

# **Financial Opening**

## **Why, How, When**

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and  
Helmut Reisen



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## PREFACE

We are pleased to publish *Financial Opening: Why, How, When* as the fifty-fifth in our series of Occasional Papers, which feature reflections on broad policy issues by noted scholars and policy makers.

This paper summarizes the findings of more than two years of research by Dr. Bernhard Fischer, director of the Department for Development Economics at the HWWA Institute for Economic Research in Hamburg, Germany, and Dr. Helmut Reisen, senior economist at the OECD Development Center in Paris. In their studies of successful and not-so-successful financial liberalizations, they have found flaws in the conventional wisdom found in development literature.

Why would liberalizing capital movements be beneficial? What are the risks and how can they be avoided? What impediments need to be removed before reform begins? How should the process of capital account liberalization be implemented? When should different capital controls be dismantled? Why is the timing often crucial to success? Fischer and Reisen aim to answer these questions that are being raised with an increasing sense of urgency in countries such as China and India.

Fischer and Reisen offer specific solutions and methods to help countries avoid the potential pitfalls of financial reform. They prioritize which changes are most important and when they must be implemented to ensure a successful financial opening.

This paper differs from most policy recommendations by advocating a sequential process of liberalizing capital accounts and by identifying the best time for each move. Officials who are responsible for

designing financial reform in developing countries and economies in transition will find this paper particularly useful in achieving a financial opening that raises efficiency and growth while maintaining stability.

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## ABOUT THE AUTHORS

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## ABBREVIATIONS

|      |                                                       |
|------|-------------------------------------------------------|
| EC   | European Community                                    |
| GDP  | gross domestic product                                |
| IMF  | International Monetary Fund                           |
| LDC  | less developed country                                |
| OECD | Organization for Economic Cooperation and Development |

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BERNHARD FISCHER AND HELMUT REISEN

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In Mexico City, Gabarone, Prague, Seoul, and many other capitals throughout the world, the liberalization of capital flows and financial services have come to the top of the policy agenda. In fact, financial opening belongs to the most important and, at the same time, least understood aspects of economic reform.

At least three reasons can be identified for renewed interest by policy makers in financial opening. First, there has been increasing de facto opening of the capital account: controls have become less effective as a result of growing integration of trade, financial innovation, and financial opening by other countries; and ten years after the onset of the debt crisis, credit rationing by commercial banks is diminishing while flight capital is being repatriated. Second, some countries have become subject to pressure in bilateral trade talks to open their financial system and let their currency float. Third, the Organization for Economic Cooperation and Development (OECD) Codes of Liberalization may constitute another reason for financial opening by advanced developing countries contemplating membership in the OECD, for the Codes commit OECD member countries to eliminate any restrictions between member countries on current invisible operations and capital movements.

While the ultimate objective of financial reform is to increase

efficiency and growth, the reform process must be carefully designed to achieve these results. This policy guideline will explain

- *why* it can be beneficial to liberalize capital movements
- *how* the process of capital account liberalization should be implemented
- *when* different capital controls should be dismantled

The rationale for the liberalization of capital movements will be considered in the context of the mixed reform experiences in both OECD and non-OECD countries. While there is general agreement on the desired results, the potential dangers during the opening process necessitate careful examination of the timing of reform. We identify the most pertinent macroeconomic and financial sector constraints that must be removed to ensure the success of financial opening. The impediments to capital account opening should not lead to delay in reform; rather, they should encourage the implementation of policies promoting financial openness.

The policy guidelines for financial openness will stress the need and suggest solutions for the

- establishment of solid fiscal consolidation and prior stabilization
- problem of finding the right monetary-fiscal policy mix to dampen the loss of monetary autonomy, with emphasis on exchange rate management
- building of primary and secondary securities markets for monetary policy implementation and financial stability
- enforcing of domestic competition to foster allocative and operational efficiency within the financial sector
- strengthening of prudential regulation and supervision, legal, and accounting systems to cope with systemic risks of financial systems

- restructuring of the domestic banking system to remove excessive bad loans, so enabling unfettered competition on level playing fields

Most policy recommendations tend to assume that governments must liberalize all capital controls simultaneously. Instead, this paper recommends—based partly on OECD country experience—a sequential process of capital account liberalization. At the outset, important distinctions of capital controls, such as whether they impact on capital inflows or outflows, short-term or long-term (sustainable) flows, bank or nonbank relationships, have to be recognized. We identify the best timing for each capital account liberalization measure in view of progress made in the macroeconomic and domestic financial sector performance previously outlined. The aim is to avoid disruption and to ensure that financial opening achieves its ultimate objectives: to raise efficiency and growth without compromising stability.

