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U.S. Emerging Market Equity Funds and the 1997 Crisis in Asian Financial Markets

by Mitchell A. Post and Kimberlee Millar[1]

SUMMARY

A 1996 Investment Company Institute study of U.S. emerging market equity mutual funds during the first half of the 1990s,[2] a period that included the Mexican peso crisis, found that neither shareholders nor portfolio managers behaved in a way that heightened market volatility.

In the aftermath of the turmoil that occurred in the Asian and Latin financial markets during 1997, this paper examines the actions of shareholders and portfolio managers of U.S. emerging market equity funds during 1996 and 1997.

Highlights of the findings:

- Despite considerable volatility in returns on equity investments in emerging markets, shareholders in U.S. emerging market funds reacted calmly. Faced with the prospect of a prolonged downturn in Asian stock markets, shareholders in funds invested primarily in that region started to withdraw modest portions of their investments in late 1996. After the crisis started in early July 1997, shareholders stepped up somewhat the pace of withdrawals, which continued for the remainder of the year. Investors in Latin America funds behaved similarly after stocks in these countries suffered from the spillover from Asian markets. However, outflows from funds that invest primarily in Asia and Latin America were small relative to the magnitude of the drops in prices of shares during the crisis. Moreover, investors continued to purchase U.S. emerging market mutual funds that had no regional investment restrictions; any spillover effects were limited to Latin America funds.
- It appears that portfolio managers of U.S. emerging market funds also reacted to the crisis in measured fashion.
  - To meet cash outflow demands of their shareholders, portfolio managers of funds invested primarily in Asia and Latin America conducted relatively small, orderly sales of their portfolio securities.
  - Net purchases by portfolio managers of U.S. emerging market funds that had no regional investment restrictions offset the net sales of Asian stocks by Asia regional fund managers. Managers of these global emerging market funds apparently viewed the sharp declines in Asian share prices as opportunities to buy. In

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[2] See John Rea, "U.S. Emerging Market Funds: Hot Money or Stable Source of Investment Capital?" *Perspective*, Volume 2, Number 6, Investment Company Institute, December 1996.

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contrast, both global fund and Latin America fund managers tended to sell equities in Latin American countries experiencing declining markets and to buy in those with rising markets. In light of the sizable swings in returns on those assets, the magnitude of the selling was modest.

- Purchase and sales activity of equities in individual emerging market countries also reveals instances in which portfolio managers bought stocks—for example, Thai and Indonesian stocks—even as returns became increasingly volatile and negative.[3] In most other countries analyzed, purchase and sales activity, although correlated with returns, was quite limited in comparison to market volatility.

Background

The financial difficulties in Asian economies that surfaced in 1996 peaked in late 1997. Within this two-year period, three separate stages can be identified. In the first stage, January 1996 to June 1997, the economy of Thailand worsened significantly.[4] Thailand, which pegged its currency to the dollar, experienced a sharply rising current account deficit as the dollar appreciated rapidly. Interest rates in Thailand also rose. As a result, the Thai stock market fell 62 percent between January 1996 and June 1997 (Figure 1).[5]

FIGURE 1

Percent Change in Equity Prices[1] for Selected Emerging Markets
(IFC Investible Indexes, in U.S. Dollars)

	January 1996 - June 1997	July - September 1997	October - December 1997
Asia	**8.4**	**-22.6**	**-30.5**
Thailand	-62.2	-24.4	-56.6
Malaysia	5.4	-41.3	-45.0
Indonesia	26.5	-42.2	-58.4
Philippines	2.3	-43.5	-22.6
China	184.6	-15.3	3.6
South Korea	-34.3	-15.9	-66.3
Taiwan	66.7	-8.7	-17.9
Latin America	**59.0**	**4.1**	**-12.4**
Argentina	44.8	6.4	-9.5
Brazil	98.0	-3.9	-17.4
Chile	7.1	-3.3	-17.4
Mexico	50.0	19.9	-4.7
All Emerging Markets	**22.4**	**-9.4**	**-20.1**

[1] Total return is based upon the dollar value of the index and thus reflects changes in exchange rates and changes in share prices valued in local currencies.

Source: International Finance Corporation from Bloomberg

[3] As indicated in footnote 10, the analysis of portfolio allocations for individual emerging market nations includes available portfolio data from some U.S. closed-end emerging market equity funds and U.S. open-end international stock funds.

[4] *The Economist*, "Thailand: Taking a baht," February 22, 1997, pp. 80 and 85. The Thai stock market had been in decline since early 1994. (*The Economist*, "The Fall of Thailand?" May 24, 1997, pg. 15). The prognosis for South Korea also turned sour in 1996 owing to a number of political scandals, poor economic performance, and growing concern about aggression from the North. Source: International Finance Corporation, *Emerging Stock Markets Factbook 1997*, pp. 174-5.

[5] This study uses the International Finance Corporation Investible (IFCI) Price and Total Return Indexes (in U.S. dollars), which are widely used performance measures for equity markets in developing countries. These indexes are weighted by capitalization and take into account restrictions on foreign investors. Both the IFCI Price and Total Return Indexes are available by country, region, and for all emerging markets. Sources of the indexes: Ian Wilson, Emerging Market Fund Research, Inc.; International Finance Corporation from Bloomberg.

Both price and total return indexes are in U.S. dollars; they thus reflect conversions of local currency, equity prices, and total returns through exchange rates.

The second stage, and first market crisis, started on July 2, 1997 when the government of Thailand recognized officially that the exchange rate for the baht was untenable and freed the currency from its dollar peg. By August, the baht had depreciated 40 percent relative to the dollar. By the end of September, the Thai stock market tumbled another 24 percent from July levels.

Equally important, however, the float of the baht precipitated a crisis for Malaysia, Indonesia, and the Philippines, all of which were experiencing similar economic problems. The exchange rates for each of these countries fell sharply relative to the dollar. Each of their stock markets also plunged more than 40 percent.

The effects of the float spilled over temporarily to several Latin American financial markets. For example, stocks fell more than 16 percent in Brazil in August, as investors became concerned that its dollar-based peg could not be sustained in light of the country's large and growing current account deficit. By September, however, Latin American stocks—including Brazilian—had rebounded.

