

Finance without Frontiers?

“Actually, every society that is based on an ancient structure and opens its doors to money sooner or later loses its acquired equilibria and liberates forces thenceforth inadequately controlled. The new form of interchange jumbles things up, favours a few rare individuals and rejects the others. Every society has to turn over a new leaf under the impact.”

Fernand Braudel, *Capitalism and Material Life, 1400–1800*

IN COMPARISON WITH THE SCALE OF GLOBAL FINANCE, financial systems in individual developing countries are exceedingly small. China aside, only Brazil has a financial system as big as 1 percent of the world total. This chapter begins by explaining how small financial systems fall short of minimum efficient scale and that they have much to gain by sourcing some financial services from abroad.

Along with the rapid—albeit uneven—expansion of international debt and equity flows (including foreign direct investment (FDI)) there has also been a sharp recent increase in the provision of financial services in many developing countries by foreign-owned financial firms. In these three main dimensions (debt, equity, and services), financial globalization enlarges the scope for obtaining growth and other benefits from finance, but it also increases the risks. How far will this process go? In what respects should it be limited? In other words, what part of finance should remain domestic, and what should be provided from abroad?

The chapter continues by outlining the costs and benefits of capital account liberalization and proposing, as a basis for the remainder of the discussion, the premise that tight controls that result in a permanent wide gap between actual and market-clearing exchange rates and real wholesale interest rates are no longer a practical option.

Small systems increasingly interact with global finance

Then the three main dimensions of financial internationalization are considered in turn:

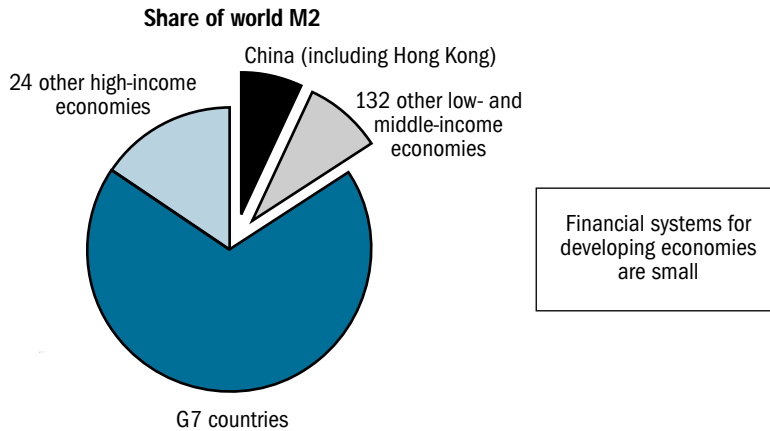
- Internationalization of the provision of financial services, including entry of reputable foreign banks and other financial firms, can be a powerful generator of operational efficiency and competition, and should also prove ultimately to be a stabilizing force.
- Equity flows, including FDI, have tended to be larger than debt flows in recent years. We argue that the gains from admitting foreigners in terms of risk diversification likely outweigh any imported volatility in the price of listed equity.
- In regard to debt flows, the key variables are the interest rates and exchange rates at which the flows are contracted. Liberalization has resulted in domestic interest rates that are volatile and too high in many developing countries, reflecting exchange rate and other policy risks, and requiring careful risk management by financial intermediaries.

The chapter concludes with some remarks on the accelerating importance of technology and communications—a familiar feature of international finance, which has always been at the cutting edge, and is now reaching new heights with the advances of “e-finance.”

**Financial systems in
developing economy
are all small—**

Against the backdrop of a vast global system, all but a handful of developing economies have financial systems that appear tiny. Taking the money supply (M2) as a rough but convenient overall measure, apart from China, only Brazil has more than 1 percent of the world total.¹ A mere 15 other developing countries even reach a threshold of 0.2 percent of world M2. Indeed, seven major countries account for fully three quarters of world M2, and, again leaving China aside, low- and middle-income countries account for only 9 percent (figure 4.1). The distribution of stock market capitalization is even more skewed. In effect, the market power of any developing country in global finance is altogether negligible. The financial systems of all developing countries are small and should be managed with that in mind.

Many systems are *extremely* small. Over 200 million people live in some 60 member countries of the World Bank whose tiny banking systems’ assets fall short of \$1 billion—the size of a single small bank in any of the advanced economies. Many of these countries also have small populations, but others are relatively large countries—nine of them with a population in excess of 10 million—whose financial systems are very poorly developed.

Figure 4.1 Share of developing economies in aggregate world money stock

Source: *International Financial Statistics*.

Small financial systems underperform. Not only do they suffer from a concentration of risks. The smaller the financial system, the more vulnerable it is to external shocks and the less able its financial system is to insulate or hedge those shocks—unless the financial system is itself securely integrated in the world financial system through ownership and portfolio links. Small financial systems provide fewer services at higher unit costs, partly because they cannot exploit economies of scale, and partly because of lack of competition. Regulation and supervision of small systems is disproportionately costly (Bossone, Honohan, and Long 2001).

For these countries, the policy imperatives of smallness are acute. They need to think in terms of outsourcing both financial services themselves (actively seeking to attract foreign-owned banks, insurance companies, credit registry firms, and so on) and some aspects of financial regulation.

They need to seek cooperative arrangements with neighboring countries in such dimensions as regional stock exchanges and international, regional cooperation in regulation of the securities, insurance, and banking industries. Examples of this sort of cooperation already exist, notably in West, Central and Southern Africa, in the Eastern Caribbean, and in the Persian Gulf area (as well as in Europe). More will come.

Some services are more easily outsourced than others. For example, in considering the design of the arrangements for private provision of pensions, even in a small country the government may want to mandate contributions, create a collection system, and set minimum standards for pension contracts. As argued by Glaessner and Valdés-Prieto (1998),

—and smaller financial systems are more vulnerable to both domestic and external shocks

though, it could license international companies to offer those contracts to local contributors. In this case, the small country would be de facto importing supervision services, and avoiding much of the infrastructure needed for domestic securities markets.

There was a time when establishing a country's position in the world seemed to require a steel-making plant and a national airline. Economic realities mean that policymakers in those fields are now more concerned with the quality and cost of the steel that is available and the safety and reliability of air services, and with ensuring that airport infrastructure is adequately planned. In the same way, financial sector policymakers in small countries will increasingly think in terms of ensuring the quality and prices of needed financial services through regulatory and incentive design, regardless of whether those services are provided domestically or from abroad.

The move to capital flow liberalization has been fairly recent—

Capital Account Liberalization: Costs and Benefits

THE GUSTING WINDS OF FOREIGN COMPETITION AND OF international capital flows have now been blowing through the financial systems of most developing countries for a decade or more. Yet it is not so long since most domestic financial intermediaries and markets operated behind substantial and effective regulatory barriers to international borrowing or lending, or more generally to international trade in financial instruments, and to cross-border ownership of financial firms.

It sometimes seems that a boom-and-bust roller coaster has been imported when the capital account has been liberalized. Undoubtedly, with the wrong incentives, this has been a threat, but there have also been tangible gains from external liberalization and above all there is an inevitability about further opening-up to foreign capital markets and financial institutions.

After opening up to the rest of the world, individual countries are sometimes net importers of funds, sometimes net exporters. Sometimes an inflow or outflow of equity investments is balanced by an offsetting cross-border flow of debt finance. The maturity of inward and outward flows can also be different. Apart from the international flows that are involved, cross-border provision of financial services becomes important, and some of the financial firms operating locally may have foreign ownership.

Advocates of free capital movement point to several advantages, going beyond the static gains attributable to reallocation of loanable funds from capital-rich to capital-poor countries.² Because local equities can now be combined in a much wider portfolio, they become effectively less risky. That should increase their price, lowering the cost of capital for local companies. This in turn can make viable investment opportunities previously seen as too risky to finance, and in aggregate these can add substantially to growth. There is some evidence of an investment boom being associated with liberalization of equity markets. What is more important is that the quality or productivity of investment should also improve if the arrival of reputable foreign providers of financial services is associated, as it appears to be, with the kinds of improvements in the functioning of the financial system that come from financial development as discussed in chapter 1. (We review empirical evidence on some of these channels below.) Other dynamic advantages include the transfer of technology that can be embodied in or associated with capital inflows, and a possible disciplining effect on macroeconomic policy.

As international capital flows expanded, especially after 1973, concerns about their impact broadened from fear of speculative attack on an exchange rate peg, to a fear of macroeconomic destabilization triggered by overenthusiastic and reversible inflows. Numerous instances have been observed where capital flows, which had had the macroeconomic effect of bidding up local labor costs, have suddenly stopped (Calvo and Reinhart 2000), throwing the recipient economy into a recession. Nor are the victims of these sudden stops always countries where macroeconomic policy has been weak or the economy has been overheating.³

Despite a huge research literature, there is nothing near a professional consensus on whether the net impact of full capital account liberalization on growth, poverty, or volatility should be regarded as favorable or not. Growth regressions, which include various measures of international financial openness in growth regressions, tend to suggest either that there is no statistically significant relationship (Kraay 1998; Rodrik 1998c), or that any such relationship is limited to higher-income countries (Edwards 2000d).

What is clear is that setting policy to cope with the stresses, as well as to take advantage of the benefits, of internationalization on the domestic financial system presents one of the greatest policy challenges today.⁴ The impact and importance of international capital movements clearly extends beyond their impact on domestic financial intermediaries and markets. They are in the front line, however, and cannot remain

**—and there is no
consensus on the net
benefits**

unaffected because, regardless of what measures may be put in place to restrain capital movements, the actual openness to such movements is unlikely to diminish, given the rapid and continuing improvements in information technology and communications, allowing more and more of finance to be conducted across frontiers at essentially zero cost. While measures of control that have intermittent effect—that is, although constantly in place, they only bite in a crisis—could remain viable, the steady impact of other measures will be increasingly limited.

This, then, is a premise of the remainder of the chapter: that governments can no longer hope to maintain a permanent wide gap between actual and market-clearing exchange rates and real wholesale interest rates, without a panoply of administrative controls on international trade, as well as payments to an extent that is demonstrably damaging to growth and living standards. That premise, however, does not in itself rule out milder forms of control, including taxes and restrictions on international capital movements, on the purchase by foreigners of local equities and the admission of foreign-owned financial service companies, such as banks. These indeed are the three main areas where the actual empirical experience of, and impact on, small domestic financial systems needs to be understood, and we take them up in turn.

Financial Services: Allowing Foreign Provision

Emerging markets can benefit from importing financial services

THE FINANCIAL SERVICES INDUSTRY IN ANY COUNTRY STANDS to incur losses from the elimination of the protection that has allowed providers to operate at a high-cost, high-profit level over the years. Ease of communications and the removal of restrictions on borrowing and depositing abroad forces local banks to cut their costs, at least for large customers, and also forces them to improve the quality of their services, if they are to limit the loss of business. As we will see, most of the trading in local shares that is generated by depositary receipts (DRs—also see box 4.1) occurs offshore, and new initial public offerings from firms in developing countries are often now being made in mature markets, bypassing the local exchanges altogether.