### Why Liberalize, and When

Dismantling capital controls is generally presumed to generate economic benefits through cross-border portfolio diversification in both assets and liabilities and increased opportunities for intertemporal trade, by imposing macroeconomic discipline on national governments, and from the rising costs and ineffectiveness of controls as economic development proceeds. Based on some dismal liberalization experiences, however, most economists recommend a late opening of the capital account in the reform process.

**The rationale for financial opening.** Allowing portfolios in assets and liabilities to be diversified across borders enables a country's borrowers to find lower funding costs and its savers prospects for higher risk-adjusted returns. Benefits from increased competition may be even more important than static gains from financial integration. If opening breaks oligopolistic market structures, competition among financial intermediaries will be intensified. Intermediation margins are squeezed, costs of funds to borrowers decrease, and returns to lenders rise. In addition, transaction costs for nonfinancial market participants decrease

because of the dissemination of financial innovation initially developed in other countries. The quality of financial assets increases as a result of the greater liquidity due to the development of deeper markets with well capitalized market participants. Homogenous pricing, as well as better tailoring in terms of liquidity and special purpose instruments, takes place through separation, hedging, and risk spreading. For example, a Korean investor, whose portfolio is confined to Korean assets, runs more risk than one who can diversify into international assets. The counterpart is the foreign investor who places some of his portfolio in Korean assets. Since international trade in financial assets is largely a wholesale market, improved asset quality and risk diversification mainly benefit institutional investors, such as pension funds (Reisen and Williamson 1994).

Economists argue that gains from intertemporal trade occur because time and liquidity preferences differ across countries. What does that mean? It means, for example, that aging economies tend to post excess savings and, hence, a surplus in the balance of payments on current account, which they will run down later (when old) in the form of net inflows. Or, a country that receives a temporary shock (such as bad harvests) will prefer to run a current account deficit to smooth consumption over time, instead of keeping consumption at all times equal to current income. Opening capital markets relieves such liquidity constraints.

Capital controls have often been used to preserve monetary autonomy. With fully floating exchange rates, the nominal money supply can be controlled at any desired level by the central bank, and balance of payments adjustment is achieved, in the main, through exchange rate movements. Hence, national monetarists claim that the government can enjoy simultaneously both monetary independence and external balance, provided they accept a pure float of their currency. In such a world, exchange controls are obsolete. When the exchange rate is fixed in nominal terms and capital is freely mobile, monetary policy independence is lost. Those in favor of abolishing exchange controls argue that such policy independence is actually undesirable: inflationary policies become untenable with free capital flows because capital flows abroad and official foreign exchange reserves run dry. As a result, greater discipline is imposed on both monetary and fiscal policy. Fundamental

imbalances are never inevitable and capital flight provides a clear signal that policies must be changed. Conversely, when controls over capital inflows are used to maintain an undervalued exchange rate, large current account surpluses and the buildup of foreign exchange reserves are likely to pose policy problems. Opening the capital account helps dampen inflationary pressures arising from any inability to sterilize excess liquidity. The abolition of capital outflow controls provides new opportunities to invest, thus raising the return to (lower) investment at home and (higher) investment abroad.

Dismantling capital controls is often understood as a means to signal the government's commitment for comprehensive economic reform. Those who opt for an early removal of capital controls in the reform process want to reduce the costs of structural adjustment by relying on foreign capital during the transition. They also point to political constraints and vested interests that resist reform and think of early capital inflows as an important ally for the groups interested in liberalization (Lal 1987).

There is a close link between capital controls and industrial policy, which is often implemented through government credit allocation. However, as countries move from an early to an advanced stage of development, the industrial policy rationale for capital controls gradually fades away. As countries move up the product cycle toward more complex and sophisticated goods, governments are less likely to pick winners better than the market and more likely to saddle the domestic banking system with nonperforming loans.

