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Comments welcome

Chapter 5.

Financial Globalization: Opportunities and Challenges for Developing Countries [*]

Comments to

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Abstract

This chapter discusses the opportunities and challenges that financial globalization entail for developing countries. Financial globalization can come with crises and contagion. But financial globalization can also lead to large benefits, particularly to the development of the financial system. The net effect of financial globalization is likely positive, with risks being more prevalent right after countries liberalize. In the long run, large potential gains are expected. So far, only some countries, sectors, and firms have taken advantage of globalization. As financial systems turn global, governments lose policy instruments, so there is an increasing need for international financial policy coordination.

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I. Introduction

This chapter discusses the opportunities and challenges that financial globalization entails for developing countries. We define financial globalization as the integration of a country's local financial system with international financial markets and institutions. This integration typically requires that governments liberalize the domestic financial sector and the capital account. Integration takes place when liberalized economies experience an increase in cross-country capital movement, including an active participation of local borrowers and lenders in international markets and a widespread use of international financial intermediaries. Although developed countries are the most active participants in the financial globalization process, developing countries (primarily middle-income countries) have also started to participate. This chapter focuses on the integration of developing countries with the international financial system.[1]

Financial globalization is not new, but it is now deeper

From a historical perspective, financial globalization is not a new phenomenon, but today's depth and breath are unprecedented.[2] Capital flows have existed for a long time.[3] In fact, according to some measures, the extent of capital mobility and capital flows a hundred years ago is comparable to today's. At that time, however, only few countries and sectors participated in financial globalization. Capital flows tended to follow migration and were generally directed towards supporting trade flows. For the most part, capital flows took the form of bonds and they were of a long-term nature. International investment was dominated by a small number of freestanding companies, and financial intermediation was concentrated on a few family groups. The international system was dominated by the gold standard, according to which gold backed national currencies.[4]

The advent of the First World War represented the first blow to this wave of financial globalization, which was followed by a period of instability and crises ultimately leading to the Great Depression and the Second World War. After these events, governments reversed financial globalization imposing capital controls to regain

[1] In this chapter, developing countries are all low- and middle-income countries as defined by the World Bank, see the World Bank's World Development Report (2000). Emerging markets are middle-income developing countries.

[2] Several authors analyze different measures of financial globalization, arguing that there were periods of high financial globalization in the past. Obstfeld and Taylor (1998) present evidence on the share of the current account balance in national income as a proxy for the extent of capital flows. They also present evidence on nominal interest rate differentials and real interest rate dispersion as proxies for the extent of financial market integration and the efficiency and stability of world capital markets. Taylor (1996) presents evidence on the relationship between domestic investment and savings as a proxy for capital mobility. For a review of this literature see Baldwin and Martin (1999). Bordo, Eichengreen, and Irwin (1999) present a detailed account of the characteristics of this wave of financial globalization compared to today's. Collins and Williamson (1999) analyze the price of capital goods in historical perspective.

[3] Eichengreen and Sussman (2000) offer a millennium perspective.

[4] The impossible trinity is a principle of international economics that affirms that a country can only choose two out of the following three following policies: fixed exchange rates, autonomous monetary policy, and free capital mobility.

monetary policy autonomy. Capital flows reached an all time low during the 1950s and 1960s. The international system was dominated by the Bretton Woods system of fixed but adjustable exchange rates, limited capital mobility, and autonomous monetary policies.

As Mundell (1999) argues, the 1970s witnessed the beginning of a new era in the international financial system. As a result of the oil shock and the break up of the Bretton Woods system, a new wave of globalization began. The oil shock provided international banks with fresh funds to invest in developing countries. These funds were used mainly to finance public debt in the form of syndicated loans. With the breakup of the Bretton Wood system of fixed exchange rates, countries were able to open up to greater capital mobility while keeping the autonomy of their monetary policies. The capital inflows of the 1970s and early 1980s to developing countries lead to the debt crises, started in Mexico in 1982. To solve the debt crisis of the 1980s, Brady Bonds were created with the subsequent development of bond markets for emerging economies. Deregulation, privatization, and advances in technology made foreign direct investment (FDI) and equity investments in emerging markets more attractive to firms and households in developed countries. The 1990s witnessed an investment boom in FDI and portfolio flows to emerging markets. Portfolio flows were severely affected by the advent of the 1997-98 Asian crisis. Following the crises of the 1990s, economists have argued that countries will move towards corner solutions of free floating or firm fixing in a world of free capital movement, according to the impossible trinity.

Outlook for more globalization

The potential benefits of financial globalization will likely lead to a more financially interconnected world and a deeper degree of financial integration of developing countries with international financial markets.[5] Today, despite the perception of increasing financial globalization, the international financial system is far from being perfectly integrated.[6] There is evidence of persistent capital market segmentation, home country bias, and correlation between domestic savings and investment.[7] The recent deregulation of financial systems, the technological advances in financial services, and the increased diversity in the channels of financial globalization make a return to the past more costly and therefore more difficult. Financial globalization is unlikely to be

[5] Mussa (2000) emphasizes the power of new technology and the powerlessness of public policy in the face of the current evolution of financial flows. It is argued that public policy "can spur or retard them, but it is unlikely to stop them." He also argues that the last backlash against globalization was cemented on two world wars and a great depression and affirms that the likelihood of that happening again is low.

[6] Frankel (2000) argues that "though international financial markets, much like goods markets, have become far more integrated in recent decades, they have traversed less of the distance to perfect integration than is widely believed."

[7] Obstfeld and Rogoff (2000) argue that the home country bias, along with other major puzzles in international economics, can be explained by the presence of transaction costs and information asymmetries. Tesar and Werner (1998) present evidence of home country bias, which is somewhat decreasing in developed countries, such as the U.S., Japan, and Germany. Okina, Shirakawa, and Shiratsuka (1999) present evidence on several imperfections in global capital markets.

reversed, particularly for partially integrated economies, although the possibility of that happening still exists.

Opportunities and challenges

Financial globalization can carry some risks. These risks are likely to appear particularly in the short run, when countries open up. Liberalization can lead to financial crises when it is not well managed. If the right financial infrastructure is not in place or is not put in place while integrating, liberalization followed by capital inflows can debilitate the health of the local financial system. If market fundamentals deteriorate, speculative attacks will occur with capital outflows from both domestic and foreign investors. For successful integration, economic fundamentals need to be and remain strong. Local markets need to be properly regulated and supervised. The need for strong fundamentals is key since, other things equal, financial globalization tends to intensify a country's sensitivities to foreign shocks. Moreover, international market imperfections, such as herding, panics and boom-bust cycles, and the fluctuating nature of capital flows can lead to crises and contagion, even in countries with good economic fundamentals.

Still, financial globalization can yield large benefits. Arguably, the main benefit of financial globalization for developing countries is the development of their financial system, what involves more complete, deeper, more stable, and better-regulated financial markets. As discussed in Levine (2000), a better functioning financial system with more credit is key because it fosters economic growth.

There are two main channels through which financial globalization promotes financial development. First, financial globalization implies that new type of capital and more capital are available to developing countries. Among other things, new and more capital allows countries to better smooth consumption, deepens financial markets, and increases the degree of market discipline. Second, financial globalization leads to a better financial infrastructure, what mitigates information asymmetries and, as a consequence, reduces problems such as adverse selection and moral hazard.

The net benefit of financial globalization for developing countries can be large, even despite the risks. But globalization also poses new challenges for policymakers. One main challenge is to manage financial globalization such that countries can take full advantage of the opportunities it generates, while minimizing the risks it implies. This is important because financial globalization is likely to deepen over time, lead by its potential benefits. Another challenge of globalization is that, in a more integrated world, governments are left with fewer policy instruments. Thus, international financial coordination becomes more important.

The organization of this chapter is as follows. Section II discusses the recent developments and main agents of financial globalization. Section III analyzes the relation between globalization, crises, and contagion. Section IV studies the effects of financial globalization on the domestic financial sector. Section V discusses the net

effects of globalization. Section VI analyzes the policy options available to deal with financial globalization. Section VII concludes and discusses the policy implications.

II. Financial globalization: latest developments and main agents

The last thirty years witnessed many changes in financial globalization. New technological advances and the liberalization of the domestic financial sector and the capital account have led to new developments. The main agents driving financial globalization are governments, private investors and borrowers, and financial institutions.

A. Latest developments in financial globalization

The new nature of capital flows and the increasing use of international financial intermediaries constitute two of the most important developments in financial globalization.

New nature of capital flows

Net capital flows to emerging economies have increased sharply since the 1970s. Capital flows went from less than 28 billion U.S. dollars in 1970s to about 306 billion U.S. dollars in 1997 in real terms, when they peaked.[8] The composition of capital flows to developing countries changed significantly during this period. The importance of official flows more than halved, while private capital flows became the major source of capital for a large number of emerging economies. The composition of private capital flows also changed markedly. FDI grew continuously throughout the 1990s.[9] Mergers and acquisitions (M&As) were the most important source of this increase, especially the ones resulting from the privatization of public companies. Net portfolio flows grew from 0.01 billion U.S. dollars in 1970 to 103 billion in 1996 in real terms. New international mutual funds and pension funds helped to channel the equity flows to developing countries. The importance of syndicated bank loans and other private flows decreased steadily in relative terms throughout this period, especially after the 1980s debt crises. The top panel of Figure 1 shows that the increase of private capital flows to developing countries is also noteworthy when considering flows in real terms (accounting for inflation.) In particular, the figure shows the large increase of foreign direct investment, whereas official flows stagnated or declined.

Even though net private capital flows to developing countries increased in recent years, private capital does not flow to all countries equally. Some countries tend to receive large amounts of inflows, while other countries receive little foreign capital. The bottom panel of Figure 1 shows that flows to developing countries increased. But among these countries, the top 12 countries with the highest flows are receiving the overwhelming majority of the net inflows. Also, the top 12 countries are the ones that experienced the most rapid growth in private capital flows during the 1990s. As a

[8] This does not account for capital flight, unmeasured flows, and other errors and omissions.

[9] Lipsey (1999) argues that FDI has become the most dependable source of foreign investment for developing countries.

consequence, the share of flows dedicated to low-income and middle-income countries (outside the top 12) has decreased over time. This is important because if countries benefit from foreign capital, only a small group of countries are the ones benefiting the most. The unequal distribution of capital flows is consistent with the fact that income among developing countries is diverging, as noted in Chapter 2, although the causality is difficult to determine.

[Figure 1: Evolution of Capital Flows]

Internationalization of financial services

The internationalization of financial services means the use of international financial intermediaries by local borrowers and investors. This internationalization is achieved through two main channels. The first channel is an increased presence of international financial intermediaries, mainly foreign banks, in local markets. The second channel involves the use of international financial intermediaries by local borrowers and investors; these international financial intermediaries are located outside the country. One example of the latter channel is the trading of local shares in major world stock exchanges, mostly in the form of depositary receipts.

Figures 2, 3, and 4 provide examples of the internationalization of financial services in developing countries. Figure 2 shows the increased presence of foreign banks in three regions: East Asia, Eastern Europe, and Latin America. The figure illustrates the rapid increase in foreign-bank ownership over the 1990s for a number of selected emerging economies.[10] The figure shows that the assets and the proportion of assets held by foreign banks increased in the three regions between 1994 and 1999. In Eastern Europe, the proportion of assets held by foreign banks passed 50 percent in 1999.

[Figure 2: Internationalization of Financial Services]

Figure 3, illustrates the increasing importance of international issuance of bonds for developing countries. The figure shows that bond issuance increased substantially in 1993 and 1996, years of high capital inflows, while it decreased in 1998, when the East Asian crisis spread to other regions.

[Figure 3: Internationalization of Emerging Bond Markets]

Figure 4 displays the increased participation of companies from developing and developed countries in the U.S. equity markets using depositary receipts.[11] The top panel shows the capital raised by foreign companies in the U.S., while the bottom panel shows the value traded in depositary receipts. Figure 4 shows that companies from developing

[10] Note that Figure 2 includes only a selected group of countries, what probably biases the foreign-bank participation in the universe of developing countries.

[11] See Appendix Table 1 for details on depositary receipts and cross listing. Karolyi (1998) describes how depositary receipts are traded in major stock exchanges, so companies do not necessarily have to go through the more costly process of cross listing their shares abroad to access international equity markets.

countries have been actively participating in the U.S. equity markets since the early 1990s. Figure 4 shows that the top six middle-income countries with the highest participation capture most of the activity among middle-income countries. As argued above in the case of capital flows, this might be creating a divergence among developing countries. If capital raised in international capital markets brings benefits to recipient countries, for example because the cost of capital is lower or because a longer maturity structure can be achieved, a group of middle-income countries has been benefiting more than other developing nations.