Undoubtedly, the accelerating presence of the Internet will begin to make direct international financial transactions available even to small firms and individuals, although the speed of these developments and the extent to which they will displace the need for local presence of financial service companies remain unclear (Claessens, Glaessner, and Klingebiel 2000).

For the present, most financial service companies, whether they specialize in banking, insurance, fund management, or stock exchange services, still retain an important franchise based on local presence. Mostly these are locally owned firms, but increasingly foreign firms have also sought to enter. Privatization of banks, especially in transition economies,

Box 4.1 Depository receipts and country funds

Depository receipts

DEPOSITORY RECEIPTS (DRS) HAVE LONG BEEN USED to help U.S. investors to avoid transactions costs and some of the risks of holding or trading securities in an unfamiliar market, whether mature or emerging.¹ They can also be used to circumvent regulatory barriers facing U.S. investors, including institutional investors, to holding shares in non-U.S. firms. The first DR was established in the United States in 1927 for the British retail firm Selfridges. Now DRs are traded in other mature markets also. There are currently DR programs for about 2,000 firms, almost half of them from emerging markets. The wide range of companies whose shares are now indirectly traded in the United States now means (as shown by Errunza, Hogan, and Hung 1999) that U.S. investors can achieve essentially full diversification without moving outside the securities traded within the United States.

Issued typically by one of four large U.S. banks, a depository receipt certifies that the depository bank is holding shares in the non-U.S. firm as trustee for the holder of the certificate. Normally it is at the request of the non-U.S. firm that the depository bank launches a DR program, with the objective of enabling the firm to reach a larger pool of worldwide investors. DRs can be offered for sale in the United States only in accordance with regulations established by the Securities and Exchange Commission (SEC), which ensures, inter alia, an adequate degree of disclosure of the foreign firm's accounts. The more disclosure, the more unrestricted the trading of the DR can be in U.S. markets. The high standards of

disclosure required for a DR program also benefit shareholders in the local market, and can indirectly generate pressure for increased disclosure, even for firms that do not have a DR program.

Country funds

The role of mutual funds, established in the U.S. (and European) markets, and specializing in the equities of specific emerging markets, or in regional groups of emerging markets, was important in the process of extending foreign ownership of emerging market equities, especially in the late 1980s and early 1990s. World funds hold diversified portfolios, including emerging market securities, and are increasingly important. There has also been a rapid growth in country funds marketed in the United States and specializing in specific industrial countries. Not only do these funds offer the usual risk-pooling and transactions cost benefits of collective savings media, but in some cases access to the markets was restricted to approved funds, which then represented the only way for foreign investors and local firms to gain access to each other. Nowadays, part of the emerging market security holdings of institutional investors in rich countries is directly held, but part is still in the form of country fund shares.

The first funds were closed-end, that is, their shares could not be redeemed—a suitable restriction when the funds were invested in illiquid markets. With increasing liquidity in the emerging markets, open-end funds have predominated. The price of the shares in closed-end country funds can deviate widely from the

(box continues on following page)

Box 4.1 *(continued)*

market value of the underlying shares. Such deviations are also found in mutual funds that invest in domestic securities and in country funds specializing in advanced markets. However, the deviations tend to be wider for emerging market country funds and to be highly variable. Even before the turbulence of 1997–98, the vari-

ance of country fund returns was found to be about three times as large as for the underlying assets (Hardouvelis and others 1994 quoted in Levich 1998). Where the country fund is less restricted in its access to the emerging market than other foreign investors, it has tended to be at a premium to net asset value.²

1. Hence the usual designation American depositary receipts (ADRs). There is no difference between an ADR and a global depositary receipt (GDR), the latter term sometimes being preferred for marketing reasons. A Euro-denominated DR differs mainly in that dividends are paid to the holder in Euros, whereas dividends on ADRs and GDRs are paid in U.S. dollars at the current rate of exchange.

2. For further discussion, see Kaminsky, Lyons, and Schmukler (2000b) and IMF (2000).

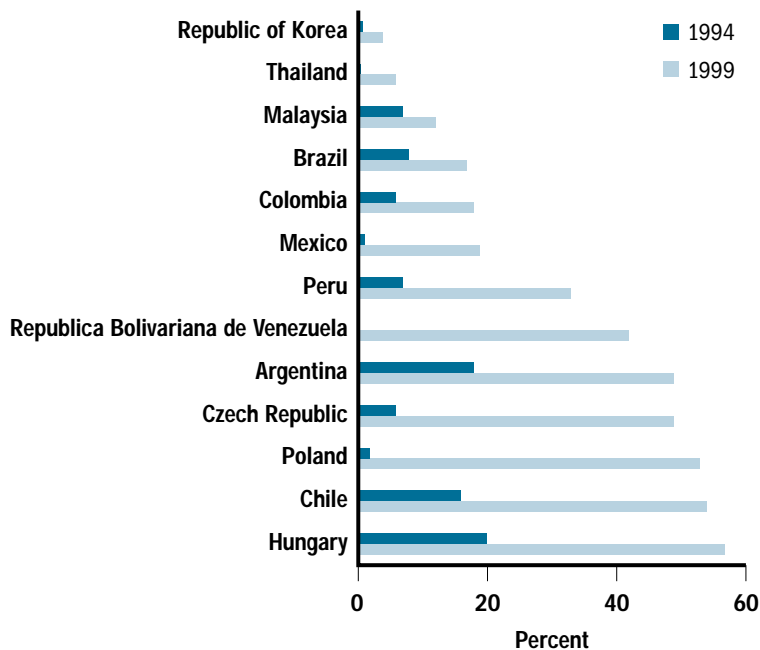
Despite worries that foreign firms could destabilize domestic finance—

and fire sales of failed banks have provided great opportunities for banks from advanced countries to acquire a pre-existing branch network and thus to enter retail banking. Banks in several of the smaller Western European countries have been very active in Central and Eastern Europe, and the expansion of Spanish banks into Latin America has been dramatic—in some countries giving rise to policy concerns about increased concentration of ownership in the banking industry. Indeed, the share of banking assets controlled by foreign banks has soared in several countries in recent years (cf. IMF 2000; figure 4.2).

Some countries, however, have remained slow to admit foreign-owned financial firms to the local market, fearing that they will destabilize the local financial system and put local financial firms out of business, with the ultimate result that particular sectors and particular national needs will be poorly served.⁵ This section considers whether these fears are justified, and concludes that they are not.

There are certainly some potential drawbacks to excessive reliance on just a few foreign financial institutions, especially if they come from just one country. It can introduce a new source of contagion, as when domestic conditions induced credit contraction by Japanese banks in other East Asian countries (and in California), with significant consequences for the host country. Furthermore, it is conceivable that a government could find itself in a weak position to counter abuse of power by a cartel of dominant foreign-owned entities. And, while the prosperity of a bank tends to be correlated with that of the countries in which it operates, it is

Figure 4.2 Increase in the market share of majority foreign-owned banks, selected countries, 1994 and 1999



Source: Bankscope; IMF (2000).

plausible that foreign-owned banks would have a lower long-term commitment to the host countries.

Nevertheless, despite the growing presence of foreign-owned financial intermediaries, it is difficult to find any hard evidence for the proposition that admitting foreign firms has adverse consequences for the economy as a whole. Indeed, the indications are that, by improving overall operating efficiency, and by leveraging improvements in both official and private elements of the financial infrastructure, foreign entry helps create the conditions for improved financial intermediation and long-term growth (Levine 2001).

It is banking that has generated the greatest concern among those who oppose foreign entry. Now much evidence exists on how foreign banks behave and how they contribute to financial sector development and national economic growth.

In high-income and upper-middle-income countries, although they represent on average more than one in five of the banks, foreign-owned

—there is little evidence to support such fears

Foreign banks will become more than niche players

institutions still usually account for much less than 10 percent of local banking assets. They generally are niche players, often catering to foreign companies and concentrating on international trade business. In these environments, they tend to operate with lower unit costs and lower unit profitability than the domestic banks. In several of the more prosperous countries of Latin America and Central Europe, though (as well as in some advanced economies, such as in New Zealand), foreign-owned banks begin to play a larger role (cf. figure 4.2).⁶

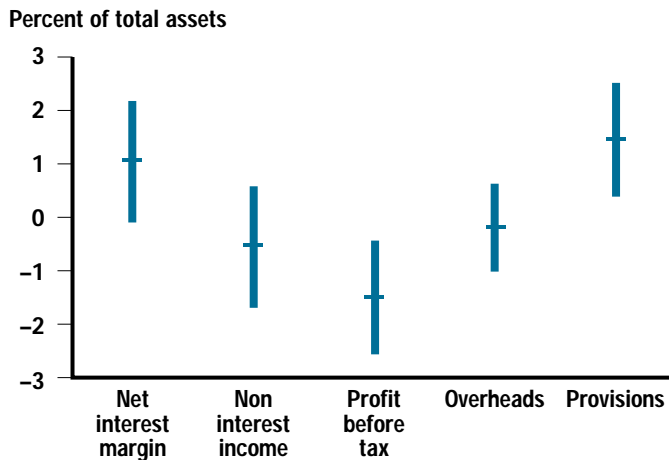
Even before the recent expansion, foreign banks tended to have a larger share of the market in poorer countries. In 16 of these, the foreign banks account for more than a third of the system. Here the foreign-owned banks are more profitable on average than local banks, despite incurring higher operating expenses, which likely reflects their investment in higher-quality services. They also have higher interest margins and higher tax payments. The smaller the country, the more likely it is to rely on foreign-owned banks, but some larger countries, such as India, Indonesia, and Pakistan, also have a sizable share of foreign-owned banks.

Anecdotes to the contrary notwithstanding, there is no evidence that the local presence of foreign banks has destabilized the flow of credit. Instead, the entry of these banks has been associated with significant changes in the competitive environment and in the quality of regulation and disclosure.

Numerous case studies of bank entry into countries as different as Argentina, Australia, and Hungary document the dynamic impact of foreign entry on the efficiency and competitiveness of the local banking systems (see Levine 1996 and Claessens and Jansen 2000 for reviews). The very threat of entry has often been enough to galvanize the domestic banks into overhauling their cost structure and the range and quality of their services, with the result that foreign entry has often proved not to be as profitable for the entrants as they may have anticipated.

