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# The Role of Foreign Investors in Debt Market Development

What environment must a  
host country create to take  
full advantage of foreign  
investors?

## Conceptual Frameworks and Policy Issues

*Jeong Yeon Lee*

The World Bank  
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## Summary findings

To take full advantage of foreign investors, a host country must provide an appealing environment: a stable economic and political environment; a fair, rational, and comprehensive legal system; a fair, reasonable, and balanced tax program; a fair, productive, and balanced regulatory system; and transparency in economic, financial, legislative, and regulatory systems.

The country should also liberalize capital account transactions. To do so successfully and minimize risks associated with foreign investors, capital account liberalization must be properly sequenced.

The chief danger is removing most restrictions on capital account transactions before addressing major problems in the domestic financial system and hence risking a crisis. Typical major problems include shaky, inconsistent macroeconomic management; severe asymmetric information problems (such as inadequate accounting, auditing, and disclosure practices) in the financial and corporate sectors; implicit government guarantees; and inadequate prudential supervision and regulation of domestic financial markets and institutions.

Essential infrastructure must be developed if domestic debt instruments are to be opened to international portfolio investment. Developing countries should implement well-synchronized settlement and depository arrangements.

The risks from short-term debt—which could threaten financial stability—are best controlled through sound

financial management and prudential regulation. A case could be made for additional policy measures aimed at curbing overreliance on short-term debt. (Chile, Colombia, and Israel, for example, have adopted measures to influence the level and composition of portfolio capital inflows.)

Arguably, liberalization of trade in financial services is integral to full liberalization of capital markets. Foreign firms operating in a domestic market may transfer useful technology and know-how.

Concern that hedge funds can dominate or manipulate markets can be dealt with through measures to strengthen supervision, regulation, and market transparency—as well as by strengthening reporting requirements for larger traders and positions. The ability of hedge funds and other foreign investors to take positions in domestic financial markets could also be limited by:

- Taxing short-term capital flows (as Chile does).
- Requiring banks and brokers to raise margin and collateral requirements.
- Limiting financial institutions' ability to provide the domestic credit needed to short the currency and their ability to loan the securities needed to short equity and fixed-income markets.

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This paper—a product of Finance, Development Research Group—is part of a larger effort in the group to study capital market development. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Agnes Yaptenco, room MC3-446, telephone 202-473-8526, fax 202-522-1155, email address [ayaptenco@worldbank.org](mailto:ayaptenco@worldbank.org). Policy Research Working Papers are also posted on the Web at [www.worldbank.org/research/workingpapers](http://www.worldbank.org/research/workingpapers). The author may be contacted at [jlee@worldbank.org](mailto:jlee@worldbank.org). August 2000. (20 pages)

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**The Role of Foreign Investors in Debt Market Development:  
Conceptual Frameworks and Policy Issues**

by

Jeong Yeon Lee<sup>1</sup>

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## **1. Introduction**

Foreign investors can play an essential role in the development of a domestic debt market. Foreign investors can enlarge the investor base, and contribute to the process of financial innovation in domestic market. If foreign investors provide financial services as well as capital flows, the import of financial services results in additional efficiency gains through increased competition and the spread of good practices. In addition, the availability of foreign investors willing to lend can dampen business cycles by reducing the need of households and firms to contract consumption and investment spending when hit by negative shocks to domestic production and income. At the global level, capital flows created by foreign investors permit a more efficient allocation of world savings and direct resources to their most productive uses. Global capital flows produce opportunities for intertemporal trade, portfolio diversification, and risk sharing.

Despite these large potential benefits, there also exist risks associated with foreign investors. Recent crises suggest that foreign investors can make host economies more susceptible to volatility. Such concern may be all the more warranted if the economies have weak fiscal policies, unsound banking systems, and highly distorted domestic markets. Under some circumstances, the presence of foreign investors can increase the extent of herding and play a key role in crisis contagion. Foreign investors can amplify the effects of policy distortions. The entry of foreign financial institutions can erode margins already narrowed by competition stemming from domestic financial liberalization. Foreign investors can facilitate gambling for redemption in domestic markets by offering access to elastically supplied offshore funding.

In developing a domestic debt market, developing countries face the challenge of reaping the potential benefits that foreign investors can offer while minimizing the associated risks. Since neither the benefits nor the risk of foreign investors will exist without their interest, a developing country's first step should be to create a general environment that will have appeal to foreign investors. Most developing countries have yet to undertake the liberalization of capital account transactions. In sequencing capital account liberalization, there is a danger in removing most restrictions on capital account transactions before major problems in the domestic financial system are addressed. For liberalizing foreign portfolio investment in domestic debt instruments, development of essential infrastructure is necessary.

## **2. Conceptual frameworks**

Countries that have received largest portfolio inflows have experienced the largest increase in market capitalization.<sup>2</sup> There seems to be considerable scope for increasing the share of emerging securities market assets in the portfolios of OECD institutional investors.<sup>3</sup> From both the demand and supply sides, there would thus appear to be a great

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<sup>2</sup> World Bank, 1997.

<sup>3</sup> See Blommenstein, 1997.

potential role for foreign investors in the development of developing country domestic debt markets.

