weights. Firms with higher return on assets, better current ratios, and less leverage have somewhat higher weights in U.S. portfolios (Table 3a), although the significance of the relationships is slightly weaker than for other variables. Indeed, within regions, these relationships are not significant, suggesting that Table 3a might be picking up a preference for Latin American firms, which were in better financial health in 1997.

Finally, the evidence on variables that proxy for barriers to international investment is mixed in the whole sample. While U.S. ownership is greater in firms that are more open, listed on U.S. exchanges, and, to a lesser extent, trade as Level I ADRs, it is also greater in firms that are more closely held, even after using the Holland and Warnock (forthcoming) adjustment to correct for Worldscope misreporting. The regional breakdowns provide more information. In Latin America, U.S. ownership is indeed lower for firms that are more closely held; the counterintuitive result comes from Asia, where U.S. ownership is greatest in firms that are the most closely held. For the other variables, *US Listed* is very important in both regions, *Level I ADR* matters in neither, and the variation in firm-level openness is important in Latin America but not in Asia.

To sum up, simple bivariate statistics show that while there are important differences across regions, a few variables seem to transcend regional differences. U.S. investors prefer emerging market firms with the following characteristics: large, high returns over the past year, high beta, and cross-listed on a U.S. exchange. Other relationships are apparent—for example, a preference for firms that are financially healthy—but these may be capturing a preference for Latin American stocks. There is also evidence of two counterintuitive relationships in U.S. positions in emerging Asian stocks, where U.S. investors seem to reveal a preference for stocks that are illiquid and more closely held by insiders. In attempt to disentangle the various relationships, we turn next to multivariate regressions.

4. U.S. Positions in Emerging Equity Markets – Regression Results

To analyze U.S. positions at a point in time, we define ownership by U.S. investors as the ratio of security i 's weight in U.S. equity portfolios to its weight in the world market portfolio, minus one:

$$y_i = \frac{\omega_i^{US}}{\omega_i^m} - 1 = \frac{\frac{H_i^{US}}{H^{US}}}{\frac{MCap^i}{MCap^m}} - 1 \quad (1)$$

where H_i^{US} is U.S. holdings of security i , H^{US} is the size of the U.S. equity portfolio, $MCAP^i$ is the market capitalization of security i , and $MCAP^m$ is the size of the (world) market portfolio.

We refer to the term, ω_i^{US}/ω_i^M , as the relative portfolio weight. Foreign ownership is increasing in y , with a y -value of negative one (or relative portfolio weight of zero) indicating no foreign ownership, $y = 0$ (relative weight of one) indicating that the security's weight in U.S. portfolios is identical to its weight in the world market portfolio, and a positive y -value indicating that U.S. investors overweight the equity. This measure is identical to that used in DR and, in cross-sectional analysis, observationally equivalent to the Falkenstein (1996) and GM measures of the importance of a type of investors in a particular market (in their cases, institutional investors in U.S. equities). In particular, the share of equity i that is held by U.S. investors is

$$\frac{H_i^{US}}{MCap^i} = (y_i + 1) \frac{H^{US}}{MCap^m} \quad (2)$$

where $H^{US} / MCap^m$ is the share of the U.S. in the world portfolio, a constant (in the cross-section) that equaled about 0.48 in 1997.

We include country dummies in the regressions. Preferable would be to include country-level variables that might affect U.S. investors' portfolio allocations, such as rule of law, shareholder protection, or country credit ratings. However, our sample only has nine country-level data points, so we use country dummies to capture the effects all such variables. Also, in what follows we omit 91 firms that were not in the EMDB for the entire year of 1997 and six firms that appear to have bad data (four of which had overly high U.S. investment and two that had turnover rates in excess of 40.)

4.1 What types of firms attract U.S. investors?

Results for U.S. positions in the full sample of nine countries as of 1997 are presented in Table 4a. We start in Column (1) with a parsimonious set of control variables in order to maximize the number of observations; we then add Worldscope variables with less coverage in Columns (2) - (4). The results correspond to a scenario in which investors first choose to invest in emerging markets (the sample) and then, given desired country allocations (captured by the country dummies), select stocks based on firms' characteristics. The country dummies are important; the bottom rows of the table show that R^2 statistics are substantially smaller when the country dummies are omitted.¹⁵

The table suggests that U.S. investors prefer large stocks that have fewer ownership restrictions and are cross-listed. Also apparent is weak evidence of a preference for stocks with a high beta, stocks that performed well in 1997, and stocks with low residual variance. By far the most significant variable in Table 4a, though, is the cross-listing dummy. The size of the coefficient on *US Listed* suggests that emerging market firms that cross-listed on U.S. exchanges attracted much more U.S. investment—an increase of about 15 percentage points as a share of total market capitalization—even controlling for various firm characteristics. The coefficient on *Level I ADR*, on the other hand, is never significant.