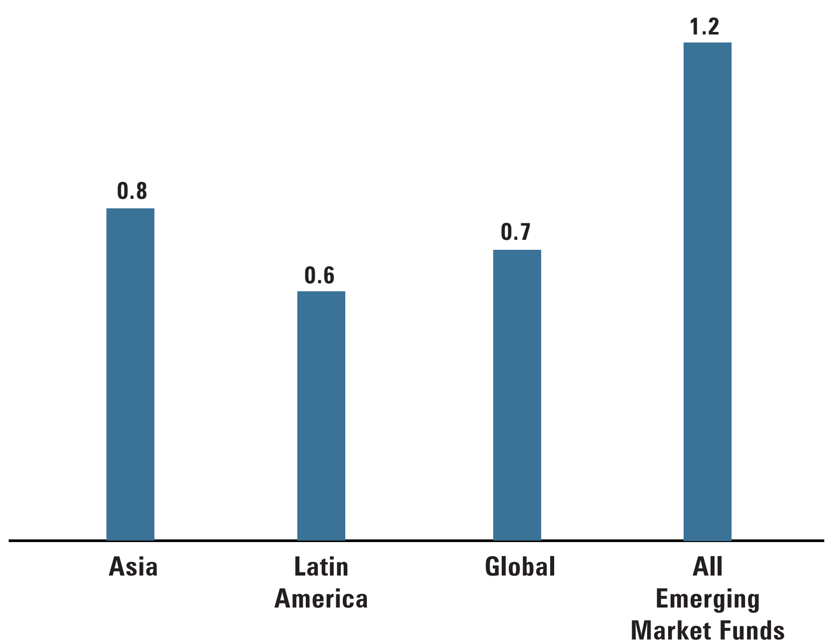
The relative calm that had settled over emerging markets between late September and early October preceded the third stage that began in the latter half of October. Concerns that the Hong Kong dollar would be devalued prompted its stock market to fall 29 percent in October. This time the crisis spilled over more generally: of the Pacific Rim emerging nations, only China escaped the turmoil. Between September 30 and December 31, 1997, the stock markets of Asian emerging economies plummeted an average of about 31 percent. The South Korean stock market experienced the most severe decline, falling two-thirds over the period. In addition, the Thai, Malaysian, Indonesian, and Philippine stock markets suffered additional losses of between 23 and 58 percent. Latin American stocks again were also adversely affected by the problems in Asia: they endured a 19 percent loss in October before rebounding somewhat by yearend.

Sales and Redemptions of Shares of U.S. Emerging Market Equity Funds

Shareholders in U.S. open-end emerging market equity mutual funds invested about $20 billion of net new cash in emerging markets in the 1990s.[6] Despite the inflow, these funds still accounted for only a small

FIGURE 2

Share of Stock Market Capitalization of Emerging Markets Held by U.S. Emerging Market Equity Funds, December 31, 1996
(percent)

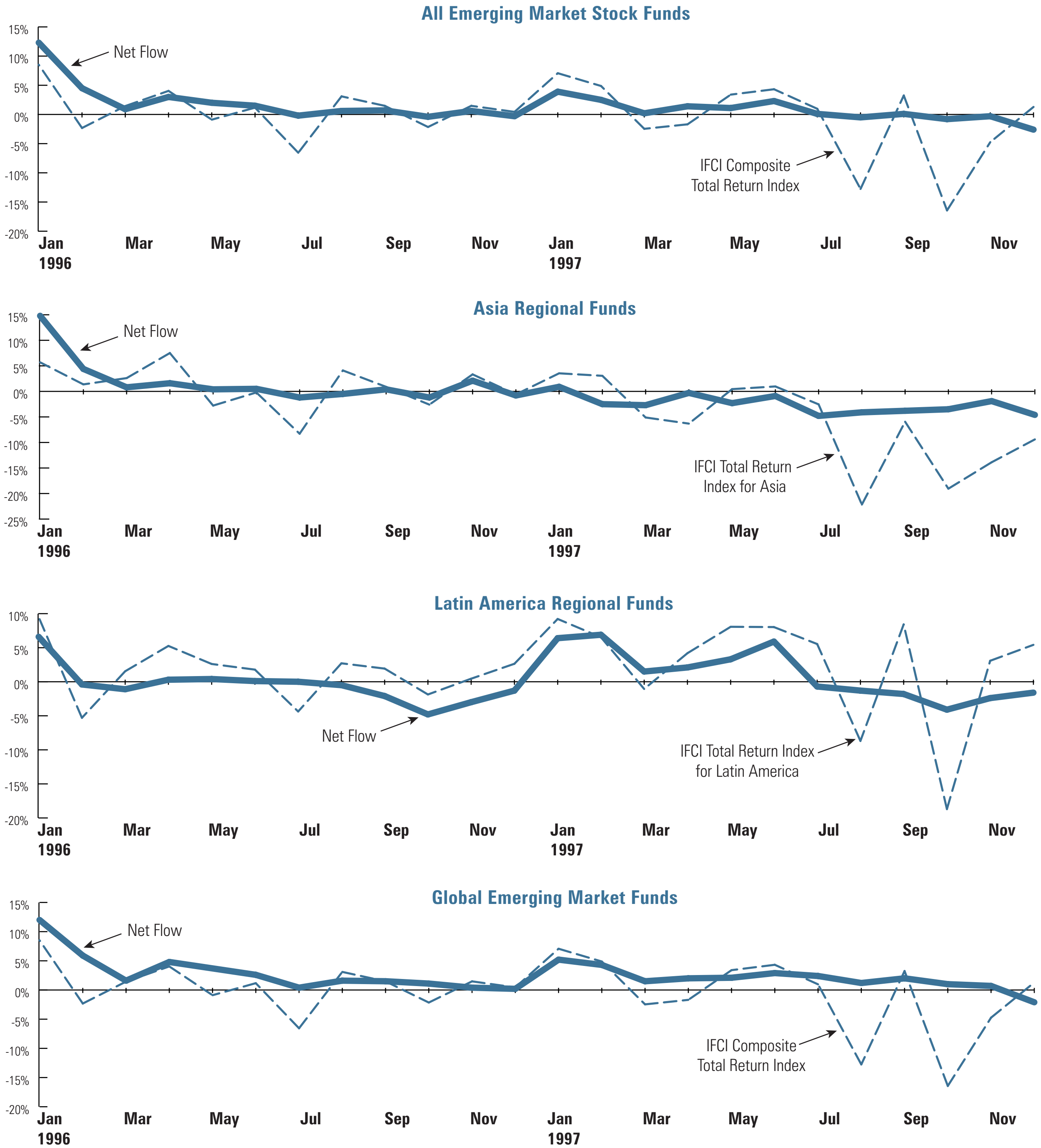


Sources: Standard & Poor's Micropal; Ian Wilson, Emerging Market Fund Research, Inc.; Emerging Markets Factbook, 1997