[Figure 4: Internationalization of Emerging Stock Markets]

B. Main agents

There are four main agents of financial globalization: governments, borrowers, investors, and financial institutions. Each of them is helping countries become more financially integrated.

Governments

Governments are one of the main agents of financial globalization. Governments allow globalization by liberalizing restrictions on the domestic financial sector and the capital account of the balance of payments. In the past, governments used to regulate the domestic financial sector by restricting the allocation of credit through controls on prices and quantities. Governments also imposed several constraints on cross-country capital movements. The list of instruments used to restrict the capital account is rather extensive. The restrictions on the capital account include restrictions on foreign exchange transactions, derivative transactions, lending and borrowing activities by banks and corporations, and the participation of foreign investors in the local financial system.

Even though the domestic financial sector and the capital account were heavily regulated for a long time, Kaminsky and Schmukler (2001b) show how the restrictions have been lifted over time. Figure 5 presents the evolution of restrictions on financial markets and on the capital account. The figure illustrates the gradual lifting of restrictions in developed and emerging countries during the last 30 years. The figure shows that developed countries have always used more liberal policies than developing countries. Although there has been a gradual lifting of restrictions over time, there were periods of reversals, in which restrictions were re-imposed. The most substantial reversals took place in the aftermath of the 1982 debt crisis and in the middle 1990s in Latin America, and in the aftermath of the Asian crisis in Asia.

[Figure 5: Financial Restrictions]

The literature identifies six main reasons to explain the new wave of liberalization and deregulation by governments of different countries. First, governments found capital controls increasingly costly and difficult to maintain effectively. Second, Errunza (1999) and the World Bank (2001) argue that policymakers have become increasingly aware that

government-led financial systems and non-market approaches have failed. Third, recent crises have heightened the importance of foreign capital to finance government budgets and smooth public consumption and investment. Also, foreign capital has helped governments capitalize banks with problems, conduct corporate re-structuring, and manage crises. Fourth, opening up the privatization of public companies to foreign investors has helped increase their receipts. Fifth, although governments can also tax revenue from foreign capital, they might find this harder to do than with other factors of production due to its footloose nature. Sixth, governments have become increasingly convinced of the benefits of a more efficient and robust domestic financial system for growth and stability of the economy and for the diversification of the public and private sectors' investor base.

Borrowers and investors

Borrowers and investors, including households and firms, have also become main agents of financial globalization. By borrowing abroad, firms and individuals can relax their financial constrains to smooth consumption and investment.[12] Firms can expand their financing alternatives by raising funds directly through bonds and equity issues in international markets and thereby reducing the cost of capital, expanding their investor base, and increasing liquidity. As argued by Feldstein (2000), borrowing countries not only benefit from new capital but also, in the case of FDI, they benefit from new technology, know-how, management, and employee training. (See chapter 7 for a richer discussion on spillover effects of FDI at the firm level.)

More financing alternatives help foreign investors overcome direct and indirect investment barriers. International investors, as argued in Obstfeld (1994) and Tesar and Werner (1998), have taken advantage of financial globalization to achieve cross-country risk diversification. If developing countries are to grow faster than developed economies, lenders can expect to obtain higher returns for their investment. As a consequence of the liberalization of financial markets, both institutions and individuals in developed countries can now easily invest in emerging markets through buying shares of international mutual funds (including global, regional, and country funds) as shown in Kaminsky, Lyons, and Schmukler (2001). They can also purchase depositary receipts, cross listed shares of international companies, and international corporate and sovereign bonds in international capital markets.

Financial institutions

Financial institutions, through the internationalization of financial services, are also a major driving force of financial globalization. As discussed by the International Monetary Fund (2000), changes at the global level and changes in both developed and developing countries explain the role of financial institutions as a force of globalization.

[12] To the extent that savings from developing countries are invested abroad, these nations can also achieve cross-country risk diversification.

At a global level, the gains in information technology have diminished the importance of geography, what is allowing international corporations to service several markets from one location.[13] As discussed in Crockett (2000), the gains in information technology has had three main effects on the financial services industry. (i) It promoted a more intensive use of international financial institutions. (ii) It led to a major consolidation and restructuring of the world financial services industry. (iii) It gave rise to global banks and international conglomerates that provide a mix of financial products and services in a broad range of markets and countries, blurring the distinctions between financial institutions and the activities and markets in which they engage. Demographic changes and the increase sophistication of small investors around the world have intensified competition for savings among banks, mutual funds, insurance companies, and pension funds. Households have bypassed bank deposits and securities firms to hold their funds with institutions better able to diversify risks, reduce tax burdens, and take advantage of economies of scale.

In developed countries, increased competition has lead banks and other non-bank financial firms to look for expanding their market shares into new businesses and markets, attracting customers from other countries, what allows them to diversify risk. This increased competition has taken place mainly in developed countries and was brought about by decreasing costs due to deregulation and technical improvements. Deregulation has meant that banks could enter business that had been off limits (like securities, insurance, and asset management). Non-bank financial institutions have been slowly competing with traditional banks, facilitating the securitization of finance, offering financial services traditionally exclusively provided by banks, adopting new financial risk calculation methods, and penetrating traditional banking activities in credit markets, such as syndication of loans and bridge loans via new structured financial instruments.

In developing countries, the liberalization of the regulatory systems has opened the door for international firms to participate in local markets. The privatization of public financial institutions provided foreign banks an opportunity to enter local financial markets. Macroeconomic stabilization, better business environment, and stronger fundamentals in emerging markets ensured a more attractive climate for foreign investment.

III. Financial globalization: crises and contagion

The recent stream of financial crises and contagion after countries liberalized their financial systems and became integrated with world financial markets, might lead some to suggest that globalization generates financial volatility and crises.

[13] The gains in information technology include the reduction in the cost of communications and the increased power of computers, as discussed in Claessens, Glaessner, and Klingebiel (2001).

A. Globalization and crises

Even though domestic factors tend to be key determinants of crises, there are different channels through which financial globalization can be related to crises. First, when a country liberalizes its financial system it becomes subject to market discipline exercised by both foreign and domestic investors. When an economy is closed, only domestic investors monitor the economy and react to unsound fundamentals. In open economies, the joint force of domestic and foreign investors might prompt countries to achieve, in the long run, sound fundamentals.

Second, globalization can also lead to crises if there are imperfections in international financial markets. As a consequence, open countries are more prone to crises regardless of their fundamentals. The imperfections in financial markets can generate bubbles, irrational behavior, herding behavior, speculative attacks, and crashes among other things. Imperfections in international capital markets can lead to crises even in countries with sound fundamentals and can also deteriorate fundamentals. For example, if investors believe that the exchange rate is unsustainable they might speculate against the currency, what can lead to a self-fulfilling balance of payments crisis regardless of market fundamentals. This is largely illustrated in the literature following Obstfeld (1986).[14] Imperfections can as well deteriorate fundamentals. For example, moral hazard can lead to overborrowing syndromes when economies are liberalized and there are implicit government guarantees, increasing the likelihood of crises, as argued in McKinnon and Pill (1997).[15]

Third, globalization can lead to crises due to the importance of external factors, even in countries with sound fundamentals and even in the absence of imperfections in international capital markets. If a country becomes dependent on foreign capital, sudden shifts in foreign capital flows can create financing difficulties and economic downturns. These shifts do not necessarily depend on country fundamentals. Calvo, Leiderman, and Reinhart (1996) argue that external factors are important determinants of capital flows to developing countries. In particular, they find that world interest rates were a significant determinant of capital inflows into Asia and Latin America during the 1990s. Economic cyclical movements in developed countries, a global drive towards diversification of investments in major financial centers, and regional effects tend to be other important global factors. Frankel and Rose (1996) highlight the role that foreign interest rates play in determining the likelihood of financial crises in developing countries.

[14] Note that self-fulfilling crises can also take place in a closed domestic banking sector as shown in the literature following Diamond and Dybvig (1983).

[15] The arguments that claim that market imperfections are the cause of crises when countries integrate with financial markets imply that imperfections are more prevalent in international market than in domestic markets. Imperfections in financial markets can exist even in closed countries. If imperfections are more important in domestic markets than in the foreign markets, as one can expect given their degree of development, financial globalization does not have to lead to crises.

Evidence on crises

Though crises can be associated with financial liberalization, the evidence suggests that crises are complex, they are not just the consequence of globalization. The evidence indicates that crises have been a recurrent feature of financial markets for a long time, both in periods of economic integration and in periods of economic disintegration. Furthermore, the evidence points out that there are several causes of financial crises, many of which are related to domestic factors.

Kindleberger (1996) provides a detailed account of financial crises through history. The particular relation between globalization and crises has inspired many studies like Bordo, Eichengreen, and Irwin (1999). These authors compare today's wave of globalization with that of a hundred years ago. They conclude that given the level of integration prevalent in the global economy today, it is surprising that financial instability is not worse. Bordo, Eichengreen, and Irwin claim that this pattern can be attributed to the development of institutional innovations both at a global level, like the International Monetary Fund (IMF) or the Bank of International Settlements (BIS), and at a local level, such as better accounting standards and contract enforcement. Bordo, Eichengreen, Klingebiel, and Martinez Peria (2001) study the frequency, duration, and output impact of crises during the last 120 years. They compare the crises of the 1980s and 1990s with three distinct historical periods: the gold standard era (1880-1913), the inter-war years (1919-1939), and the Bretton Woods period (1945-1971). They conclude that crises are more frequent today than during the Bretton Woods and the gold standard periods. Today's frequency of crisis is comparable to the inter-war years. There is little evidence that crises have grown longer or output losses have become larger. Bordo, Eichengreen, Klingebiel, and Martinez Peria conclude that, even if more frequent, crises have not become more severe.

Though globalization can lead to crises, a vast literature on financial crises stresses the importance of domestic factors as key determinant of crises. Frankel and Rose (1996) argue that domestic factors such as slow growth and a boom in domestic credit increase a country's likelihood of experiencing a financial crisis. Kaminsky and Reinhart (1999) argue that crises occur mostly due to domestic factors, as the economy enters a recession following a period of prolonged boom in economic activity fueled by expanded credit, capital inflows, and an overvalued currency. Caprio and Klingebiel (1997) stress the importance of both macroeconomic and microeconomic factors in determining banking crises. Burnside, Eichenbaum, and Rebelo (2001) argue that not only typical macroeconomic indicators such as actual deficits but also other factors like large prospective deficits (associated with implicit bailout guarantees to failing banks) can determine crises. They claim that this was the case of the Asian crisis, where governments were actually running small deficits or surpluses.

Although both domestic and foreign investors can trigger crises, it is not possible to conclude from the evidence that foreign investors are the main destabilizing group. Frankel and Schmukler (2000) argue that domestic investors seem to be the ones that run first when problems arise, as if they had more information. Foreign investors tend to

follow domestic investors. Furthermore, other papers fail to find that foreign investors add to volatility. For example, Choe, Kho, and Stulz (1999) find no evidence that foreign investors had a destabilizing effect on Korea's stock market between 1996 and 1997. On the other hand, Kim and Wei (1999) find that in Korea foreign investors were more prone to herding behavior than local ones.

B. Globalization and contagion

Besides the crises generated in one country, financial globalization can also lead to financial crises through contagion, namely by shocks that are transmitted across countries.[16] Contagion effects can be generated by fundamental linkages among economies or by factors unrelated to fundamentals, such as herding behavior. Fundamental linkages include both "real" and "financial" linkages.

Contagion due to fundamentals

Real linkages that cause contagion have generally been associated with trade and/or FDI. When two countries trade with each other or when they compete in third foreign markets in similar products, a devaluation of one country's exchange rate reduces the international price competitiveness of the other country. To the extent that the two countries are competing for FDI inflows from the industrial nations to maintain an industrial edge, the impact of one country's currency devaluation on the other is even bigger. Consequently, if one country devalues the currency, then pressure will mount in other closely "linked" countries to also devalue their currencies so that their relative international price competitiveness is restored.

Financial linkages can also trigger contagion. This linkage is created when international investors engage in global diversification of financial portfolios and connect different economies financially. Countries with internationally traded financial assets and liquid markets tend to be subject to contagion. Banks and institutional investors can spread a crisis from one country to another. For example, when international investors decide to shift their portfolios following the outbreak of a crisis in one country, they need to sell assets from third countries to hedge their positions as discussed in Kodres and Pritsker (1998.) This mechanism puts downward pressure in asset values from these countries, thus propagating the initial shock. Second, a liquidity constraint on the part of leveraged investors can also generate contagion. When the value of their collateral falls, owing to a negative shock in one country or region, leveraged investors facing margin calls need to raise liquidity by selling their asset holdings as argued in Calvo (1998.) Because other countries or regions are still unaffected, it is better not to sell the asset whose price has collapsed to raise cash, but other valuable holdings allocated to these unaffected economies. In doing so, other asset prices are depressed, and the initial shock is transmitted to the rest of the world. These examples of financial linkages connect financially otherwise unrelated economies.