4.2 Are U.S. investors attracted to different types of firms across regions?

We highlighted some differences across regions in the bivariate relationships of Tables 3b and 3c. Now, in Tables 4b and 4c, we show the 1997 multivariate results for Latin America

¹⁵ Industry dummies, when included, provide no added information, suggesting that U.S. investors consider firm and country characteristics in emerging markets more than the industry.

and emerging Asia. For Latin America (Table 4b), the most important characteristics appear to be liquidity (turnover), low residual variance, and a cross-listing; size and investability are significant in only some specifications. For emerging Asia (Table 4c), *US Listed* is again highly significant, and size and openness are significant in all specifications. The most apparent differences between the regions are the effects of turnover (positive in Latin America, insignificant in Asia), the greater importance of size and openness in Asia, and evidence that in Asian portfolios U.S. investors avoid closely held stocks and stocks with low dividends.

4.3 Have U.S. investors' portfolios changed over time?

December 1997, when emerging Asia was in the midst of a severe financial crisis, can be considered a non-standard time for emerging markets. To see if the factors that were important in 1997 were also important in 1994, we estimated similar regressions for 1994 (Table 5), but with a more limited set of explanatory variables.¹⁶ In 1994, as in 1997, U.S. investors preferred cross-listed stocks. Size is also important in most regressions, but not in Latin America. The two most noticeable differences between the two years are a lack of significance for 1994 firm-level investability—since country-level capital controls are captured by the country dummies, this could be due to the limited variation in investability among firms within a country—and a preference for growth stocks, especially in Latin America.

While Table 5 showed that the determinants of firm-level weights in U.S. portfolios in

¹⁶ We do not include returns-based variables, such as beta, because they would severely limit the sample—returns series for most of our firms do not start much before 1994. Nor do we have 1993 data on turnover or closely held. For emerging Asia, only one firm was cross-listed on a U.S. exchange as of March 1994, so to maintain legal confidentiality requirements, we cannot include a 1994 cross-listing variable.

1994 and 1997 were roughly similar, Table 6 examines the factors that explain reallocations in U.S. portfolios. The most noteworthy result is a re-weighting of U.S. investors' portfolios towards firms that improved their financial health, either by reducing leverage or improving the current ratio. There is also evidence of a sharp increase in U.S. participation for Asian firms that cross-listed between 1994 and 1997.¹⁷

5. The Performance of U.S. Investors

As we have noted, at the end of 1997 U.S. investors' emerging market equity portfolios were tilted towards Latin America. Figure 1 showed that in 1998 emerging Asian markets outperformed Latin American ones. Thus, U.S. investors had greater weights on the emerging markets that subsequently performed poorly in 1998. While the market that performed best in 1998, Korea, had the greatest weight in U.S. investors' emerging Asian equity portfolio, U.S. portfolios were generally tilted towards Latin American stocks, where prices (in dollar terms) fell 26 to 39 percent in 1998.

Given that U.S. investors bet on the wrong region at the end of 1997, did they at least choose firms that subsequently outperformed? We answer this in two ways. First, we compute 12-month returns on U.S. investors' portfolios assuming that a buy and hold strategy was implemented at the end of 1997. Table 7a shows that, for many countries in our sample, had

¹⁷ If a lagged dependent variable, the 1994 level of $y_{i,t}$ is included in the regressions of Table 6, it is negative and highly significant, suggesting that the lower the 1994 weight on a firm, the more it increased in U.S. portfolios. Other variables are not substantively different than in Table 6, with the exception that the change in cross-listing becomes significant in all specifications.

U.S. investors maintained their end-1997 portfolio allocations throughout 1998 their returns would have been less negative than the country-level returns. This evidence is at least suggestive of U.S. investors having some ability in stock picking within these countries.

Second, for each stock we regress end-1997 portfolio weights on its return for 1998 (*RET98*). This tells us if, without controlling for other characteristics, U.S. portfolios were tilted towards subsequent winners or losers. Then we re-estimate the 1997 holdings regressions from Tables 4a - 4c including *RET98*. These regressions indicate whether, controlling for all explanatory variables in the earlier tables, the portfolios were weighted towards winners or losers.

The coefficient estimates for *RET98* from basic regressions without control variables are presented in Table 7b. The first column shows results without country dummies and indicates that U.S. investors chose the wrong firms overall (-0.035). This result, however, could just indicate that U.S. investors chose the wrong countries. In fact, it does not hold when country dummies are included in the regressions (Column 2). The basic results in Table 7b is that U.S. investors chose the wrong countries but within those countries, the positive (but insignificant) coefficient on *RET98* suggests that U.S. investors did not choose stocks poorly.¹⁸

¹⁸ We re-estimated the regressions in Tables 4a - 4c with the *RET98* variable to see if, controlling for preferences, stocks that did comparatively better in 1998 had higher weights in U.S. portfolios. The coefficient on *RET98* was never significant.

6. Conclusions and Implications

This study uses a unique data set to analyze U.S. investors' equity positions in emerging markets. The preliminary results indicate that on the whole U.S. investors tend to have a strong preference for large stocks, stocks with fewer foreign ownership restrictions, and stocks that are cross-listed on U.S. exchanges. This should not be surprising; similar results are found in Kang and Stulz (1997) and Dahlquist and Robertsson (2001). In addition, we find that the effect of liquidity varies across regions—high turnover stocks are preferred in Latin America, but turnover is not a significant factor in U.S. portfolios in Asia. In analyzing changes in portfolio allocations between the survey dates of 1994 and 1997, firms that improved their financial health saw increased U.S. investment.