[6] Net new cash flow is defined as new sales of fund shares less redemptions plus exchange sales less exchange redemptions. The Investment Company Institute is the source of data for the 1990-97 period. The monthly data on funds for the 1996-97 period used in the remainder of the analysis are from Standard & Poor's Micropal. Standard & Poor's Micropal reports data for 238 U.S. open-end emerging market equity mutual funds. Standard & Poor's Micropal estimates net new cash flow by subtracting one-month asset growth generated by investment returns on the fund from the one-month total change in the fund's assets.

FIGURE 3

Net New Cash Flow[1] to U.S. Open-End Emerging Market Equity Funds and the IFC Investible Indexes[2] (in U.S. Dollars) in Emerging Markets, 1996-1997



[1] As a percent of previous month-end assets.
[2] Total return is based upon the dollar value of the index and thus reflects changes in exchange rates and changes in share prices valued in local currencies.
Sources: Standard & Poor's Micropal; Ian Wilson, Emerging Market Fund Research, Inc.; International Finance Corporation from Bloomberg

portion of the market capitalization in these countries by the end of 1996 (Figure 2). For example, at that time, assets in Asia regional funds—those funds that invest primarily in Asia, either in the region as a whole or in single countries—constituted only 0.8 percent of the value of these stock markets. Assets of all U.S. emerging market funds were only $27.7 billion at that time, or only 1.2 percent of the total $2.226 trillion in market capitalization of developing nations.[7]

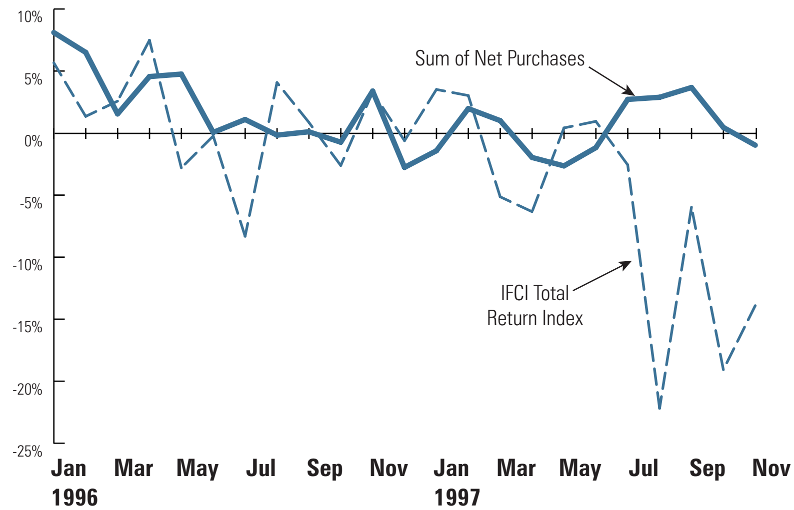
Given the relatively small amounts of assets that these funds had invested in these countries, it would appear unlikely that they would be major factors in the pricing of emerging market stocks. However, the actions taken by shareholders and portfolio managers of these funds might move in tandem with those of other investors. "Herd behavior" by U.S. emerging market funds, if present during the months of crisis, could then compound the actions of more dominant players in these markets.

Between January 1996 and the float of the baht in early July 1997, net inflows of cash to U.S. emerging market equity funds proved to be a relatively stable source of capital to emerging markets (Figure 3: All Emerging Market Stock Funds). Over this period, investors added about $9 billion of net new cash to these funds, 45 percent of their entire contribution in the 1990s. On a monthly basis, these flows were positively correlated with movements in the prices of the underlying stocks.

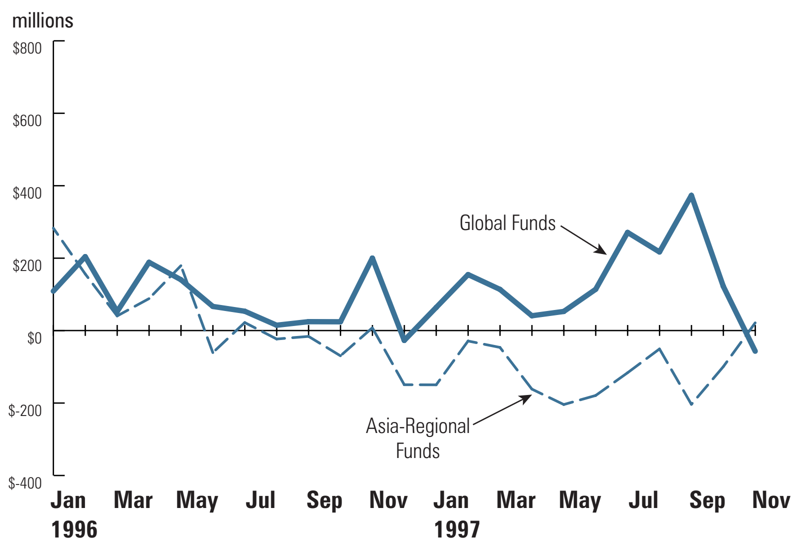
After the float of the baht, these funds experienced gradual outflows. Despite large negative returns on the underlying assets—about 13 percent in August and 16 percent in October—outflows peaked at 2.5 percent of assets in December 1997.