[16] Dornbusch, Park, and Claessens (2000) survey the literature on contagion. Further references can be found at www.worlbank.org/contagion.

Contagion due to herding behavior

Contagion can also be due to herding behavior. The magnitudes of recent swings in exchange rates and stock prices across countries seem to be beyond those predicted by any fundamental linkages. Shocks were indeed transmitted to economies where fundamental linkages are not present or strong, due to shifts in expectations. Herding leads investors to panic and run away from countries that do not necessarily share fundamental linkages. Is it rational for investors to follow this herding behavior? The literature suggests that, at a private level, it might be rational to follow the herd. Calvo and Mendoza (2000) claim that information is too costly, so each investor might benefit from looking at the market reaction and mimic what other investors are doing because others may have better information. At a social level, contagion based on the herding behavior can be very costly.

The issue of herding behavior is one of multiple equilibria. If markets regard a country's state to be good, then large capital inflows can take place. If markets judge the country as being in a bad state, then rapid capital outflows and a crisis can take place. In a world of "multiple" equilibria, external shocks can quickly force the economy to shift from a "good" to a "bad" equilibrium. When investors suddenly become concerned about emerging markets for any reason, Wall Street reacts and European markets follow. When investors observe a crisis in Thailand, they react to it thinking about a potential crisis in Indonesia and Malaysia, and a crisis indeed takes place. Both developed and developing countries markets are subject to these panics. Because investors know little about developing countries, investors are probably more prone to herding behavior in these markets. Uninformed investors are the ones that find market changes more informative.

Evidence on contagion

The evidence suggests that all the different channels of contagion have played important roles in the transmission of crises. Regarding the trade channel, Eichengreen, Rose, and Wyplosz (1996), Glick and Rose (1998), and Forbes (2000), argue that trade links are important. Trade links tend to make crises more regional. Once a crisis hits one country, its trading partners become particularly vulnerable to suffer from contagion. Eichengreen, Rose, and Wyplosz (1996) offer a number of examples of trade links leading to contagion in the European context. They argue that the attacks on the United Kingdom in September 1992 and the depreciation of the sterling might have damaged Ireland's international competitiveness. This is also the case for Spain and Portugal or Finland and Sweden. In all these cases the depreciation of a country's currency lead to the debilitation of its most important trade partner or competitor. They also argue, however, that trade links is not the only channel of contagion. The Mexican crisis of 1994-95 affected not only Mexican trading partners but also countries like Hong Kong, Malaysia, and Thailand with little trade links with Mexico.

Financial and non-fundamental links are also very important to understand contagion. Financial institutions, such as banks and mutual funds, can spread crises

across countries. The evidence suggests that institutional investors have withdrawn funds from different countries when a crisis hit one of the countries in which they had invested. As a consequence, the fact that some countries are connected through international financial intermediaries make them sensitive to foreign crises. Frankel and Schmukler (1998) and Kaminsky and Reinhard (2000) argue that the contagion of Argentina and Brazil from Mexico in 1994, and that of Indonesia from Thailand in 1997-98 are best explained by financial sector linkages among these countries, in particular banks and international capital markets. Van Rijckeghem and Weder (2000) argue that banking spillovers were particularly relevant in the aftermath of the Mexican and the Asian crises. Kaminsky, Lyons, and Schmukler (2000 and 2001) highlight the role of mutual funds and point out that in the aftermath of the Russian default in 1998 Malaysia suffered average mutual funds sales of 30 percent and the Czech Republic of 16 percent. The evidence is also consistent with contagion unrelated to fundamentals, either financial or trade related. Kaminsky and Schmukler (1999) and Favero and Giavazzi (2000) suggest that herding behavior is present, what can be a major driving force of contagion.

In sum, the evidence suggests that crises can spill over to other countries through different channels. All these channels require that economies are open and integrated with the rest of the world. A country that does not trade internationally or that does not have assets being held by foreign investors has less transmission channels and is therefore less exposed to contagion effects.

IV. Financial globalization and financial sector development

Despite the fact that financial globalization can be related to crises and contagion, financial globalization can lead to the development of the financial system.

A well functioning financial sector provides funds to borrowers (households, firms, and governments) who have productive investment opportunities. As discussed in Mishkin (2001), financial systems do not usually operate as desired because lenders confront problems of asymmetric information; lenders know less about the particular project than the borrower. Asymmetric information can lead to adverse selection and moral hazard. Adverse selection means that low-quality borrowers are the ones more likely to seek out funds in the market. Low-quality borrowers are the ones less concerned about paying back a loan. As argued by Stiglitz and Weiss (1981), adverse selection might lead to credit rationing, in the sense that lenders are not willing to lend even at high interest rates; lenders realize that low-quality borrowers are the most attracted ones to high rates. Moral hazard means that, after obtaining the funds, borrowers have incentives to take risky positions or to use the funds in certain ways that are not beneficial to lenders. Thus, borrowers can obtain large gains if their bets pay off and default otherwise.

One of the primary potential benefits of financial globalization is the development of the financial sector, enhancing the provision of funds for productive investment opportunities. Financial globalization helps improve the functioning of the financial system through two main channels. First, financial globalization increases the

availability of funds. Second, financial globalization improves the financial infrastructure, what reduces the problem of asymmetric information. As a consequence, financial globalization decreases adverse selection and moral hazard, what enhances the availability of credit.

New and more capital is available

As described above, both borrowers and investors have incentives to move funds across countries. In a financially integrated world, funds can flow freely from countries with excess funds to countries where the marginal product of capital is high. In this context, both foreign institutions and individuals might provide capital to developing countries if they expect these countries to grow faster than developed economies. As a consequence, countries can smooth consumption and make investments financed by foreign capital. This flow of capital from developed to developing countries is reflected in the large current account deficits typically observed in many developing nations.

The effects of capital flows on financial development take place because new sources of funds and more capital become available. New source of funds means that borrowers not only depend on domestic funds, they can also borrow from foreign countries willing to invest in domestic assets. The capital available from new sources means that market discipline is now stronger both at the macroeconomic level and at the financial sector level, as now local and foreign investors enforce market discipline on private and public borrowers. Foreign capital is particularly effective in imposing this kind of discipline given its footloose nature; foreign capital can more easily shift investment across countries. Domestic capital tends to have more restrictions to invest internationally.

More capital leads to a deepening and increased sophistication of financial markets, including an increase in the sources and uses of financing, and expands the scope of products, instruments, and services available to nationals. As a consequence, borrowers and lenders have more financial opportunities; more assets and liabilities of domestic borrowers and investors become available and transacted. An increased number of instruments and investors allows better risk diversification within and across countries. By issuing to global investors, borrowers can lower their cost of capital, in part because international investors are more diversified and, therefore, ready to pay higher prices for domestic equity and bonds. Foreign direct investment brings not only capital but also new technology, know how, and management and employee training all of which contribute to increase productivity and foster economic growth.

Thanks in part to the availability of more capital, developing economies have developed their stock and bond markets as well as some of their local financial service industry. Capital markets have developed, in the sense that more domestic equity and bonds are issued and traded, but this does not imply that all domestic financial institutions have become more important. As discussed above, borrowers and investors can just use international financial intermediaries, like stock exchanges and banks, to conduct their financial transactions. In fact, domestic financial institutions can actually

shrink due to competition with international financial institutions. For example, local banks obtain a lower share of the domestic market. Moreover, as Claessens, Klingebiel, and Schmukler (2001) argue, many stock markets are shrinking as trading moves from domestic markets to major global stock exchanges. Figure 6 illustrates how the increasing importance of international markets has not resulted in the development of domestic stock markets. The top panel figure shows the decreasing relative importance of developing countries stock markets. The bottom panel shows the increase in the use of international stock markets, in the form of ADRs, by firms from emerging markets.

[Figure 6: Evolution of International Markets Relative to Local Stock Markets]

Improvement in the financial infrastructure

Financial globalization tends to improve the financial infrastructure. An improved financial sector infrastructure means than borrowers and lenders operate in a more transparent, competitive, and efficient financial system. In this environment, problems of asymmetric information are minimized and credit is maximized.

In theory, there are different channels through which financial globalization can lead to improvements in the financial sector infrastructure. First, financial globalization can lead to a greater competition in the provision of funds, which can generate efficiency gains. Second, the adoption of international accounting standards can increase transparency. Third, the introduction of international financial intermediaries would push the financial sector towards the international frontier. Fourth, Stulz (1999) argues that financial globalization improves corporate governance; new shareholders and potential bidders can lead to a closer monitoring of management. Fifth, Crockett (2000) argues that the increase in the technical capabilities for engaging in precision financing results in a growing completeness of local and global markets. Sixth, Stiglitz (2000) argues that the stringent market discipline imposed by financial globalization has consequences not only on the macro-economy, but also on the business environment and other institutional factors.

Foreign bank entry is another way through which financial globalization improves the financial infrastructure of developing countries. Mishkin (2001) argues that foreign banks enhance financial development for at least three main reasons. First, foreign banks have more diversified portfolios as they have access to sources of funds from all over the world, what means that they are exposed to less risk and are less affected by negative shocks to the home country economy. Second, foreign entry can lead to the adoption of best practices in the banking industry, particularly in risk management but also in management techniques, what leads to a more efficient banking sector. Third, if foreign banks dominate the banking sector, governments are less likely to bail out banks when they have solvency problems. A lower likelihood of bailouts encourages a more prudent behavior by banking institutions, an increased discipline, and a reduction in moral hazard. The World Bank (2001) discusses this topic in greater depth.

Country-especific evidence on globalization and financial sector development

Some papers present country specific evidence on how financial liberalization leads to financial development. Agarwal (2000) analyzes in detail the case of India and argues that primary and secondary capital markets grew significantly in size and liquidity since the beginning of capital market reforms in 1992-93, while volatility of stocks declined. Laurenceson and Chai (1998) challenge the view that the financial sector in China remains unreformed. They present evidence of significant financial liberalization since 1978 from a historical perspective. They then argue that it is this liberalization that has led to considerable deepening of the financial market in China. Another country where financial liberalization and integration with the global markets has resulted in a developed financial sector is Hungary. The World Bank (1999) claims that Hungary is at the front of financial sector reforms among transition countries and today has one of the most developed financial systems in Eastern and Central Europe.

Evidence on globalization and financial sector development

The evidence supports the claim that globalization has a positive effect on the development of the financial sector. The evidence can be found in different strands of the literature. There are papers that analyze the aggregate data and papers that use different types of micro data, including firm-level and bank-level information.

1. Aggregate evidence on stock market liberalization

Tesar and Werner (1999) present evidence on the development of equity and bond markets in emerging countries. Market capitalization of emerging stock markets multiplied more than nine-fold from 1987 to 1996, and trading volume increased seven-fold. International equity issues by developing countries grew ten-fold between 1990 and 1996; bond issuance multiplied seven-fold, growing from 11 billion U.S. dollars in 1991 to 77 billion in 2000. Merril Lynch (2000) estimates the size of the bond emerging markets in 1999 to be 1.2 trillion U.S. dollars.

Using aggregate data, some papers study the effects of stock market liberalization on asset prices and investment. Stock market liberalization might affect asset prices and investment through reductions in the cost of capital, as international investors are more diversified and ready to pay higher equity prices. In turn, this reduction in the cost of capital makes some investment projects profitable, as their net present value becomes positive. Focussing on the financial liberalization episodes, which for the most part took place in the late 1980s and early 1990s, Bekaert and Harvey (2000), Henry (2000), and Kim and Singal (2000) find evidence consistent with the prediction that stock market liberalization increases equity prices and investment. For example, Brazil and Philippines are identified by in Kim and Singal (2000) as countries where liberalization lead to higher returns. In the Philippines, after the ousting of Ferdinand Marcos from office in March 1986, restrictions on repatriation of capital and income were lifted. Within 12 months, the excess dollar return increased by about 15% (computed as the 12-months moving average change in the stock market index expressed in U.S. dollars minus

the riskless rate based on the 3-month Treasury-bill rate.) The evidence also suggests that there is no increase in the volatility of stock returns.

2. Firm-level evidence

Other papers study firm-level evidence. These papers analyze how the actual participation of firms in international capital markets, mainly through cross listing, affect firms' equity prices, liquidity, financing structure, and investment. Some papers concentrate on abnormal returns, volatility, cost of capital, and liquidity after companies cross list their stocks in major world stock exchanges.