Perhaps the most interesting result concerns the effect of a cross-listing. The weights in U.S. portfolios of cross-listed stocks are in line with the weights predicted by a float-adjusted ICAPM. That is, cross-listed firms appear to be well integrated into U.S. portfolios. This, along with the Edison and Warnock (2002) evidence of a sharp but temporary increase in emerging market equity flows at the time of a cross-listing, suggests that the cross-listing is associated with a discrete shift in demand. This demand shift, in turn, can help explain many of the recent results in the cross-listing literature, from a positive price impact (Foerster and Karolyi (1999) and Miller (1999)) to an increase in firm value (Doidge et al (forthcoming)).

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Data Appendix

Data from the Benchmark Surveys

Security-level data on U.S. investors' holdings of equity as of March 31, 1994 and December 31, 1997. is aggregated to the firm level.

Variables from the S&P/IFC Emerging Markets Database*

Market Capitalization: To scale holdings, we use market capitalization data from the same days as the benchmark surveys. As a measure of *size* we use the log of market capitalization; for 1997, when valuations were decreasing rapidly in some countries, we use the average of the June and December market capitalizations.

Beta and *residual variance* are calculated from a market model that uses monthly firm-level and MSCI World returns and is estimated from January 1994 through December 1997. The *Sharpe ratio* is calculated as $(R_i - R_f) / \sigma(R_i)$ over the period from January 1994 through December 1997, with the one-month U.S. Treasury bill returns from CRSP as the risk-free return series. *Momentum* is returns over a twelve-month period preceding a benchmark survey date.

Turnover is the value of trading over a 12-month period divided by beginning of period market capitalization.

Investability or investable weight is the firm's openness factor in the IFC Investable index. Because capital controls changed rapidly in late 1997, we use the average of two points over a six month period.

Data from Worldscope**

Return on Assets (%):***

$(\text{Net Income before Preferred Dividends} + ((\text{Interest Expense on Debt-Interest Capitalized}) * (1 - \text{Tax Rate}))) / \text{Last Year's Total Assets} * 100$

Dividend Yield (%): $\text{Dividends Per Share} / \text{Market Price-Year End} * 100$

Closely Held Shares (%): $(\text{Number of Closely Held Shares} / \text{Common Shares Outstanding}) * 100$, adjusted as in Holland and Warnock (forthcoming)

Book-to-Market Ratio: $\text{Book Value Per Share} / \text{Market Price-Year End}$

Current Ratio: $\text{Current Assets-Total} / \text{Current Liabilities-Total}$

Debt-to-Assets Ratio (%):***

$(\text{Short Term Debt} + \text{Current Portion of Long Term Debt} + \text{Long Term Debt}) / \text{Total Assets} * 100$

* In Tables 3a-3c, we include all firms that have IFC market capitalization for December 1997. If a firm did not have complete EMDB data for 1997, for Size, Turnover, and Investability we extrapolated the available data. In the regressions of Tables 4a-4c, we eliminated firms that did not have complete data for 1997.

** We use the May 1999 Worldscope CD in an attempt to get complete coverage for 1997 while minimizing the loss of data due to "dead" companies.

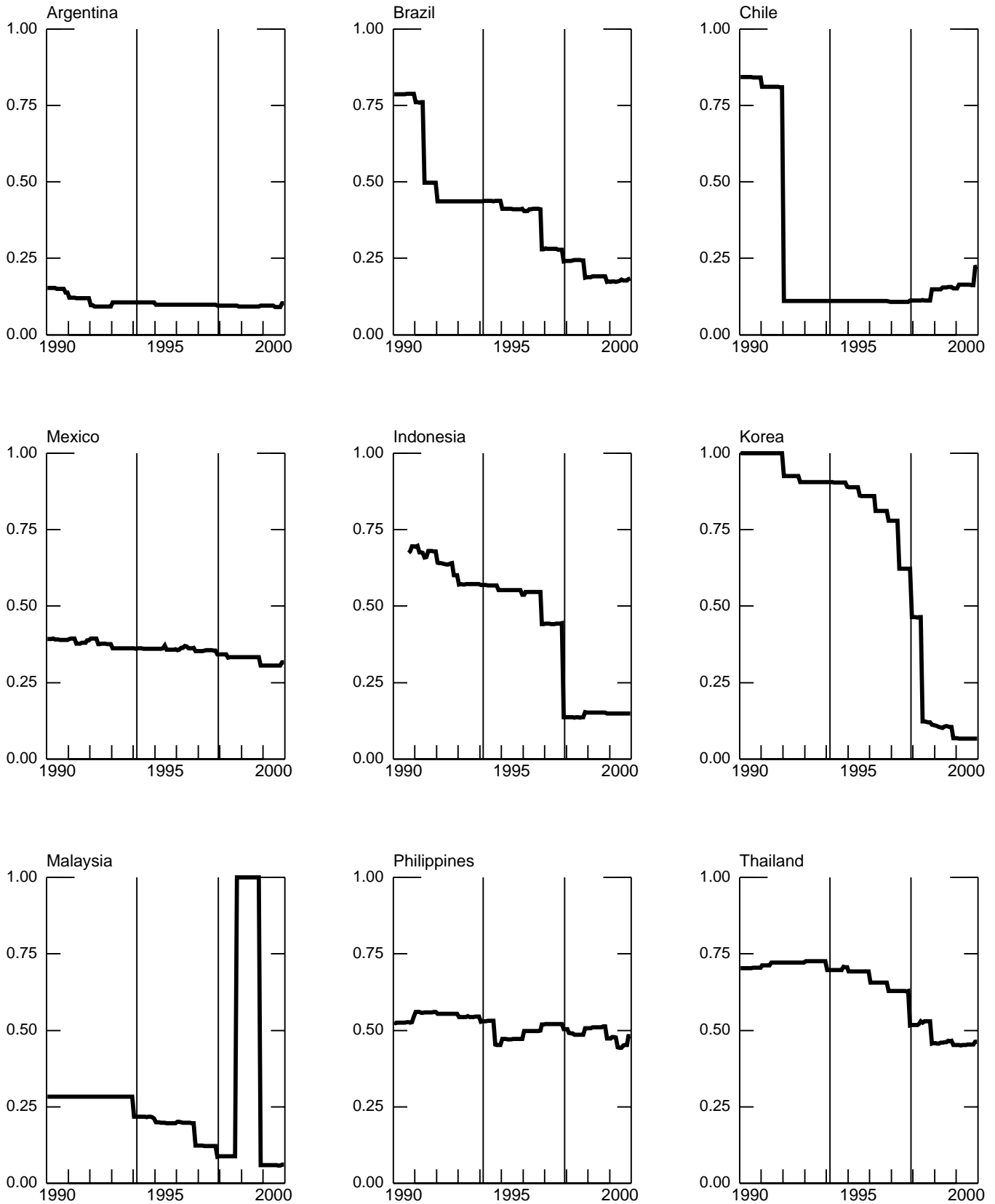
*** For insurance companies, policyholders' surplus is added to the numerator. For banks and other financial companies, customer liabilities on acceptance and custody securities, respectively, are subtracted from the denominator.