FIGURE 4

Net Purchases of Equities in Asian Countries[1] by U.S. Global and Asia Regional Open-End Emerging Market Equity Funds and the IFC Investible Total Return Index for Asia (in U.S. Dollars), 1996-1997



Net Purchases of Equities in Asian Countries by U.S. Open-End Emerging Market Equity Funds, 1996-1997



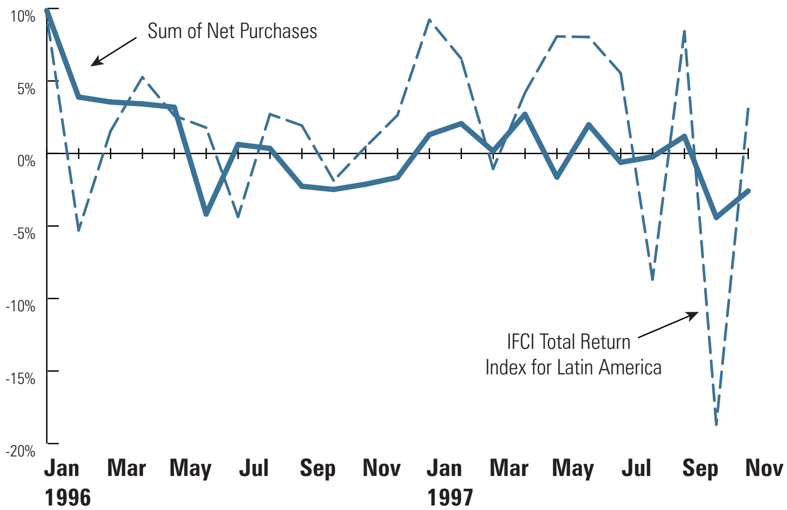
[1] As a percent of previous month-end assets invested in Asia.
Sources: Standard & Poor's Micropal; Ian Wilson, Emerging Market Fund Research, Inc.; International Finance Corporation from Bloomberg

[7] Other U.S. stock and bond open-end mutual funds also hold emerging market stocks; nonetheless, they are not the primary investors in emerging market stocks. This study excludes these investments owing to difficulty in measuring them.

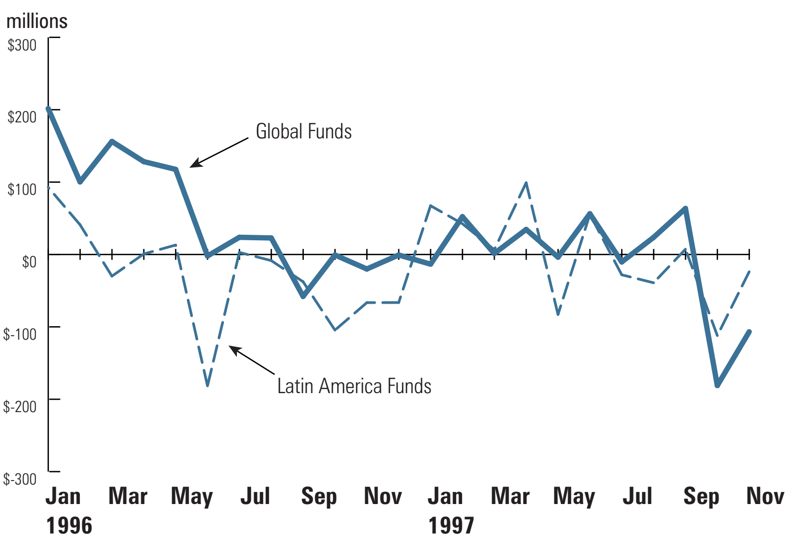
Source for market capitalizations: International Finance Corporation, *Emerging Markets Factbook 1997.*

FIGURE 5

Net Purchases of Equities in Latin American Countries[1] by U.S. Global and Latin America Regional Open-End Emerging Market Equity Funds and the IFC Investible Total Return Index for Latin America (in U.S. Dollars), 1996-1997



Net Purchases of Equities in Latin American Countries by U.S. Open-End Emerging Market Equity Funds, 1996-1997



[1] As a percent of previous month-end assets invested in Latin America.
Sources: Standard & Poor's Micropal; Ian Wilson, Emerging Market Fund Research, Inc.; International Finance Corporation from Bloomberg

The gradual outflows from U.S. emerging market funds largely reflected shareholder withdrawals from funds that restricted their investments primarily to Asian or Latin American emerging market stocks.