Cross listing may have both liquidity and signaling effects. The liquidity effect takes place because international markets are more efficient and liquid than domestic markets. Overall, this literature finds evidence of abnormal returns and lower cost of capital after cross listings. Moreover, cross listing is associated with higher liquidity and lower volatility due to the fact that the company shares are now held by a wider set of investors.

Several papers present evidence on the effect of cross listing on the cost of capital. Errunza and Miller (1999) document a significant decline in the cost of capital for firms using depository receipts. Miller (1999) finds positive abnormal returns around the announcement date of a depository receipt program. On the other side, Foerster and Karolyi (1999) find that firms cross listing shares on U.S. exchanges as American depository receipts earn cumulative abnormal returns during the year before and the year of cross listing, but then incur on a loss the year after of cross listing. They find, however, the net effect to be positive. Domowitz, Glen, and Madhavan (1998) argue that the actual effect of cross listing depends on the quality of inter-market information linkages.

Even though the effect of cross listing on the cost of capital is positive, the effect is still small. Stulz (1999) argues that the overall effect is small because markets can anticipate future gains in prices. Stulz also claims that the existing lack of complete integration in world markets can diminish the potential benefits of financial globalization.

Regarding the signaling effect, international listing can be interpreted as evidence of management's confidence to meet the minimum listing requirements of the foreign stock exchange, which could improve transparency in the management of the firm. Miller and Puthenpurackal (2000) argue that by raising bonds in the US, corporations certify to act in the interest of investors, lowering their borrowing costs and increasing shareholder wealth. Even though the evidence suggests that globalization leads to a significant reduction in the cost of capital, the effect is not large.

The firm-level evidence has also looked at the effects of firms' participation in international markets on investment and financing rations. The evidence suggests that the participation in the international capital markets relaxes financing constraints and improves the firms' financing opportunities. Lins, Strickland, and Zenner (1999) show

that financing constraints (the sensitivity of new investment to internal cash flow) are relaxed when firms from emerging capital markets cross list using depository receipts in U.S. equity markets (this is not true for firms from developed markets). Laeven (2000) finds that financial liberalization affects more small firms than large firms, relaxing their financing constraints.[17] Schmukler and Vesperoni (2000) show that domestic firms that participate in international markets obtain better financing opportunities, being able to issue more debt and extend their debt maturity structure.

3. Bank-entry evidence

Regarding foreign bank entry, Claessens, Demirgüç-Kunt, and Huizinga (1998) argue that the competitive pressure created by foreign banks lead to improvements in banking system efficiency in terms of lower operating costs and smaller margins between lending and deposit interest rates. Demingüç-Kunt, Levine, and Min (1998) contend that foreign bank entry tends to strengthen emerging markets' financial systems and lower the probability that a banking crisis will occur. Goldberg, Dages, and Kinney (2000) study the case of Argentina and Mexico and conclude that diversity in ownership appears to contribute to greater stability of credit in times of crisis and domestic financial system weakness. But they also argue that bank health, and not ownership per se, is the critical element in the growth, volatility, and cyclicality of bank credit.

Even though the effects of foreign bank entry seem to be positive the evidence is still scarce. More evidence on the effects of foreign bank entry will shed new light on this relatively new phenomenon. Also, the regional differences are significant, with Latin America receiving a large share of foreign banks. There is as yet only limited evidence as to whether a greater foreign bank presence contributes to a more stable banking system and less volatility in the availability of credit.

V. Net effects of globalization

The previous sections argued that globalization can bring benefits by developing the domestic financial system. But globalization can also be associated with crises and contagion. As discussed in Obstfeld (1998), this is inescapable in a world of asymmetric information and imperfect contract enforcement. Though many crises are triggered by domestic factors and countries have had crises for a long time (even in periods of low financial integration), it is the case that globalization can increase the vulnerability of countries to crises. In open economies, countries are subject to the reaction of both domestic and international markets, which can trigger fundamental-based or self-fulfilling crises. Moreover, the cross-country transmission of crises is characteristic of open economies. Completely closed economies should be isolated from foreign shocks. But when a country integrates with the global economy, it becomes exposed to contagion effects of different types and, more generally, to foreign shocks.

Is the link between globalization, crises, and contagion important enough to outweigh the benefits of globalization? The evidence is still very scarce, but it is far from

[17] Gallego and Loayza (2000) analyze similar evidence for the case of Chile.

clear that open countries are more volatile and suffer more from crises. The evidence suggests that, in the long run, volatility tends to decrease following liberalization and integration with world markets, probably thanks to the development of the financial sector. The evidence holds even when including crisis episodes, which might be considered particular events.

Any potential increase in volatility tends to occur in the short-run, right after liberalization. When countries first liberalize their financial sector, volatility and crises might arise, particularly in countries with vulnerable fundamentals. If the domestic financial sector is not prepared to cope with foreign flows and is not properly regulated and supervised, financial liberalization can lead to domestic crises. This is shown in Figure 7, which displays the typical boom-bust episode in stock markets. Kaminsky and Schmukler (2001b) show that three years after liberalization the cycles in the stock market become less pronounced, while they become more pronounced in the aftermath of liberalization. In the future, more research will be able to test the short- and long-run effects of financial globalization.

[Figure 7: Booms and crashes]

VI. Policy options

There are different views on how governments can maximize the benefits of globalization and minimize its risks. As discussed above, one of the most important benefits of financial globalization is the development of the financial sector. This development tends to lead to deeper and less volatile financial markets. But, on the other hand, globalization can also be associated with some costs. The most important one involves a higher sensitivity to crises and contagion. The gains are likely to materialize in the long run, while the costs will tend to be more prevalent in the short run. In all the aspects of globalization, the action or inaction of governments can be important.

A. Three views on the role of government

In the past the mood might have favored unfettered capitalism, but the fact that globalization has been associated with crises and contagion have led many economists to believe that some degree of government intervention can be beneficial. Most economists would now agree that financial integration with the rest of the world is beneficial. Only few economists would suggest policies that isolate countries. However, the recent experience with crises and contagion has generated large disagreements on how to integrate and on the policy recommendations. There are different views on what governments should do regarding financial integration.

Minimal government intervention

A first view argues that government intervention is at the root of recent crises. This view believes that international capital markets are efficient and developed (or at least international financial markets are more efficient than financial markets in

developing countries). Therefore, countries with underdeveloped financial markets would benefit from full financial liberalization, with minimal government intervention. Certain types of government intervention create distortions that can lead to moral hazard and crises. Akerlof and Romer (1993) show that government guarantees can induce firms to go broke at society's expense (looting). They claim that once looting becomes established in one sector, it can distort production in other sectors.

Restrictions on cross-country capital movement

A second view claims that cross-country capital flows should be restricted. According to this view, inefficient international financial markets debilitate the argument for unregulated financial integration. Anomalies such as asymmetric information, moral hazard, asset bubbles, speculative attacks, herding behavior, and contagion are present in international financial markets. So economies open to capital flows suffer the consequences of these imperfections. The recent crises showed that international financial markets punished similarly countries with different fundamentals and policies. In this context, Krugman (1998), Tobin (2000), and Stiglitz (2000) argue that government intervention to restrict cross-country capital movements can be socially beneficial. Governments can mitigate the cost of volatile capital flows, reducing excessive risk taking and making markets less vulnerable to external shocks, and still pursue integration with international financial markets.

Risk management

A third view concentrates on risk management. This view focuses on strengthening the domestic financial sector and sequencing financial liberalization. This view argues that opening a weak domestic financial sector to large capital movements is potentially risky. If the domestic financial sector does not manage risk properly, does not have sufficient reserves and capital, or does not have the right incentives, large capital inflows and outflows can create severe problems in the domestic financial sector. Foreign competition can also debilitate local financial intermediaries. Since financial crises can be very costly, this view proposes an adequate regulation and supervision of the domestic financial system without distinguishing between "foreign capital" and "domestic capital." Additional proposals include the use of counter cyclical fiscal policy, the stability of prices, the active management of reserve requirements, and the implementation of contingent liquidity arrangements. Also, improved prudential regulation and increased market discipline, through more transparency and information, have been recommended as a way to avoid excessive risk taking.

B. Fewer policy instruments

One of the main consequences of globalization for policymaking is that the number of instruments at the country level diminishes when the economy is integrated. When the domestic financial system integrates with the rest of the world, it is more difficult for countries to monitor and regulate the transactions outside its borders. For example, local authorities are able to regulate the activities of the local subsidiary of an

international bank, but it is more difficult to regulate the parent company and subsidiaries in other countries, which can be linked to the local bank. Also, the ability of capital to move freely in and out of the country makes government intervention less effective.

The initial conditions matter. There are more policy options at the domestic level when countries have a low level of financial integration. As countries become more integrated, the need for international financial coordination grows.

Three examples of policies affected by financial globalization

The rest of the section illustrates, with three examples, how financial globalization influences the policies available to policymakers. These policies have received significant attention in the discussions surrounding crises and financial globalization. The policies discussed below are the ones related to capital controls, risk management, and the choice of monetary and exchange rate regimes.

1. Capital controls

The proposals on capital controls are designed to reduce the probability or mitigate the effects of sudden shifts in foreign capital. These proposals suggest that international capital flows should be restricted in very particular and judicious ways. Following the classification in Frankel (1999), the main proposals can be divided in different categories. (1) Controls on outflows, which restrict investors to move capital outside the country. (2) Controls on aggregate inflows, which are intended to keep capital from flowing into the country rather than restricting the exit of capital once it is in the country. (3) Controls on short-term inflows, a-la Chile, to avoid the build up of short-term debt. (4) Controls on foreign exchange transactions, or "Tobin tax," aimed at imposing a small uniform tax on all foreign exchange transactions, regardless of their nature.

There is a very large literature on the effects of capital controls. On the whole the literature is inconclusive about the effects of capital controls. The literature consists primarily of interesting case studies, with little systematic cross-country evidence. Some papers suggest that controls work as expected, while others find no or negative effects of controls. The evidence suggests that when controls work, they do so on a temporary basis. As time passes, controls become ineffective; market participants find ways to circumvent the controls. A brief review of part of the empirical evidence follows.

Probably the country that has received most of the attention is Chile, given the attractiveness of its scheme, which imposed capital controls on short-term inflows through unremunerated reserve requirements. Chile was also widely studied because it systematically put limits to capital flows in both episodes of international capital inflows to emerging markets (1978-1981) and (1990-1996). The evidence from studies including De Gregorio, Edwards, and Valdes (1998), Edwards (1999), Gallego, Hernandez, and Schmidt-Hebbel (1999), and Soto (1997) suggests that controls on inflows introduce a wedge between domestic and foreign returns and allowed Chile's central bank to

undertake a more independent monetary policy. This finding only holds when external shocks were small. Controls were not effective in preventing spillovers from very large shocks, such as the ones observed in the midst of the Asian crisis in 1997. Even though controls in Chile appear to have shifted the composition of capital flows to the long term, the effects were only confined to the short run. The effectiveness of the controls was reduced over time, as investors found ways to circumvent them. The evidence also suggests that controls might have had negative financial and growth effects, questioning their efficiency.

The cases of Colombia and Brazil have also attracted some attention. The evidence from the literature is mixed. On the one hand, papers like Edwards and Khan (1985) for Colombia and Cardoso and Goldfajn (1998) for Brazil find that capital account restrictions had some impact on domestic interest rates. On the other hand, others such as Garcia and Barcinski (1996) find that controls were ineffective in Brazil.

The experience with capital account controls in Asia has also been analyzed in various studies. The evidence for this region is also mixed. Reisen and Yeches (1993) examine the degree of monetary independence in Korea and Taiwan and find that capital mobility remained roughly constant in the 1980s in the presence of capital controls. These studies, however, are mostly concerned with the degree of capital mobility in episodes of financial repression and do not compare these estimates with those in periods of financial liberalization. Analyzing the more recent experience in Malaysia, Kaplan and Rodrik (2000) argue that the Malaysian controls were able to segment financial markets and provided room for monetary and financial policies, allowing a speedier recovery from the crisis. They compare the recovery to what would have been possible via a more traditional response to the crisis. China is another interesting case, which apparently succeeded in remaining isolated from the recent crises, although it could not avoid experiencing recent capital outflows.

The number of multi country studies is much more limited due to the lack of capital control measures across countries. Montiel and Reinhart (1999) construct a database for capital account restrictions of 15 emerging economies during the 1990s to study the effects of restrictions to capital inflows. They find that controls appear to alter the composition of capital flows in the direction usually intended by these measures, reducing the share of short-term and portfolio flows while increasing that of FDI. Another cross-country study with a new measure of capital account restrictions is Kaminsky and Schmukler (2001a), who find that controls work at best temporarily, with the effects diminishing over time.