Figure 1. Equity Prices in Latin America and Emerging Asia, 1990 - 2000.



Notes. Equity prices are from the S&P/IFC EMDB Global index (rescaled so that Jan. 1990=100). Vertical lines are at March 1994 and December 1997, the dates of the benchmark surveys.

Figure 2. Restrictions on Foreign Ownership of Equities, 1990 - 2000.



Notes. Foreign ownership restrictions, which range from 0 (no restrictions) to 1 (completely closed to foreign investment), are the smoothed measure from Edison and Warnock (forthcoming).

Figure 3. Cross-Border Listings and U.S. Positions, 1997.

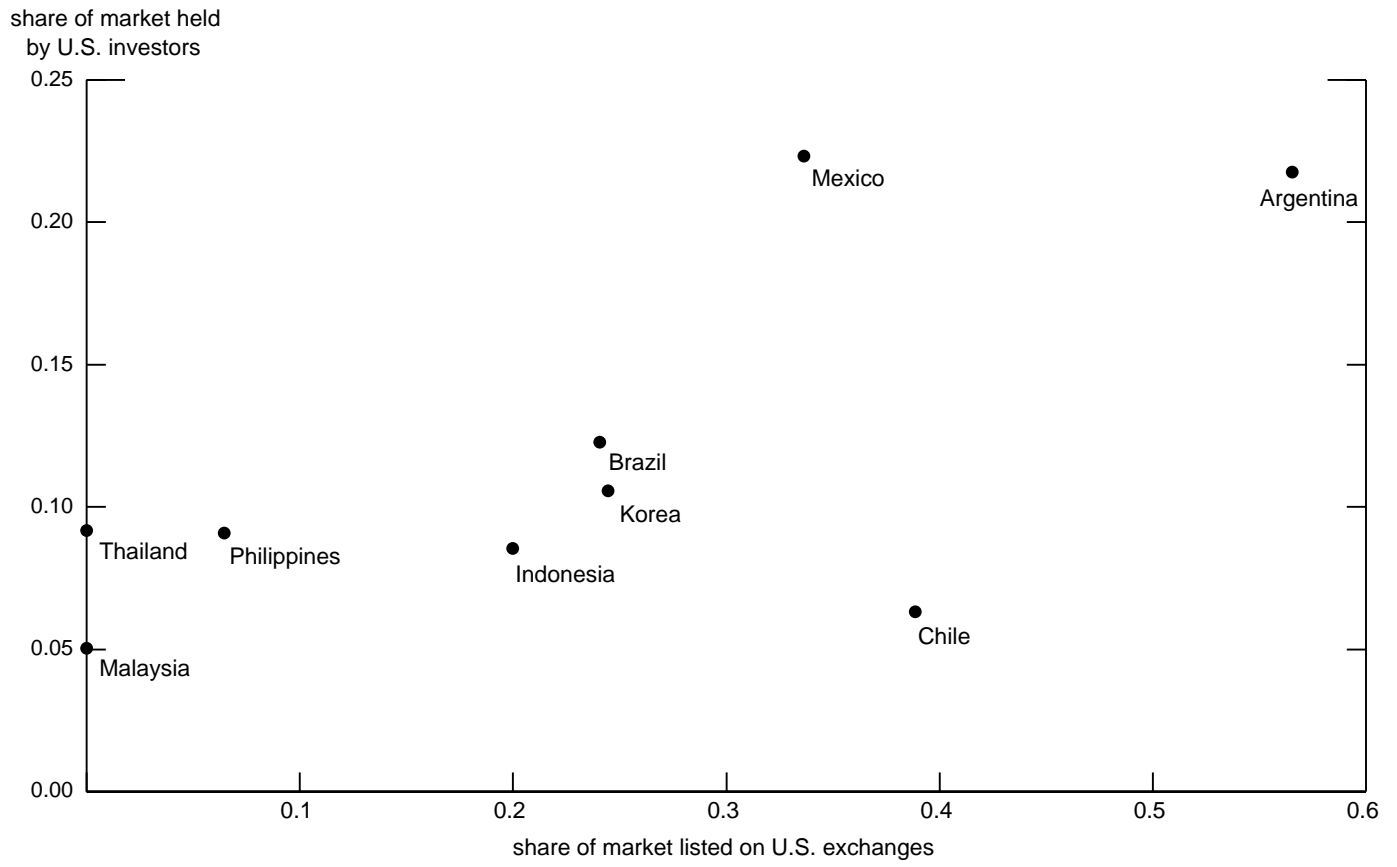


Table 1. Stock Market Development and U.S. Holdings

	Market Capitalization (U.S. Holdings)		Number of Listed Firms (# in EMDB)	
	March 1994 \$ billions	Dec 1997 \$ billions	March 1994 # firms	Dec 1997 # firms
Latin America	403.8 (53.2)	543.4 (83.8)	1164 (174)	1165 (201)
Argentina	41.6 (7.6)	59.3 (12.9)	162 (23)	136 (29)
Brazil	130.5 (8.4)	255.5 (31.3)	541 (63)	536 (70)
Chile	45.4 (2.5)	72.0 (4.6)	268 (36)	295 (46)
Mexico	186.3 (34.7)	156.6 (35.0)	193 (52)	198 (56)
Emerging Asia	492.3 (21.4)	219.5 (16.6)	1843 (375)	2777 (526)
Indonesia	31.5 (1.9)	29.1 (2.5)	183 (42)	282 (59)
Korea	143.9 (4.4)	41.9 (4.4)	698 (142)	1135 (184)
Malaysia	176.8 (9.1)	93.6 (4.7)	423 (104)	708 (155)
Philippines	35.0 (1.9)	31.4 (2.8)	185 (27)	221 (54)
Thailand	105.1 (4.1)	23.5 (2.2)	354 (60)	431 (74)

Sources: Market capitalizations (in billions of dollars) and number of listed firms are from Emerging Stock Markets Factbook (various issues). Holdings (in billions of dollars) are from U.S. benchmark surveys. Of the 727 firms in the EMDB in 1997, 7 had zero U.S. holdings. In 1994, the proportion was higher; of the 345 EMDB firms, 40 had zero U.S. holdings, and half of those were Korean.

Table 2. U.S. Positions by Industry, 1997

Industry	Relative Weight	N
Agriculture, Forestry, Fishery, & Mining	1.59	48
Construction	0.59	40
Manufacturing	0.85	297
Transportation & Communication	1.68	50
Utilities	0.67	31
Wholesale & Retail Trade	1.15	41
Financial, Insurance, & Real Estate	0.71	172
