

# Foreign Portfolio Equity Investments, Financial Liberalization, and Economic Development

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## Abstract

Reform of local capital markets and relaxation of capital controls to attract foreign portfolio investments (FPIs) has become an integral part of development strategy. The proximity of market openings and large, sudden shifts in international capital flows gave credence to the notion that the liberalization was the primary culprit in precipitating the recent Asian crisis. Hence, this paper reassesses the benefits and costs of FPIs from the perspective of the recipients. Specifically, it discusses the various FPI contributions and presents empirical evidence regarding the relationship between FPIs and market development, degree of capital market integration, cost of capital, cross-market correlation and market volatility. It is clear that the evidence on benefits of FPIs is strong, whereas the policy concerns regarding resource mobilization, market comovements, contagion, and volatility are largely unwarranted. The authors make some policy suggestions regarding preconditions for capital market openings, market regulation, and liberalization sequencing.

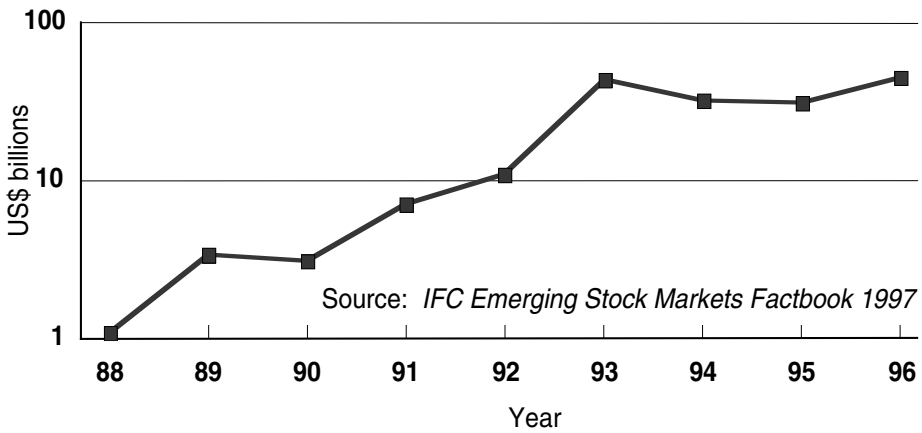
## 1. Introduction

Development of capital markets became a priority in many developing countries during the last two decades of the twentieth century. The new emphasis on equity markets was driven by the failure of past nonmarket-based strategies and the realization of the potential role that private initiative and capital markets can play. The ensuing development of local equity markets created conditions conducive to attract foreign portfolio investments (FPIs). As a result, many countries relaxed capital controls on equity flows to further develop domestic capital markets, attain more efficient risk sharing and resource allocation, as well as mobilize and improve the structure of external finance.

Although the resulting large portfolio equity flows (see Figure 1) during the 1990s have had many beneficial effects, at times they have been blamed for the Mexican and the East Asian crisis. The primary concern relates to the large and sudden shifts in portfolio flows that could potentially damage sound economies and markets. Indeed, Malaysia reimposed capital controls in 1998 and others are reviewing their reform measures. In response to the new debate and concerns among policymakers, it is critical to reassess the benefits and costs of FPIs from the perspective of the recipients. Hence, in this paper, I integrate the theoretical literature with available empirical evidence, provide some additional evidence, and put forward new concepts. Note that I focus on emerging markets (EMs) although the discussion is relevant for developed markets (DMs) as well.<sup>1</sup>

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*Figure 1. Net Portfolio Equity Flows to EMs*

I begin with a brief discussion of the role of capital markets in economic development, consider some of the arguments regarding banking versus securities market development, and the role stock markets have played in corporate financing of today's developed economies. After concluding that debt and equity finance should be viewed as complements, I present evidence on the contribution of EMs towards resource allocation and mobilization, and the relationship between market development and growth. Next, I discuss the FPI contribution towards development of domestic markets, resource mobilization, in lowering of the cost of capital and in improved project evaluation, and I highlight the concerns regarding resource mobilization, market co-movements, contagion, and volatility expressed by policymakers and some academics. Empirical evidence regarding the relationship between FPIs and market development, degree of capital market integration, cost of capital, cross-market correlation, and market volatility follows. It is clear that the evidence on benefits of FPIs is strong, whereas the policy concerns are largely unsupported. Finally, policy suggestions regarding preconditions for capital market opening, market regulation, and liberalization sequencing are put forward in the hope that they could help towards preventing future crises.

## **2. Role of Capital Markets in Economic Development**

The pioneering work of Goldsmith (1969), McKinnon (1973), and Shaw (1973) dealt with the role of finance in economic development. They argued that domestic financial liberalization would lead to higher savings, improved resource allocation and economic growth.<sup>2</sup> The emphasis was on the liberalization of the commercial banking system. Errunza (1974, 1979) conceptually extended the Shaw–McKinnon framework through explicit consideration of the role of securities markets in economic development.<sup>3</sup> I argued that the market price mechanism, more efficient risk sharing, and dissemination of vital information would improve resource allocation. As markets develop, specialized institutions and instruments, increased liquidity, and diversification opportunities would raise savings rates, and capital accumulation, and enhance production possibilities directly as well as through increased access to new technology.

More recently, Allen and Gale (1994) document that, for centuries, firms in many countries have used not only debt (to reduce agency problems) but also equity (for

risk sharing). While such simple securities generally suffice for individuals to share most of their undiversifiable income risk (Baxter and Crucini, 1995; Heaton and Lucas, 1996; Telmer, 1993), equity-based claims are a crucial component of the financing mix. In his analysis of financial liberalization, Cho (1986) suggested that equity claims can help overcome the limitations of debt contracts caused by moral hazard and adverse selection and, hence, improve overall resource allocation. At the micro level, Robe (1999) uses a conventional model of investment financing under moral hazard and risk-aversion to show that, as long as it is combined with equity-based claims, straight debt allows firms to achieve near-optimal financing. In summary, an efficient capital market would complement a liberated banking sector.

### *Banks, Corporate Finance, and Stock Markets*

Some authors have suggested that developing countries should follow the example of Japanese and German financial sectors that are bank-dominated. Traditionally, the German and Japanese banks provided financing and participated in management, as well as monitoring the client activities, acting as lenders, principals, investment bankers, as well as supervisors in close cooperation with the government regulators. Such an arrangement is not sustainable in today's global economy. It is no surprise that the bank-dominated systems have experienced serious strain in recent years with new emphasis on reforming, and globally integrating their capital markets; i.e., a move away from bank finance.<sup>4</sup> The "group" structure in many developing economies is quite similar to the bank dominated systems. These arrangements are also under substantial strain. A well-functioning capital market can complement existing arrangements, facilitate wide ownership and sharing of new wealth from economic growth.

There is also some disagreement regarding the role stock markets played in corporate financing of today's developed economies.<sup>5</sup> However, the experience of today's developed economies or the theories developed to explain managerial behavior may not be relevant for emerging markets.<sup>6</sup> What is important is to understand the relationship between capital structure and the level of development of the stock market and whether stock markets help or hinder the financing function of the banking sector; i.e., do equity and debt finance complement each other or serve as substitutes? Results of Demirgüç-Kunt (1992) suggest a positive and significant relationship between firm leverage and stock market development. Equity finance may increase the borrowing capacity of firms through risk sharing and raise the quality and quantity of bank lending through timely and systematic information flows. Demirgüç-Kunt and Levine (1995) find that the level of stock market development is highly correlated with the development of banks, nonbanks, insurance companies, and private pension funds. More recently, Boyd and Smith (1996, 1998) built a growth model consistent with this empirical evidence. They showed that along a development path, equity markets will endogenously emerge when it is economically useful for them to do so. If firms can finance capital accumulation by issuing a combination of debt and equity, then both securities will be issued; i.e., debt and external equity are complementary. Furthermore, their results indicate that, as an economy develops, its aggregate ratio of debt to equity will generally fall. Thus, debt and equity finance should be viewed as complements—a natural progression as development proceeds—providing finance with different characteristics.<sup>7</sup>

*Resource Allocation*

An efficient stock market would discriminate amongst users of capital and reward more profitable firms with lower cost of capital at the expense of less successful firms through the pricing process. The traditional tests of micro-efficiency are based on publicly and privately available information. Although the available evidence is positive, the data availability has limited the scope of empirical tests on emerging markets. The general conclusion of these studies is that, although the EMs are not as efficient as the major markets (US and UK), they compare favorably with the smaller European markets.