2. Risk management

As an alternative to capital controls, some economists have proposed focusing on managing risk by regulating and supervising the financial system, without distinguishing between domestic and foreign capital. When economies are partially integrated with the rest of the world, distinguishing between domestic and foreign capital becomes more difficult, that is why capital controls tend to be ineffective. In this case, governments can

benefit by focusing on the stability of the overall financial sector to avoid financial crises or to make crises less costly. If there are imperfections in capital markets, it becomes even more important to avoid excessive risk taking. So the discussion shifts towards risk management.

Governments might want to regulate and supervise financial systems to ensure that the financial sector is managing risk well. Governments might want to avoid large asset-liability mismatches, like unhedged foreign exchange borrowings invested in non-tradable sectors and short-term assets for long-term investments, which can leave banks vulnerable to exchange deprecations and to interest rate surges. Also, the regulation and supervision should ensure that banks are sufficiently capitalized with appropriate loan classification and adequate loan loss provisions. Transparency for investors and depositors through mandatory public disclosure of audited financial statements will help enforce market discipline. The removal of explicit or implicit government guarantees and sharing risk with investors will decrease the potential for moral hazard. The World Bank (2001) discusses in more detail the regulations of the financial sector in an integrated economy.

The policies towards the financial sector should also be accompanied by the right incentives for sound corporate finance. Clear rules and adequate financial disclosure help regulators and market participants monitor corporations, what push corporations to achieve good practices. Clear governance rules help prevent insider and group lending not subject to loan evaluation and creditworthiness and standards. A developed corporate bond and equity markets help companies obtain external financing, become more transparent, and be subject to market discipline. Claessens, Djankov, and Nenova (1999) argue that the institutional structures that influence corporate behavior help explain financial crises, especially through the link between the corporate sector and weakened financial institutions. In particular, Claessens, Djankov, and Nenova claim that a country's legal origin, the strength of its equity and creditor rights, and the nature of its financial system can account for different degrees of corporate risk-taking.

A proper risk management helps to avoid and manage crises. First, as a preventive measure, countries with solid financial sectors will probably suffer fewer crises and less pronounced recessions. Second, countries with sound financial sectors will have more flexibility to cope with external shocks and to take corrective measures during a crisis. Countries with a solvent banking sector and low corporate leverage ratios will be able to some extent to raise interest rates to contain speculative attacks on the exchange rate. Countries with large foreign exchange reserves and access to contingent liquidity facilities will be able to inject liquidity in the system, avoiding credit squeeze and bank runs.

The recent experiences with crises and contagion stress the importance of adequate risk management. Kawai, Newfarmer, and Schmukler (2001) argue that one of the more important lessons of the East Asian crisis is that highly leveraged and vulnerable corporate sectors were a key determinant of the depth of the crisis. Currency devaluations suddenly inflated the size of external debt (measured in terms of the

domestic currency) and debt service obligations, thereby driving the domestic corporations in financial distress. High interest rates also sharply increased domestic debt service obligations of the corporations. These vulnerabilities affected the banks with exposures to the corporations. Krugman (1999) argues that company balance sheet problems may have a role in causing financial crises. Currency crises lead to an increase in foreign denominated debt, which combined with declining sales and higher interest rates, weaken the corporate sector and in turn the financial system. Johnson, Boone, Breach, and Friedman (2000) also show how weak corporate governance might hamper the economy and lead to currency depreciations and recessions.

Can financial liberalization take place without the appropriate risk management in place? This leads to the issue of sequencing of liberalization. Having a robust financial sector is key for a successful globalization. But not all the conditions need to be in place before governments open up the financial sector. The liberalization and the gradual integration of the financial system with international financial markets and institutions can help fortify the domestic financial sector. In fact, the integration with world markets and institutions tends to speed up the reform process to achieve a resilient financial system. It is difficult to achieve a very robust financial system while the country remains closed.

3. Monetary and exchange rate policy

As discussed in the introduction, the choice of exchange rate regime (floating, fixed, or somewhere in between) has been a recurrent question in international monetary economics. This question has become more important with the increasing integration of financial markets. Countries have resolved the impossible trinity principle differently throughout history. As financial markets integrate, capital become mobile, so countries need to choose the appropriate mix of monetary and exchange rate independence. Frankel, Schmukler, and Serven (2001) argue that after the crises of 1990s economists have become in favor of corner exchange rate regimes, according to which countries will either firmly fix their exchange rate or follow a flexible regime without pre-commitments.

By fixing the exchange rate, countries tend to reduce transaction costs and exchange rate risk that can discourage trade and investment. At the same time, a fixed exchange rate has been used as a credible nominal anchor for monetary policy. On the other hand, a flexible exchange rate allows a country to pursue independent monetary policy. A flexible exchange rate allows countries to respond to shocks through changes in the exchange rate and interest rate, to avoid going into recession. Under the combination of fixed exchange rates and complete integration of financial markets, monetary policy becomes completely powerless. Any fluctuations in the currency or currencies to which the country fixes its exchange rate will impact the domestic currency. Under a fixed exchange rate regime, other variables need to do the adjustment.

Even though countries can choose a flexible exchange rate regime, some papers have argued that countries are not allowing their exchange rates to move in part because

of the high degree of financial globalization. Among others, Calvo and Reinhart (2000 and 2001) argue that there exists "fear of floating," that prevents countries with *de jure* flexible regimes from allowing their exchange rates to move freely. According to this view, factors like lack of credibility, exchange rate pass-through, and foreign-currency liabilities prevent countries from pursuing an independent monetary policy, regardless of their announced regime. Therefore, many countries, even if formally floating, are *de facto* "importing" the monetary policy of major-currency countries, much as those with pegs.

The empirical evidence seems to suggest that countries are not able or do not choose to pursue a completely independent monetary policy. The evidence from recent papers shows that local interest rates exhibit high sensitivity to international rates, regardless of the exchange rate regime. Frankel, Schmukler, and Serven (2000) show, the transmission from international rates to domestic rates seems to be one in the long run, particularly in the 1990s when countries have integrated. The evidence in Hausmann, Panizza, and Stein (2000), Hausmann, Gavin, Pages-Serra, and Stein (1999) is consistent with the view that countries do not pursue independent monetary policy in the way that textbooks predict. Hausmann, Panizza, and Stein (2000) show that developing countries float their exchange rates holding large amounts of international reserves.

Even though countries with flexible exchange rate regimes cannot benefit from fully independent monetary policy in integrated countries, they should not be forced to adopt a fixed regime. There are credible ways to adopt a flexible regime if the right monetary institutions are in place and if countries can commit to an inflation targeting policy, as discussed in Bernanke and Mishkin (1997) and Mishkin (2000). In this way, countries may be benefit at least partially from conducting their own monetary policy without giving up credibility.

VII. Conclusions and policy implications

In the last decades, countries around the world have become more financially integrated, driven by the potential benefits of financial globalization. One of the main benefits of financial globalization is the development of the financial sector. Financial markets become deeper and more sophisticated when they integrate with world markets, increasing the financial alternatives for borrowers and investors. Financial markets operating in a global environment enable international risk diversification and facilitate consumption smoothing. Although financial globalization has several potential benefits, financial globalization also poses new challenges. The crises of the 1990s, after many countries liberalized their financial system, have questioned in part the gains of globalization. Countries become exposed to external shocks and crises, not only generated in their own country, but also from contagion effects. In the initial stages of liberalization, if the right infrastructure is not in or put in place, financial liberalization can lead to increased risks. Moreover, in a financially integrated economy, policymakers have fewer policy instruments to conduct economic policy.

Lessons for policymakers

The recent experiences with financial globalization yield some useful lessons for policymaking.

1. Countries can benefit from globalization

Countries can benefit from financial globalization and countries should take advantage of it. Financial liberalization tends to develop the financial system, enhancing the financing opportunities, reducing the cost of capital, and increasing investment and liquidity. At the same time, the evidence does not suggest that financial volatility increases after financial liberalization. It is true that crises have had a very large imparct on growth in some countries like Indonesia. But in other cases, the recovery has been rapid, as in South Korea and Mexico. Also, it would be hard to argue that economies would have grown as fast as they did if they had remained closed.

Though the potential benefits can be large, we are far from full financial globalization. Even in open countries there is still an important home bias. Given the potential benefits of globalization, the scope is for a much deeper financial globalization and for much larger gains. Many countries are already partially open and the prospect is for an increased globalization of financial markets. Paradoxically, the increased globalization can reduce the scope for risk diversification, because integrated financial markets tend to be more correlated.

2. Importance of sound fundamentals

Sound macroeconomic and financial fundamentals are key in lowering the probability of crises and contagion and to be able to manage crises more effectively. Preventing currency and banking crises should be one of the primary objectives of any policymaker because of the high cost of crises. This is more important in a world of free capital mobility, because both foreign and domestic investors exercise market discipline and because foreign crises might have contagion effects at home. Attacks on currencies can occur whenever confidence is lost, even if a country has sound fundamentals. A crisis in a foreign country can rapidly trigger a crisis at home. Weak fundamentals tend to scare investors more easily and make crisis management more difficult. Countries with bad fundamentals, for example with large fiscal deficits and public debt, have fewer instruments to use in the midst of a crisis. Therefore, countries should focus on key policies that help them prevent and manage crises. These policies include avoiding large current account deficits financed through short-term private capital inflows and large asset-liability currency mismatches.

3. Initial conditions matter

Measures to isolate countries (like capital controls) are unlikely to work in the long run. When there were attempts to isolate partially open economies, investors have tended to find ways to avoid the restrictions over time.

The initial conditions matter; the effectiveness of policies relies on the degree of integration with world markets. Countries with a very low degree of integration with world capital markets and with underdeveloped financially markets are more able to delay or revert the process of financial globalization than countries already partially integrated. Countries with a low level of integration should ensure that its financial sector is prepared to cope with open capital markets. If the domestic financial sector does not manage risk properly, does not have sufficient reserves and capital, or does not have the right incentives, large capital inflows and outflows can create severe problems in the domestic financial sector. However, it is not the case that all the conditions need to be met before governments liberalize the financial sector. The process of integration to world financial markets can in some ways help improve the conditions of the domestic financial sector.

As countries develop, more comprehensive policies for risk management will be needed. These measures should try to avoid imperfections in capital markets and the build up of vulnerabilities. In more developed economies, the distinction between foreign and domestic capital becomes increasingly difficult. As the economy becomes integrated with the rest of the world, restraints to capital movements are more difficult to be effective since they can be circumvented easily. Therefore, a more comprehensive approach will be needed to build solid financial economies. This approach involves a proper regulation and supervision of the financial system.

4. Need for international financial coordination

As economies become more integrated, governments have less policy instruments and have to rely more on international financial coordination. For example, governments tend to have fewer options about their monetary policy and exchange rate policy. In open economies there is a higher transmission of international interest rates and prices to the domestic economy. Moreover, bank regulation and supervision by one government is more difficult when liabilities and prices are denominated in foreign currency and when the banking sector is part of an international banking system. Also, in the midst of contagious crises, governments tend to lack sufficient resources to stop a currency attack and individual government can do little to stop crises being originated in foreign countries. In these cases, international financial coordination can help individual governments achieve their goals.

As discussed in Kawai, Newfarmer, and Schmukler (2001), there are different policies in which there is scope for coordination. One policy is the timely mobilization of external liquidity of sufficient magnitude to reverse market expectations in a context of sound policies. That liquidity usually comes from the international financial institutions. Given the magnitude of capital flows and the clustering of crises, isolated actions of individual governments or institutions are not sufficient to gain the required confidence. A coordinated action among governments and the international financial institutions is

necessary to overcome crises and contagion, at both regional and global levels.[18] To minimize potential moral hazard, it would be necessary to involve the private sector so that private international investors share in the costs as penalty for excessive risk taking.

Another policy that requires international coordination is to build a strong "international financial architecture" to prevent and manage, in a systematic way, financial crises. Even though there are different meanings of this architecture, in general terms it refers to international arrangements for mutual consultation, monitoring/surveillance, and collaboration, covering a broad range of subjects of economic policy and possible financing in the event of crisis. The international financial architecture is still under construction. The initiatives under consideration focus on crisis prevention, crisis management, and crisis resolution. The current initiatives include setting international standards for transparency and information dissemination, bank supervision and regulation, disclosure in securities markets, accounting and auditing rules, bankruptcy procedures and corporate governance. The new initiatives also include the private sector involvement in financing packages, to complement IMF resources and to discourage moral hazard that could be associated with bailouts.