Services	0.43	15

Table 2 shows relative weights of U.S. positions by industry for firms that have complete data in Worldscope and the S&P Emerging Markets Data Base. Relative weight is the weight of firm i in U.S. investors' emerging market equity portfolio over the weight of firm i in the overall emerging market equity portfolio. In both the numerator and the denominator, the emerging market universe is limited to the nine countries in our sample. Within their emerging market equity portfolios, U.S. investors overweight industries with relative weights greater than one.

Table 3a. U.S. Positions in Emerging Markets by Firm Characteristics, 1997

	Quintiles					Average	t-stat	N
	Q1	Q2	Q3	Q4	Q5			
U.S. Ownership Size (mkt cap, \$billions)	5.3 55	5.7 149	9.7 302	10.9 632	13.4 3672	9.0 963	7.34***	724
U.S. Ownership Turnover rate	8.2 0.10	11.9 0.30	10.0 0.55	8.9 0.95	6.0 3.54	9.0 1.09	-2.57**	724
U.S. Ownership Dividend yield (%)	0.8 0.0	13.2 0.1	10.7 1.1	10.1 2.7	9.5 7.1	8.9 2.2	4.46***	586
U.S. Ownership Residual variance	12.7 92	8.0 152	11.5 200	8.3 272	10.7 762	10.3 296	0.66	545
U.S. Ownership Sharpe Ratio	7.3 -0.72	8.1 -0.58	8.4 -0.50	11.5 -0.38	16 -0.21	10.3 -0.48	5.03***	545
U.S. Ownership Momentum (%)	5.6 -16.1	5.5 -11.8	7.0 -8.7	10.8 -4.2	18.7 3.1	9.5 -7.5	10.24***	640
U.S. Ownership Beta	5.5 0.10	8.5 0.77	8.9 1.17	12.2 1.57	16.3 2.45	10.3 1.21	6.43***	545
U.S. Ownership Book-to-market	10.0 -1.0	11.9 0.6	8.8 1.1	9.4 1.9	6.0 5.0	9.2 1.5	-0.67	688
U.S. Ownership Debt-to-assets (%)	9.1 7.1	11.6 23.9	10.1 36.8	8.7 51.7	6.7 74.5	9.2 38.9	-2.13**	689
U.S. Ownership Current ratio	8.4 0.52	8.5 0.84	8.6 1.11	10.4 1.48	10.5 3.35	9.3 1.46	2.15**	529
U.S. Ownership Return on assets (%)	7.6 -15	9.2 0	6.2 4	11.2 7	12.7 16	9.4 3	2.67***	673
U.S. Ownership Closely held (%)	6.1 11	5.7 28	7.4 43	9.8 57	8.8 75	7.6 43	2.11**	502
U.S. Ownership Investable weight	6.7 0.24	6.2 0.36	9.1 0.55	8.1 0.92	14.9 1.00	9.0 0.62	4.49***	724
U.S. Ownership US Listed	7.4 0				26.9 1	9.0 0.08	12.23***	724
U.S. Ownership Level I ADR	8.8 0				12.3 1	9.0 0.07	2.15**	724