The 1990s have seen an explosive growth of cross-border flows of portfolio capital. Developing countries have attracted an increasing share of portfolio capital. The share, however, is still far less than that to industrial countries,<sup>4</sup> and the flows are concentrated among a small group of developing countries<sup>5</sup>.

An increasing interest in emerging markets has corresponded with "push" factors, a drop in US interest rates and slowdown in US industrial production. This implies temporary and unstable capital flows to emerging markets. "Pull" factors include increasingly stabilized macroeconomic environments (at least before the Asian crisis) and continuing efforts for economic liberalization on the part of developing countries. Empirical evidence seems to point to the importance of push factors in explaining portfolio capital flows to developing countries, but country-specific developments could be at least as important for some regions and seem to be more important for bond flows than equity flows.<sup>6</sup>

## **2.1. International investment by institutional investors**

OECD institutional investors comprising pension funds, insurance companies, and mutual funds, were the major force behind the cross-border portfolio flows in the 1990s. Of these investors, pension funds and insurance companies have traditionally been the more important institutional investors in OECD capital markets.<sup>7</sup> Recently, however, mutual fund assets have grown at a much faster pace than have the assets of other institutional investors in the United States and many other countries. In fact, assets of US mutual funds now exceed 50 percent of GDP, although some of these represent investments by company pension funds.<sup>8</sup>

Investment in emerging markets by institutional investors is a relatively recent phenomenon. Only since the mid-1980s have closed end investment funds (including country funds) begun to invest in emerging stock markets. Pension fund investment in emerging markets is an even more recent phenomenon. Expansion of the OECD pension sector has increasingly been the main source of continued flow of capital into emerging markets; investment has been through mutual funds or directly on their own account.<sup>9</sup>

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<sup>4</sup> Whereas gross inflows of portfolio investment to industrial countries during 1989-96 amount to \$892.9 billion, the same figure for developing countries is \$123.4 billion. (Eichengreen, Mussa, et al., 1998)

<sup>5</sup> Chuhan, Claessens, and Mamingi, 1998.

<sup>6</sup> For example, see Chuhan, Claessens and Mamingi, 1998.

<sup>7</sup> Their combined share in 1995 is estimated to be 63 percent of total assets held by institutional investors. See Blommenstein, 1998.

<sup>8</sup> Vittas, 1998.

<sup>9</sup> Blommenstein, 1997.

### ***2.1.1. International diversification of portfolio***

Institutional investors can diversify their portfolios globally by investing in foreign securities. By diversifying with emerging market securities, many investors believe (or believed before the Asian crisis) that they reduce portfolio risk and increase return.<sup>10</sup> There is a gradual but clear trend toward internationally diversified portfolios of pension funds. Portfolios of life insurance companies are less diversified than those of pension funds. Mutual funds in larger OECD countries have significantly more diversified portfolios than those of insurance companies and pension funds.<sup>11</sup>

Institutional investors as a group are much less internationally diversified than would be true for a world market portfolio. Reasons for this home bias have been identified in the literature<sup>12</sup> and include, for emerging countries, exchange rate risk, transfer risk, settlement risk, and liquidity risk. The use of hedging instruments such as forwards, futures and options can reduce exchange rate risk,<sup>13</sup> but these instruments are not always available for emerging market currencies. Furthermore, the price of these instruments will offset part of the gain from foreign investment, they may only be available for short periods, and trust deeds for pension funds may limit their use. Transfer risk may affect the ability to repatriate returns; examples are exchange controls and nationalization of foreign assets. Settlement risk in less-developed securities markets may be large, with a high proportion of delayed or failing transactions. Liquidity risk may be significant in narrow overseas markets.

Other impediments to international diversification include the nature of institutional investor liabilities. Many pension schemes and life insurance contracts have very precisely defined nominal liabilities. In these cases, the preferred investment strategy may be to match domestic liabilities with domestic assets. Regulatory constraints on foreign investments, the “benchmark” orientation of fund managers, and treatment by institutional investors of emerging market securities as a separate asset class<sup>14</sup> constitute yet other reasons. Broadly based mutual funds (in contrast to dedicated developing country mutual funds) are limited in the proportion of fund assets that can be invested in developing country securities by the portfolio allocation guidelines outlined in their prospectuses.

### ***2.1.2. Characteristics of institutional investors***

Institutional investors have different investment objectives and fiduciary mandates, operate under different regulatory and tax regimes, and have different tolerances to risk. The international investment behavior of pension funds, insurance companies and investment funds differs largely because of the different structure of their liabilities.

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<sup>10</sup> For example, see Deutsche Morgan Grenfell, 1996 for this line of argument with respect to international fixed income portfolios.

<sup>11</sup> Blommenstein, 1997.

<sup>12</sup> See Blommenstein, 1998.

<sup>13</sup> See BIS, 1986.

<sup>14</sup> See IMF, 1995a for statistical evidence on the hypothesis of investors' treating developing country equities as a separate asset class.

There is also a dynamic two-way process in which the expansion of the institutional sector is fostering financial integration at the same time financial integration is having a profound impact on the investment behavior of the institutional sector.

### *2.1.2.1. Pension funds*

Quantitative regulation of portfolio holdings are in place in a number of OECD countries. Regulations are intended to protect pension fund beneficiaries or benefit insurers and, in some countries, to steady demand for government securities. Limits are often imposed on holdings with relatively volatile returns, such as equities, real estate and foreign assets, even though the average return on these assets might be higher than that on assets with so-called stable returns (e.g. government bond with a fixed coupon). There are often also limits on self investment.