The more recent efficiency literature focuses on speculative activity and volatility and whether stock prices reflect fundamental values.<sup>8</sup> The large price swings in some emerging markets have led to the argument that the pricing process may be inefficient and that stock markets may do more harm than good to the economies of developing countries. In EMs, high-growth firms and new issues of firms play a key role in the future growth of the economy. Hence, the role of speculators who specialize in assuming high-risk investments is very important. Further, speculators may also stabilize wide fluctuations in prices by taking positions against the market trend.<sup>9</sup> Thus, some degree of speculation is necessary to foster efficiency.

Casual market observations and long-standing perceptions regarding general instability of developing countries have led some to characterize EMs as highly volatile and hence market prices as not an appropriate signal for resource allocation. This is unfortunate and inconsistent with past evidence. First, occasional large price swings are not unique to EMs. In recent years, market bubbles, crashes, and large swings have been observed for example in Japan. Second, there has been a tendency to equate price volatility with risk. Past evidence clearly suggests that, in general, EMs cannot be considered as high-risk assets.

To address the issue of how volatile are EMs in comparison to DMs, Errunza (1993) compared standard deviations of monthly stock market index returns in real terms over the period 1957–91 using data from the International Financial Statistics and over the period 1988–92 based on the shorter-horizon IFC data. The results suggest that EMs as a group cannot be characterized as more volatile than DMs. About one half of the EMs exhibit volatility similar to the smaller DMs. This is very encouraging especially when one takes into account the fact that the dataset consists of markets at different stages of development at a point in time with constant evolution over time and under vastly different environments that have changed over time, within markets and across markets.

*Resource Mobilization*

It is very hard to relate capital market reforms to economy-wide resource mobilization, owing to the difficulty of controlling for the influence of other factors—most importantly, the banking sector liberalization. The available evidence on equity issuance is a natural measure of resource mobilization in the capital markets. The sparse evidence on financing at the corporate level complements this result.

The supply of new issues in EMs depends on the owner/managerial considerations (control, accountability, monitoring, and agency issues), market environment (availability and cost of funds) as well as the institutional considerations (government rules on issuance and availability of investment banking services). With respect to investor demand, the market environment (e.g., transparent and adequate trading regulation, disclosure), legal framework (e.g., minority protection, insider trading) and under-

standing of markets (education) are preconditions for investors to consider equity participation.<sup>10</sup> Assuming that these conditions are met, the new issuance of equity depends on tradeoffs between reward (return) and cost (risk) considerations on the part of firms' owners (shareholders). Such considerations become favorable to new equity issuance in emerging markets when move to a market economy is firmly entrenched, markets are reasonably well functioning, economic growth is expected to continue, and special situations (e.g., privatizations) arise.<sup>11</sup> The results of Mullin (1993) based on IFC data over the 1989–92 period suggest that equity issuance was an important source of finance in EMs that met the above conditions. For EM firms, Singh and Hamid (1991) found a greater use of external finance than for firms from DMs over the period 1980–88. In most cases, the external finance was dominated by equity. In a recent article, Demirgüç-Kunt and Maksimovic (1998) investigated how differences in legal and financial systems affect external financing. They concluded that the firms from countries with efficient legal systems and developed financial markets rely more on externally financed firm growth.

### *Relationship between Market Development and Growth*

The early empirical studies followed theoretical work and focused on the banking sector. In a comprehensive study, King and Levine (1993) document that the financial sector development (size of the banking sector) is robustly correlated with current and future economic growth. Atje and Jovanovic (1993) were the first to document the impact of stock market (and banking sector) development on economic growth. Using a 40-country sample over the 1980–88 period, they report a strong relationship between stock market development indicator (value traded as a percentage of GDP) and growth. In a recent study, Levine and Zervos (1995) find that stock market and banking development indicators predict long-run growth and that the two sectors provide different bundles of financial services. They use the framework of Barro (1991), control for economic and political factors that may influence growth, and conduct their analysis over different subperiods during 1976–93.

In view of the importance of the issues and the rather sparse evidence to date, it would be useful to complement the above evidence. Hence, in Table 1, I report annual average values for market capitalization to GDP ratio, trading volume to GDP ratio, turnover ratio, number of listed firms, and the real GDP growth rate over the period 1981–96.<sup>12</sup> As in past studies, wide cross-sectional variation is apparent. For example, the market capitalization to GDP ratio has a range from 0.04 (Poland) to 1.646 (S. Africa). Similarly, turnover ratio ranges from 0.85 (Nigeria) to 255.89 (Taiwan). Next, in Table 2, I report the correlations between the various indicators of stock market development and real GDP growth rate. Panel A reports parametric correlations and panel B reports rank correlations. Although there are differences between the results reported in the two panels, we can draw some conclusions:

- The correlation between market capitalization to GDP and trading volume to GDP is significant.
- The correlation between trading volume to GDP and turnover is significant.
- The correlation between market capitalization to GDP and turnover is insignificant.
- The number of listed companies are significantly rank correlated with market capitalization to GDP and trading volume to GDP.

These results corroborate the findings of Demirgüç-Kunt and Levine (1995) and suggest that different indicators capture different attributes of market development.

*Table 1. Market Development Indicators, Average 1981–96*

	<i>Mkt cap./GDP</i>	<i>Trade vol./GDP</i>	<i>Percentage of turnover<sup>a</sup></i>	<i>No. of companies</i>	<i>Real GDP growth</i>
Czech Rep.	0.34	0.114	37.61	1416	
Greece	0.116	0.025	19.21	139	0.016
Hungary	0.052	0.012	20.19	33	
Poland	0.04	0.034	110.37	40	
Portugal	0.111	0.027	23.5	121	0.024
Russia				73	
Slovakia				816	
Turkey	0.071	0.073	66.2	156	0.044
Argentina	0.059	0.016	29.85	197	0.015
Brazil	0.145	0.074	42.86	550	0.021
Chile	0.508	0.044	8.56	235	0.048
Colombia	0.085	0.008	8.15	124	0.037
Mexico	0.188	0.079	59.12	190	0.014
Peru	0.067	0.016	36.14	214	0.016
Venezuela	0.076	0.015	18.71	80	0.015
Israel	0.392	0.088		655	0.044
Jordan	0.583	0.096	17.34	99	
Egypt			22.18	646	
China	0.092	0.162	200.6	278	
Sri Lanka			8.03	190	
Taiwan, China	0.586	1.616	255.89	200	0.074
India	0.165	0.053	45.68	4346	0.052
Indonesia	0.094	0.028	26.54	95	0.061
Korea	0.285	0.287	106.7	529	0.087
Malaysia	1.369	0.539	31.97	311	0.07
Pakistan	0.098	0.023	18.12	490	0.057
Philippines	0.299	0.072	27.53	170	0.021
Thailand	0.337	0.219	73.31	212	0.08
Morocco			5.86	47	
Nigeria			0.85	126	
S. Africa	1.646	0.128	8.24	647	0.014

<sup>a</sup> 1984–96 average.

Finally, the results of Table 2 also suggest that the real GDP growth rate is significantly correlated with trading volume to GDP and turnover. Although the correlations do not imply causality, and we need to control for other factors that may influence growth before more definitive conclusions can be drawn, these findings support earlier results.<sup>13</sup> This is especially important given that these sample countries are different from past studies in that I do not include developed markets and include some of the more recent EMs with incomplete data.