On a more pragmatic note, disillusion over the effectiveness of existing capital controls may be another reason for dismantling them. Growing trade integration and the increased presence of multinational businesses produce closer financial links, opening up many ways of circumventing existing controls, by under- and overinvoicing of export and import contracts, by transfer pricing policies of multinational companies, and through leads and lags in the settlement of commercial transaction (Mathieson and Rojas-Suarez 1993). Financial innovations resulting in sophisticated financial products and progress in telecommunications have also undermined the effectiveness of capital controls. Capital controls have become particularly porous for individuals and businesses engaged in foreign trade, while controls on financial

institutions are usually effective. Consequently, capital controls discriminate across sectors and may well not produce the desired effect. Yet their very existence might generate uncertainty about the possibility of further tightening and thus stem capital inflows and induce outflows beyond the level envisaged by the authorities. Thus, the question is less whether to liberalize capital flows, but when.

**Goodbye financial repression, hello financial crash?** This catchy title of a seminal article by Carlos Diaz-Alejandro (1985) testifies well to the lack of enthusiasm among most economists for a rapid deregulation of capital movements. Also Eastern European reform countries are advised to concentrate on achieving current account convertibility and to treat capital account convertibility as a luxury to be postponed until the completion of reconstruction (Bergsten and Williamson 1990). That most economists recommend a late opening of the capital account in the reform process is based on liberalization experiences such as witnessed in Chile and New Zealand (Table 1).

Asset values, such as share prices, initially soared in response to the liberalization of capital transactions in Chile in 1978 and New Zealand in 1984. Although the economic reforms undertaken by Chile and New Zealand had been the most far reaching until the transformation occurred in the previous socialist countries, the deregulation of capital transactions led to serious problems. In Chile it resulted in capital flight, widespread loan defaults, bank crises, a fall in manufacturing output, and massive unemployment. Capital controls were eventually reintroduced. The liberalization fiasco was marked by persistent interest rate differentials (leading to massive capital inflows), overvaluation of the currency (causing a narrowing of profit margins in industry and agriculture), and the collapse of many financial institutions. New Zealand, which combined a sudden deregulation of capital transactions with a pure float of its currency, shared Chile's experience of a heavy appreciation of the currency in response to monetary tightening. Despite stringent fiscal discipline, the stabilization costs were above average in both countries owing to the overvaluation of the currency, which had a lasting adverse effect on foreign trade (Joumard and Reisen 1992).

The attitude of economists towards the dismantling of exchange controls was probably most influenced by Chile's experience, where real

TABLE 1 The Liberalization of Capital Movements in Chile and New Zealand

|             | Year | Exchange rate <sup>a</sup> | Interest rate <sup>b</sup> | Growth rate <sup>c</sup> | Share prices <sup>d</sup> | Bad loans <sup>e</sup> |
|-------------|------|----------------------------|----------------------------|--------------------------|---------------------------|------------------------|
| Chile       | 1978 | 100.0                      | 22.0                       | 8.2                      | 100.0                     | —                      |
|             | 1979 | 101.1                      | 10.3                       | 8.3                      | 190.3                     | —                      |
|             | 1980 | 118.4                      | 14.9                       | 7.8                      | 283.6                     | 1.2                    |
|             | 1981 | 143.9                      | 38.3                       | 5.5                      | 196.4                     | 3.3                    |
|             | 1982 | 130.0                      | 16.2                       | -14.1                    | 140.2                     | 4.1                    |
|             | 1983 | 106.0                      | 2.9                        | -0.7                     | 95.2                      | 8.5                    |
| New Zealand | 1984 | 100.0                      | 8.5                        | 5.0                      | 100.0                     | —                      |
|             | 1985 | 101.8                      | 8.0                        | 1.2                      | 101.9                     | —                      |
|             | 1986 | 103.0                      | 4.9                        | 2.5                      | 153.1                     | —                      |
|             | 1987 | 118.9                      | 5.2                        | 0.5                      | 154.2                     | —                      |
|             | 1988 | 126.9                      | 9.1                        | -1.4                     | 91.4                      | —                      |
|             | 1989 | 120.4                      | 5.6                        | 1.3                      | 96.2                      | —                      |
|             | 1990 | 116.8                      | 5.3                        | -1.3                     | 78.3                      | —                      |

NOTES: Dash = not available.

a. Index of the real weighted exchange rate. A rise of the index denotes appreciation.

b. Real deposit rates in Chile, real treasury bill rates in New Zealand.

c. Real gross national product.

d. Index, adjusted for inflation.

e. As percentage of total loans.