Other OECD countries do not impose quantitative limits, but impose guidelines such as the so-called "prudent man rule". "Prudence" is a design standard, not a performance standard. This is reflected in the two most significant elements of the rule, the requirement to diversify and the exhortation to favor "seasoned" situations that similarly placed institutions find appropriate. In the United States, the application of this design standard to investment decisions has led to the overwhelming preponderance of pension equity money being invested in a limited number of listed securities of American corporations with large capitalization. It may also account for the increase in the "index mode" of investments.

Prudential concerns are often the rationale for regulatory constraints on portfolio holdings of foreign securities. The basic contrast is between countries that follow the "prudent man rule", thus enjoining diversification, and those that impose direct restrictions on foreign investment for prudential reasons. For the latter countries, prudential concerns may refer to asymmetric information (i.e., information deficiencies about local business and financial conditions), regulatory standards for issuing securities, as well as the various risks to foreign investment.<sup>15</sup> Even pension funds operating in countries that have adopted a "prudent man rule" have also exhibited a strong home bias.<sup>16</sup> In fact, pension funds in developed countries have shown a clear "home bias" in their investment allocations and have usually stayed well within officially imposed limits.

Unlike banks, pension funds benefit from regular inflows of funds on a contractual basis and from long term liabilities (i.e. with no premature withdrawal of funds), which together imply little liquidity risk.<sup>17</sup> Given such liabilities, pension funds may concentrate portfolios on long term assets yielding the highest returns, compensating for the increased risk by pooling across assets whose returns are imperfectly correlated. Pooling is facilitated by the size of funds.<sup>18</sup>

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<sup>15</sup> See Davis, 1995.

<sup>16</sup> See IMF, 1995b, and Reisen, 1997.

<sup>17</sup> Davis, 1995.

<sup>18</sup> Davis, 1995.



Members of pension funds are willing to accept low liquidity in return for a potential of higher returns from contractual annuities supported by tax deferral and for the implicit insurance of pension levels by the sponsor (in defined-benefit schemes). In contrast, life insurance policies entail a higher degree of liquidity through premature withdrawals and policy loans. As a result, pension funds tend to have much more liberal portfolio regulations than life insurance companies.<sup>19</sup>

#### **2.1.2.2. Insurance companies**

Each OECD country has regulations governing the types of securities that are eligible for insurance company investment and the valuation of these securities for regulatory purposes. All OECD countries, and in the United States the individual states, have approved lists of investments that insurance companies are allowed to hold. These lists are to ensure that eligible investments possess acceptable levels of investment risk.

Most OECD countries impose maximum limits on classes of investment: quoted and unquoted domestic shares, foreign securities, real estate, mortgage loans and other loans. The limits' intent is to restrict the default and liquidity risks of investments and to ensure sufficient portfolio diversification. Although regulatory investment maxima vary widely across OECD countries, the actual investment portfolios of insurance companies do not appear very much constrained by them. The limits have apparently often been higher than what most insurance companies would themselves view as prudent levels.<sup>20</sup>

Another important area of investment regulation concerns the matching by maturity and currency of assets and liabilities. Although only a very small number of countries have statutory requirements for maturity or duration matching, in most OECD countries regulatory authorities review informally the time profiles of assets and liabilities when they assess the solvency of insurance companies. A serious mismatch of assets and liabilities would endanger the solvency of life insurance companies, which tend to have long-term liabilities often with implicit interest guarantees. To minimize interest rate risk, life insurance companies should maintain the duration of their investments broadly in line with the duration of their mainly long-term liabilities. Life insurance companies with too high a proportion of short-term assets would incur reinvestment risk in market situations where interest rates are lower than warranted by the (often implicit) interest guarantees on their liabilities. Similarly, in nearly all OECD countries there are statutory requirements for some degree of currency matching.

In all OECD countries, insurance companies are free to use derivatives in connection with the investment of their capital funds, but in almost all OECD countries the use of derivatives is restricted to risk management.

In most OECD countries, the same maximum investment class percentages apply to non-life and life companies. Since investment risks in the two sectors differ, this degree of uniformity is surprising. Practical problems regarding the enforceability of these rules seem to be the main reason why there are no bigger differences.

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<sup>19</sup> Davis, 1995.

<sup>20</sup> Blommenstein, 1997.

For non-life companies, maturity matching is relatively unimportant, because the duration of technical provisions is shorter than that of life companies and there are no interest guarantees. On the other hand, currency matching is of greater importance for non-life companies, since there is considerable uncertainty about the timing of claim payments.

### ***2.1.2.3. Mutual funds***

Heavy regulation by governmental authorities is a characteristic of mutual fund activities in many OECD countries. Regulations usually cover the following key areas: self dealings and affiliated party transactions; management fees of professional fund managers; capital structures; investment objectives and policies; protection of physical integrity of the asset pool; fair valuation of investor purchase and redemption; and disclosure of reliable information to investors. Restrictions on the distribution of investment fund products (including restrictions on cross-border sales of products and services) are usually motivated by investor protection concerns. In the United States the sale of investment fund products has traditionally been subject to tight and detailed regulations.