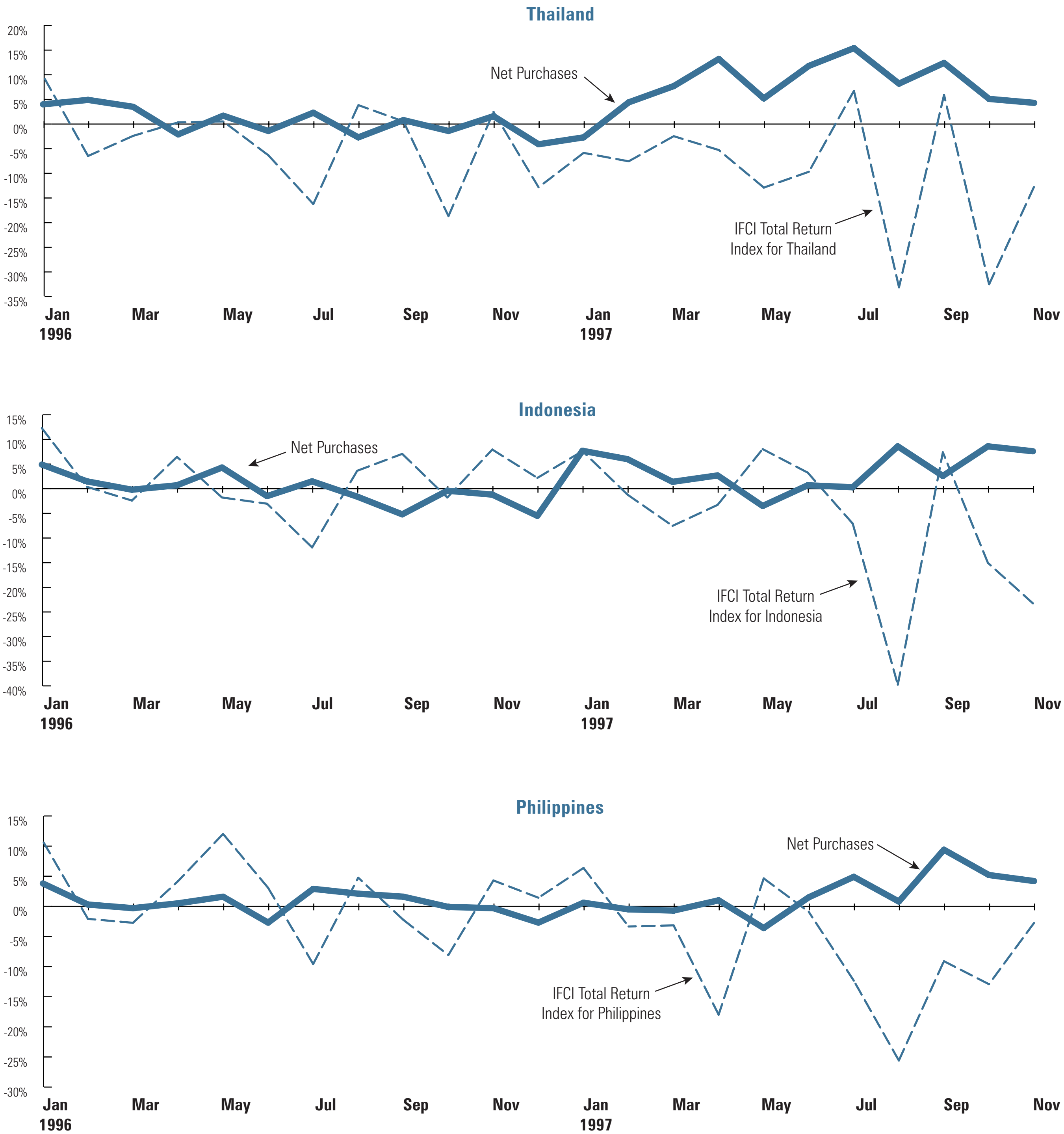
Net new cash flow to Asia emerging market equity funds exhibited a pattern of almost continuous net redemptions since late 1996, coincident with the negative stock returns posted since that time (Figure 3: Asia Regional Funds). However, even with the sharp declines in stock prices that occurred in the period immediately after the float and subsequent depreciation of the baht, the largest monthly outflow for these funds was 4.8 percent in July (and 4.1 percent in August). Moreover, the July outflow exceeded the outflows posted later in the year when stock prices in these Asian emerging markets fell 19 percent in October and 14 percent in November. Overall in 1997, shareholders withdrew about 27 percent of their 1996 yearend investments in these funds, 10 percent prior to the float of the baht, and 17 percent after.[8]

After the baht was floated in July, a similar pattern emerged for funds that invest primarily in Latin American equities (Figure 3: Latin America Regional Funds). These funds, which had posted relatively large monthly returns between November 1996 and June of 1997, generated significant inflows of new cash over the period. Brazil, and to some extent other Latin American countries, fell victims, however, to spillover effects from the float of the baht, and subsequently Latin America equity funds also experienced shareholder withdrawals. Nonetheless, the largest withdrawal from these funds, which occurred in October, was 4.1 percent of assets, despite a price decline of almost 19 percent.

[8] The continuous but moderate redemptions (relative to swings in returns) by shareholders in Asia Regional funds during a prolonged downturn is similar to that experienced by U.S. domestic bond funds after the Federal Reserve raised interest rates unexpectedly in February 1994. See Richard Marcis, Sandra West, and Victoria Leonard-Chambers, "Mutual Fund Shareholder Response to Market Disruptions," *Perspective,* Volume 1, Number 1, Investment Company Institute, July 1995.

FIGURE 6

Purchases of Equities[1] by U.S. Emerging Market Equity Mutual Funds[2] and the IFC Investible Total Return Indexes (in U.S. Dollars) in Emerging Markets, by Country, 1996-1997