To summarize, capital markets can play an important role in economic development. A well-functioning stock market would help privatizations by facilitating efficient valuation and allocation of state-owned assets among local and foreign investors. As suggested by Perotti and van Oijen (1999), resolution of political risk from privatization would in turn lead to further stock market growth. Finally, developed equity

Table 2. Correlations of Stock Market Indicators and Growth

	<i>Mkt cap./GDP</i>	<i>Trade vol./GDP</i>	<i>Turnover</i>	<i>No. co.</i>	<i>Real GDP Grth</i>
<b>A. Parametric correlations</b>					
Mkt cap./GDP	1.0000				
Trade vol./GDP	0.3515***	1.0000			
Turnover	-0.0739	0.6839*	1.0000		
No. of companies	0.0239	-0.0564	0.0319	1.0000	
Real GDP growth	0.1491	0.4912*	0.5101**	0.1355	1.0000
<b>B. Rank correlations</b>					
Mkt cap./GDP	1.0000				
Trade vol./GDP	0.7353*	1.0000			
Turnover	-0.0838	0.5424*	1.0000		
No. of companies	0.5372*	0.5252*	0.2982	1.0000	
Real GDP growth	0.3084	0.4674**	0.441***	0.2328	1.0000

\*, \*\*, \*\*\*: Statistically significant at  $\alpha$  level 1%, 5%, and 10% respectively.

markets can facilitate foreign direct investments and other forms of foreign equity participation. Indeed, a well-functioning local market is a precondition for attracting FPIs.

### 3. Foreign Portfolio Investments

Since the late 1980s, many developing countries have relaxed capital controls. This was motivated by the need to tap new sources of external finance, the potential developmental role of foreign portfolio investments, and the ineffectiveness of capital controls in the absence of controls on the current account.<sup>14</sup>

The debt crisis of the 1980s highlighted the need to open up the capital account to develop new sources of external finance that would reduce the reliance on debt and improve the overall structure of external obligations. Indeed, the shift in the structure of external debt away from official sources and towards floating-rate government-guaranteed general obligation borrowings (GOBs) had exposed many developing economies to changes in exchange rates, commodity prices, interest rates, and trade. A number of highly indebted countries encountered serious difficulties, the debt flows dried up and restructuring of external finance assumed high importance.

Foreign portfolio investments emerged as one of the important alternatives.<sup>15</sup> FPIs possess the essential attributes of efficient risk sharing and cash flow matching. They provide "pure" form of risk capital, share firm specific/national/global risks faced by EM firms, and provide new resources.<sup>16</sup> It involves direct equity purchase on local markets or indirect participation through American/Global Depository Receipts (ADRs/GDRs) and country funds (CFs).<sup>17</sup> Figure 2 illustrates the three main effects of FPIs, namely market development, resource mobilization, and globalization effects.

#### *FPIs and Capital Market Development*

The FPIs can have major impact on growth through their contribution to further development of the domestic capital market. Globalization would lead to further develop-

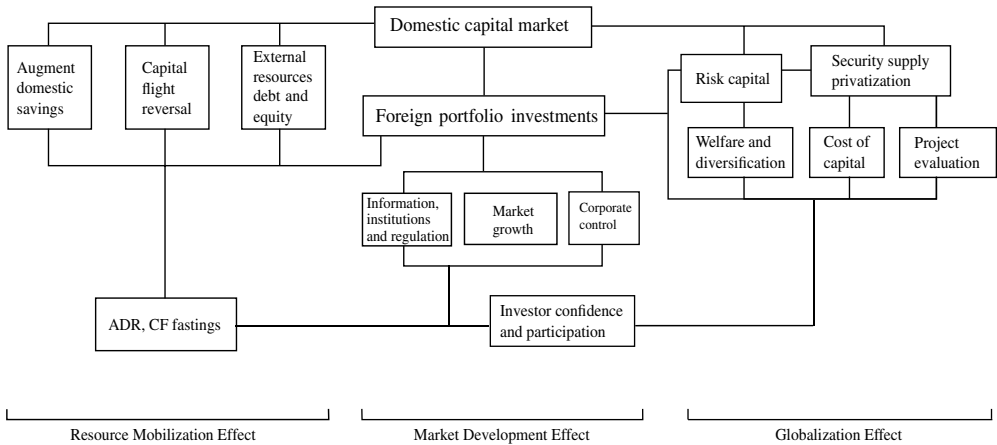


Figure 2. Role of Foreign Portfolio Investments

ment of capital markets, which in turn would boost economic growth. Indeed, there are a number of interrelated and reinforcing impacts.

*Information, institutions and regulation* The foreign participants would demand timely and quality information, minority protection, as well as adequate market and trading regulations. FPIs will necessitate development of new institutions and services, encourage transfer of technology and training of local personnel. In a number of countries, foreign investment banks have entered into joint ventures with local interests, acquired local firms or formed wholly owned subsidiaries to serve their home market clients.

*Market growth and investor confidence* Active participation of foreign investors would instill confidence among local investors. The market would become more active (and efficient) and able to support new issues including privatizations. Liberalization of the capital market would signal the government’s commitment to market reforms and help the overall credibility of government intentions and policy. This would further reinforce domestic investor confidence and increase market participation.

*Corporate control* The market for corporate control in EMs is in its infancy given the state of markets and group approach to business organizations. FPIs can play a disciplinary role in the markets by demanding managerial performance and by monitoring of their activity, and ultimately through their investment decisions. Essentially, foreign investors can instill the concepts of shareholder value and free market culture in the local mindset.

*Resource Mobilization*

The development of the capital market, increased liquidity and supply of securities, and better information will improve access to foreign exchanges in terms of ADR/GDR and CF flotations and may reverse capital flight. The contribution of FPIs to market development, their impact on capital flight, and potential tapping of foreign



savings through foreign listings may all contribute towards increased resource mobilization.<sup>18</sup> The FPIs can also serve as complementary to foreign debt finance (as in the case of domestic debt and equity) and thus increase the quality (terms) and quantity of international borrowing at the national and firm levels. If these resources do not substitute for other forms of external finance or domestic savings, the resulting increase in output should lead to higher domestic savings.

### *FPIs and Globalization*

The globalization effect is manifested by a decline in the cost of capital, improved evaluation of projects, and an increase in local investor welfare.

*Cost of capital* If we assume that a particular emerging market is completely segmented from the global market, the expected return for a firm from that market would depend on the local price of risk and the national covariance risk. Prior to removal of inflow capital controls, the securities traded on EMs would be held entirely by the local investors. If removal of controls and subsequent portfolio flows result in complete integration, the expected return would then depend on the global price of risk and the global covariance risk. We would expect the global price of risk to be lower than the local price of risk, the world market portfolio to be less volatile than the local market portfolio, and the securities to be more correlated within a market than across markets. Hence, the expected return (i.e., cost of capital) of a security from segmented market would decline due to market globalization.

If the outflow controls are ineffective, the EM investors may hold significant amounts of foreign assets. Under these conditions, the EM securities will be priced so as to reward investors for bearing national and global systematic risks. Removal of inflow controls and the subsequent foreign portfolio flows would result in global pricing of EM securities; i.e., elimination of national risk premium. Thus, as demonstrated by Errunza and Losq (1985), opening of capital markets should lead to a lowering of cost of equity capital on average owing to global pricing of securities that prior to the opening were priced in a mildly segmented market; i.e., both the national and global systematic risks were priced.