In Table 3a, firms are ranked and sorted into quintiles based on several characteristics. Complete details on the data are in the Data Appendix. U.S. ownership is the percent of a firm's market capitalization held by U.S. investors. For each characteristic we report the number of observations; t-statistics from a regression of foreign ownership on the characteristic (**, *, and * indicate significance at the 1, 5, and 10 percent levels, respectively); and, for each quintile and overall, the average of the characteristic and foreign ownership.

Table 3b. U.S. Positions in Latin America by Firm Characteristics, 1997

	Quintiles					Average	t-stat	N
	Q1	Q2	Q3	Q4	Q5			
U.S. Ownership Size (mkt cap, \$billions)	9.8 87	15.2 280	18.7 496	18.3 1488	17.5 7193	15.9 1909	2.77***	200
U.S. Ownership Turnover rate	7.4 0.05	13.5 0.17	17.8 0.31	16.1 0.53	24.7 1.17	15.9 0.45	6.30***	200
U.S. Ownership Dividend yield (%)	17.1 0.0	20.7 1.0	17.4 2.5	13.3 4.3	14.2 10.9	16.5 3.8	1.20	177
U.S. Ownership Residual variance	15.8 70	14.5 130	22.1 180	11.8 245	15.6 616	16.0 248	-0.65	180
U.S. Ownership Sharpe Ratio	12.9 -0.57	15.8 -0.40	18.1 -0.33	13.7 -0.25	19.3 -0.11	16.0 -0.33	1.21	180
U.S. Ownership Momentum (%)	10.8 -5.5	12.1 -1.3	13.2 0.6	19.9 2.6	24.0 7.2	16.1 0.8	4.13***	188
U.S. Ownership Beta	8.2 0.23	10.4 0.84	12.9 1.21	20.1 1.61	28.2 2.50	16.0 1.28	5.74***	180
U.S. Ownership Book-to-market	20.5 -1.4	23.2 0.5	12.4 0.8	14.0 1.2	12.3 2.8	16.5 0.8	-0.80	189
U.S. Ownership Debt-to-assets (%)	14.1 5.8	12.1 18.5	16.6 27.3	22.2 36.6	17.5 55.8	16.5 28.8	1.20	190
U.S. Ownership Current ratio	16.8 0.53	18.8 1.02	15.8 1.33	11.0 1.72	15.8 4.06	15.6 1.75	0.47	166
U.S. Ownership Return on assets (%)	19.1 -4	12.3 5	17.9 8	16.0 11	17.9 18	16.6 8	0.73	185
U.S. Ownership Closely held (%)	22.4 27	21.8 48	12.7 58	17.2 69	8.4 79	16.5 56	-2.45**	80
U.S. Ownership Investable weight	8.9 0.31	18.4 0.69	16.8 0.99	17.7 1.0		15.9 0.80	2.88***	200
U.S. Ownership US Listed	11.5 0				27.1 1	15.9 0.28	6.03***	200
U.S. Ownership ADR Level I	16.0 0				15.1 1	15.9 0.15	-0.05	200

Table 3b is limited to Latin American firms. See Table 3a for details.