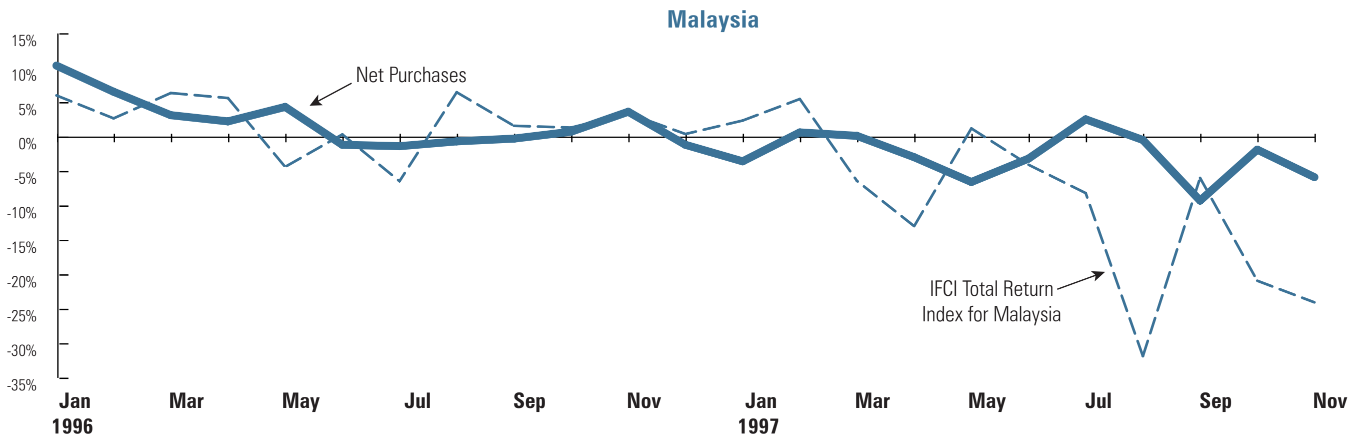


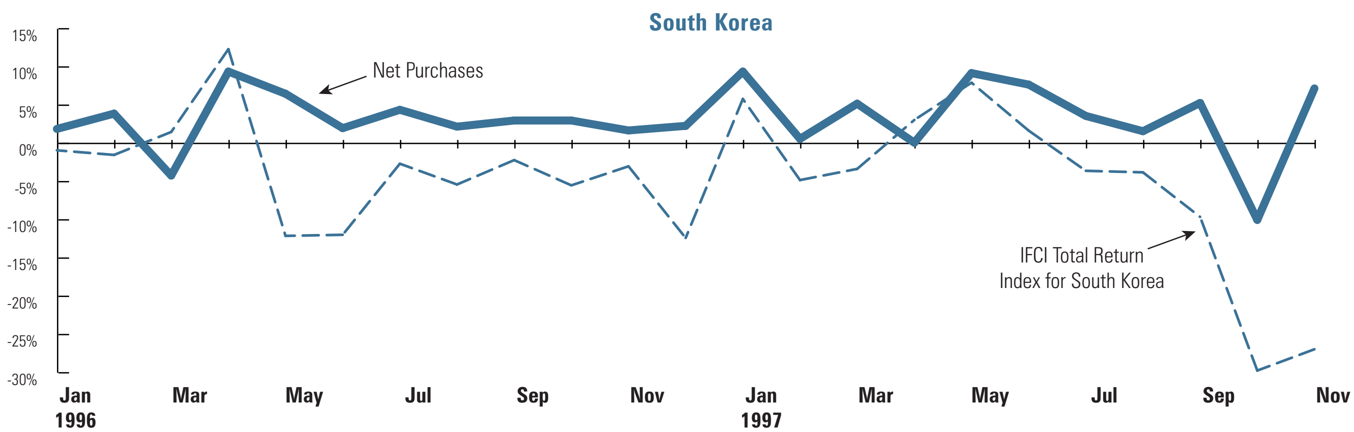
[1] As a percent of previous month-end assets invested in each country.
[2] Includes closed-end emerging market equity funds and several U.S. international equity funds with significant exposure to emerging markets.
Sources: Standard & Poor's Micropal; Ian Wilson, Emerging Market Fund Research, Inc.; International Finance Corporation from Bloomberg

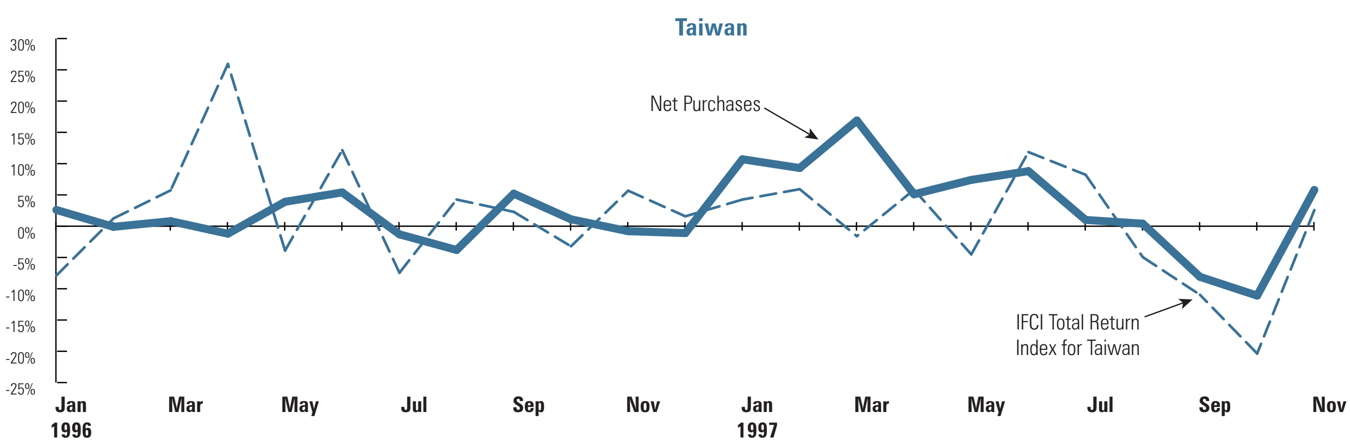
continued on page 8

FIGURE 6, continued

Purchases of Equities[1] by U.S. Emerging Market Equity Mutual Funds[2] and the IFC Investible Total Return Indexes (in U.S. Dollars) in Emerging Markets, by Country, 1996-1997







[1] *As a percent of previous month-end assets invested in each country.*
[2] *Includes closed-end emerging market equity funds and several U.S. international equity funds with significant exposure to emerging markets.*
Sources: Standard & Poor's Micropal; Ian Wilson, Emerging Market Fund Research, Inc.; International Finance Corporation from Bloomberg

Given the magnitude of the investor losses in these months and the publicity the crisis received at that time, the outflows posted by Asia and Latin America regional emerging market equity funds were relatively modest. Even as returns turned sharply negative, shareholders in these funds withdrew money gradually and in a measured response.

In contrast to the outflow from Asia and Latin America emerging market funds, global emerging market funds experienced net inflows throughout 1997, except for December (Figure 3: Global Emerging Market Funds). The near-continuous inflows to global emerging market equity funds during the months of the crisis suggests that spillover effects from the crisis in Asia largely were restricted to Latin America funds.

Portfolio Choices of U.S. Emerging Market Equity Fund Managers

Like shareholders in their funds, portfolio managers of U.S. open-end emerging market equity funds reacted calmly to the crisis. Indeed, after the onset of the financial crisis in July, U.S. emerging market funds added to their holdings of stocks in Asia (Figure 4, top panel).[9] Their net purchase activity continued through September: emerging market funds acquired $490 million of Asian stocks between June and September, representing about 9 percent of their fund assets at the end of June.

Emerging market funds became net sellers of Asian equity securities only in November, after the crisis had intensified and spread in October. The November sales, however, amounted to only $36 million, or about 1 percent of assets. The liquidations were almost exclusively in Asia-only funds and were likely in response to shareholder cash withdrawals (Figure 4, bottom panel). In contrast, U.S. global emerging markets funds used their cash inflows to purchase significant amounts of Asian equities during the last half of 1997. These funds reduced their net purchases of Asian stocks in October and sold only a small amount in November.

Net purchase activity of U.S. open-end emerging market equity funds in Latin American stocks was little affected after the float of the baht (Figure 5, top panel). These funds were net sellers of small amounts of equity securities in July, August, October, and November. The sales activity was remarkably light given the sharp swings in returns that occurred in the second half of the year. Unlike the situation in Asia, however, global funds largely echoed the portfolio actions of Latin America regional funds (Figure 5, bottom panel).