SOURCES: IMF; International Financial Statistics, Washington, D.C., various years; Morris et al. (1990).

interest rates remained extremely high, even after the deregulation of capital movements. According to the interest rate parity theory, domestic interest rates should have fallen toward world market levels. Various microeconomic and macroeconomic explanations have been put forward to account for this lack of convergence:

- First, there was a dramatic increase in credit demand, triggered by the supposed wealth effect of overall liberalization and the improvement in private property rights.
- Second, the segmentation of the domestic credit markets prevented interest rate arbitrage between

specialized credit institutions and sectoral uses of financial resources. The spread between deposit and lending rates did not narrow, owing to oligopolistic price setting.

- Third, inadequate banking supervision and excessive interlocking ownership between banks and firms led to an accumulation of nonperforming loans. The banks subsequently raised interest rates for good borrowers in order to compensate for losses.
- Fourth, bad loans led to further distress borrowing and generated additional credit demand.
- Fifth, foreign lenders and domestic residents perceived the heightened exchange risk resulting from the increasing overvaluation of the currency and demanded higher yields.

The liberalization of financial transactions was followed by a substantial real appreciation of the currency, triggered by the massive capital inflows due to persistent interest rate differentials. The attempt to stabilize inflationary expectations by announcing future rates of devaluation that were below current inflation rates (active crawling peg) ended in a real overvaluation of the currency. Anchoring inflationary expectations to the exchange rate backfired; capital inflows were far greater than the central bank could sterilize and weakened fiscal and wage discipline. They therefore undermined the central tenet on which the anchor approach was based (Corbo and de Melo 1987).

Other country experiences indicate, however, that financial opening can be beneficial, although it always involves substantial risks. Proponents of early capital account liberalization point to the experiences of Malaysia and Indonesia. Singapore's financial center has traditionally been to Indonesia and Malaysia what the informal credit market is to so many developing countries. Hence, capital controls could not have been effective in these two countries. The Indonesian and Malaysian authorities have been successful in fostering growth, diversifying exports, and keeping inflation at low levels. While open capital accounts

have certainly imposed restraints on fiscal and monetary policies in both Indonesia and Malaysia, they imposed a healthy discipline, notably on government budgets, which maintained macroeconomic stability (Reisen 1993).

The sequencing of reform in Indonesia defies all orthodoxy established in the development literature. The capital account was opened first (1971), trade was gradually liberalized in the early 1980s, interest rates were freed in 1983, and institutional aspects of the financial system were deregulated in 1988. Only since then does one observe a pattern of events familiar from other reform episodes (in both OECD and non-OECD countries), which can be stylized as follows. "True" financial reform relieves the existing liquidity constraints for consumer and construction borrowing. Rising prices produce a positive wealth effect, further raising demand for credit. Eventually, the central bank worries about rising money supply and tries to stabilize the price level. Interest rates rise and companies borrow offshore to avoid high interest rates at home. The country's current account deficit rises, but a rising country risk premium is not sufficient to curb offshore (distress) borrowing. If the central bank sustains its stabilization program, real activity slows down, unveiling the first business failures. Banks now find out that some of their assets are doubtful and that they are overexposed in some areas, typically in half-empty real estate. Only now does the government start to worry about bank supervision and prudential regulation.

It is worth noting some institutional explanations for Malaysia's and Indonesia's success in keeping inflation low and exchange rates competitive in spite of open capital markets. In the past, both governments controlled a large share of foreign exchange earnings from oil and gas exports. These could be used to counteract movements in the private capital account of the country. On the other hand, until recently the Indonesian private sector in particular lacked creditworthiness in offshore markets. Growing exports have allowed Indonesian companies to gain international credit standing while the government share in foreign exchange has been shrinking. These developments increased the need to manipulate the liquidity of the domestic banking system.