Statistical analysis of data on the accounts of individual banks confirms the impression that entry of foreign banks can make national banking markets more competitive. Thus, the higher the share of foreign-owned banks, the lower is the profitability and the higher are the loan-loss provisions (albeit compensated by a higher net interest margin) of domestically owned banks (figure 4.3).⁷ The administrative efficiency of the incumbents may also improve. Although the raw change in overhead expenses is not statistically significant, this likely results from the

Figure 4.3 Estimated impact of foreign bank entry on domestic bank performance



The entry of foreign owned banks increases competition—pushing down the profit margins of domestically-owned banks, and inducing them to lend to sectors requiring higher gross margins to offset higher loan-loss provisions.

Note: The chart shows the impact of a 50 percent increase in the market share of foreign banks on the profitability of local banks. The vertical line shows the 95 percent confidence interval and the horizontal bar shows the point estimate; e.g., the net interest margin increases by 105 basis points +/- 110 basis points.

Source: Based on pooled national time-series cross-section regressions in Claessens, Demirgüç-Kunt, and Huizinga (2000).

apparent shift in the portfolio to riskier loans, which also entail higher administrative expenses.

Though not a magic bullet in this regard, this does suggest that opening up banking to foreign entry can help to extend the price and efficiency benefits of financial globalization to the smaller customer who still cannot easily access foreign-based financial services.

The fear that a local presence of foreign-owned banks might destabilize capital flows by exporting their resources at times of host country pressure does not appear to have been substantiated at the time of recent major crises. On the contrary, foreign-owned banks in Argentina drew on their external credit lines to meet at least part of the unprecedented deposit outflow in the Tequila crisis. To some extent, depositors have run to local branches of reputable foreign-owned banks in a crisis when they could have shifted their funds abroad (Claessens and Glaessner 1998). More generally foreign banks in Argentina and Mexico have proved, if anything, a stabilizing force in terms of overall credit flows (Cull and others 2000, Goldberg and others 2000).

**Increased competition
reduces domestic profit
margins**

The pressure on domestic banks from foreign competition could present prudential risks, if it erodes franchise value of high-cost operators to the point where they begin to gamble for resurrection, though in practice intensified domestic competition in a liberalized environment seems to have been a bigger source of problems in this regard, and the presence of foreign banks appears to reduce the risk of crisis (cf. Demirgüç-Kunt, Levine, and Min 1998). Also, there is the risk that some less reputable foreign bank entrants might prove to be unsound—the case of BCCI, which established itself widely in developing countries, as well as in the industrial world, must remain a cautionary tale. Evidently these considerations should be yet another reason for strengthening prudential regulation. Actually, the arrival of reputable foreign banks is usually associated with an upgrading of transparency, especially if the banks bring improved accounting practices with them. And if local banks want to establish a reciprocal presence in advanced centers in order to be able to match the range of international services offered by the foreign-owned banks to local clients, they will need to obtain a license there. To satisfy the host regulator that local regulation is adequate, such banks will, instead of preferring lax regulation, begin to pressure local regulators to upgrade, as in Mexico in the context of the North American Free Trade Agreement (NAFTA).

**There is no evidence that
systems relying on foreign
banks disadvantage
smaller customers**

As to the concern that foreign banks neglect small customers, it is evident that a distinction must be made between the conduct of foreign-owned banks relative to domestic banks and the relative performance of systems in which foreign-owned banks have a large share. It is true that foreign-owned banks tend to specialize in other niches, leaving the small business segment to the local branches. There appears to be no statistical evidence, however, that systems with more foreign-owned banks neglect small customers. Indirectly some indication may be obtained from the experience of banking consolidation in the United States. When small banks, which have always tended to specialize in small firm finance, have been absorbed into a larger entity—while there has been some initial reduction of credit to that segment—the effect has been a transitory one. Soon small business is as well served as it had been. The Argentine experience may point in the same direction. Banks acquired by foreign parents did not at first emphasize consumer or mortgage and property lending, and were disproportionately represented in the capital city, Buenos Aires. However, they soon entered the mortgage business aggressively, driving down profit margins on this business in the local banks (Clarke and others 2000).

Of the three dimensions of financial globalization reviewed here, entry by foreign-owned institutions thus appears to be the least problematic from a national point of view. Service quality and price improve, and the risks are modest and containable. Producer interests in the financial sector may be damaged, in that market power of existing financial firms is reduced, but in the long run local firms that can match the efficiency of the entrants stand to prosper in a more dynamic environment.

Many countries do not have the luxury of choosing whether or not to admit the top tier of international banks. Indeed, there may be few or even no suitable applicants (see box 3.3 on the African experience). While entry by relatively inexperienced banks headquartered in neighboring countries can help achieve economies of scale, the benefits in terms of leveraging operational and infrastructural efficiency may be more limited. Such entrants certainly need to be closely scrutinized to make sure that their governance is adequate. If the business environment is poor, or if the market is small, set-up costs may be too high to justify entry and the authorities may have difficulty in securing suitable owners even when the largest bank in the country is for sale.

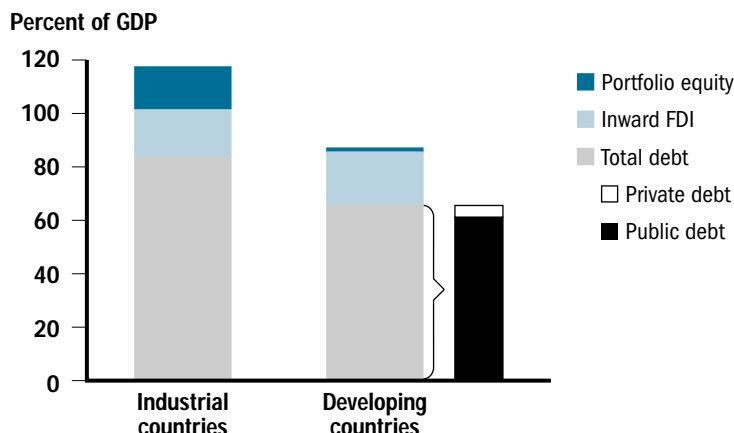
Overall, though, an open-door policy to the admission of qualified and reputable foreign financial firms seems overwhelmingly to be the best policy, and one that could have a strongly favorable impact on growth.

Opening the Equity Market

THE MOST DRAMATIC STRUCTURAL DEVELOPMENT IN international finance for developing countries over the past decade or so has been the growth in cross-border equity investment, whether in the form of FDI (where the investor takes a controlling stake) or in the form of portfolio investment in listed or unlisted equities.

By 1997 the stock of inward FDI represented on average 20 percent of GDP in developing countries, with a further 1.3 percent of inward equity portfolio investment (figure 4.4).⁸ Although FDI was thus the dominant form of cross-border equity investment, the smaller quantity of portfolio investment is, perhaps, of greater direct relevance in considering financial sector policy.

For a country that has an active equity market, opening that market to foreign investors is a decisive step that can be expected to influence the level and dynamics of asset pricing. More than 30 sizable stock exchanges

Figure 4.4 Stock of foreign holdings of (gross) debt and equity, 1997

Source: Lane and Milesi-Ferretti (1999).

On balance, opening up equity markets has reduced the cost of capital—

—but recent crises renewed fears about volatility

in emerging market economies undertook significant liberalization mostly concentrated in a 10-year period from the mid-1980s to the mid-1990s. So it is natural to ask: Did the expected effects occur in practice? Were stock prices higher on average than they would otherwise have been? Was there an increase or a fall in the volatility of stock prices? In practice, these questions are tougher to answer than might appear at first sight. Overall, though (as elaborated below), it appears from research findings that prices have increased, thereby lowering the cost of capital, without an undue increase in volatility. Opening up has also accelerated improvements in disclosure and efficiency of the local stock markets, even though these have lost some of their share of the increased business in listing and trading of local equities.

The dramatic stock market collapses in East Asia during 1997 and 1998—with equity indexes during 1998 in Indonesia, Malaysia, and Thailand *averaging* only between 20 and 30 percent of their end-1996 U.S. dollar values (and about 40 percent for Korea and the Philippines)—took much of the shine off what had seemed an almost trouble-free liberalization. However, by mid-2000, equity prices in Asia on average had recovered almost to their end-1996 level. Furthermore, much of the fall was a direct translation of the currency collapses in the region, and as such not necessarily attributable to the opening-up of equity markets to foreign investors. Nevertheless, the event clearly raises questions about the consequences, benefits, and costs, of equity market liberalization.

Nowhere has opening the equity market been a clear-cut leap from complete prohibition of foreign ownership of listed securities to a fully free market with all listed shares accessible to foreigners. Important intermediate steps have included the following:

- Phased increases in the ceiling on the proportion of the equity of each listed firm that foreigners can purchase.
- The establishment (in a mature market) of dedicated mutual “country” funds, with foreign shareholders, but which can invest in the local market.
- The launch of a depositary receipt (DR) program in the United States or other mature markets (box 4.1).

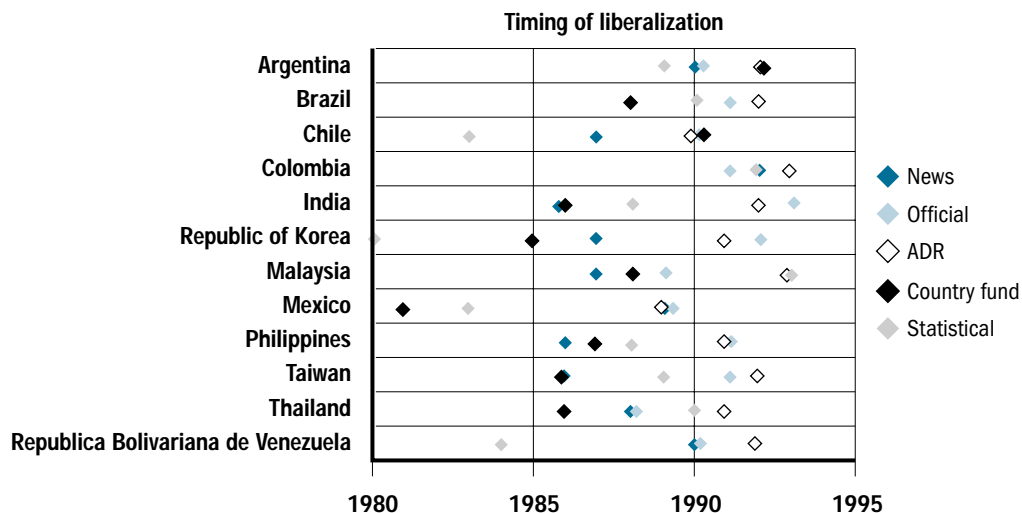
Beyond the headlines about the transmission of stock price volatility among open markets, there is a debate about the impact of equity market liberalization in part due to the difficulty in deciding when the liberalization occurred. Getting this right is crucial: if one assumes a liberalization date that is too late, some price movements will be misattributed to the period of closure, thereby dampening the estimate of any change. If one brings the assumed date of liberalization too early, however, the true effects of the change will also be understated.