The cost of capital will also be affected by informational asymmetries. It is reasonable to assume that domestic investors are in general better informed about their local securities than are foreign investors. This informational asymmetry would lead to the observed home bias in investor's portfolios and imply a higher cost of equity capital relative to what it would be in the absence of such asymmetries. When markets globalize (or firms issue ADRs/CFs), the increased quantity and quality of information demanded by foreign investors (necessary for the SEC registration and US reporting) would diminish the existing informational asymmetries and lower the cost of equity capital. Merton (1987) focused on market segmentation arising from incomplete information and showed that the expected returns decrease with the size of the investor base due to more efficient risk sharing. Globalization would not only affect the investor base but also alter investor composition (domestic versus global) as foreigners actively trade the security. The impact of change in the investor base—and more importantly, the change in investor composition—is critical since the local securities will be priced more favorably by foreign investors. Indeed, the essence of the cost of capital/segmentation hypotheses is the move from local pricing and shareholder base to global pricing and global shareholder base.<sup>19</sup>

*Project evaluation* The opening of the capital market would result in better-functioning markets owing to foreign investor influence. This would lead to improved resource allocation by providing more reliable market signals that may be noisy in a closed, thinly traded segmented market. Not only will the allocation efficiency improve, but as Sweeney (1993) suggests, the project evaluation process would become more tractable. In a closed market, the discount rates (cost of capital) and the number of priced factors (commanding risk premium) are likely to be greater than if the market were integrated. The decision process would thus necessitate identification of relevant factors and the projects' exposure to such factors. This may be very difficult in a thin capital market especially for projects that do not have comparable substitutes in the local economy. On the other hand, in an open (integrated) market, domestic investors can benefit from the knowledge of international investors in terms of identification and estimation of the priced factors. Thus, opening of the market and the resulting foreign investments will be helpful in assessing real domestic investments.

*Investor welfare and diversification* If removal of capital controls, foreign listings and market reforms lead to full integration among global markets, the increased opportunity set and active foreign participation would allow local investors to hold a well-diversified world portfolio. Their welfare would increase following integration. Note that under (mild) segmentation, local investors hold all local securities and hence cannot achieve an optimal world portfolio. Partial integration would lead to a somewhat weaker welfare result. More recently, Obstfeld (1994) showed that the higher savings and growth made possible by international risk sharing would allow most countries to reap significant welfare gains.

### *Major Concerns*

So far I have focused on the benefits of FPI. Given the current debate, it would only be fair to end with a discussion of the primary concerns. These include:

- *International liberalization is unlikely to boost long-term economic growth since the domestic capital stock is relatively unimportant and large capital inflows would not materialize* (Krugman, 1993). In a recent study, Errunza et al. (1998) show that in general, the introduction of CFs (that have been the initial step in the liberalization process of many EMs) enhances pricing efficiency of the local market (i.e., lowering of cost of capital) and capital mobilization by local firms. The extent of the gain depends on the degree and nature of market segmentation, arbitrage restrictions, and the completeness of the host market. These gains can be achieved without direct foreign ownership of local equity (and hence without control concern) and with minimal size. Further, Levine (1999) argues that the liberalization would enhance the functioning of the domestic financial system, which would boost total factor productivity and hence the long-term economic growth and resource allocation.
- *FPIs increase market integration and hence comovements. A major move in one (emerging) market affects other (emerging) markets regardless of fundamentals.* Let us evaluate the theoretical merit of this concern. There is no strong reason to expect that increased integration would result in much higher cross-country correlations. One should not be surprised to find two integrated markets that are not highly correlated. On the other hand, in a fully integrated global market where the risk premia are determined globally, we should expect foreign events to have some impact on a local market and hence induce comovement. However, the impact should be small

and is perfectly rational. The next section details the evidence on the impact of market liberalization on cross-country correlations.

- *High correlations during bear markets lead to contagion.* As evidence, the proponents point to the behavior of groups of EMs during the Mexican, Asian, and Russian crises. Stulz (1997, p. 26) provides an excellent discussion of the economics of contagion and the related evidence, and concludes: "if there is plenty of arbitrage capital, contagion should not be a problem." The lack of arbitrage capital is a result of the organization of the investment industry, problems of performance evaluation, and lack of other investors (e.g., hedge funds) capable of taking advantage of opportunities.
- *FPIs are less stable than other types of foreign flows and increase volatility of local returns.* Although there is no theoretical reason to expect increased volatility *ex post* liberalization, this is largely an empirical issue and is discussed in the next section.

#### 4. Impact of FPIs: the Evidence

Foreign investors either trade securities on individual markets or they buy securities/funds from EMs that trade on foreign stock exchanges.<sup>20</sup> The extent of direct participation in local exchanges depends on market investability manifested by market breadth, depth, liquidity, efficiency, regulation, information, removal of perceived barriers (risks), transparency of investment, and repatriation rules. Indeed, countries such as India have placed ceilings per foreign investor as well as global limits (all foreign investors combined) on equity participation in each firm. Over time, most EMs have reformed their economies, markets, and institutions to improve investability. However, by its very nature such a process is gradual. It is also extremely difficult to isolate a defining moment in what usually is a series of steps. Hence, it is impossible to pinpoint the exact date of market liberalization since such a date simply does not exist. Indeed, there is some variance in terms of liberalization dates used across various studies. On the other hand, it is possible to arrive at reliable announcement dates for the introduction of ADRs and CFs. Finally, data on global portfolio flows are also difficult to obtain and interpret. Not surprisingly, empirical analysis of the impact of FPIs have generally used multiple indicators including liberalization dates, ADR/CF introductions and capital flows. As explained below, this approach is also suggested by theoretical considerations and empirical results of studies on degree of market integration.

##### *Degree of Market Integration*

One of the most important contributions of FPIs is the globalization of the domestic market and the consequent impact on cost of capital and project evaluation. Although a number of studies have investigated the structure of global markets, the emphasis has been on major markets. These studies postulate a world market structure that is either completely segmented or fully integrated. The first study on EMs by Errunza et al. (1992) investigated the two polar cases as well as the intermediate case of mild segmentation for a group of securities from eight emerging markets. Their results conform to our a priori expectations that emerging markets should plot somewhere in the continuum of full integration and complete segmentation. To understand how the degree of integration has evolved through time, Bekaert and Harvey (1995) econometrically combine the two polar specifications of full integration and complete

segmentation for a group of 12 EMs. Their specification captures one of the two most important international asset pricing model (IAPM) based factors, namely the impact of barriers to free flow of portfolio capital. The other important factor relates to the availability of substitute assets (e.g., ADRs, CFs, multinational firms) that would allow investors to duplicate the returns on unavailable EM assets through homemade diversification, thereby effectively integrating EMs even though explicit barriers to portfolio flows are in place. Errunza et al. (1995) focus on the impact of substitute assets on market integration and develop an IAPM based “Integration Index” that captures the time-varying ability of US traded assets to substitute restricted EM assets. In addition to estimating the degree and variation through time of market integration, they document the contribution of country funds and ADRs in promoting internationalization of EMs. The major results of these studies can be summarized as follows:

- Barriers and availability of market substitutes affect the degree and time variation of integration.
- Integration has increased over time. However, there are important differences in the evolution of market integration across EMs.
- Impact of removal of barriers alone is mixed.
- Country funds have played an important integrating role even under the presence of barriers.

These results support the theoretical prediction that the presence of barriers *per se* does not imply segmentation, just as their removal does not necessarily increase market integration. The implication for empirical studies is that one must use indicators that include substitute assets as well as changes in capital flows and barriers.

### *Impact on Cost of Capital*

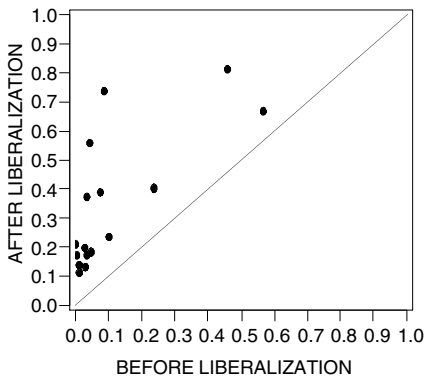
While theoretical models predict a decrease in the cost of capital from market liberalization, the economic benefits have been difficult to quantify. Recent papers by Bekaert and Harvey (2000) and Henry (2000) examine these issues at the market level, whereas Errunza and Miller (2000) investigate the impact on cost of capital of ADR introductions.