Table 3c. U.S. Positions in Emerging Asia by Firm Characteristics, 1997

	Quintiles					Average	t-stat	N
	Q1	Q2	Q3	Q4	Q5			
U.S. Ownership Size (mkt cap, \$billions)	4.7 49	3.8 125	5.4 241	8.9 504	9.0 2085	6.4 602	4.43***	524
U.S. Ownership Turnover rate	6.7 0.14	8.7 0.39	7.4 0.68	5.3 1.15	3.9 4.29	6.4 1.33	-2.65***	524
U.S. Ownership Dividend yield (%)		4.2 0.0	7.3 0.6	6.1 2.0	5.9 5.0	5.6 1.5	0.58	409
U.S. Ownership Residual variance	8.0 107	5.8 161	8.2 211	4.8 287	10.3 829	7.4 319	2.79***	365
U.S. Ownership Sharpe Ratio	7.4 -0.75	7.1 -0.62	7.5 -0.56	6.8 -0.49	8.4 -0.34	7.4 -0.55	0.65	365
U.S. Ownership Momentum (%)	5.5 -17.1	5.8 -13.1	5.5 -11.0	7.0 -8.8	10.1 -5.0	6.8 -11.0	3.34***	452
U.S. Ownership Beta	4.4 0.04	7.9 0.73	6.5 1.15	9.0 1.55	9.4 2.42	7.4 1.18	3.34***	365
U.S. Ownership Book-to-market	5.8 -0.8	6.0 0.7	6.9 1.3	7.9 2.2	5.8 5.7	6.5 1.8	1.83*	499
U.S. Ownership Debt-to-assets (%)	6.1 8.2	8.1 27.5	5.6 42.6	6.5 57.0	6.1 77.9	6.5 42.7	-0.73	499
U.S. Ownership Current ratio	5.5 0.51	3.7 0.81	7.9 1.02	7.2 1.34	7.5 2.97	6.4 1.33	1.32	363
U.S. Ownership Return on assets(%)	7.6 -18	7.0 -1	5.0 3	5.3 5	8.2 15	6.6 1	0.17	488
U.S. Ownership Closely held (%)	5.8 10	4.3 26	5.3 39	6.4 54	7.6 74	5.9 41	2.28**	422
U.S. Ownership Investable weight	7.6 0.23	4.1 0.35	8.3 0.42	7.9 0.73	4.0 1.00	6.4 0.55	-1.06	524
U.S. Ownership US Listed	6.2 0				24.1 1	6.4 0.01	4.59***	524
U.S. Ownership Level I ADR	6.3 0				7.6 1	6.4 0.03	0.60	524

Table 3c is limited to emerging Asian firms. See Table 3a for details.

Table 4a. Holdings 1997: Total All Firms with Country Dummies

	(1)	(2)	(3)	(4)
Size	0.028*** (4.79)	0.022*** (2.82)	0.015* (1.87)	0.034*** (3.11)
Turnover	x	x	x	x
Investability	0.151*** (4.12)	0.152*** (3.80)	0.148*** (3.48)	0.117** (2.55)
US Listed	0.301*** (7.07)	0.308*** (6.97)	0.300*** (6.57)	0.227*** (3.81)
Level I ADR	x	x	x	x
Momentum		0.006** (2.16)	x	x
Book-to-Market		x	x	x
Leverage		-0.0005 (1.55)	x	x
Return on Assets		x	x	x
Residual Variance			x	-0.0002** (2.04)
Beta			0.031** (2.26)	x
Closely held shares (adjusted)				x
Dividend Yield				x
Current Ratio				x
No. of Observations	627	582	495	232
R ²	0.450	0.454	0.448	0.694
R ² w/out country dummies	0.287	0.312	0.322	0.478

Table 4a presents regression results where the dependent variable is the December 1997 value of $y_{it} = \omega_{it}^F / \omega_{it}^M - 1$, which is the ratio of the weight in the U.S. portfolio of security i to the market weight, minus one. Reported are the parameter estimates, with the absolute value of t-statistics computed from robust standard errors in parentheses. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively. x indicates variable was included in the regression but coefficient had p-value >0.15. Country dummies are included but not reported. Firms are included only if they appear in the EMDB for the entire year of 1997; 91 firms are omitted for this reason. Six other firms are omitted because of bad data (four with overly high U.S. holdings relative to market capitalization; two with turnover rates in excess of 40.) The bottom row of the table reports R² from the same regressions but excluding country dummies.

Table 4b. Holdings 1997: Latin America with Country Dummies

	(1)	(2)	(3)	(4)
Size	0.025** (2.37)	x	x	x
Turnover	0.059 (1.49)	0.088** (1.97)	0.099** (2.24)	0.144*** (3.52)
Investability	0.134** (2.19)	0.126* (1.71)	x	x
US Listed	0.303*** (6.27)	0.327*** (6.30)	0.299*** (5.61)	0.173** (2.16)
Level I ADR	x	x	x	x
Momentum		x	x	x
Book-to-Market		x	x	x
Leverage		-0.002* (1.65)	x	x
Return on Assets		-0.003* (1.79)	-0.003 (1.64)	x
Residual Variance			-0.0004* (1.91)	-0.0012*** (2.77)
Beta			0.089** (2.49)	x
Closely held shares (adjusted)				x
Dividend Yield				x
Current Ratio				-0.013 (1.48)
No. of Observations	181	167	159	60
R-squared	0.455	0.463	0.494	0.751
R ² w/out country dummies	0.341	0.360	0.407	0.574

Table 4b presents regression results where the dependent variable is the December 1997 value of $y_{it} = \omega_{it}^F / \omega_{it}^M - 1$, which is the ratio of the weight in the U.S. portfolio of security i to the market weight, minus one. Reported are the parameter estimates, with the absolute value of t-statistics computed from robust standard errors in parentheses. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively. x indicates variable was included in the regression but coefficient had p-value >0.15. Country dummies are included but not reported. The bottom row of the table reports R² from the same regressions but excluding country dummies. See Table 4a for more details.