The purchase activity of a larger group of funds that make country portfolio allocations available also indicates that portfolio managers generally remained committed to investing in most of the individual emerging Asian economies that saw their stock markets buffeted by events in 1997 (Figure 6).[10] For example, in Thailand, portfolio managers of these funds made net purchases of equities in every month in 1997 (Figure 6: Thailand). Similarly, these funds made net purchases in Indonesia and the Philippines in the last half of the year (Figure 6: Indonesia and Philippines). Only Malaysia saw any appreciable net sales activity, which was spread across the entire year (Figure 6: Malaysia). Emerging market funds liquidated South Korean stocks in October when the country's stock market came under pressure. Otherwise, these funds were net purchasers of Korean shares (Figure 6: South Korea). Taiwan was the only Pacific Rim Asian country in which portfolio managers liquidated significant holdings of equities in the second half of 1997 (Figure 6: Taiwan).

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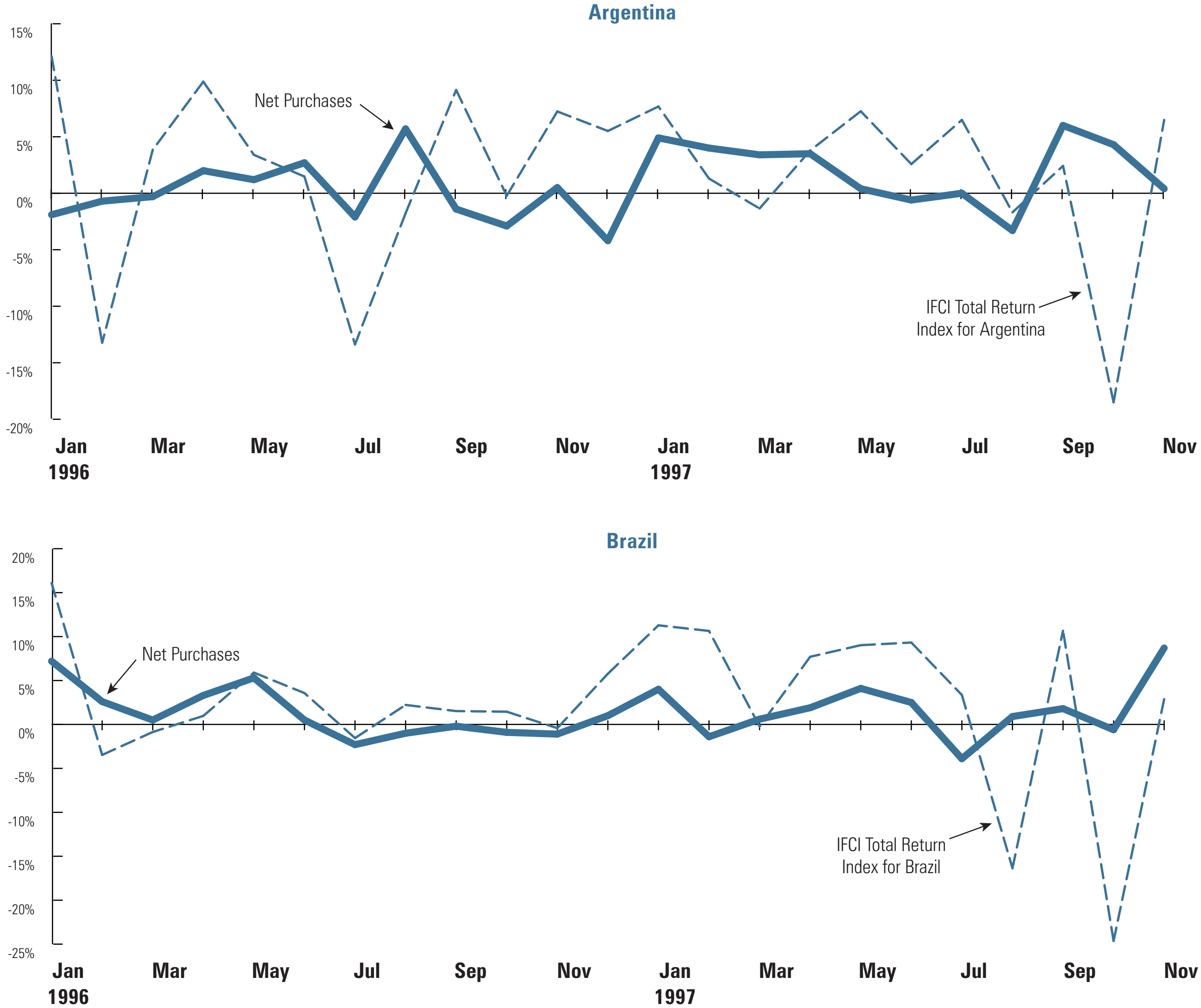
[9] Not all of the open-end emerging market mutual funds make their portfolio allocations (by country) available to Standard & Poor's Micropal. Thus, the number of funds included is less than that used for the calculations of net new cash flow. Of the 238 open-end funds for which cash flow data were available, only 50 are included in the portfolio analysis underlying Figures 4 and 5.

Net purchases of equities are determined analogously to net new cash flow: Changes in each fund's assets invested in a particular country are calculated and the increase owing to one-month returns is deducted from the total to arrive at net portfolio purchases or sales.

[10] The sample used for the individual country analysis of net sales of equities in Figures 6 and 7 consists of 92 U.S. mutual funds including the U.S. Asia Regional, Latin America Regional, and global open-end emerging market equity funds used in the analysis of Figures 4 and 5 plus other funds for which portfolio data are available. These additional funds consist of 34 U.S. closed-end emerging market equity funds, and eight U.S. open-end funds that invest in international equities, but not primarily stocks of emerging market countries. Total assets of the entire sample of 92 funds were $101.2 billion on November 30, 1997, or about 4.5 percent of the total market capitalization of emerging economies.