The types of securities purchased by investment funds depend on the company's investment strategy. Direct regulation of portfolio holdings of investment funds are largely in the form of constraints on outward portfolio investments and usually place limits on illiquid securities or require asset diversification.

## **2.2. Benefits in attracting foreign investors**

At the global level, capital flows created by foreign investors permit a more efficient allocation of world savings and direct resources to their most productive uses. Global capital flows produce opportunities for intertemporal trade, portfolio diversification, and risk sharing.

For a country suffering a temporary recession or natural disaster, foreign investor lending can smooth the consumption of households and firms.<sup>21</sup> Foreign investor lending can thus dampen business cycles.<sup>22</sup>

Foreign investor lending allows developing countries with limited capital to finance investment so that economic growth is promoted without sharp increases in saving rates. As the following identity shows, the financing of domestic investment and government budget deficit is not constrained by domestic private saving when foreign investors are present.

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<sup>21</sup> See Backus, Kehoe, and Kydland, 1992 and Obstfeld, 1994 for whether restrictions on capital mobility limit a country's ability to smooth consumption when hit by shocks to income. Official restrictions on capital mobility can help explain the lack of international risk sharing. For example, Lewis, 1996 and 1997 confirms that co-movements in consumption and output are stronger in countries with tighter restrictions on capital flows.

<sup>22</sup> See Greenwald, Stiglitz, and Weiss, 1984.

$$S^p + K = I + BD$$

Where:

$S^p$  is private saving

$K$  is net capital inflows

$I$  is domestic investment

$BD$  is budget deficit

The increased investor base when foreign investors are present is particularly important for debt market development, as it helps deepen liquidity and extend maturities. An important aspect of the investor base for government bonds in industrial countries is that foreign holders of bonds increasingly dominate the market.<sup>23</sup> Through sophisticated trading and investment strategies, foreign institutional investors can create additional liquidity in the form of arbitrage activities and diversification of investor portfolios.<sup>24</sup> Foreign investors can contribute to maturity extension of government debt when the government debt market is initially centered around short maturities. In development of the Spanish debt market, foreign investment banks played a key role in maturity extension of government debt. In 1993, they held more than 50% of outstanding balances of medium and long term bonds.

The import of foreign financial services results in additional efficiency gains. Free capital flows tend to cause specialization in the production of financial services, thereby creating global efficiency gains. For some countries, importing financial services will be more efficient than producing them.<sup>25</sup> Financial services can be imported primarily through domestic establishment and cross-border delivery.

The import of financial services can also bring dynamic efficiency to the domestic financial sector. It can bring valuable examples and help spread good practices. The increased competition from abroad can make domestic producers of financial services more efficient, promoting innovation and enhancing productivity.<sup>26</sup>

The process of financial innovation has been strongly driven by the growth of institutional investors and has been relatively slow in markets where the domestic

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<sup>23</sup> Broader markets induced by a growing presence of foreign investors can help a government reduce borrowing costs, but, at the same time, they can make it more difficult for a government to implement domestic goals because of an increasing interdependence among financial markets. See Dalla, 1997.

<sup>24</sup> Institutional investors themselves are very much interested in market liquidity—the ability to transact in large size without moving the price against them and at low transaction costs. They demand a market infrastructure characterized by specialized wholesale markets, which can process large transactions very rapidly and contribute to liquidity. (Blommenstein, 1997)

<sup>25</sup> “The fact that the production of many financial services, wholesale financial services in particular, is characterized by economies of scale and scope implies that their production will be concentrated in certain countries on efficiency grounds.” (Eichengreen, Mussa, et al., 1998, p. 12)

<sup>26</sup> When the domestic banking system is weak, opening it to competition from foreign banks (either through acquisition of domestic banks or startups of new institutions) is a delicate matter. Placing too much pressure suddenly on a weak system can incur great risk to the domestic banking sector. For example, increased international competition may cause decreases in franchise value, giving domestic banks an incentive to assume excessive risks. See below for more details.

institutional sector is less developed. Foreign investors can speed the process. Foreign investors may introduce financial innovations, such as sophisticated trading arrangements and investment techniques, which may be quickly adopted and further developed by domestic financial institutions. At an early stage of Spanish debt market development, domestic institutional investors were a rather unimportant group, but grew with development of the debt market. Foreign investors have played an important role in introducing financial innovations into the Spanish market. The innovations were quickly copied and extended by domestic banks and asset managers. One example of such innovations is the introduction of guaranteed return mutual funds.

Locally incorporated foreign-owned insurers could bring additional and possibly innovative marketing and product competition to the national market that can deepen and broaden the domestic financial services marketplace. Foreign insurers often are particularly good at risk pricing, a vital aspect of the insurance business. Foreign insurers bring additional capacity to the insurance business, which helps businesses and individuals to transform their property, liability, income and other risk exposures to suit the liquidity, security and other risk profiles they desire. As foreign-owned insurers are often part of much larger international groups, their risk pooling activities might be particularly helpful, thus offering the potential for greater pricing and investment stability. By bringing innovative and more efficient means of gathering and evaluating information, foreign insurers aid capital allocation.<sup>27</sup>

### **2.3. Risks associated with foreign investors**

Incomplete information can make lenders prone to engage in herding behavior, causing sudden market movements and volatility.<sup>28</sup> Since foreign investors may have an information disadvantage as compared with domestic investors, their presence can increase the extent of herding.<sup>29</sup> Kim and Wei, 1999 provide evidence consistent with models suggesting information disadvantages of foreign investors.