Bekaert and Harvey (2000) use a cross-sectional time-series model for a sample of 20 EMs and focus on changes in returns and dividend yields in the long run. Although they find little evidence of change in realized returns, they report a significant decline in dividend yields from the pre- to the post-liberalization period. Using similar data from 12 EMs, Henry (2000) focuses on the revaluation effect around stock market liberalizations and finds that equity valuations increased by 29% over the 8-month period prior to liberalization. However, liberalizations at the *market level* occur over reasonably long periods, may not be complete or fully credible, are difficult to date, and usually follow or are accompanied by other political, economic, or social reforms. Hence, Errunza and Miller (2000) analyze changes in equity valuations around market liberalization at the *firm level*. They study the impact of the introduction of American Depositary Receipts (ADRs) that provide a one-shot event in which to study the impact of foreign investor participation on the cost of capital. Their sample of 126 firms from 32 countries experience a reduction of 42.2% in long-run returns as well as significant positive returns around announcement of ADR offerings. Both these results hold for dividend yields. In summary, there is growing

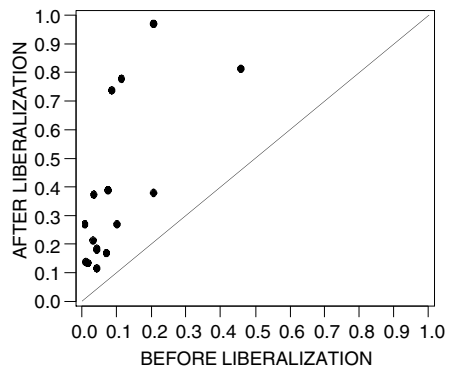
evidence in support of the theoretical prediction of a decline in the cost of capital from globalization.

*Relationship Between FPIs and Market Development*

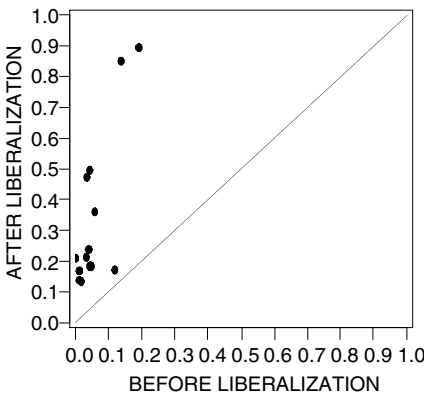
As suggested in the previous section, FPIs can make a significant contribution to the development of domestic capital market. As a first step, it would be useful to study the evolution of various market indicators through the liberalization process. As before, I focus on the four well-known market indicators and use the dates of four liberalization proxies reported by Bekaert and Harvey (2000, table 2). For example, Figure 3 plots market capitalization divided by GDP before and after each of the four liberalization dates for our sample of EMs. Similarly, Figures 4, 5, and 6 plot trading volume divided by GDP, turnover ratio, and number of listings. It is apparent that there is significant growth in each of the market indicators *ex post* liberalization for all four proxies. Of course, given apparent trending behavior (especially in the case of market capitalization to GDP ratio), I do not formally test the hypothesis. Further, I have not controlled for other variables nor can we infer causality. Additional work is needed before we can reach any definitive conclusions.



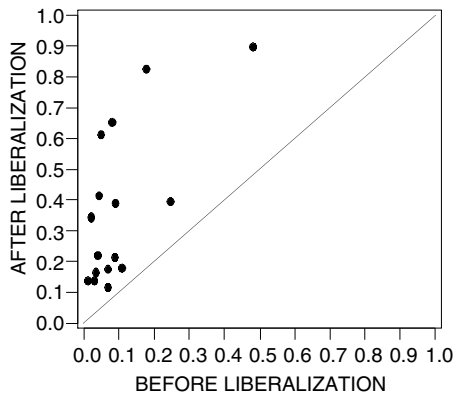
A. Official Liberalization



B. ADR Introduction

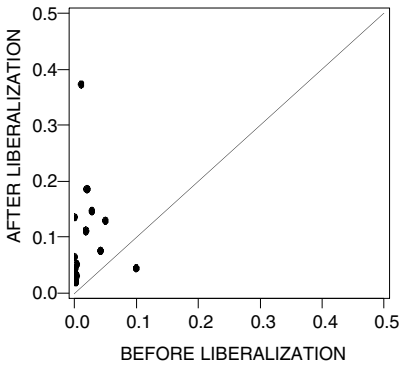


C. Country Fund Introduction

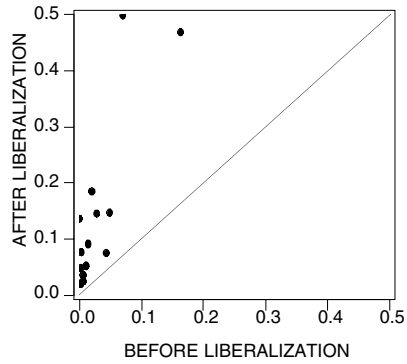


D. Increase in Net U.S. Capital Flows

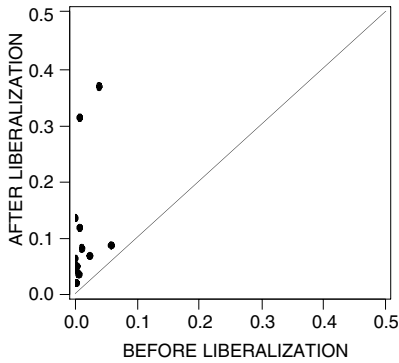
Figure 3. Market Capitalization to GDP



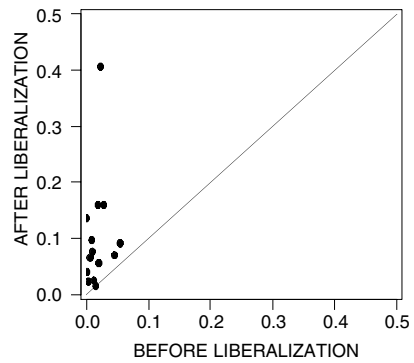
A. Official Liberalization



B. ADR Introduction



C. Country Fund Introduction



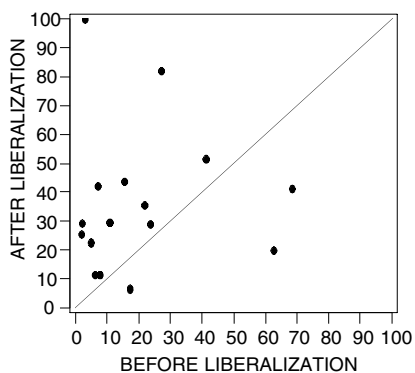
D. Increase in Net U.S. Capital Flows

Figure 4. Value Traded to GDP

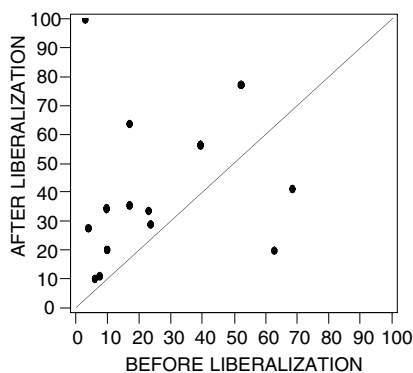
*Impact on Correlations*

Historical evidence suggests that correlations of EM returns with major market returns are generally small in absolute terms as well as in comparison with those among DMs. There is also substantial time variation with increases in correlations among groups of EMs (e.g., Latin American markets) during (Mexican) crisis. Figure 7 plots performance of EMs during the Mexican crisis, from December 1994 to March 1995. Note that this is not unique to EMs. For example, during the October 1987 crash, the decline among DMs was widespread. Interestingly, there was substantial variation in return behavior amongst the EMs, as reported in Figure 8.<sup>21</sup>

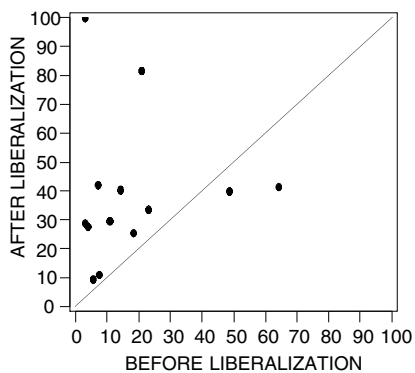
With respect to the relationship between liberalization and correlations, Figure 9 plots return correlations before and after each of the four liberalization dates. Whereas official liberalizations, introduction of ADRs and increase in net US capital flows do not seem to affect correlations, the introduction of CFs somewhat raise the correlations. However, these results do not take into account other events that might affect correlations. Bekaert and Harvey (1998, abstract) control for other factors and conclude: “While correlation with world markets increases after liberalization, it is unlikely that this higher correlation will impact global investors looking to diversify their international portfolios.” In summary, although there might be some increase in correlations, their economic impact would be minimal.