5. Main challenge: integrate all countries, sectors, and firms

One of the main challenges of financial globalization is to integrate all sectors and countries that do not participate in the globalization process. Financial globalization can bring about many positive benefits. But not all countries, sectors, or firms have access to global financial markets and services or can take advantage of the benefits induced by globalization. Among developing nations, only some countries receive foreign capital, particularly middle-income countries. Within each country, investment is concentrated in certain sectors. Selected companies can obtain foreign funds. The lack of participation in the financial globalization process might put countries, sectors, and companies in disadvantageous positions. There is no easy solution on how to integrate them. Future research might shed light on how some countries, sectors, and companies are benefiting from financial globalization, while others are being left behind. Furthermore, future research might shed light on how all countries, sectors, and companies might take advantage of the possibilities offered by financial globalization.

[18] Ganapolsky and Schmukler (1998) show that during the 1994–95 crisis in Latin America, the agreements of Argentina and Mexico with the international financial community were well received by the markets. These agreements were signed simultaneously by Argentina and Mexico. At that time, all Latin American countries recovered.

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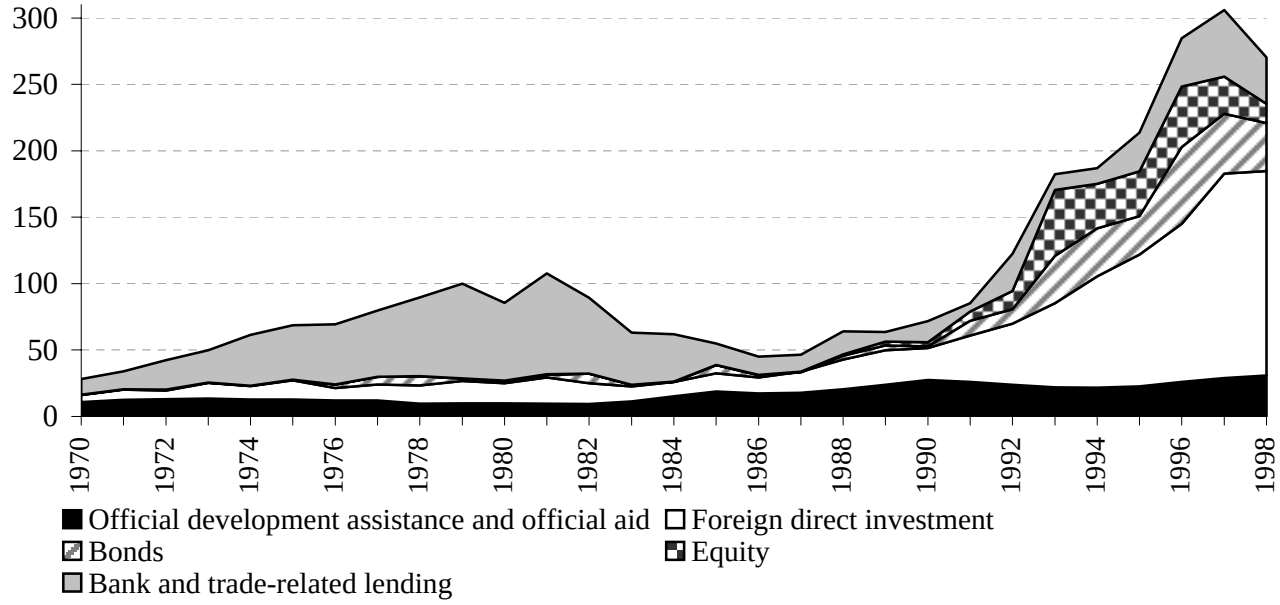
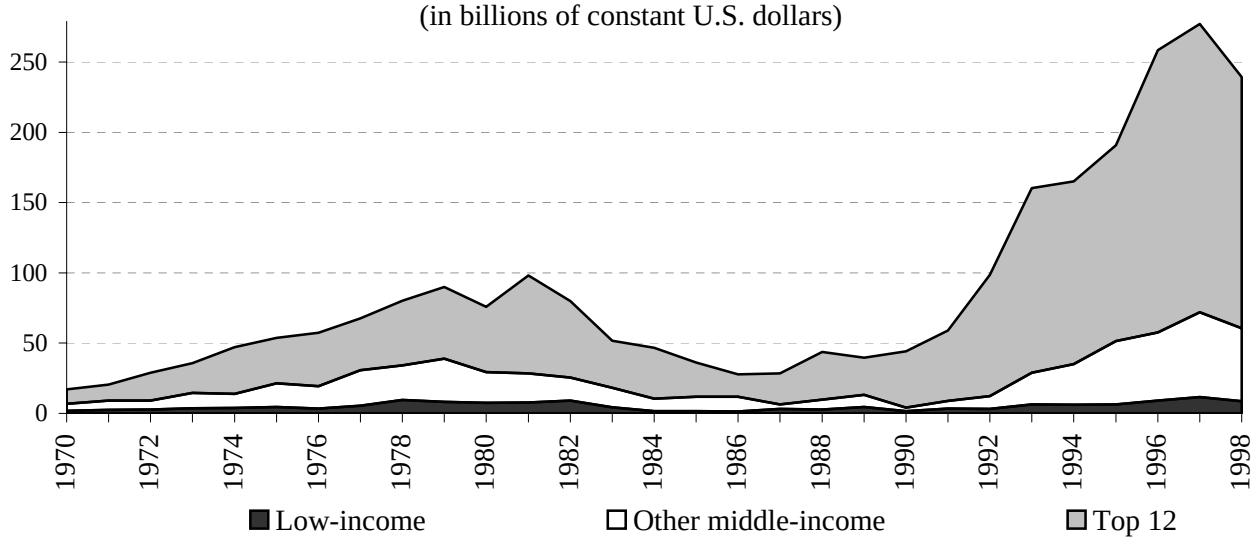
Figure 1
Net Capital Flows to Developing Countries 1970-1998: By Type of Flow
(in billions of constant U.S. dollars)



Net Private Capital Flows to Developing Countries 1970-1998: By Receiving Country
(in billions of constant U.S. dollars)



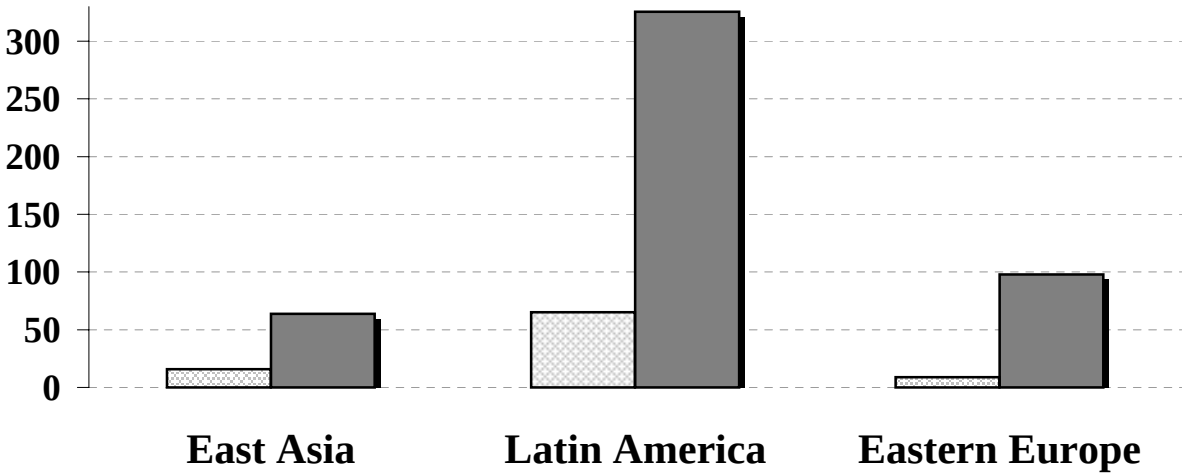
The figures display net capital flows to developing countries. The top panel plots the evolution of private capital flows and official capital flows. Private capital flows are dissagregated into foreign direct investment, portfolio bond flows, portfolio equity flows, and bank and trade related flows. The bottom panel depicts the distribution of private capital flows among developing countries. The top 12 receiving developing countries are: China, Brazil, Mexico, Argentina, Korea, Rep., Malaysia, Russian Federation, Thailand, Chile, India, Indonesia, and Turkey.

The variables included are: total private capital flows, foreign direct investment (net inflows in reporting country), portolio investments-bonds and equity, bank and trade related lending, and official development assistance and net official aid. For more information on private capital flows, see WDI 2000 table 6.7. All these variables are deflated using the U.S. GDP deflator; the base year is 1992.

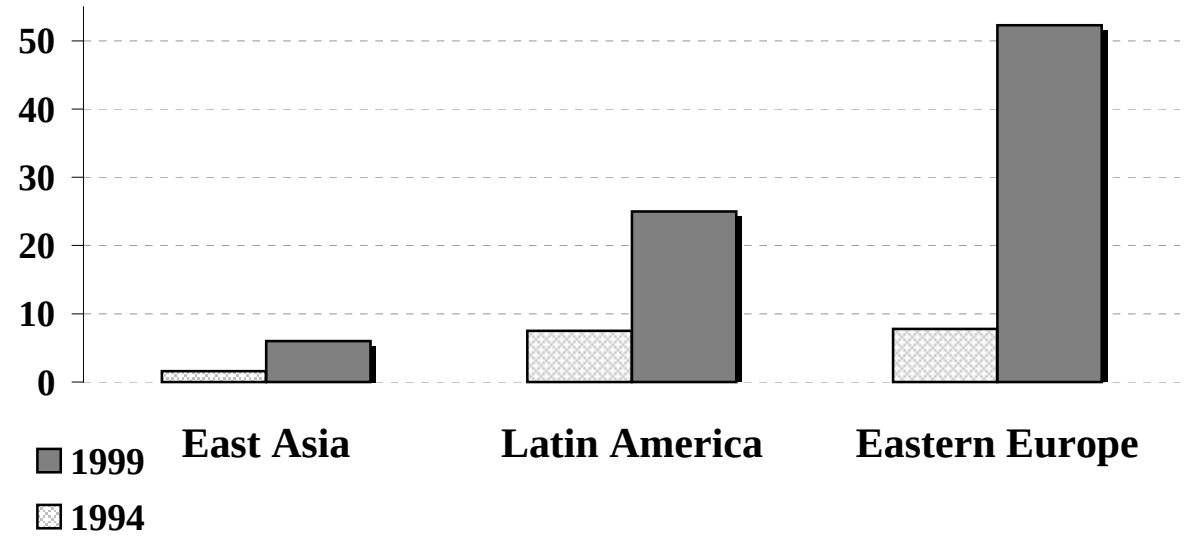
Source: World Bank, World Development Indicators 2000 (WDI) and Global Development Finance 2000 (GDF) Database

Figure 2
Internationalization of Financial Services

Total Assets Held by Foreign Banks in Selected Countries
(in billions of U.S. dollars)