Some theoretical studies show that when international investors can choose from many risky foreign investments and face a fixed cost of information about each country, well-diversified investors may have relatively little incentive to acquire information about all the countries in which they invest.<sup>30</sup>

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<sup>27</sup> Skipper, 1997.

<sup>28</sup> Herding behavior is not necessarily "irrational". The models of rational herding are typically built on one of three effects: (i) payoff externalities, where the payoffs to an agent adopting an action increase in the number of other agents adopting the same action; (ii) principal-agent models, where managers prefer to "hide in the herd" not to be easily evaluated, or to "ride the herd" to prove their quality; and (iii) models of information cascades, where agents infer information from the actions of others and optimally act alike.

<sup>29</sup> See Kim and Wei, 1999 for the Korean case. Froot, O'Connell and Seasholes, 1999 provide evidence of very strong trend following in international inflows. Kaminsky, Lyons and Schmukler, 1999 find Latin America equity funds tend to use positive feedback strategies in both crisis and non-crisis periods. However, Choe, Kho and Stulz, 1999 find that foreign investors as a group engaged in positive feedback trading before the crisis in Korea, but during the crisis feedback trading mostly disappeared.

<sup>30</sup> For example, see Calvo and Mendoza, 1997. In their model, international investors experience less incentive to gather information when financial markets in many countries are being liberalized at the same time. In this kind of model, financial market liberalization and the presence of foreign investors increase

Foreign investors can also play a key role in contagion of crises. One possibility is the “monsoonal effect”<sup>31</sup> caused by shifts in capital flows. A large volume of literature tends to conclude that external “push” factors have in fact exerted an important influence on overall capital flows to emerging markets.

Other possible mechanisms through which foreign investors can contribute to contagion include demonstration effects. Information revealed about one asset or country can be used by investors (both domestic and foreign) to update information about other similar assets or countries. Assuming that asset prices depend on an idiosyncratic factor and a common factor, King and Wadhvani, 1990 show that a shock to the idiosyncratic factor in one market will in general prompt investors to adjust positions in other markets, because investors are uncertain about the type of shock that has occurred. Calvo, 1999 argues that if informed investors trade for reasons other than just information, uninformed investors may mimic informed investors even though *ex post* it turns out that no new information about fundamentals was actually revealed. He suggests margin calls as one of possible non-informational reasons.<sup>32</sup>

Another possible explanation for contagion is treatment by institutional investors of emerging market securities as a separate asset class. The across-the-board liquidation of developing country equity holdings in the wake of the Mexican devaluation suggests that there was insufficient differentiation among developing country equity managers about risks in individual markets. A more direct link for contagion is provided by open-end mutual funds satisfying redemption demand in the wake of a crisis in one country by selling assets of other countries in the region.<sup>33</sup>

The presence of foreign investors can amplify the effects of policy distortions and agency problems associated with domestic financial liberalization. Domestic financial liberalization, by intensifying competition and squeezing margins in the financial sector, can bring risks to an economy. Without adequate prudential supervision and regulation, domestic financial liberalization can allow financial institutions to expand risky activities beyond their capacity to manage them. External financial liberalization can expose the economy to additional risks. The entry of foreign financial institutions can erode margins further, and foreign investors can facilitate gambling for redemption by offering access to elastically supplied offshore funding. If a culture of implicit guarantees exists (for example, a situation in which both lenders and borrowers perceive an exchange rate peg as a link in a chain of implicit guarantees), the high nominal interest rates characteristic

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the extent of herding permanently. On the other hand, Bacchetta and van Wincoop, 1998 present a model where international investors possess the least information about recently liberalized markets and they overcome this problem as learning takes place. Their model differs from Calvo and Mendoza's in that incomplete information is a transitional problem confined to recent liberalization.

<sup>31</sup> Masson, 1998.

<sup>32</sup> Schnasi and Smith, 1999 show that portfolio diversification and leverage may be sufficient to explain why investors would find it optimal to sell many higher-risk assets when a shock to one asset occurs, regardless of whether the leverage is margined or not.

<sup>33</sup> Kaminsky, Lyons and Schmukler, 2000 find that when faced by investor redemptions, mutual fund managers tend to liquidate their most liquid positions.

of emerging markets can induce foreign investors to pour substantial short-term capital flows into the markets.

Countries with substantial short-term external debts are vulnerable to a self-fulfilling crisis. If foreign investors suddenly lose confidence in the creditworthiness of a country, they may refuse to roll over its stock of short-term debt, and the country will be forced to finance its debt service from its foreign currency reserves. If the reserves prove inadequate, a sharp reversal of capital flows follows.<sup>34</sup> Mexico in December 1994, with extensive short-term dollar-denominated government debts and few dollar reserves, found itself in a crisis when previous lenders simultaneously demanded repayment and no new lenders of dollars could be found.

In the 1992 ERM crisis, the bond market turbulence of 1994, and the recent Asian crisis, it has been suggested that hedge funds precipitated major movements in asset prices. The popular view is that hedge funds take large, highly leveraged, positions against unsustainable currency pegs and other misaligned asset prices and can quickly reverse these positions so that major market moves result.