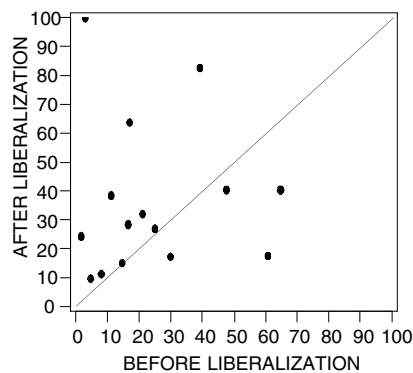
A. Official Liberalization



B. ADR Introduction



C. Country Fund Introduction



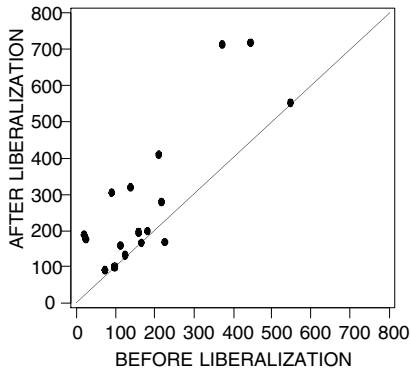
D. Increase in Net U.S. Capital Flows

Figure 5. Turnover Ratio

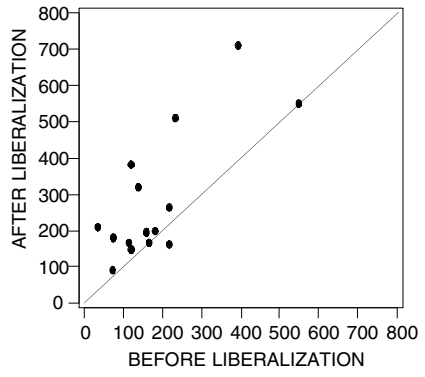
*Impact on Volatility*

It has been claimed that foreign portfolio investments increase volatility, especially the short-term flows. Hence, it has been suggested that countries should follow policies that would encourage long-term flows and minimize (ban) short-term flows. This needs to be carefully considered in light of the available evidence. Short-term flows move in response to changes in short-term returns (e.g., exchange-rate-adjusted interest differentials) across markets. On the other hand, long-term capital flows respond to expected return–risk tradeoffs as they relate to the investors’ portfolio holdings. Since the EMs are undergoing significant political, economic, social and technological changes, frequent revisions in expectations and investor portfolios should be expected. Indeed, as Claessens et al. (1993) suggest, long-term flows are often as volatile and unpredictable as short-term flows and volatility is more likely generated by changes in institutional structure than an inherent property of the type of flow. Further, they do not find any evidence to support the notion that FPIs are less stable than other sources of external finance.

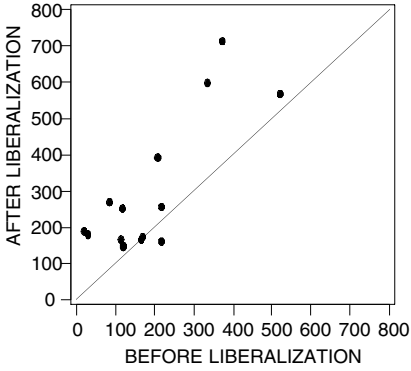
In recent years, some attempts have been made to relate FPIs to volatility. For example, Tesar and Warner (1993) find no relationship between the volume of US transactions in foreign equity and volatility of stock returns. Figure 10 plots market return volatility before and after each of the four liberalization dates for the sample



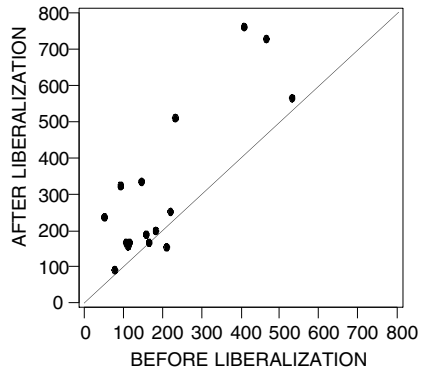
A. Official Liberalization



B. ADR Introduction



C. Country Fund Introduction



D. Increase in Net U.S. Capital Flows

Figure 6. Number of Listed Companies

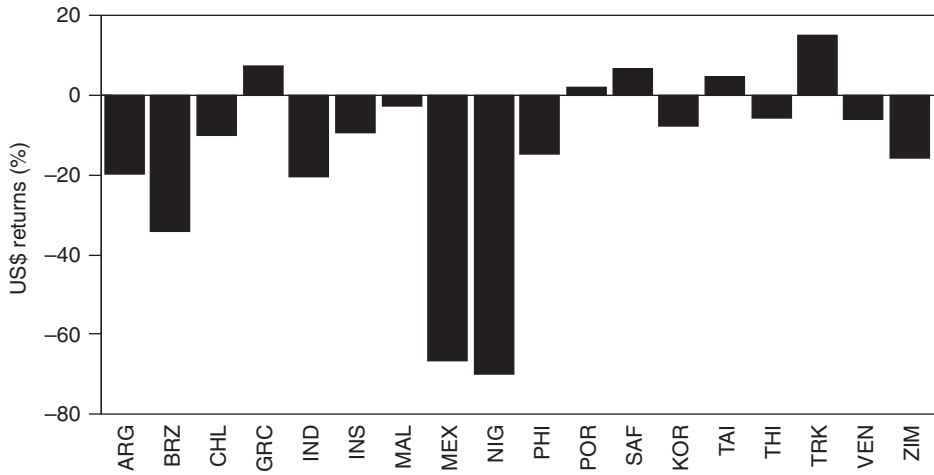


Figure 7. Impact of Mexican Crisis



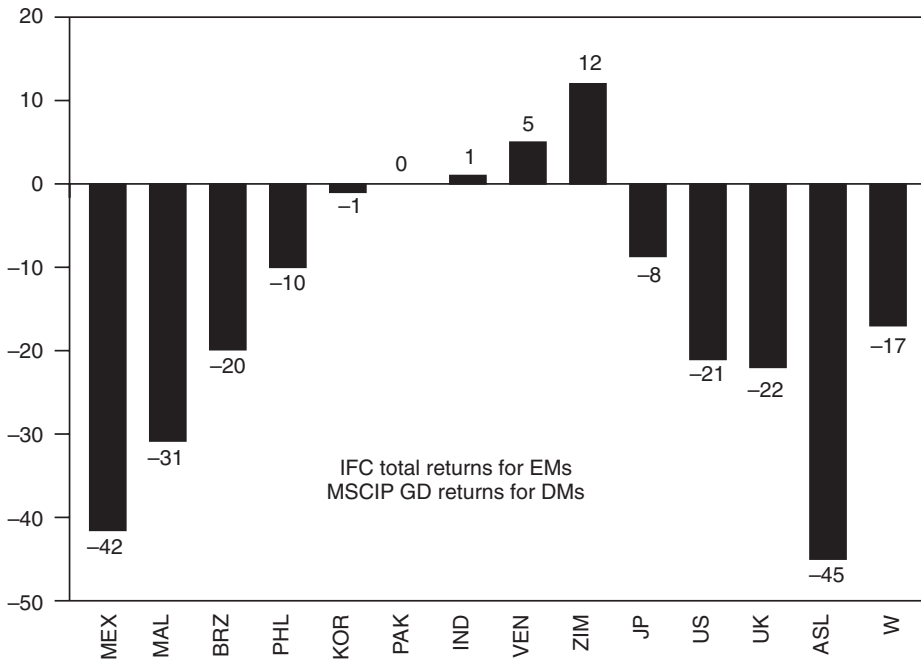


Figure 8. Dollar Returns, October 1987

of EMs. In all four cases, the volatility seems to decrease in the post-liberalization period. However, these results do not take into account other events that might impact return behavior. Bekaert and Harvey (2000) control for various financial and macroeconomic development indicators and conclude that the impact of market liberalization on return volatility is economically and statistically insignificant. Indeed, the popular beliefs regarding destabilizing influence of FPIs on local markets seems unwarranted.