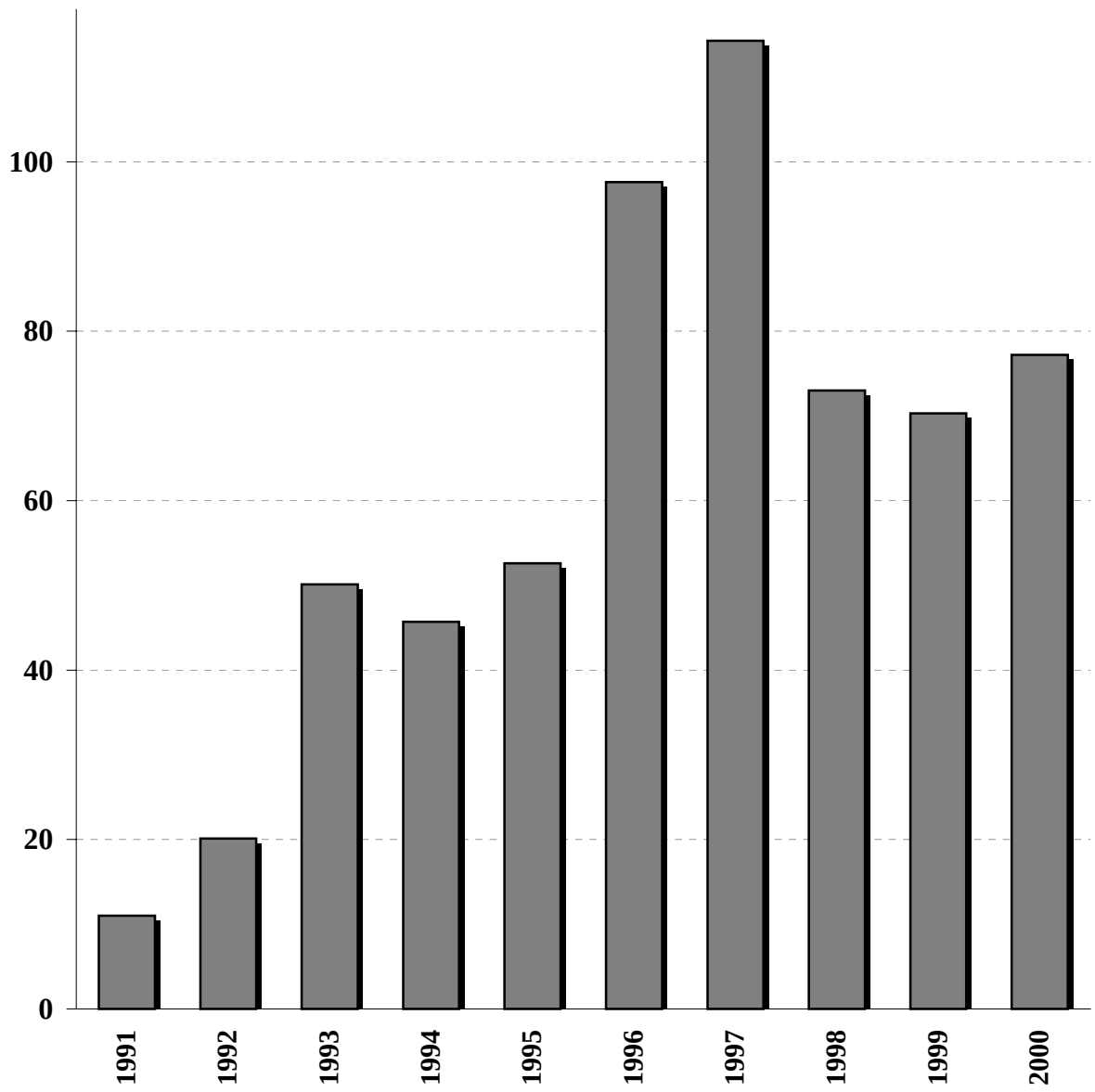
Share of Total Assets Controlled by Foreign Banks in Selected Countries
(in percent)



These figures illustrate the increase in the value of assets held by foreign banks and the increase in the importance of foreign banks in selected developing countries. In these figures, East Asia includes Korea, Malaysia, and Thailand. Eastern Europe includes The Czech Republic, Hungary, and Poland. Latin America includes Argentina, Brazil, Mexico, Peru, and Venezuela.

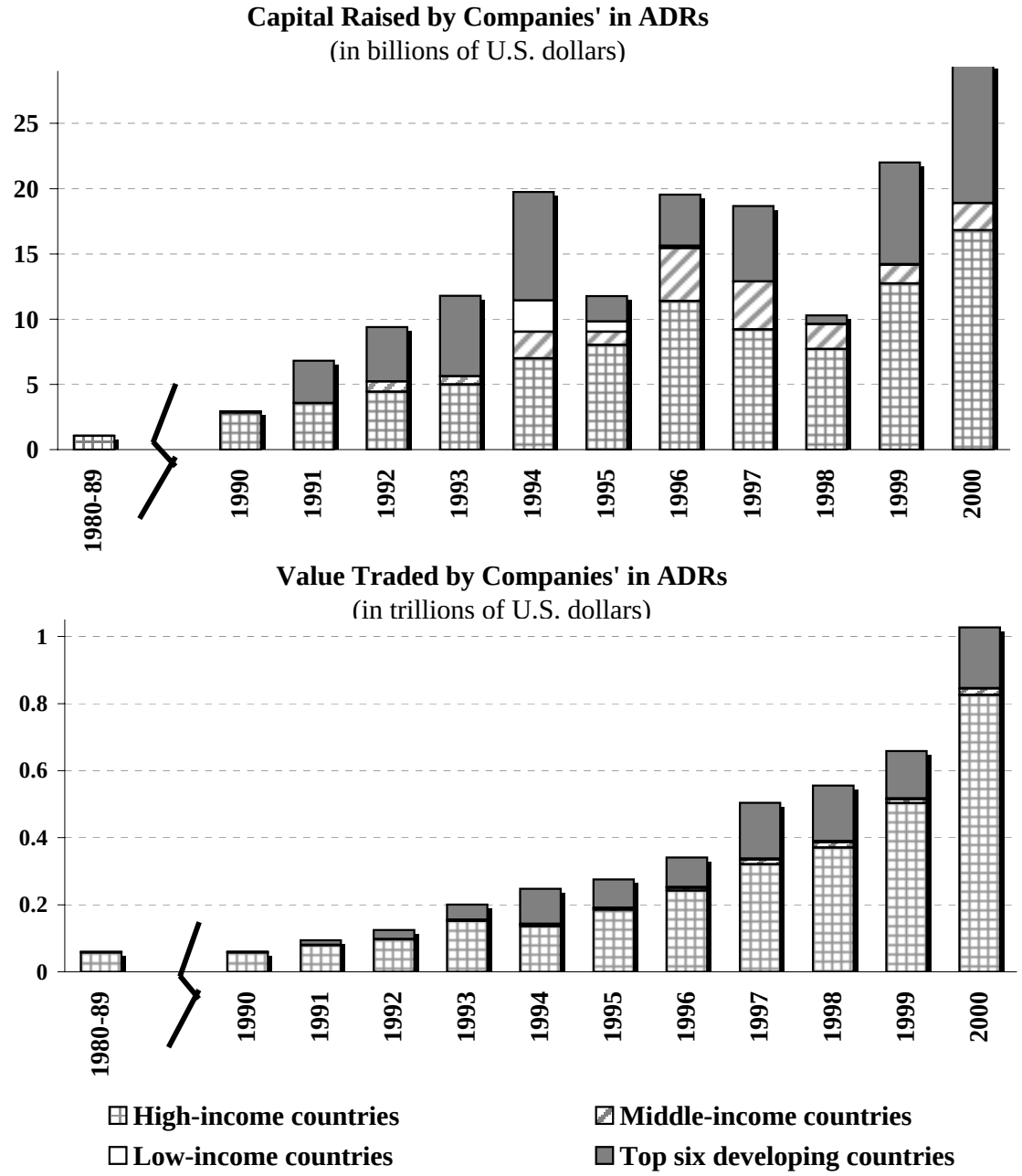
Source: International Monetary Fund International Capital Markets September 2000

Figure 3
Internationalization of Emerging Bond Markets



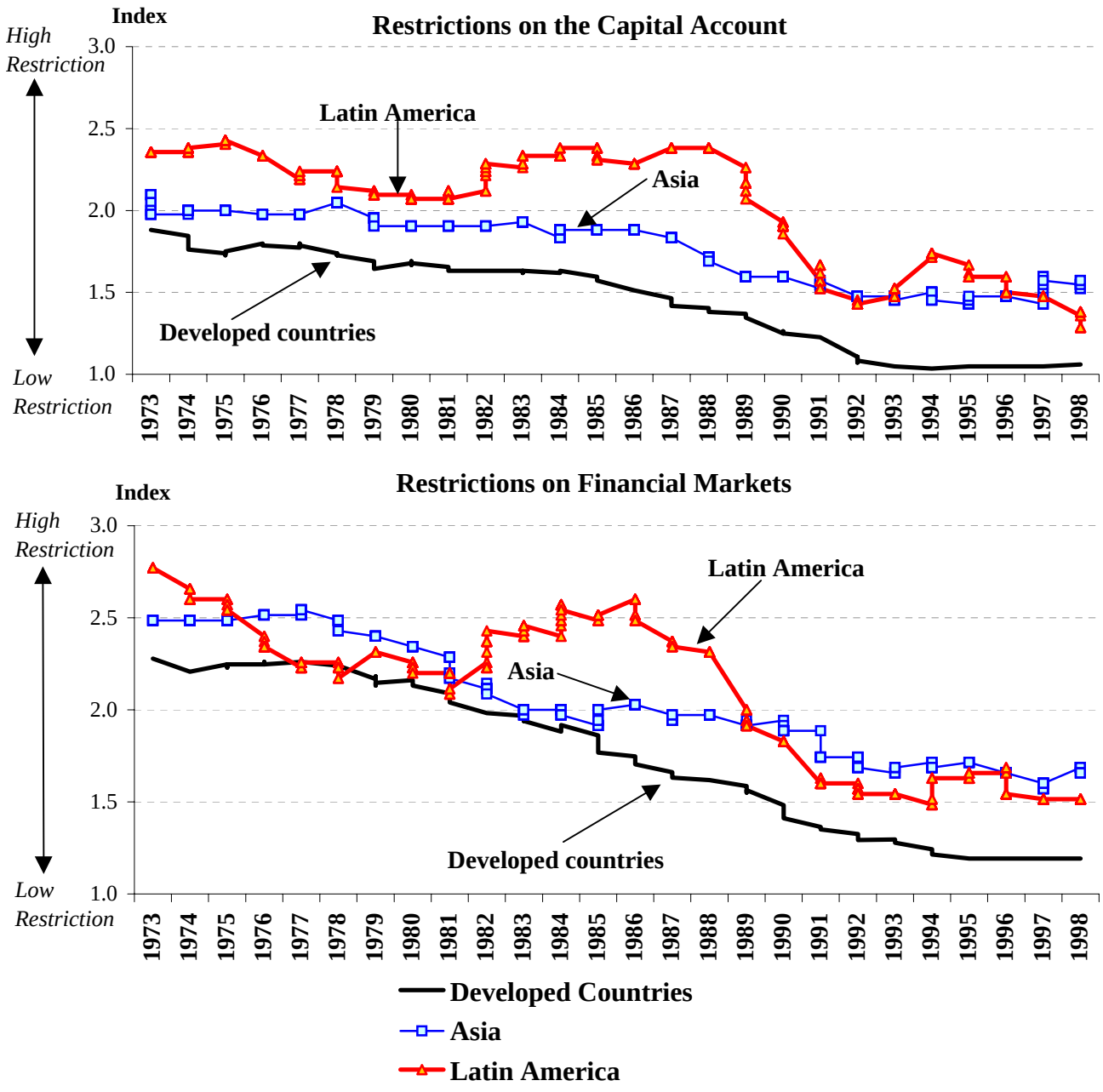
This figure depicts the value of bonds issued by developing countries in international capital markets during the 1990s.
Source: Global Development Finance 2001. Original source: Capital DATA and World Bank staff estimates.

Figure 4
Internationalization of Emerging Stock Markets



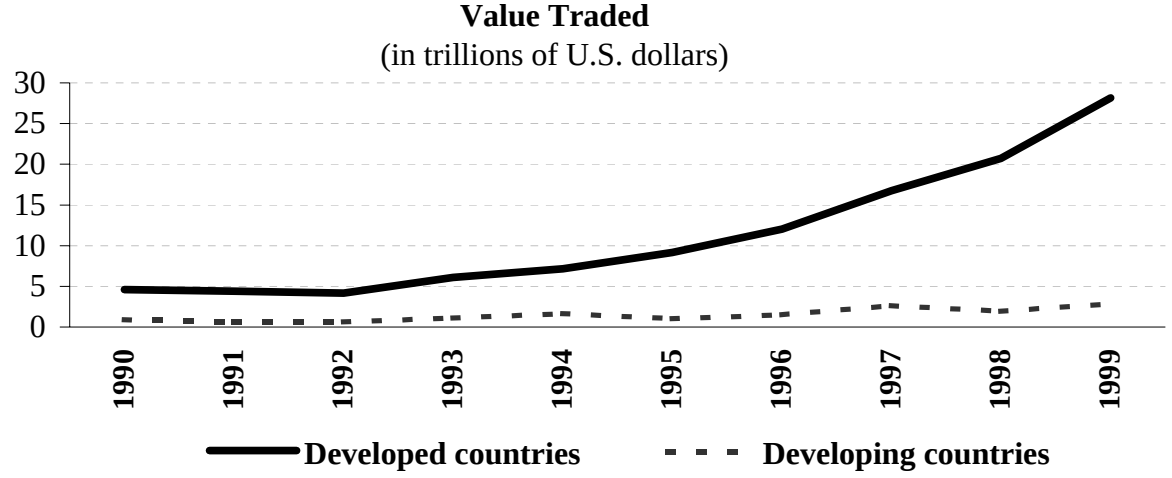
The figures illustrate the amount of equity capital raised by developing countries in international capital markets and the volume traded by developing countries on ADRs during the 1990s. In these figures, the top six developing countries include Argentina, Brazil, China, India, South Korea, and Mexico; these countries were selected in accordance to their total capital raised during the period 1980-2000. High-income countries include Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Singapore, Slovenia, Spain, Sweden, Switzerland, Taiwan, and the United Kingdom. Middle-income countries include Bahrain, Chile, Colombia, Croatia, Czech Republic, Dominican Republic, Egypt, Estonia, Hungary, Jordan, Kazakhstan, Latvia, Lebanon, Lithuania, Malta, Morocco, Papua New Guinea, Peru, Philippines, Poland, Romania, Russia, Slovak Republic, South Africa, Sri Lanka, Thailand, Tunisia, Turkey, Uruguay, and Venezuela. Low-income countries include Ghana, Indonesia, Malawi, and Pakistan.
Source: Bank of New York.