Eichengreen, Mathieson, et al., 1998, however, suggest that hedge fund capital is small relative to the resources at the command of other institutional investors.<sup>35</sup> News of hedge fund positions, however, may induce other investors to follow. Hedge funds would thus play an important role in herd behavior.<sup>36</sup> Nonetheless, according to the limited econometric evidence provided by Eichengreen, Mathieson, et al., 1998, there is some indication that hedge funds herd together, but no indication that other investors regularly follow the lead of hedge funds. While some of the case-study evidence points to the role of hedge funds as a leader (with the 1992 ERM crisis most frequently cited), it is equally possible to cite episodes where hedge funds were a follower of the market rather than a leader.

Any line between hedge funds and other institutional investors becomes blurred, for other institutional investors engage in many of the same practices. Although high net worth individuals continue to be a steady source of investors in hedge funds, pension and mutual funds, insurance companies, and university endowments are among the more important investors in hedge funds.

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<sup>34</sup> "Thus, crises may contain a self-fulfilling element, just as bank runs do, which can generate multiple equilibria in international asset markets, and render the timing of crises somewhat indeterminate. What we see in these cases is a sharp break from an essentially tranquil equilibrium to a crisis state, rather than a gradual deterioration in domestic interest rates and other market-based indicators." (Obstfeld, 1998, p. 24)

<sup>35</sup> One conservative estimate of hedge fund capital is \$90 billion (excluding funds of funds), of which \$30 billion belongs to macro funds that take large directional positions in currency markets. These figures pale beside those for other institutional investors. The assets of institutional investors in mature markets exceed \$20 trillion. Although hedge fund capital can be substantial relative to smaller emerging markets, macro funds concentrate a substantial share of their resources in the particular emerging markets only under exceptional cases. (Eichengreen, Mathieson, et al., 1998)

<sup>36</sup> The notion that other investors regard hedge fund managers as relatively well informed and hence follow their lead can be interpreted in terms of an information cascade effect.

### 3. Policy issues

Given the potential benefits that foreign investors can offer, policymakers should try to involve foreign investors in their efforts to develop a domestic debt market while taking necessary steps to minimize the associated risks. Since neither the benefits nor the risk of foreign investors will exist without their interest, a developing country's first step should be to create a general environment that will have appeal to foreign investors.

The record of last 20 years suggests liberalization of capital accounts heightens countries' susceptibility to crises. In sequencing capital account liberalization, the greatest danger is removal of most restrictions on capital account transactions before major problems in the domestic financial system are addressed. Countries in which these problems are severe, but that choose to suddenly and fully open the capital account, run the risk of incurring a crisis. Problems in the domestic financial system include inconsistent and shaky macroeconomic management; inadequate accounting, auditing, and disclosure practices; implicit government guarantees; and inadequate prudential supervision and regulation of domestic financial institutions and markets.

Essential infrastructure in domestic debt markets must exist for these markets to be opened internationally. This infrastructure includes efficient settlement and depository arrangements, an adequate supporting legal system, and sound banking and payment systems. If a central clearing agency is required, its risk control procedures should meet Bank for International Settlements (BIS) guidelines.<sup>37</sup>

Short-term foreign liabilities pose special problems for the maintenance of financial stability. A crisis is likely to ensue should foreign funds suddenly flow out of a country. Outflows of foreign holdings in government debt and in debt of the financial sector can be the most damaging. The risks from short-term debt are best controlled through sound financial management and prudential regulation. For example, the sovereign should control its own borrowing; the financial sector should be soundly supervised and regulated; and through a strong system of corporate governance, the corporate sector should recognize and manage risks properly. Still, given the magnitude of threats to financial stability, there may be a case for additional policy measures specifically aimed at curbing excessive reliance on short-term debt. A number of studies conclude that measures adopted by countries like Chile, Colombia, and Israel to influence the level and composition of portfolio capital inflows have not been without beneficial effect.

It may be argued that liberalization of trade in financial services is an integral part of full capital market liberalization. Financial services are traded internationally primarily through domestic establishments, and cross-border trade. The presence of foreign firms in the domestic market, as with other kinds of foreign direct investment, may lead to the transfer of useful technology and of business and organizational know-how. Unfettered but safe and effective trade in financial services requires, at a fundamental level, the international coordination of accounting standards, transparency procedures, and regulatory approaches. The WTO agreement was the first multilateral effort to address this issue.

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<sup>37</sup> World Bank (1997).

### **3.1. Creating a general environment that will have appeal to foreign investors**

- The economic and political environment should be relatively stable. Economic and political volatility creates pressures on newly reformed systems, thus undermining the confidence of potential foreign participants in the systems.
- Each country's system of laws, enforcement, and litigation should be comprehensive, rational, fair, generally consistent with international standards and practice, and well documented. Foreign investors should feel comfortable with their ability to function under the system.
- Each country's program of taxation should be reasonable, fair, balanced in its treatment of different participants in the economic and financial system, and balanced in its treatment of different types of financial institutions, instruments, and investments.<sup>38</sup>
- Each country's system of regulation should be limited to that which is needed and productive; balanced in its treatment of different types of financial institutions, instruments, and investments; and fair to various participants.
- Each country's economic, financial, legislative and regulatory systems should strive for transparency.