#### *Impact on Growth*

We can also investigate the relationship between FPIs and economic growth. Figure 11 plots real economic growth rates before and after market liberalizations for the sample of EMs. In all cases, the economic growth has increased in the post-liberalization period. As stated previously, I have not controlled for other factors that may have affected the growth rates, nor does this establish a causal link. That is left for future work.

### **5. Policy Suggestions and Concluding Remarks**

Prior to major policy initiatives on capital market reforms and FPIs, a number of issues related to the preconditions to opening of the markets, sequencing of reforms, and market regulation were unresolved. Unfortunately, a combination of local political/business environment, investor greed, and expectations of local/global bail-outs resulted in imprudent and unsustainable policy prescriptions. Examples include large-scale privatizations in countries with insignificant markets and no investment culture, as well as opening of markets with no real local investor base. In times of crisis,

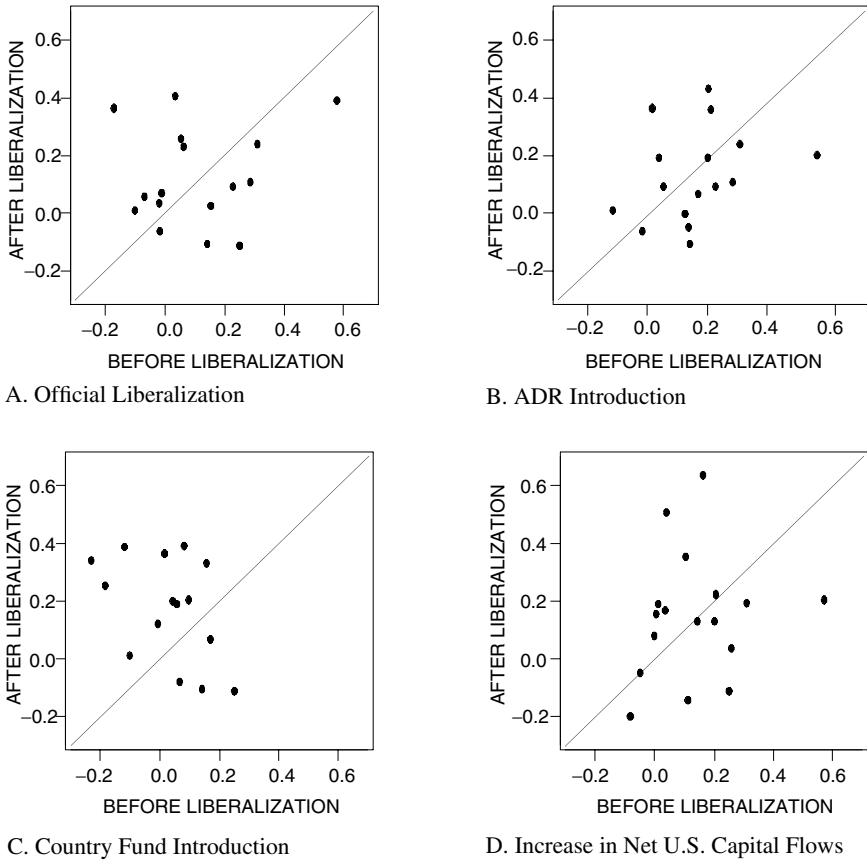
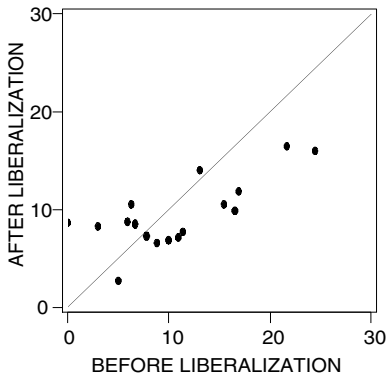


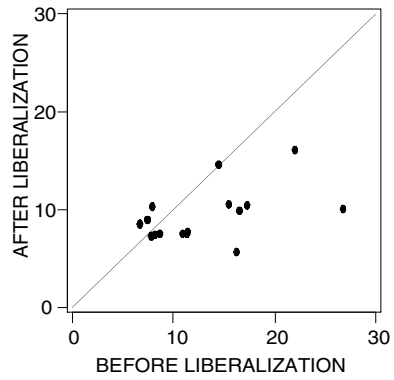
Figure 9. Monthly Unconditional Correlation with US Returns

part of the blame was directly attributed to the irresponsible behavior of foreign portfolio investors.<sup>22</sup> Although there may be some truth to such charges, the evidence to date does not seem to support such claims. Indeed, there is overwhelming evidence in support of the contribution of FPIs towards more efficient risk sharing and resource allocation, mobilization and improvement in the structure of external finance, and development of domestic capital markets. Rather than contribute to the unending debate on causes and resolution of the recent crisis, the following discussion is meant to add to the considerations towards preventing recurrence of such episodes. Although most of the discussion is very basic, I believe the recent experiences suggest that it is at times useful to (re)state the obvious.

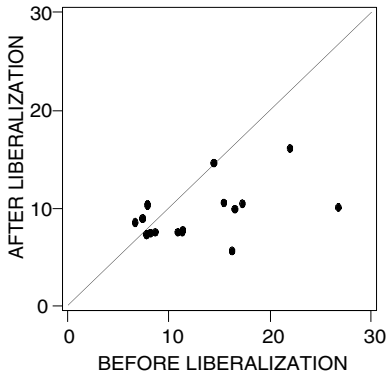
First and foremost, the developing countries should create an environment that would encourage the return of flight capital and attract (and retain) foreign capital flows on a permanent basis. The most important measures are to ensure consistency and credibility of the reform program and sustain high and competitive economic growth rate. Positive change would work better than special incentives, rules, regulation or controls on capital flows that can potentially provide conflicting signals and undermine the liberalization effort. Indeed, EMs that wish to minimize hot money flows would be well served by a smoother transition to market economy and steps to reduce uncertainty, rather than controls.



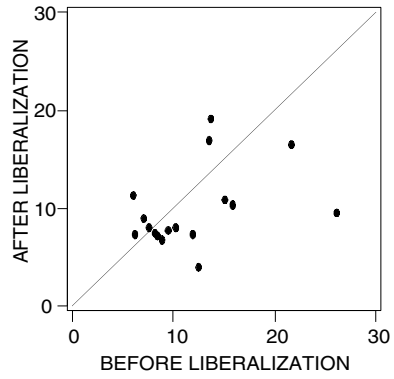
A. Official Liberalization



B. ADR Introduction



C. Country Fund Introduction

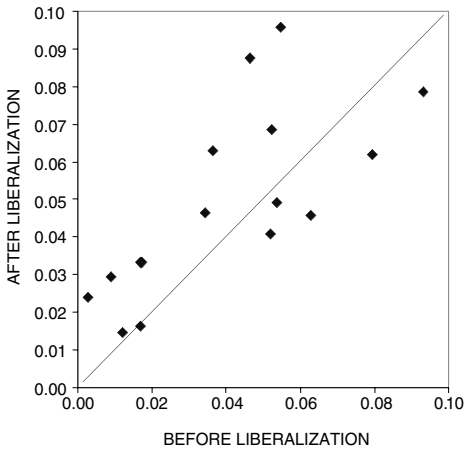


D. Increase in Net U.S. Capital Flows

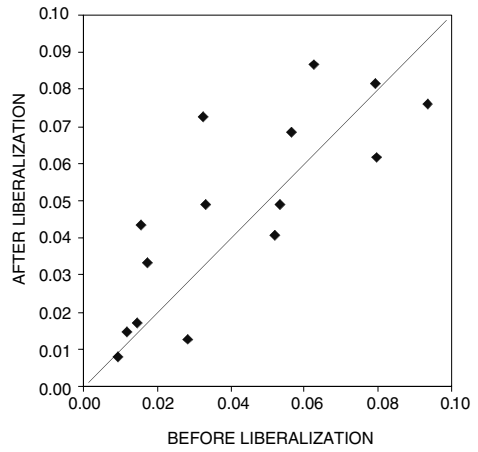
Figure 10. Monthly Unconditional Volatility (Standard Deviation %)