FIGURE 7

Purchases of Equities[1] by U.S. Emerging Market Equity Mutual Funds[2] and the IFC Investible Total Return Indexes (in U.S. Dollars) in Emerging Markets, by Country, 1996-1997



[1] As a percent of previous month-end assets invested in each country.
[2] Includes closed-end emerging market equity funds and several U.S. international equity funds with significant exposure to emerging markets.
Sources: Standard & Poor's Micropal; Ian Wilson, Emerging Market Fund Research, Inc.; International Finance Corporation from Bloomberg

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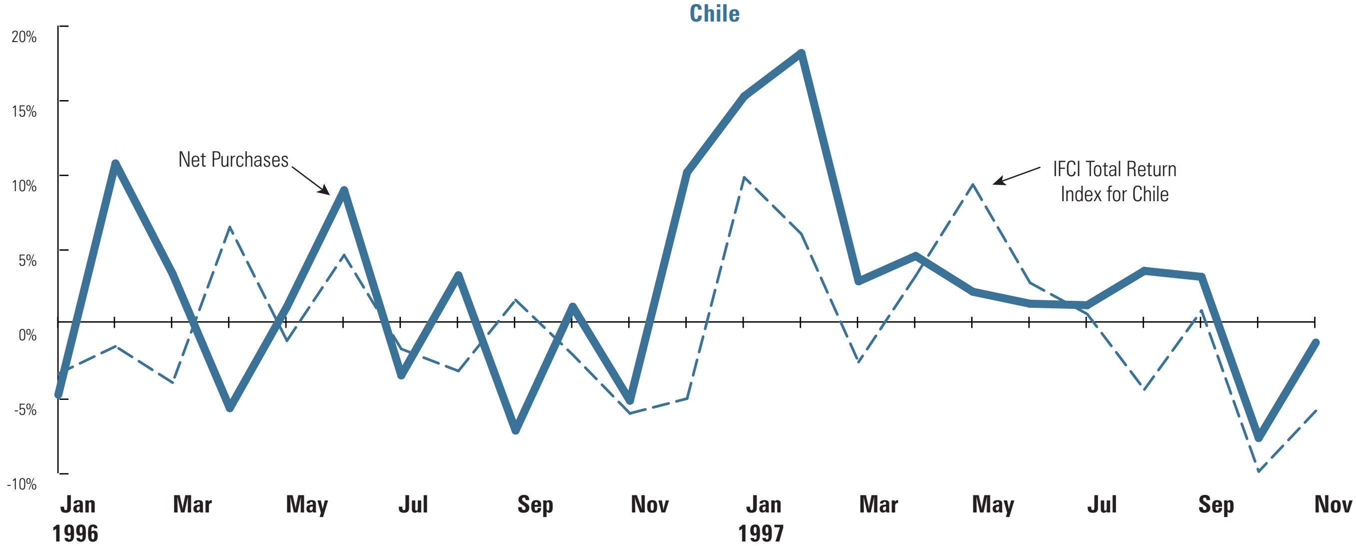
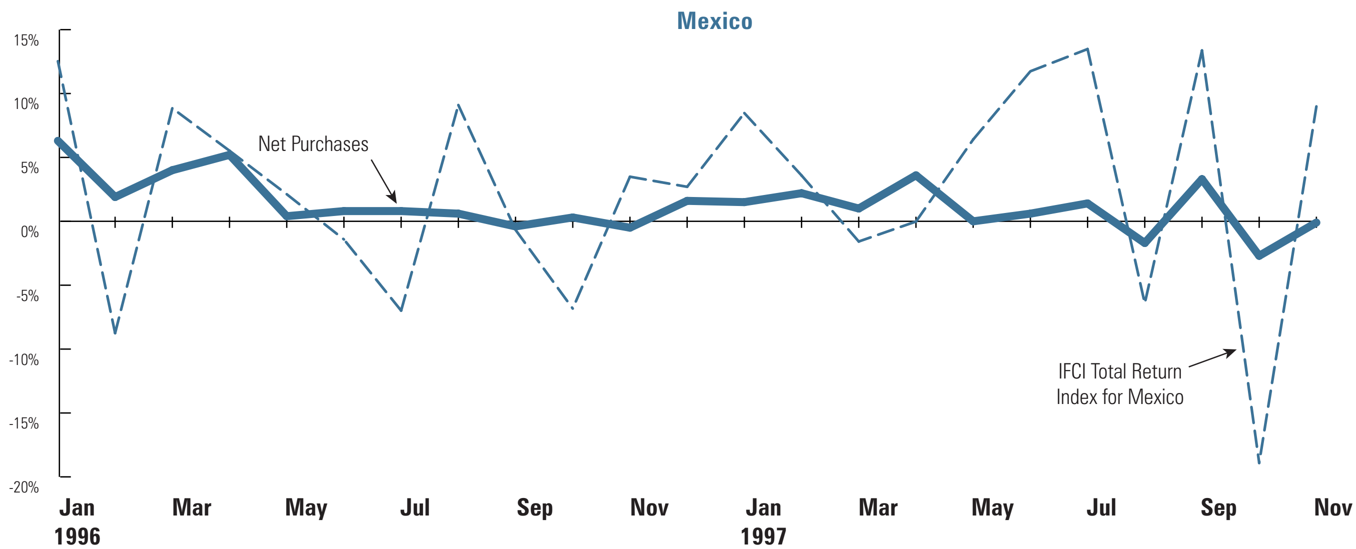
Country by country, the net purchases of equities in the four larger Latin American economies by this larger set of funds were similar to the activities of the open-end Latin America and global funds (Figure 7). In most instances during the second half of 1997, net purchases typically moved in the same direction as returns but were of considerably smaller amplitude than the volatility in returns. Indeed, over the entire two-year period, of the four larger Latin American markets, only in Chile did purchase activity fluctuate more than returns (Figure 7: Chile).[11]

[11] Charts for the smaller markets in Latin America in which this group of U.S. mutual funds held stocks—Columbia, Peru, and Venezuela—were excluded from the analysis. Net sales of equities in Peru were moderate in October, one of only two months of sales during the crisis period. As reported in the International Finance Corporation's *Emerging Stock Markets Factbook 1998*, investors sold Columbian and Venezuelan shares in the fourth quarter of 1997 to offset losses in other emerging markets. Columbia posted only a moderate decline in prices in the quarter, while Venezuela's market experience was similar to Chile's.

FIGURE 7, continued

Purchases of Equities[1] by U.S. Emerging Market Equity Mutual Funds[2] and the IFC Investible Total Return Indexes (in U.S. Dollars) in Emerging Markets, by Country, 1996-1997





[1] As a percent of previous month-end assets invested in each country.
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Sources: Standard & Poor's Micropal; Ian Wilson, Emerging Market Fund Research, Inc.; International Finance Corporation from Bloomberg

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