Three general approaches have been adopted by researchers to dating stock market liberalization:

- The regulatory announcement approach, where the date of opening is related to the operative date of some relevant measure adopted by the host country, such as a significant expansion in the proportion of shares that can be held by foreigners.
- The investor action approach, where the date of announcement in the U.S. market of a country fund, or a DR program, is the key input.
- The statistical approach looks at the evolution over time of data on stock prices and other market-sensitive variables and determines the date of change by reference to an observed break in the statistical properties of the time series.

The first two approaches give widely different dates. Indeed, a comparison of the earliest and latest dates arrived at for each of 10 different countries in just 4 recent studies shows an average gap of 44 months (figure 4.5). Even if there were agreement on the date on which entry

Figure 4.5 Equity market liberalization dates



There is a wide divergence between different possible dates identified as the key start to equity market liberalization.

Note: The figure shows the estimated date of equity market liberalization for 12 countries based on five alternative approaches: (i) examination of news agency reports; (ii) official announcements; (iii) introduction of first ADR; (iv) introduction of the first country fund; and (v) shift in the statistical properties of asset prices and dividend yields.

Source: Bekaert et al. (2000); Henry (2000a); Levine and Zervos (1998b).

A small, but measurable impact of liberalization on equity markets

was effectively opened, it is likely that, as soon as the liberalization could be foreseen, the market would anticipate the actual opening by bidding prices in advance to their expected new values. Here, then, is another complication in determining the relevant dates for analysis. The third (statistical) approach does prejudge the issue of whether there is a change in the dynamic properties of stock prices, but it does not predetermine the direction of this change as to average level of volatility.

With all the ambiguity concerning precise timing, it comes as no surprise to find that the measured impact of liberalization on equity prices, market capitalization, and trading volume is rather small. It is, however, statistically significant, even after controlling for other simultaneous but unrelated events that may also have affected the trend and volatility of stock prices, such as other policy reforms not directly related to the equity market, including tariff reductions and removal of other restrictions on foreign trade.

In their study of 20 liberalizing countries, for example, Bekaert, Harvey, and Lumsdaine (2000) identified 13 countries where the statistical break in series preceded a sustained reduction in dividend yield from about 5 percent to 3 percent per annum on average. Market capitalization jumped

in these countries too: more than doubling on average in the first few years of liberalization, as more firms listed and others raised more capital. Although the turnover ratio of shares traded to capitalization did not show any clear-cut pattern, there was a sharp increase in liquidity as measured by the ratio of average value traded to GDP (as was first shown by Levine and Zervos 1998a). This latter liquidity variable is of key importance in that (as discussed earlier) it is the stock market indicator most reliably linked with economic growth.

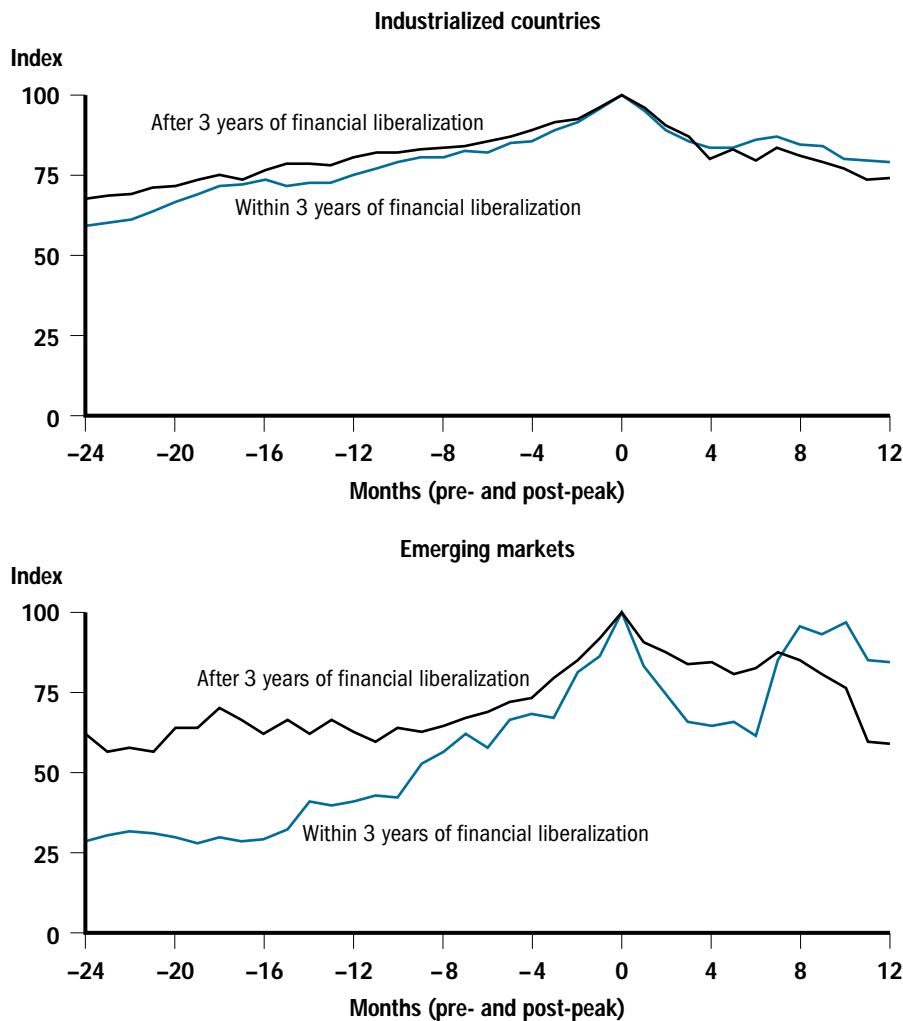
Another study, focusing on the earliest regulatory announcement or investor action, reported cumulative excess returns of almost 40 percent around the time of liberalization, only a third of which could be associated with extraneous factors. This seems like a worthwhile, though not overwhelming, adjustment of local equity prices to their new prices reflecting the risk-pooling potential of the wider world market (Henry 2000a). In other words, the cost of capital is lower on average as a result of the equity market liberalization, but not dramatically so.

There is no clear theoretical presumption as to whether local stock prices will be more or less volatile after integration into the world market. Integration should insulate the prices from shocks that affect the nonmarket wealth or savings behavior of local investors, but could expose them more to fluctuations in world asset prices and to shifts in external investor preferences. The studies mentioned above do suggest a small average increase in the average comovement (*beta*) of liberalizing markets with the world market, but there is no evident pattern on asset price or rate of return volatility. Some countries saw an increase, others a decrease.⁹

An alternative approach sees asset price movements as characterized, not only by random shocks, but also by more gradual, cyclical fluctuations. When Kaminsky and Schmukler (1999) isolated such cycles from the stock price history of some 28 countries, they found that the amplitude of the cycles did increase in the immediate aftermath of liberalization, but that after about three years of functioning under the liberalized regime, the average amplitude of the cycle shrinks again. This suggests that liberalization heralds a transitional window of heightened vulnerability to a boom-and-bust cycle, but that as the market matures, the vulnerability diminishes (see figure 4.6).

Extracting the policy-relevant empirical signals from the very substantial noise that surrounds equity price movements is thus not an easy task. Overall, however, the fall in dividend yields, reflecting the increase in average equity prices, followed by new issues further increasing market

Figure 4.6 Impact of liberalization on the amplitude of equity price cycles



After an initial period of increased volatility, liberalization is associated with reduced vulnerability.

Note: The figures are based on sorting stock market price peaks that occurred within 3 years after market liberalization from the remainder. The average price trend in the 24 months before and 12 months after a peak are plotted. For emerging markets there is a steep rise to the post liberalization peak and a sharp subsequent decline (though a bounceback after six months of decline is also evident).

Source: Based on Kaminsky and Schmukler (1999).

capitalization, suggests that the opening-up of the equity market to foreign ownership tends per se to be relatively benign.

Liberalization of the capital account means not only access by foreigners to the domestic capital markets, but also access by domestic firms

and households to the world market. Local investors also gain from the price increases but, in order to benefit fully from the risk diversification possibilities offered by the world financial market, it may be necessary for them to include foreign assets in their portfolio. This is a consideration that needs to be taken into account, for example, in designing the rules governing portfolio investment of pension funds and other collective investment vehicles. Liberalization of institutional outflows may seem more problematic, but allowing international portfolio diversification of institutional investments can, for example, help protect retirees from the risk of falling into poverty. The state-controlled national investment funds of Norway and Singapore are either wholly (Norway) or to a substantial extent (Singapore) held in foreign assets. Still, mutual funds, pension funds and other institutional investors in many developing countries still face substantial regulatory barriers to investing abroad.

In addition to the East Asia case already mentioned, liberalized equity markets have also been hit by the other major international financial crises of the 1990s (Tequila in 1994–95; Russia-Brazil-LTCM in 1998), though again the origin of each of these crises was not the equity market. The behavior of particular groups of foreign investors in emerging equity markets during these crises has been studied in detail by several researchers. Their findings tend to confirm the plausible belief that swings in purchases and sales of emerging market equities have been important influences on price fluctuations, but also that the participation of foreign investors can help insulate markets from domestic shocks, while increasing their reaction to shocks elsewhere.

Tracking the net flows of a class of foreign investors and the corresponding price movements on a daily basis reveals a pattern of intertemporal interactions that deviates somewhat from the simple textbook model of prices adjusting instantaneously to new information.¹⁰ Instead, the empirical evidence indicates that a price increase tends to generate a momentum in inflows over subsequent days, which in turn drives prices higher with the price movement also being drawn out over a period. It is as if the immediate impact of a piece of price-relevant news on the price is only a partial one. The foreign investors adjust their portfolios gradually, and this pushes prices up further, both because of the weight of money, and because of an expectation, generally realized, that the momentum of flows has further to go. This process can overshoot, and indeed it appears that at the time of crisis the fall in price does not reflect an outflow of funds by foreign investors as much as a failure of the expected inflow to continue.