### **3.2. Consistent and stable macroeconomic environment**

- A country with fixed exchange rate and free capital mobility that follows an overly expansionary monetary policy will be vulnerable to a speculative attack.<sup>39</sup>
- Eichengreen, Rose, and Wyplosz, 1996a studied the behavior of macroeconomic variables in the period leading up to attacks in 22 countries from 1967 to 1992. For non-ERM countries they found evidence that inconsistent fundamentals (e.g., larger than normal budget deficits, inflation, and credit expansion) preceded the attack.
- The public debt must be kept within reasonable bounds, and its maturity and currency structure must be prudently managed. Beyond the sovereign, excessive leverage,

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<sup>38</sup> In Spain, although double taxation agreements had provided partial exemption, slow and cumbersome procedures for refunding taxes withheld at the source acted as a strong disincentive for foreign investors before full exemption of withholding tax for non-residents in 1990. The exemption has contributed significantly to the maturity of both the primary and secondary markets. However, factors of first order importance in explaining foreign investment flow to the Spanish debt market were a substantial spread between Spain and Germany and a very strong political commitment to create a pan-European political entity. Many foreign investors considered the acquisition of high-yielding debt from Spain as a sure bet.

<sup>39</sup> Inconsistent policies would eventually lead to a crisis even in the absence of international capital mobility. The crisis would be delayed, because agents would have to reduce their holdings of domestic currency through current account transactions. (Auernheimer, 1987)



especially in the financial system, but also in the business or household sectors, may be a cause for concern. Foreign currency debt may be a particular problem.

- The growing literature on predicting crisis and developing useful crisis prediction indices identifies a large (and still growing) set of conditions indicating vulnerability to currency and banking crises. These include rapid growth of domestic credit, rapid growth of domestic consumption, widening of the current account deficit, rising domestic inflation, real exchange rate appreciation, asset price booms, increases in overseas deposits placed with the banking system, rapid growth in the ratio of short-term to total capital inflows, inadequate international reserves, mismatched currency and maturity structures of public, financial, and corporate debt, and deteriorating terms of trade.

### **3.3. Mitigation of asymmetric information problem**

- Some problems of asymmetric information, which weaken market discipline, can be addressed reasonably directly through public policy.
  - Policies that encourage adherence to world-class standards for accounting, auditing, and information disclosure
  - Policies that facilitate enforcement of sound rules of corporate governance
  - Policies that protect investors and lenders from fraud and unfair practices (including through a credible judicial system and efficient bankruptcy procedures)

### **3.4. No implicit government guarantees**

- It is important not to create a culture of implicit guarantees that may encourage excessive, unsustainable capital inflows, and may result in a significant loss of capital for lenders if they fail to assess credit risk prudently.
- The government, usually the central bank, needs to be prepared to act as a lender of last resort to the financial system in the event of systemic crisis.
  - This backstopping function, though essential, is a source of moral hazard. Therefore, careful design of the lender-of-last-resort facility is very important in order to limit the scope and incentives for financial market participants to take on excessive risk.

### **3.5. Adequate prudential regulation**

- Strong, market-based incentives for prudent risk management by business, and especially by financial institutions, are critical.
- Financial institutions must be subject to proper prudential supervision and regulation by an appropriate government agency. Inadequate prudential supervision and

regulation create scope for corruption, connected lending, and gambling for redemption.

- Are stronger prudential measures on the claims of foreign investors justified, assuming that the claims are more volatile?
  - Empirical evidence is not clear. Experiences of financial crises in several emerging markets have suggested that domestic residents contributed importantly to the short-term capital outflows that occurred in the run-up to the crises in question. (Frankel and Schmukler, 1996, 1997)
- Fischer, 1998 and Mussa, 1998 suggest that prudential regulation should address threats not only to the stability of the banking system but also to general financial stability created by the assumption of large volumes of short-term debt, particularly that denominated in foreign currency, by financial institutions, firms and the sovereign. This could be justification for extending the standard arguments for prudential supervision and regulation beyond the short-term foreign currency exposure of the banking system to at least to the monitoring of other short-term flows, and perhaps to tax-like measures to discourage excessive exposure for the economy as a whole. (Eichengreen, Mussa, et al., 1998, p. 26)
- Can capital controls on capital inflows have a significant effect on the composition of capital inflows?
  - The empirical evidence is mixed. Studies that distinguish between short-term and long-term suggest that controls are likely to become progressively less effective the longer they remain in place. Still, a number of studies conclude that measures adopted by countries like Chile, Colombia, and Israel to influence the level and composition of portfolio capital inflows have not been without effect.
  - On the other hand, in 1990, Korea started a series of reforms designed to liberalize the capital account. The sequencing of the reforms led to an early liberalization of commercial credit and short-term flows, while it left in place significant restrictions on foreign direct investments and portfolio investments in domestic equities.<sup>40</sup>
  - To some extent, the Korean capital controls program should have had the opposite effect of the Chilean program. Data from BIS confirm this. Chile's short-term borrowing from banks in the BIS area represents 43 percent of total borrowing, while the corresponding figure for Korea is 68 percent.<sup>41</sup>

### **3.6. Proper market infrastructure**

- Market infrastructure includes the systems and institutions that facilitate the trade and custody of securities. The necessary functions comprise matching buyers and sellers,

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<sup>40</sup> See Park and Song, 1996, and Johnston, Darbar, and Echeverria, 1997.