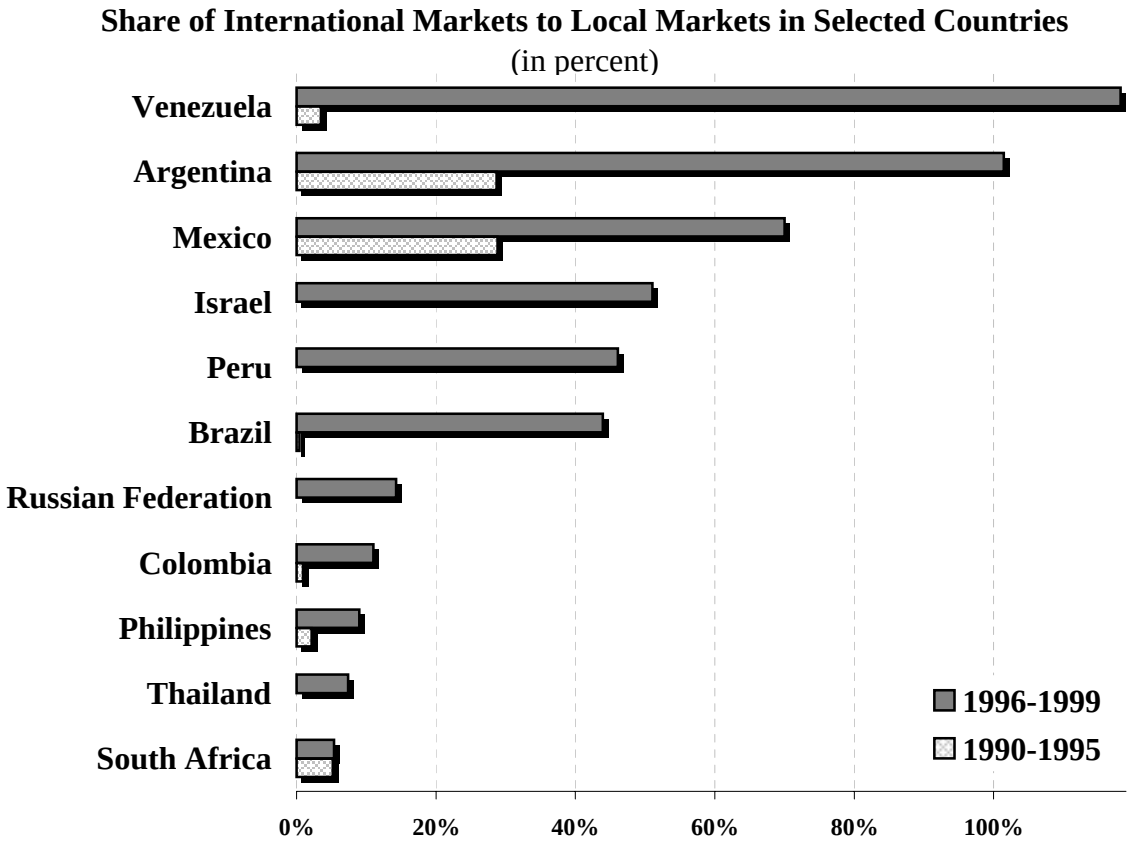
Figure 5
Financial Restrictions



The figures display an index of the liberalization of the capital account and an index of the liberalization of domestic financial markets. The indexes cover the last 30 years for developed and developing economies. 3=High restrictions 2= Medium restrictions, and 1=No restrictions. Developed countries include Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Norway, Portugal, Spain, Sweden, Great Britain, and the United States. Asian economies includes Hong Kong, Indonesia, Korea, Malaysia, Philippines, Taiwan, and Thailand. Latin America economies includes Argentina, Brazil, Chile, Colombia, Mexico, Peru, and Venezuela. The variable restrictions on the capital account is the average of six indicators including: 1. Borrowing abroad by banks, 2. Borrowing abroad by corporations, 3. Acquisition by foreign investors, 4. Multiple exchange rates/others, 5. Repatriation of capital, 6. Repatriation of income. The variable restrictions on financial markets is the average of five indicators including: 1. Lending interest rates, 2. Deposits interest rates, 3. Credit controls, 4. Reserve requirements, and 5. Deposits in foreign currency.
Source: Kaminsky and Schmukler (2001)

Figure 6
The Evolution of International Markets Relative to Local Markets

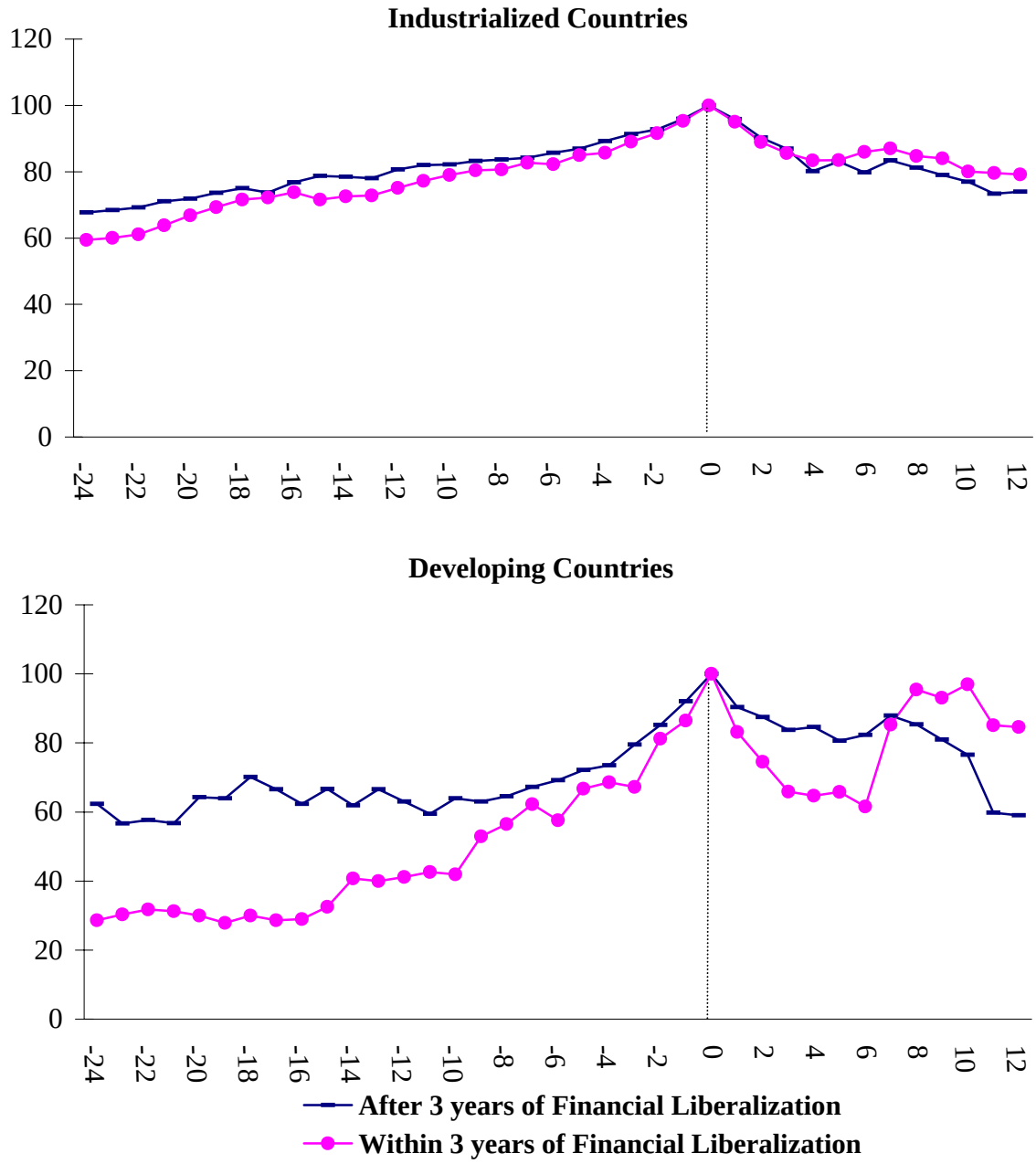




The figure in the top panel illustrates the evolution of stock markets in developed and developing countries during the 1990s. The figure in the bottom pannel illustrates, for a group of selected countries, the equity trading in international markets relative to the domestic markets. The figure plots the average ratio of ADR trading in New York over the total value traded in the domestic markets for the years 1990-1995 and 1996-1999.

Source: Bank of New York (for ADRs) and International Financial Corporation Emerging Markets Fact Book

Figure 7
Average Boom-Bust Cycles and Financial Liberalization



The figures show the average boom-bust cycle in financial markets for selected countries. Date 0 is the date of the peak in stock market prices. All stock market indices are normalized to 100 at the peak. Countries comprising Industrialized Countries are Canada, France, Germany, Italy, Japan, United Kingdom, United States, Denmark, Finland, Ireland, Norway, Portugal, Spain, and Sweden. Countries comprising developing countries are Argentina, Brazil, Chile, Colombia, Mexico, Peru, Venezuela, Hong Kong, Indonesia, Korea, Malaysia, Philippines, Taiwan, and Thailand. Financial liberalization occurs when countries substantially lift the restrictions on cross-country capital movements.

Source: Kaminsky and Schmukler (2001)

Appendix Table 1: Description of financial terms used in this chapter

Brady Bonds: Brady Bonds are securities that have resulted from the exchange of commercial bank loans, sometimes defaulted loans, into new bonds. The goal of that exchange was to reduce and restructure the debt of those countries that have sufficiently reformed their economic policies. Brady Bonds are named after former U.S. Treasury Secretary Nicholas Brady, who led the 1980s debt-reduction plan for developing countries. www.bradynet.com offers comprehensive coverage of information about Brady Bonds.

Capital account of the balance of payments: All the economic activity of a country related to international trade and lending is registered at the balance of payments. The balance of payments includes two separate accounts: The current account and the capital account. The current account measures a country's trade in currently produced goods and services, including merchandise, services, and income receipts from assets abroad (including unilateral transfers and worker remittances.) Trade between countries in existing assets, either real or financial, is recorded in the capital account. When a country sells (buys) an asset to another country, the transaction is recorded as a capital inflow (outflow) for the home country and as a credit (debit) in the capital account. A country's capital account measures the net result of public and private international investment and lending activities.

Capital flows: Capital flows can be divided between public and private flows. Public flows consist of official development assistance and aid. Official development assistance and net official aid record the actual international transfer by the donor of financial resources or of goods or services valued at the cost to the donor, less any repayments of loan principal during the same period. Private capital flows consist of private debt and non-debt flows. Private debt flows include commercial bank lending, bonds, and other private credits; non-debt private flows are foreign direct investment and portfolio equity investment. Private capital flows can be divided into three broad categories: i) Foreign direct investment, ii) Portfolio flows (bonds and equity), and iii) Bank and trade related lending. Foreign direct investment is net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. Foreign direct investment is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. Portfolio flows include bond and equity flows. Bond flows consists of publicly guaranteed and non-guaranteed debt from bonds that are privately placed. Equity flows include non-debt-creating portfolio equity flows (the sum of country funds, depository receipts, and direct purchases of shares by foreign investors) and portfolio debt flows (bond issues purchased by foreign investors.) Bank and trade-related lending covers commercial bank lending and other private credits.

Cross listing: Cross listing is the admission on a local stock exchange of securities that are already listed/traded on foreign stock exchanges. The purpose of cross listing is to allow investors residing in a country to invest in the stocks of companies established and listed abroad and to trade them in their home market.

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Depository receipts: Depositary receipts, typically known as American depositary receipts (ADRs) and global depositary receipts (GDRs), are negotiable certificates representing ownership of shares in a company domiciled in one country (e.g. an emerging market). Depositary receipts are held by a depository, which issues a certificate that can be traded in another country (e.g. the United States). Depository receipts are an alternative to direct cross listing. www.bny.com/adr/ provides detailed information about ADRs.

Financial globalization: We define financial globalization as the integration of a country's local financial system with international financial markets and institutions. This integration typically requires that governments liberalize the domestic financial sector and the capital account. Integration takes place when liberalized economies experience an increase in cross-country capital movement, including an active participation of local borrowers and lenders in international markets, and a widespread use of international financial intermediaries.