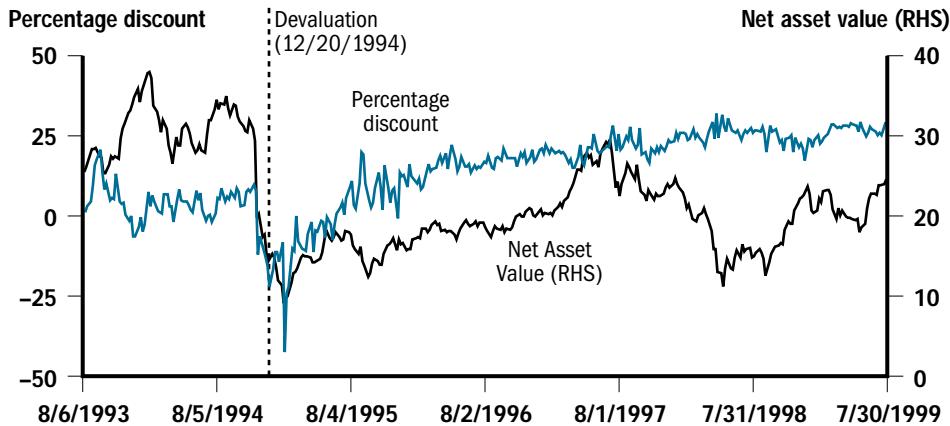
Diversification will reduce vulnerability—

Foreign investors may dampen domestic volatility—

—but also expose a country to contagion risks

The behavior of open-ended and closed-end mutual funds specializing in emerging markets throws further light on the behavior of foreign investors. More than 2,000 such funds are now in existence, and their holdings of equities in the top two dozen emerging markets reached about 5 percent of total market capitalization by the mid-1990s. For the open-ended funds, the relevant data is on their flows. They show that the ultimate investors, rather than the portfolio managers, are responsible for most of the sensitivity to price movements of their flows into or out of particular emerging markets. This applies both to own-price movements and to flows triggered by price movements in other markets, that is, what might be termed contagious flows. The evidence is that large withdrawals from mutual funds are mainly from countries where observable economic fundamentals are weak, inasmuch as indicators that prove in practice to be good predictors of future financial collapse have moved into the danger zone. Importantly, though, it is also found that the most liquid equity markets (such as Brazil in Latin America, and Hong Kong, Singapore, and Taiwan in Asia) suffer disproportionately from withdrawals, presumably reflecting attempts by the managers of mutual funds covering more than one country to minimize the average impact on the prices they receive when they have to shrink their portfolio in response to investor withdrawals (Kaminsky, Lyons, and Schmukler 2000a, b). Here is an unpleasant side effect of equity market development.

For closed-end country funds, further insight can be gained from movements in the gap, which (as with most closed-end funds in mature markets), tends to exist between the price of shares in these funds and the net asset value of the funds. Although there is not full agreement on the sources of such a gap, there are some interesting regularities. For example, where foreign access to the equity market is still quite limited, the country funds tend to trade at a premium. This likely reflects the pent-up demand by foreigners for the country's equities, which cannot be fully satisfied except through the country fund. As further liberalization occurs, the country fund price typically drifts to a discount on net asset value—often more than 5 percent, but quite volatile—thereby coming into line with a common, though not fully explained, feature of closed-end funds in most markets. At times of crisis, however, when the local market has collapsed, it is frequently observed that the price of country funds does not fall as much, with the result that they go to a premium on net asset value once more (figure 4.7). It seems that local investors react more strongly to local disturbances—perhaps because they hold a different view of the true significance of the local information

Figure 4.7 Mexico country fund discount, 1993–99

Note: While the fund traded generally at a discount to net asset value before the Tequila crisis, in the immediate aftermath of that crisis, with the local equity market sharply down, the fund price held up well, and moved to a premium on net asset value for several months. Local investors seemed to react more to the crisis than the foreign investors in the fund.

Source: Updated from Frankel and Schmukler (1996).

The figure shows the gap between the market price of the Mexico Fund, and that of its Mexican investments.

shock that has depressed the market, or perhaps because, being less well diversified than the foreigners, their wealth has been more affected by the shock. On this view, the country fund shareholders may expect the equity market to recover quickly enough for it not to be worth their while to attempt a costly arbitrage (Levy-Yeyati and Ubide 1998).

These glimpses into the mechanics of interaction between foreign investors and the local market show that foreign participation has consequences that go beyond an initial and permanent upward adjustment in the general level of local equity prices. Differences in information and in the reaction to information of the foreign investors, as well as difference in the time scale over which they adjust portfolios, has an impact on the dynamics of local equity prices. It may destabilize them, especially by transmitting world disturbances, as well as disturbances in countries with actual or perceived similarities through a form of contagion. They can also, however, have a countervailing effect to disturbances emanating from local conditions.¹¹

It must be noted, however, that not all the increased trading activity in local equities takes place on the local exchange. For example, trading in closed-end country funds does not in itself trigger any trading on the local exchange, and the same is true of most trading in DRs, which simply change hands in the mature market. Perhaps 95 percent

A declining share of equity trading takes place on the local exchange

of trading in DRs does not involve the local exchange, though the remaining trades are mostly sufficient to avoid unexploited arbitrage opportunities between the two markets.

This can have an adverse impact on the importance of the local market to the extent that the major firms start to issue DRs. For these firms, activity and pricing can become dominated by the external mature market, so that the original issuing market becomes less and less important—eventually little more than a satellite to the DR market. In that respect, opening up can mean that much of the action moves abroad.

Internationalization has also resulted in some equities being delisted in emerging markets, often as a result of the takeover of listed firms by foreign entities. New issuers, especially in the technology sector, now sometimes choose to list only in a mature market.

On the other hand, the disclosure requirements of the DR program also tend to force improvements in disclosure in the local market even beyond what is formally required by the local regulations. Once a firm has satisfied the information requirements for a DR listing, neither they nor their competitors will find it easy to get away with lesser disclosure on home markets. In this way, the existence of DRs has been having an indirect effect on improving the quality of information disclosure even for firms that have not sought a DR listing, thereby enhancing the informational efficiency of the emerging markets. These positive effects of DRs surely outweigh the negative.

The possible loss of business on local exchanges may concern the owners of the exchange, but should not be accorded much weight by the authorities—notwithstanding the possible costs of opening up for the employment and profitability of local brokers and others providing services associated with the local exchange. Thus, it is worth bearing in mind that generating more business for market professionals is not the primary policy goal of opening up the equity market. Instead the goal is to achieve the growth, macrostability and antipoverty gains offered by overall financial development as discussed in chapter 1. If the migration of larger firms to foreign markets and the reduction in volume and liquidity on local markets had the effect of restricting access of small firms to equity finance as a result of consolidation and closure of some exchanges, that would be another matter, but some suggestions to that effect seem unduly alarmist. Harsh though the message may seem to financial sector producers, *it is access to financial services that matters, not who provides them.*

Access to financial services is more important than who provides them

Debt Flows and Interest and Exchange Rates

BEFORE THE EXPLOSION IN INTERNATIONAL EQUITY investment, the classic form of international finance involved debt flows: international borrowing and lending. Analysis of these flows and the related policy issues forms one of the most active and long-established branches of economic and financial research. We confine ourselves here to a discussion of a handful of current policy issues with a special relevance to the functioning of domestic finance.¹²

Although most international lending and borrowing has long been expressed in terms of major international currencies (or originally in terms of gold-based currencies) openness to international flows has an indirect impact on domestic interest rates, and on the exchange rate. Here is where the risks arise, and where macroeconomic, fiscal, and monetary policy has long been directed to containing those risks. Specifically financial policy measures, too, can be contemplated, whether addressed to the flows themselves, to domestic interest rates, or to the exchange rate regime. This section briefly considers these three in turn. We note an emerging consensus that tax-like measures can be somewhat effective in damping short-term debt flows, but that piecemeal attempts to control the structure and pricing of domestic financial flows when the system is open to foreign flows are counterproductive and damaging. The liberalization both of domestic and international finance has resulted in a convergence of interest rate movements, although developing countries are now experiencing a structural risk premium. Some of this premium is attributable to exchange risk: adjustable pegs may accentuate this, especially in the presence of extensive but incomplete dollarization.

One clear lesson of the period of international financial liberalization of the past couple of decades is that the costs of domestic financial repression become quite unsustainable when the capital market is opened. Indeed, the heyday of financial repression was during the period between 1914 and 1973 when national financial systems operated largely in isolation from one another. This lengthy interruption of international finance markets was created by World War I and its inflationary aftermath, and continued with the protracted and doomed effort to restore the gold standard in major countries. It deepened with the attempts to protect national economies from the World Depression of the 1930s (a time when protectionism and a wider isolationism was on the rise and which prompted

Interest-sensitive flows force a review of financial policies

even Keynes to write “above all, let your finance be national”). It persisted through World War II. Thereafter, despite progressive trade liberalization, regulatory barriers to capital flows continued, chiefly because liberalization of capital outflows was seen as incompatible with pegged exchange rates and with policies of managed aggregate demand.

Behind the walls of exchange controls, managed finance emerged. With barriers against international movements of funds allowing considerable bite for domestic regulations, not only the currency, but also interest rates, banking (ownership and conduct), and stock exchanges were at first kept substantially under national control.

Although constrained from international business and with lending interest rates often pegged, banks benefited from ready access to cheap deposits as they were protected *de facto* from vigorous competition, whether domestic or foreign, and were often partially cartelized. In return, the banking system channeled sizable fractions of their loanable funds to government and its designated borrowers or sectors (Wyplosz 2001). Securities markets, where they were developed, also tolerated restrictive practices by insiders, and often rationed firms’ access to the new issue market in the interest of maintaining orderly conditions.

The effectiveness of administrative controls on capital movements was limited, and it declined with improvements in transport and communication and with the increase in the volume of trade, associated with large payments flows whose timing and volume could be modified to conceal capital flows (Dooley 1996). Speculative pressure on exchange rate pegs—especially during the late 1960s—highlighted this declining effectiveness, although the volumes of speculative flows and the interest rate differentials they generated were modest when compared with later experience. When the system of fixed exchange rates was abandoned by the major industrial countries in the early 1970s, the perceived need to maintain capital controls also became less acute, and a process of dismantling them began.

Today, three types of private market participant only are likely to continue to be excludable *de facto* from the international capital markets, namely, low-income households, very small firms, and regulated financial firms. Even financial firms, however, that are excluded from direct participation in the global financial market are indirectly affected by it.

Domestic financial liberalization would be possible even without opening up the economy to international capital movements. With the opening-up, it becomes unavoidable. Open capital markets make attempts to fix

interest rates and other domestic financial prices away from market-clearing prices altogether futile.¹³ Large depositors have always responded to such attempts by placing their funds and making their investments abroad. Large firms make use of their access to foreign finance. Capital account liberalization thus weakens and distorts a repressed domestic financial sector, eventually forcing domestic liberalization. If the process is long drawn out, haphazard partial liberalization of external and domestic finance can result in a very risky and unsound situation emerging. This is well exemplified in the important and classic case of Korea in the 1990s, where the sequencing of liberalization resulted in the large firms moving their borrowing abroad at inappropriately short maturities, and the domestic financial system turning to lower-grade domestic firms to which they in turn lent too much (box 4.2).