<sup>41</sup> However, we should wait until we could collect more pervasive empirical evidence before we reach any strong conclusions.

determining price, exchanging securities for good funds, registering securities to the new owners, and collecting dividends and other custody functions.<sup>42</sup>

- The Group of 30 (G-30) initiative in 1989 and the 1995 workshops organized by the International Society of Securities Administrators (ISSA) were two major efforts in the area of best practice in market infrastructure. The summary of the G-30 recommendations and suggested ISSA revisions are as follows:<sup>43</sup>
  - *Matching* The matching system should be integrated with clearance and settlement (C&S) system, and all trades by direct and indirect system (institutional) participants should be matched at most by T+1 (one day after trade).
  - *Clearance and settlement* Settlement should be accomplished by a delivery versus payment system of good quality with same-day funds; there should be real-time gross settlement or a netting system that meets stringent risk control standards, depending on the characteristics of the market; and the rolling settlement system should have final settlement occur by T+3.
  - *Depository* There should be one independent central depository managed for the benefit of the industry, broadly defined, and if more than one depository exists, they should be interlinked; there should be an independent registry or registries; and immobilization and dematerialization should be encouraged, and the legal framework revised, if necessary, to permit this.
- Mexico is a good example of adaptation of the above standards to local circumstances. In Mexico, whereas securities are settled on a gross basis, Banco de Mexico functions as the central clearing agency for the money side of the market transactions.<sup>44</sup>

### 3.7. Hedge funds

- Limited measures to strengthen supervision, regulation, and market transparency might be considered to deal with the concern that hedge funds can dominate or manipulate markets.
  - It would be possible to strengthen the larger trader and position reporting requirements.
  - It would be possible to limit the ability of hedge funds and other foreign investors to take positions in domestic financial markets (i) by taxing short term capital inflows (as practiced in countries like Chile), (ii) by requiring banks and brokers to raise margin and collateral requirements, and (iii) by limiting the ability of financial institutions to provide the domestic credit needed to short the currency and to loan securities needed to short equity and fixed-income markets.<sup>45</sup>

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<sup>42</sup> World Bank, 1997.

<sup>43</sup> See World Bank, 1997, Box 1.3.

<sup>44</sup> See World Bank, 1997, Box 6.5 for the more detailed description of the Mexican experience.

<sup>45</sup> The imposition of position limits, margin requirements, and other permanent restrictions on trading may slow the development of active and liquid bond markets. Therefore, it is important to ensure that the

#### 4. Conclusions

To reap all of the potential benefits foreign investors can offer, a host country must create an environment that will have appeal to foreign investors. This includes a stable economic and political environment; a comprehensive, rational, and fair legal system; a reasonable, fair, and balanced tax program; a productive, balanced, and fair regulatory system; and transparency in economic, financial, legislative, and regulatory systems. In addition, the country should undertake capital account liberalization successfully.

To undertake capital account liberalization successfully, and also minimize risks associated with foreign investors, capital account liberalization must be properly sequenced. The most important point to recognize in sequencing capital account liberalization is the danger of removing most restrictions on capital account transactions before major problems in the domestic financial system are addressed. The countries in which these problems are severe, but that choose suddenly to open fully the capital account, run the risk of incurring a crisis. Possible problems of this sort are: (i) inconsistent and shaky macroeconomic management; (ii) severe asymmetric information problems (e.g. inadequate accounting, auditing, and disclosure practices) in the financial and corporate sectors; (iii) implicit government guarantees; and (iv) inadequate prudential supervision and regulation of domestic financial institutions and markets.

With respect to liberalizing foreign portfolio investment in domestic debt instruments, development of essential infrastructure is necessary if these markets are to be opened internationally. Developing countries should implement well-synchronized settlement, and depository arrangements.

Recent experience suggests that short-term debt poses special problems for the maintenance of financial stability. The risks from short-term debt are best controlled through sound financial management and prudential regulation. Still, given the magnitude of threats to financial stability, there may be a case for additional policy measures specifically aimed at curbing excessive reliance on short-term debt. A number of studies conclude that measures adopted by countries like Chile, Colombia, and Israel to influence the level and composition of portfolio capital inflows have not been without effect.

It may be argued that liberalization of trade in financial services is an integral part of full capital market liberalization. Financial services can be traded internationally primarily through two different mechanisms: (i) domestic establishment, and (ii) cross-border delivery. The presence of foreign firms in the domestic market, as with other kinds of foreign direct investment, may lead to the transfer of useful technology and of business and organizational know-how.

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measures adopted to discourage position taking by hedge funds and other investors do not encourage a relapse into costly policies of financial repression.

On the other hand, the concern that hedge funds can dominate or manipulate markets can be dealt with limited measures to strengthen supervision, regulation and market transparency. It would be possible to strengthen the larger trader and position reporting requirements. Also, it would be possible to limit the ability of hedge funds and other foreign investors to take positions in domestic financial markets (i) by taxing short term capital inflows (as practiced in countries like Chile), (ii) by requiring banks and brokers to raise margin and collateral requirements, and (iii) by limiting the ability of financial institutions to provide the domestic credit needed to short the currency and to loan the securities needed to short equity and fixed-income markets.

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