Table 4c. Holdings 1997: Emerging Asia with Country Dummies

	(1)	(2)	(3)	(4)
Size	0.030*** (4.34)	0.024*** (2.61)	0.020* (1.89)	0.031*** (2.97)
Turnover	x	x	x	x
Investability	0.154*** (3.90)	0.166** (3.88)	0.180*** (3.62)	0.123*** (3.15)
US Listed	0.241*** (2.20)	0.235** (2.17)	0.241** (2.18)	0.278*** (2.71)
Level I ADR	x	x	x	x
Momentum		0.005 (1.56)	x	x
Book-to-Market		x	x	
Leverage		x	x	x
Return on Assets		x	x	x
Residual Variance			x	x
Beta			x	x
Closely held shares (adjusted)				-0.0009* (1.90)
Dividend Yield				0.005** (2.20)
Current Ratio				x
No. of Observations	446	415	336	172
R-squared	0.269	0.277	0.285	0.472
R ² w/out country dummies	0.116	0.132	0.158	0.355

Table 4c presents regression results where the dependent variable is the December 1997 value of $y_{it} = \omega_{it}^F / \omega_{it}^M - 1$, which is the ratio of the weight in the U.S. portfolio of security i to the market weight, minus one. Reported are the parameter estimates, with the absolute value of t-statistics computed from robust standard errors in parentheses. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively. x indicates variable was included in the regression but coefficient had p-value >0.15. Country dummies are included but not reported. The bottom row of the table reports R² from the same regressions but excluding country dummies. See Table 4a for more details.

Table 5. Holdings 1994 with Country Dummies

	Total All Firms		Latin America		Emerging Asia	
	(1)	(2)	(3)	(4)	(5)	(6)
Size	0.018*** (2.98)	0.019*** (2.70)	x	0.026 (1.49)	0.018*** (3.77)	0.017*** (2.92)
Investability	x	x	x	x	x	x
Leverage	x	x	x	x	x	x
Book-to-Market	-0.018* (1.91)	-0.022* (1.96)	-0.031** (2.25)	-0.031** (1.99)	x	x
Current Ratio		x		x		x
Return on Assets		x		x		0.003* (1.86)
US Listed	0.290*** (4.24)	0.315*** (4.51)	0.290*** (4.04)	0.316*** (4.38)	n.a.	n.a.
No. of Observations	479	370	141	125	338	245
R-squared	0.451	0.454	0.379	0.394	0.321	0.340

Table 5 presents regression results where the dependent variable is the March 1994 value of $y_{it} = \omega_{it}^F / \omega_{it}^M - 1$, which is the ratio of the weight in the foreign portfolio of security i to the market weight, minus one. Reported are the parameter estimates, with the absolute value of t-statistics computed from robust standard errors in parentheses. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively. x indicates variable was included in the regression but coefficient had p-value > 0.15 . For emerging Asia, US Listed is n.a. (not available); only one firm had cross-listed by March 1994 and including the US Listed variable would violate confidentiality requirements. Country dummies are included but not reported.

Table 6. Change in Holdings from 1994 to 1997 with Country Dummies

	Total All Firms		Latin America		Emerging Asia	
	(1)	(2)	(3)	(4)	(5)	(6)
Δ Size	0.027 (1.51)	x	x	x	x	x
Δ Investability	x	x	x	x	x	x
Δ Leverage	-0.002*** (4.54)	-0.002** (2.11)	-0.005** (2.17)	x	-0.002*** (3.22)	-0.002* (1.75)
Δ Book-to-Market	x	x	x	x	-0.002 (1.44)	x
Δ Current Ratio		0.021* (1.85)		0.027 (1.65)		x
Δ Return on Assets		x		x		x
Δ US Listed	0.140 (1.48)	x	x	x	0.357*** (3.69)	0.369*** (3.90)
No. of Observations	377	287	116	101	261	186
R-squared	0.206	0.242	0.142	0.149	0.319	0.405

Table 6 presents regression results where the dependent variable is the change from March 1994 to December 1997 in U.S. ownership (defined as $y_{it} = \omega_{it}^F / \omega_{it}^M - 1$). Reported are the parameter estimates, with the absolute value of t-statistics computed from robust standard errors in parentheses. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively. x indicates variable was included in the regression but coefficient had p-value > 0.15. Country dummies are included but not reported.

Table 7a. Returns on U.S. Portfolios, 1998

	AR	BR	CL	MX	ID	KR	MY	PH	TH
IFCG Index	-26	-39	-28	-37	-29	122	1	11	33
U.S. Portfolio	-22	-31	-28	-38	-22	145	-7	7	34

For each of the nine countries in our sample, Table 7a shows dollar returns for 1998 from the IFC Global index and U.S. investors' portfolios, assuming that U.S. investors' portfolio weights remained constant from December 1997 to December 1998.

Table 7b. Performance of U.S. Investors – No control variables

	No country dummies (1)	Country dummies (2)
Total	-.035*** (6.68)	.006 (1.32)
Latin America	-.069 (1.08)	.002 (0.03)
Asia	-.013*** (3.13)	.006 (1.37)

Table 7b shows the coefficient of RET98, returns (in decimal form) over the year 1998, from a regression of $y_{it} = \omega_{it}^F / \omega_{it}^M - 1$ (the ratio of the weight in the foreign portfolio of security i to the market weight, minus one) on a constant and RET98. Also shown, in parentheses, are the absolute values of t-statistics computed from robust standard errors. Country dummies are not included in the regressions in column (1), but are in column (2). ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.