Box 4.2 Poor sequencing of Korea's financial liberalization

DESPITE A RELATIVELY RAPID RATE OF RECOVERY, the collapse of the Korean economy in 1997 was a severe blow. Indeed, the Korean crisis had global implications, though in the event these were largely contained to a smaller scale than had at one time appeared likely. For some, Korea's experience provided evidence that the financial liberalization on which Korea had embarked only a few years before had been a mistake, and that a continuation of the previous practice of financial repression would have been a sounder policy. Others tell the story differently, asserting that Korea's financial system had remained substantially repressed, and that a sham liberalization had not been to blame.

The full story is more subtle, although clear and strong lessons can be drawn. Korea did liberalize its financial markets substantially, but it did so in the wrong order, encouraging the development of a highly fragile financial structure both in terms of the financial instruments employed (too much reliance on short-term bills), in terms of the financial inter-

mediaries that were unwittingly encouraged (lightly regulated trust subsidiaries of the banks, and other newly established near-bank financial intermediaries), and in terms of market infrastructure development (failure to develop the institutions of the long-term capital market).

By liberalizing short-term (but not long-term) foreign borrowing, the Korean authorities made it virtually inevitable that the larger and better-known banks and *chaebols* would assume heavy indebtedness in short-term foreign currency debt. Restrictions on the use of derivatives limited the possibility of hedging. Meanwhile, the second tier of large *chaebols* greatly increased their short-term indebtedness in the domestic financial markets (funded indirectly through foreign borrowing of the banks). The funds borrowed were being invested in overexpansion of productive capacity.

The phasing of interest rate liberalization, too, was misconceived. Bank deposit interest rates were held well below competitive levels, thereby driving

(box continues on following page)

Box 4.2 (continued)

resources off bank balance sheet or away from the regulated banking sector altogether. Moral suasion meant that formal deregulation did not result in completely free market determination of many interest rates.

The reasons for this pattern of deregulation include a mechanical adherence to the importance of monetary aggregates (which induced the authorities to retain controls on these, while liberalizing near-substitutes), the preoccupation with maintaining an orderly long-term capital market (which distracted them from paying attention to the emergence of a new and much more disorderly short-term corporate paper market) and the persistence of directed policy lending (which meant that interest rate spreads needed to be wide enough to

allow for cross-subsidization, but at the cost of losing market share for the banks).

The quality of loan appraisal, bank regulation, and private credit rating was always in doubt. Over-optimism and complacency reigned.

In the end, it was not the bursting of a property bubble that ended the Korean expansion, but the refusal of foreign creditors to roll over their loans. A refusal prompted by their increasing unease at the loss of competitiveness and heavy indebtedness of Korean corporate borrowers. Even if the main sources of the Korean crisis lay elsewhere, the mistaken sequencing of financial liberalization contributed to the speed and severity of the crisis both by exposing the system to rollover risk and by encouraging excessive indebtedness of firms.

Source: Based on Cho (2001).

Higher interest rates in emerging markets reflect higher risks

With the progressive opening up of financial systems in developing countries, it was to be expected that market-clearing interest rates at home would increasingly become subject to international pressures. This has proved to be the case, as evidenced by the data. The rise in interest rates in developing countries from their repressed levels, however, has not stopped when they reached industrial country levels.

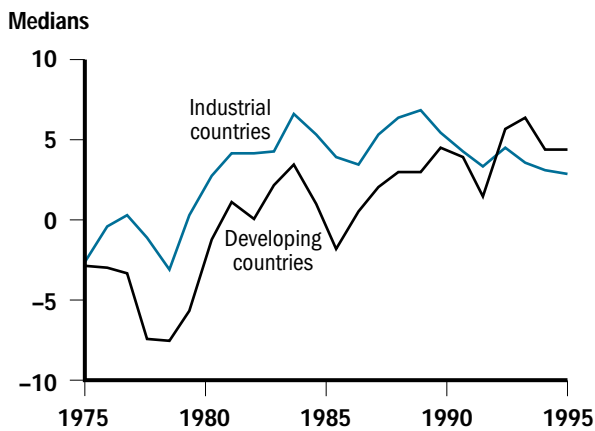
In both industrial and developing countries, treasury bill rates were unusually low in real terms in the later 1970s, reflecting the acceleration of inflation worldwide and, in developing countries, general continuation of financial repression. As real yields increased in industrial countries during the 1980s, developing countries lagged behind, but caught up as more and more developing countries liberalized their rates *de facto*, moving closer to market-clearing conditions. By the 1990s, median real rates in developing countries exceeded those in the industrial countries, presumably reflecting higher-risk premia (table 4.1, figure 4.8). The subsequent reduction in industrial country real rates from the mid-1990s, however, was not systematically followed in the developing world. Instead,

Table 4.1 Real interest rates

Year	Real interest rates (percent, medians)					
	Money market		Treasury bill		Deposit	
	Industrial	Developing	Industrial	Developing	Industrial	Developing
1975–79	-0.8	-1.3	-1.4	-4.8	-2.9	-4.7
1980–84	3.8	2.8	3.1	-0.7	0.9	-0.9
1985–89	5.1	4.1	4.9	1.0	2.5	1.3
1990–94	5.8	4.3	5.2	3.2	2.9	2.0
1995–00	2.7	6.4	3.3	5.0	1.7	3.4

Source: Honohan (2001).

Figure 4.8 Real treasury bill yields for industrial and developing countries



The figure shows how the median Treasury bill yield in developing countries, once well below, has caught up with and now exceeds that for industrial countries.

Source: Honohan (2001).

wholesale interest rates in developing countries have moved to a premium over those of industrial countries on average. This predates the crises of 1997–98 and suggests a structural problem.

There are several likely sources of this premium: doubtless one factor relevant for many developing countries is their precarious fiscal position to which the fiscal costs of large banking crises and of state ownership will have contributed, which serves to underline the importance of the

messages of the previous chapters. In many cases, however, they also likely reflect doubts not just about government policy credibility in general, but specifically exchange rate risk. To the extent that policy risk is the source, the premia are economically inefficient and costly: improved policy design might reduce them.

During episodes of financial crisis, whatever their origin, speculation about future exchange rate movements can become the dominant issue, destabilizing interest rates and threatening severe capital losses to some financial intermediaries and to some of their customers. It is an open question—widely discussed, but beyond the scope of the present study—as to whether choice of exchange rate regime can influence the level and volatility of interest rate premia. No matter what exchange rate regime one opts for, however, one must recognize that movements in world interest rates will tend to be transmitted to the domestic economy.

The well-known and plausible “uncovered interest parity” hypothesis—that domestic interest rates will equal those abroad plus the expected rate of currency depreciation plus a risk premium—works well on average over any period of several years (except under conditions of financial repression), and especially when there is a fairly steady rate of currency depreciation. It does less well in predicting short-term movements. When the interest differential is *unusually* high, that does not reliably predict a devaluation. In other words, there can be significant and unpredictable short-term fluctuations in risk premia, and higher interest differentials seem to be correlated with higher risk premia.¹⁴

Exchange rate risk weighs on financial intermediation

Exchange rate risk has become of central importance for the conduct of financial intermediation. If they are to tap external sources of funding, or meet the demands of their internationally trading customers, banks inevitably become exposed to the risk of sizable movements in foreign exchange rates.

Such risks may appear to be manageable with known techniques of risk measurement and hedging. Calculating and pricing the risk of an emerging market exchange rate is not straightforward, however. The risk is not likely to be stationary over time, and could be dependent on intrinsically unforecastable considerations, such as changes in the country’s policy preference as between inflation and output stabilization. This is especially true of quasi-fixed exchange rate regimes, because of the large but rare devaluation events that they involve. Furthermore, attempts to hedge the risk, for example, by matching currency

denomination of assets and liabilities, can often fall foul of counterparty credit risk. If the currency collapses, with widespread business dislocation, a bank's customers who borrowed in foreign currency may well be unable to service the debt. Yet many firms have been prepared to take on such risks, perhaps relying on an implicit safety net (see box 4.3). The assumption of sizable exchange risk by financial intermediaries or large corporate borrowers can impose a social cost if the bet

Box 4.3 Theory of twin crises—currency and banking

OPENING UP TO FOREIGN CAPITAL CAN FORM A lethal combination with implicit government guarantees provided to bank creditors. When added to exchange rate uncertainty and unhedged foreign exchange positions of banks and their borrowing clients, the mixture is explosive. The essential problem is that, by extending the implicit guarantee in a virtually unlimited way to foreign creditors—and in foreign exchange—the potential scale of moral hazard is enormously expanded.

Domestic banks are often keen to source funds abroad (and in foreign exchange) not only because of their ready availability, but because they typically have a lower interest cost, reflecting the lack of explicit exchange rate risk to the foreign depositor. They do, however, involve an exchange rate risk for the bank, even if it onlends these funds to local customers in foreign exchange, as exchange rate movements will affect the borrowers' ability to repay. The moral hazard is that, with a generous implicit safety net, banks and their depositors will proceed as if there were no risk. There are clear parallels with the discussion of chapter 2.

When the crisis occurs, this exchange rate element provides an extra twist not present in a domestic crisis. Domestic crises are characterized by a decline in the money price of most assets. After all, that's what makes it difficult for borrowers to repay money. For the open economy, however, overborrowed in

foreign exchange, in addition to the fall in the money price of most domestic assets, the money price of a major liability—foreign exchange—actually increases, as the currency collapses.

The scale and timing of the currency collapse is linked to the market's expectations about the government's ability to meet the liability to bank creditors. If the banking system is insolvent at current exchange rates, and if the market expects the government to rely on the inflation tax to cover some of the bailout costs, a fixed exchange rate will be unsustainable. If so, the currency will collapse, *thereby worsening the insolvency of the banks*.

Even if the banking system is not insolvent at current exchange rates, a market belief that there will be a devaluation can be self-fulfilling, thereby “busting” the banks and triggering a bailout requirement that does end up being partly covered by the inflation tax.

This pattern has been well known to astute observers at least since the Chilean financial crisis of the early 1980s (Díaz-Alejandro 1985), but that did not prevent banks and their borrowers from going down the same route in East Asia, which helped to trigger not only the crisis of 1997–98, but also an explosion of theoretical analysis that has greatly deepened our understanding of the processes involved (cf., for example, McKinnon and Pill 1999; Burnside, Eichenbaum, and Rebelo 2000).

goes wrong. This has been argued as a justification for imposing regulations not only on banks, but also on nonfinancial firms, which restricts their foreign exchange exposure. The ease with which some Mexican banks evaded these controls in 1994, by use of special purpose derivatives, is a classic example of the practical difficulty of enforcing such controls (see box 4.4).