Second, some prudent regulatory measures to correct market failures should be considered. In many EMs, the preconditions necessary for a well-functioning market are not present. The preconditions relate to the infrastructure; quality, timely and orderly information flows; and investor sophistication. The infrastructure includes good-quality accounting standards, well-defined property rights, a well-functioning legal system, credible contract enforcement, and properly qualified and trustworthy personnel. Quality, timely and orderly information flows relate to the asymmetries that allow undue advantage to insiders and may result in manipulation, a public scandal and the consequent loss of confidence in the marketplace. Investor sophistication deals with educating the individual investor about the long-run nature of securities investments, the risk and rewards of owning risky assets, portfolio management, and in general reducing their disadvantage *vis-à-vis* insiders and professional investors. Regulatory measures (e.g., deposit insurance) that minimize the risk of market collapse are desirable to build investor confidence and prevent losses from nonmarket forces (e.g., fraud, manipulation).

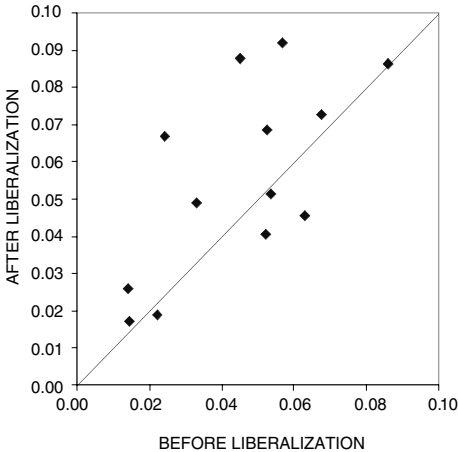
Finally, sequencing of reforms should depend on the initial state of the country under consideration. Nonetheless, control over fiscal deficit (inflation) has been widely



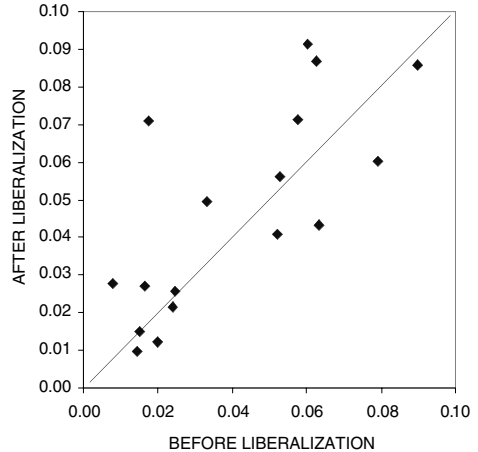
A. Official Liberalization



B. ADR Introduction



C. Country Fund Introduction



D. Increase in Net U.S. Capital Flows

Figure 11. Real GDP Growth Rate

accepted as the first step. Further, there seems to be reasonable consensus on the issue of domestic financial liberalization *vis-à-vis* external financial liberalization.<sup>23</sup> Since capital flight responds to differential real interest rates, it is well accepted that the external financial liberalization should not precede domestic reforms. The current thought with respect to the opening of the trade account *vis-à-vis* the capital account is less clear. Whereas Edwards (1987) and Frenkel (1982, 1983) argue that the capital account should be opened after trade liberalization, Sweeney (1993) suggests that the capital markets should be liberalized simultaneously with the trade sector. The erosion in the effectiveness of capital controls in the absence of current account controls during the 1980s should also be carefully considered in sequencing decisions. On balance, the exact sequence (or lack thereof) should depend on the local and global circumstances. In this respect, it would be useful to study more recent experiences and go beyond the lessons of the southern cone countries.

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## Notes

1. Also, the focus here is exclusively on growth-related issues and does not deal with the other important aspects of economic development, such as the impact of FPIs on inequality or poverty.
2. See Fry (1988) for a comprehensive review and Levine (1992) for a model that captures the two-way nature of the relationship between financial and economic development.
3. The thesis conceptualized and empirically demonstrated the benefits of international portfolio investments from the host and foreign investor perspectives. Development of local equity markets was a precondition for attracting foreign investors.
4. See Somel (1992) and Campbell and Hamao (1993) for the Japanese and Rybczynski (1993) for the European changes in corporate finance.
5. See Mayer (1988), Singh (1992), and Remolona et al. (1992/93).
6. There is mounting evidence that suggests that managerial incentives may not be homogeneous across markets. See Kang and Stulz (1996) for Japanese evidence and Errunza and Miller (2000) for a review of the international studies.
7. Note that if equity and bank finance are substitutes, it would increase competition and force the banking sector to become more efficient.
8. See for example Shiller (1981) and Summers (1986).
9. Of course, excessive speculation would be counter-productive, giving a gambling casino image to the stock market. Unfortunately, as Miller (Barro et al., 1989, p. 218) states, "neither economics nor legislation offers any clear guidelines to the Federal Reserve as to when speculative excess is in fact occurring."

10. La Porta et al. (1997) show that countries with a poor legal environment, measured by rules and quality of enforcement, have smaller and narrower capital markets. Lombardo and Pagano (1999a) demonstrate the relationship between international differences in legal institutions and the cross-section of expected returns. Lombardo and Pagano (1999b) also analyze how the law and its enforcement affect equity market equilibrium.
11. See Errunza (1993) for a detailed discussion.
12. The data are from the Emerging Markets Data Bank of the International Finance Corporation and the International Financial Statistics of the IMF.
13. See Stiglitz (1993) for a discussion of causal link and Sala-i-Martin (1997) for a comprehensive analysis of factors that drive growth.
14. See Haque and Montiel (1990) and Haque et al. (1990) for evidence of high capital mobility for a group of developing countries that imposed extensive capital controls.
15. For FPIs to be a viable alternative, the foreign investors must benefit as well. See Errunza (1993) and references therein for details.
16. Other forms of equity investments, such as foreign direct investments, are also beneficial. However, they would not constitute a new form of equity investment. Further, FPIs are particularly attractive to developing countries that are concerned with foreign control of their domestic economy.
17. An ADR is a negotiable certificate issued by a depositary bank for a non-US security that is held by the depositary's custodian in the home market of the non-US company. ADRs are registered with the SEC, trade like any other US security, are quoted and pay dividends in US dollars. Country Funds are closed-end funds that primarily invest in the securities from their respective national markets and typically trade on the stock exchanges of developed countries. For a comprehensive literature survey on FPI in EMs, see Claessens (1993).
18. In a recent paper, Boyd and Smith (1997) show that for the poorest countries, the opening of financial markets may result in capital outflow and instability in both the real and financial sectors.
19. See Stulz (1999) for an excellent discussion of the impact of globalization on corporate governance and the cost of capital.
20. Foreign investors can also diversify their portfolios by investing in multinationals that derive a portion of their revenues from operations in EMs.
21. For EMs we use total returns from the emerging market databank of the International Finance Corporation, and for DMs we use gross dividend returns from the Morgan Stanley Capital International.
22. See, for example, Kim and Wei (1999) for the behavior of foreign portfolio investors in Korea before and during a currency crisis.
23. On the other hand, Chapple (1990) shows that deficit control and domestic financial liberalization can lead to real exchange rate appreciation and harm the external sector. He also points out the lack of attention to wages policy.