Box 4.4 Derivatives and capital control evasion

HISTORICALLY, CAPITAL CONTROLS HAVE BEEN evaded through a variety of techniques, such as under- or overinvoicing exports or imports, as well as by other practices, often illegal in nature. Wealthy individuals and large firms are able to evade controls rather easily, which is one reason why, when controls on capital outflows were removed in Italy, net inflows followed; not only were some more disposed to investing in Italy with the knowledge that they could get their money out easily, but also many wealthy Italians reportedly had Swiss bank accounts long before the controls were removed.

With the explosion of derivative products in recent years, however, evasion of capital controls or taxes is easier without breaking any laws, and it is also much more difficult to separate short- and long-term capital flows. Consider a few examples, from Folkerts-Landau and Garber (1997). Suppose first that there is a tax on gross inflows of capital, and foreigners want to make an equity investment. They can buy offshore an equity swap (a financial derivative that entitles them to receive the return on that investment position, presumably the reason they want the investment), and a domestic resident will be the counterparty, promising to pay the total return on that investment, and hedging this exposure by purchasing that investment (the equity)—without incurring any capital inflow tax. Other types of taxes—though not yet the specific one used in Chile—can be evaded with different derivative transactions.

Worse still, authorities cannot even tell short-term from long-term capital flows. These data are based

entirely on “on-balance sheet” transactions, yet with derivatives this is only one part of the transaction. For example (again from Garber and Folkerts-Landau), suppose that a Mexican entity wants to buy a local stock on margin, which is forbidden. He can buy an equity swap from a firm in New York, promising to pay a floating rate return to the firm, and putting up some collateral. The New York firm is unhedged in this position, but can offset the risk by purchasing the stock on the Mexican market. That stock purchase, if sufficiently large, shows up as a long-term capital inflow into Mexico, but the offsetting transaction, the equity swap, is not recorded. Yet clearly the New York firm only purchased the stock to cover its position, and as soon as the swap expires—these are usually highly short-term transactions, which also contributes to the difficulty in tracking them—the equity position is extinguished. Derivatives thus have the ability to transform what appear to be the most stable form of capital inflow into one of the most volatile. Although it is difficult to quantify, it is likely that the large volume of supposedly long-term capital inflows lulled the Mexican authorities into thinking that their exposure to any reversal of flows was much less than it turned out to be.

Thus, even if capital controls are desired for the long term, such as because of the fear of multiple equilibria, they will be increasingly difficult to enforce in the future, as derivatives become more widely accessible. Authorities may be able to establish controls that cannot be evaded immediately, but the prospects for doing so permanently are low.

This risk of extreme currency movements resulting in losses to insufficiently hedged intermediaries (and businesses in general) is arguably the most acute problem generated by globalization for the functioning of the financial sector. A strongly capitalized financial sector with both the capacity and incentives for managing such risks is clearly needed. In addition, however, over and above the choice of exchange rate regime, a coherent, credible, and stable macroeconomic policy is needed to help reduce the risks.

Another effect of the increasing internationalization of trade, combined with currency uncertainty, has been a great expansion in the use of the dollar (or the DM/Euro) as a parallel currency in many countries, whether in the form of cash, in denominating bank accounts, or for pricing and contracting more generally. Often a surge of inflation and currency depreciation has triggered the first widespread dollarization in a country, and this process generally has not been reversed. Once asset holders are taxed through inflation or depreciation, they continue to hold a certain fraction of their wealth in dollars. A subsequent crisis often causes these holdings to ratchet upwards, despite a higher interest differential in favor of local currency assets (cf. Reding and Morales 1999).

When the economy becomes dollarized, currency speculation comes onshore, and is no longer just a question of international flows destabilizing exchange rates. Partially dollarized systems present special challenges to monetary management, and to the financial sector. For one thing, an economy in which prices are widely quoted in dollars is one in which a nominal exchange rate change tends to be quickly and fully passed through to local currency prices. Accordingly, a given change in the real exchange rate—such as may be required to adjust to a real external shock—tends to require a larger nominal exchange rate movement. Large nominal exchange rate movements can, however, as we have noted, have a considerable impact on the financial position of unhedged financial intermediaries and their customers. And in dollarized economies, the share of foreign currency assets and liabilities in financial intermediary balance sheets tends to be large. The tension between the need for a real exchange rate adjustment—to restore equilibrium in trade and current economic activity—and the costs, including bankruptcy costs, of the resulting nominal exchange rate movement has repeatedly presented policymakers with a difficult dilemma (box 4.5).

Their room for maneuver is also limited by the fact that the national monetary authority does not have an unlimited capacity to provide lender-of-last-resort facilities in respect of foreign currency deposits in the

Growing dollarization presents new challenges to the financial sector

Box 4.5 Dollarization—asset price and pass-through effects

DOLLARIZATION HAS TWO DIMENSIONS: THE currency denomination of assets and the use of foreign currency in pricing and internal payments. The impact on policy choices depends on how much of each type of dollarization has occurred. It is important to bear both dimensions in mind in considering what model of exchange rate policy applies in any given country.

Traditionally, thinking about the role of exchange rate changes related to a world in which both types of dollarization were unimportant (bottom left quadrant of the figure). In such conditions, exchange rate adjustment works mainly through its effect on the relative prices of current goods and services. This is the world of J-curves, elasticity pessimism or optimism and pass-through coefficients, familiar to international economics textbooks of the 1960s and 1970s.

Where it is finance that is highly dollarized, the role of the exchange rate as an asset price comes to the fore. This means that the authorities and market participants need to be acutely concerned with the capital gains and losses that will occur with changes in the exchange rate. Indonesia in 1997 provides a good example: wild fluctuations in the exchange rate had much

more impact on the solvency of unhedged firms than with the competitiveness of exports (upper left quadrant in the chart below; see also box 4.3).

The more it is that pricing of goods and services is in dollars, the faster and more complete the pass-through of exchange rate changes onto domestic prices will be. If there is little dollarization of financial assets, but pass-through is high, the economy is relatively insensitive to nominal exchange rate changes. Movements in the exchange rate are not effective in achieving real adjustment—they only change the price level. Something like the “classical dichotomy” between real and monetary sectors prevails (lower right quadrant).

Where both types of dollarization are high, the local currency loses its role as the main numeraire or measuring rod for economic transactions, as agents have switched to thinking in terms of dollars. Although government wages and payments are still made in the local currency, it is now seen as a risky asset. Holdings of cash are minimized, and the price of local currency-denominated securities builds in a substantial risk premium reflecting the unpredictability of the exchange rate—even if it has up to now been stable.

Influence of dollarization and pass-through on policy

Degree of dollarization of finance	High	Exchange rate policy constrained by finance	Local currency riskier than dollar; little impact on current transactions
	Low	Traditional position: nominal exchange rate is a real sector price	Classic dichotomy: nominal exchange rate does not matter
		Low	High
		Pass-through coefficient	

banking system. The rescue through liquidity support of even a solvent bank suffering a run from domestic depositors may thus be beyond the ability of a central bank in a dollarized economy. This is, of course, only an extreme example of the limitations placed on national policy instruments by global financial integration in its various forms.

Could the scale and volatility of speculative flows be reduced by the introduction of a tax on capital imports (or a tax-like control, such as a compulsory deposit) designed to penalize short-term movements, while leaving longer-term capital movements broadly unaffected? Adopted by a single country, such a tax cannot be a substitute for sound macroeconomic policy, for an appropriate exchange rate stance, and for adequate prudential regulation and risk management, but can it help?¹⁵

Using a mechanism of unremunerated reserves equivalent to a tax, Chile is one widely studied country that operated such a system through most of the 1990s. The effects of the Chilean system have been studied in some detail to assess whether it has had the hoped-for effects of lengthening the maturity of capital flows, and to what extent it has been vulnerable to evasion by the use of financial derivatives or otherwise.¹⁶ The conclusions of this research are that, by progressively closing loopholes and extending the scope of the tax, the Chilean authorities were able to maintain its bite at a roughly constant share of the relevant capital flows. This process could not have been continued indefinitely. There was a clear impact on the maturity of flows, and probably a small impact on overall flows and on interest differentials. Complemented, as it has been for much of the period, by other restrictions on capital movements, both imports and exports, controls, the Chilean regime thus seems to have had a modest, but perhaps worthwhile role in protecting the Chilean economy from volatile speculative flows, and in allowing the authorities to raise interest rates to stabilize macroeconomic boom conditions; but there may also have been costs, for example in terms of reduced investment over the long run (Gallego, Hernández, and Schmidt-Hebbel 1999; Edwards 2000c).

The attractive feature of the Chilean design is the way in which it tilts incentives towards stability of capital flows rather than just prohibiting flows outright. The goal can be seen as working with the market to encourage a shift in the maturity of capital inflows without affecting net flows much over the longer term. It has relatively little impact except when it is needed, that is, when short-term inflows threaten to be large. Most observers agree that a standing regime of this type is likely to be

Chile offers a useful model of limited exchange controls

much more effective and have less adverse side effects than a hastily implemented attempt to ban outflows in a crisis. The ex post nature of the latter is likely to have a longer-term adverse effect on general confidence in the predictability and credibility of policy generally.¹⁷ The recent experience of Malaysia offers an apparent exception to this statement, though this plausibly reflects the high initial credibility of the authorities with regard to the temporary nature of the restriction, as well as on their continued commitment to low inflation, both of which were facilitated by their long and favorable track record with inflation.

For all the dogmatic rhetoric that has surrounded the recent debate on the merits of capital controls, it would be difficult to justify an extreme position based on the evidence that has been advanced. Controls have their problems, but they can in some situations be effective.

Accelerating trends in technology and e-finance—

Into the Future: Technology and Communications

CONTINUING DEVELOPMENTS IN COMPUTING AND communications technology seem sure to reshape the way in which financial services are delivered worldwide. To some extent, the impact on developing economies will be an acceleration of the trends of recent years, but there will be qualitative changes, too. Economies of scale or scope for some financial services are declining and for others increasing, and the synergies between financial and other economic services are also changing and often increasing. This will alter the organization of the industry, with consolidation in some areas, and fragmentation in others.

The process has been under way for some time. Already by the 1980s, banks were being disintermediated by the growth of commercial paper and mutual funds on the one hand, while on the other, more and more banks were becoming involved in securities and insurance. Mergers and alliances seeking scale and scope have been occurring both within the banking, insurance, and securities markets sectors, and as between firms in different sectors, and between financial and other information intensive services. These alliances are often designed to exploit cross-economies and to leverage brands. The tangled process of bundling and unbundling financial services and financial service firms seems likely to continue as market participants respond to the impact of technology.

The main driver is the pressure of much-altered cost structures, such as the oft-noted contrast between an average cost—in the United States—of over \$1 for a physical transaction in a bank branch as against a couple of cents through the Internet.

Not only are new financial products and new market structures emerging. Fundamentally new types of firms have arrived in the form of financial portals (which provide guidance on the availability of services and other topical information and, as such, are perhaps best described as an Internet counterpart to specialist magazines) and aggregators (providing an electronic analog to brokerage). None of these is unique to finance, but finance is uniquely well positioned to take advantage of electronic innovations, notably because physical delivery of financial products is typically of secondary importance. (One must not, however, ignore the continuing role of personal contact and trust in parts of finance.)

There has been an increase in the number and sophistication of electronic exchanges at which professionals trade financial instruments. Some of these operate as satellites of the traditional regulated exchanges, sometimes independently.

This whole process may present some opportunities for financial service providers in small developing countries. In particular, the trend toward unbundling of financial products may allow them to become involved in providing subproducts whose efficient production does not require large scale or sophistication.

The greater potential benefit in prospect for developing countries, however, will be for users of financial services. Technology should allow them to access these services on terms comparable to consumers in advanced countries, especially insofar as physical distance from the provider begins to lose much of its importance. Undoubtedly, the accelerating presence of the Internet will begin to make direct international financial transactions available even to small firms and individuals. Already, many banks in middle-income countries have begun to offer on-line banking, which is just the first step.

In the face of this pervasive technology, any attempts by governments to monitor or block e-finance transactions seem doomed to be either ineffective or prohibitively costly. International finance will surely be open to the middle classes, let alone the corporate sector.

Once the set-up costs have been incurred, access to Internet-based financial services can be provided remarkably cheaply. Of course, it is wise

—which will primarily benefit the users of financial services

not to get carried away as to the immediate potential for reaching the poorest of the poor. Certain basic preconditions, such as literacy, electricity, and telephone service, must be achieved before anything is else is done. Because of the lack of some or all of these, many of the smallholder coffee and cocoa growers in, say, West Africa, now at the mercy of middlemen exploiting local monopolies, will be able to make immediate use of, for example, the recently established Web-based business-to-business (B2B) futures exchange in coffee and other commodities.

Public policy, however, can help here. For example, broadband communications links now being put in place throughout India's postal system will potentially bring Internet-based financial services to some 150,000 access points. Speedy and cheap payments both by and to customers in relatively isolated locations, a simplification of procedures for insurance, current information concerning prices on agricultural commodity exchanges, as well as possible efficiencies in loan approval and other financial services, can all be envisaged. In addition, the same network could also be employed to effect speedy delivery of other public and private services at low cost. This will not solve all the barriers to access on the part of small firms and individuals, but it can do away with much of the heavy costs and lack of competition inherent in relying on local bank branches. Similar initiatives offer considerable potential to other countries, especially those with low population density where formal finance has hitherto not provided a comprehensive local physical presence.

To ensure that the potential benefits of electronic media are widely available to users of finance, including to users in developing countries, and that there are not new concentrations of market power, a number of wider policy issues will need to be considered by prudential and competition policy in the advanced countries where the major financial service providers will continue to be regulated. These include the following (Claessens and others 2000):

Policy issues

- Attention to a likely explosion in nonfinancial institutions bypassing the banking system to provide payment and deposit-type services.
- The complex issues of competition policy in an environment increasingly subject to network externalities.
- Securely identifying the relevant regulatory authority for financial firms whose chief geographical presence is in the Internet and whose range of activities corresponds to none of the traditional segments of the financial sector.

For policymakers in developing countries, the major questions emerging are likely to relate to the stability of domestic financial institutions in the face of the increased competition. Concerns about the consequences of the inevitable erosion of franchise value will be reinforced and will require proactive measures as discussed. The authorities will have to face up to the need to ensure that weakened firms exit the market and act pre-emptively to develop their exit policy.

Increased access to foreign financial services is likely to entail increased use of foreign currencies, which will accentuate the risks of exchange rate and interest rate volatility for countries that choose to retain their own currency. Once again, heightened prudential alertness will be needed.

The increased complexity of the financial instruments being offered by the financial system can mask the true risk of asset positions, and the speed with which their value can change. This can present problems, especially for small and less experienced users of financial services in developing countries, and there will be a need for education programs to heighten awareness both of these risks and of the dangers of fraudulent services being offered over the Internet.

The likely speed of these developments and the extent to which they will displace the need for a local presence of financial service companies remain unclear, but the question that will be increasingly asked is whether smaller developing countries need to have local securities and debt markets in the traditional sense, and even how much of banking needs to be domestic. The most fruitful way of thinking about this is to isolate the elements of domestic financial services that, given new technology, can be efficiently provided in small economies, and to plan institutional arrangements that allow these elements to be unbundled and provided locally while other services are efficiently imported.

The smaller the country, the more pressing are these considerations, but the general point here is not just one that applies to a minority of tiny countries. In an increasingly integrated and technology-driven global financial system, the relative costs of being small will likely increase, and the logic of planning policy on the basis of being small will apply with greater force to more countries. The global financial market has much to offer small financial systems. Working with this market, while respecting the risks it conveys, is the way forward. Risk management is crucial, but if it is mastered, the global market can help shift risk to those most ready to bear it and provide the instruments for doing so at the lowest cost. Better infrastructure and a more incentive compatible regulatory framework will make it so.

Globalization and technology will accentuate the relative costs of small financial systems

Conclusions

THE OVERALL IMPACT OF FINANCIAL GLOBALIZATION ON THE domestic financial sector is thus profound. Liberalization of capital flows has effectively made domestic financial repression obsolete. The consequences have not been uniformly favorable. Following liberalization, domestic interest rates in developing countries have moved to a premium over industrial country rates, and can surge at times of currency speculation. Heightened interest rate and exchange rate volatility pose practical risk management difficulties for financial intermediaries, especially in partially dollarized economies, and reinforce the need for appropriate infrastructures and incentives for risk containment, as well as for good macropolicies.

On the other hand, the cost of equity capital has been reduced by allowing foreign investor access to local equity markets and allowing local firms to list abroad. Increased international flows through the equity markets have not been the major contributor to increased international sources of volatility.

In addition to opening access to foreign-sourced financial services, more and more countries have been admitting foreign-owned banks and other financial firms to operate locally. Although this can represent a threat to domestic owners of financial firms, the drawback is outweighed by improved service quality when reputable foreign firms leaven the domestic system with their better procedures and practices.

On all three fronts—debt, equity, and services—our assessment acknowledges the costs and risks of increased financial globalization, but there are strong benefits too. Graduated taxation of intermittent effect on inflows may in some cases cushion economies from the effects of volatile speculative capital flows, while maintaining the benefits of steady access to the global financial market. There can be little doubt, however, that aggressive attempts by individual governments to block financial flows are likely to backfire, and there is much to be gained from adopting instead a policy stance that supports deeper access of the local economy to top quality financial services in an internationally open context.

The financial systems of most developing countries are very small, when compared with the global financial market. E-finance will make national frontiers even more porous than before. Foolish indeed is the government that does not make itself aware of these market realities and learn to work with them.

Notes

1. Contrast this even with the distribution of World GDP, where five other developing countries also reach 1 percent (ten, if measured at purchasing power parities (PPPs)).

2. The unsavory side of international finance cannot be ignored. Capital flight from poor countries, including the export of funds acquired through corruption, has long been a damaging aspect—and one rarely impeded by capital controls. There is increasing awareness, including among regulators in offshore financial centers, of the need to tighten measures against the use of international banking transactions to launder or conceal illicitly acquired funds.

3. The moral hazard resulting from implicit government guarantees, however, including for foreign creditors of the banking system, linked with unhedged exchange rate risk, has increasingly been implicated in the build-up before such sudden stops (see box 4.3).

4. The benefits include the wider potential that could be offered by international capital markets for national risk reduction (cf. de Ferranti and others 2000).

5. A somewhat xenophobic popular attitude to foreign banks is common, but not universal. When the share of foreign shareholders in Ireland's largest bank, AIB, exceeded 50 percent for the first time in 1999, with the effect that well over half of the Irish banking system is now majority foreign-owned, the event passed almost unnoticed and without any adverse public comment.

6. Analysis of an extensive firm-level database for Argentina confirms that it does tend to be the larger firms that are the foreign banks' borrowing customers. Interestingly, though, only where the foreign bank is headquartered elsewhere in Latin America does it tend to have a higher average loan quality (Berger, Klapper, and Udell 2000).

7. Cf. Claessens, Demirgüç-Kunt, and Huizinga (2000). They also note that the relative performance of foreign banks appears different and less positive in industrial countries.

8. Of course, these investment shares were not uniform across countries. In particular, as shown by Lane

and Milesi-Ferretti (1999), Latin America and the transition economies have the largest share of portfolio equity.

9. In any event, it is worth bearing in mind that stock market price volatility is not robustly linked with growth (Levine and Zervos 1998a).

10. Here we draw on Froot, O'Connell, and Seasholes (2001). Their database represented the trades made by the customers of one large U.S. custodian bank.

11. It is important to stress that foreign investors are not always in the vanguard when there is selling pressure on local equities cf. Frankel and Schmukler (1996) for Mexico and Choe, Kho, and Stulz (1999); Kim and Wei (1999) for Korea. In general, foreign investors seem to prefer to invest in large firms that export, and especially those with DR programs (cf. Kang and Stulz 1999).

12. Our discussion is complementary to that which can be found in the World Bank's annual *Global Development Finance* report.

13. Monetary policy can continue to influence the level of nominal interest rates, but in a generally market-clearing context.

14. For industrial countries, regressing quarterly exchange rate changes on the start-of-quarter interest differential results in a negative coefficient on the differential, instead of the predicted value of +1. For developing countries, though, the estimated coefficient on the differential of +0.59 is much closer to theoretical prediction (Honohan 2001). Cochrane (1999) suggests that this interest parity puzzle, and several other well-known asset market anomalies, can be attributed to low asset prices (in this case, low foreign bond prices) being correlated with heightened risk.

15. Bouts of increased capital flow volatility also regularly unearth a proposal to implement such a tax on international capital movements not just in one country, but on a coordinated global basis, with the dual goal of damping speculative flows and generating a useful flow of international tax revenue. The practicalities of such a global scheme, however,—the so-called Tobin tax—have not yet been proved, and indeed widespread

skepticism as to how successfully it would function has left the proposal stillborn (cf. Haq, Kaul, and Grunberg 1996).

16. Though the tax rate is currently set at zero—reflecting the substantial capital outflows that have been associated with Chilean pension funds rebalancing their portfolios following a liberalization, which has permitted them to increase greatly their holdings of foreign assets—

so that the system has no practical effect at present. As operated, the Chilean regime facilitates reserve accumulation by the central bank, a feature that highlights the potential role of reserves management as a tool of macroeconomic management in helping insulate countries from external capital account shocks.

17. Bartolini and Drazen (1997) provide a persuasive account of this mechanism.