In such a situation, it helps if the central bank of the less developed country (LDC) commands a large share of domestic financial assets,

either through state banks or through public enterprises if the latter run financial surpluses. Recently, the Indonesian authorities withdrew large amounts from the bank deposits of state-owned companies and used the funds to buy Bank Indonesia certificates. These quantity-oriented directives (as opposed to price incentives) to reduce domestic credit have been effective (though not efficient) in defending the Indonesian rupiah. In Malaysia, institutions such as the Employee Provident Fund (which holds 20 percent of domestic financial assets) have also played a crucial role in the management of domestic liquidity. This did not prevent a sharp recession in the early 1980s from turning into a generalized financial crisis. These events galvanized the government, so that Malaysia now serves as a model for bank supervision and prudential regulation.

The evidence of financial fragility in the reforming countries does not necessarily imply that financial crises are the inevitable price of financial liberalization. The causes of financial crises have been manifold, including severe external macroeconomic shocks, extremely high real interest rates, imprudent or fraudulent behavior of bank management, inadequate regulation and supervision of financial institutions, deposit insurance, new entrants with no bank experience, and concentration through conglomerate takeovers.

The fear of financial institution failure has slowed the process of financial opening in economies such as Korea and Taiwan (Reisen and Yèches 1993). Their authorities take a cautious approach toward capital account opening, in line with the experience of many OECD countries. Indeed, the OECD countries move toward financial market integration has been neither straightforward nor uniform. During the Bretton Woods period (up to 1973) with fixed but adjustable exchange rates, only a few countries such as the United States, Canada, Germany, and Switzerland operated without significant capital controls. During the 1960s and 1970s, even liberal OECD countries continually resorted to capital controls. A well-known example is the interest equalization tax, which the United States introduced in 1964 to deter capital outflows. Widespread measures to defend exchange rates and autonomous monetary policy during the Bretton Woods days included dual exchange rates, closed-circuit payments channels, and restrictions on the overall foreign position of financial institutions. Long after

the breakdown of the Bretton Woods system, a number of countries still introduced temporary measures to dampen capital inflows, for example, Japan, Germany, and Switzerland in 1977 when speculative pressures developed against the U.S. dollar and Spain in 1990 to dampen the rise of the peso. It was only during the 1980s that the majority of OECD countries achieved comprehensive financial opening. Even today, several OECD countries maintain tight restrictions on foreign assets held by pension funds and insurance companies—effectively acting like controls on capital outflows (Reisen and Williamson 1994).

Financial opening of most OECD countries has been *gradual* (OECD 1993). A speedy transition from rather restrictive to open financial regimes occurred only in the United Kingdom (1979), Australia (1983), and New Zealand (1984). These countries first tried to maintain monetary autonomy through a pure float of the exchange rate. They finally understood, however, that a regime of purely floating rates does not reduce economic interdependence with open capital markets; it only alters the form of interdependence. The stylized experience of financial opening, accompanied by a pure float of the exchange rate, is overshooting exchange rates following stabilization, which burdens export performance often with persistent effects. Japan, by contrast, represents the gradual approach to financial opening. Maintaining extensive restrictions when it joined the OECD in 1964, Japan gradually removed its capital controls during a period that lasted until 1980. First to go were restrictions on foreign direct investment, securities transactions, and personal capital movements; then real estate operations, Japanese direct investments abroad, and commercial lending were liberalized; finally, all remaining restrictions were removed in December 1980. The process of gradual financial opening was achieved in most European OECD countries in the second half of the 1980s, reflecting the efforts by the European Community (EC) to establish complete freedom of capital movements across EC member states.

The country experiences summarized here—in particular those in OECD and Asian countries—show that capital account opening does not inevitably lead to real exchange rate appreciation or to financial crash. Much depends on the timing of capital account opening relative to prerequisite institutional and policy measures.

**Timing of reform.** What are the indicators available to the policy maker with which to judge the appropriate moment for opening up the capital account? A major rationale for liberalizing capital flows in the OECD areas was the move to generalized exchange rate floating in 1973. At that time, the (now discredited) majority view was that flexible exchange rates would buy economic independence. Indeed, a number of OECD countries dismantled most of the temporary restrictions (mostly on inflows) they had imposed during the final years of the Bretton Woods system. Those countries that maintained controls were increasingly disillusioned over their effectiveness.

In particular, the dismal performance of the Southern Cone countries has provided the policy makers in developing countries with more lessons on the appropriate timing of reform (Edwards 1990). There is little disagreement in the so-called sequencing literature (on how best to sequence different reform steps) that stabilization, both fiscal and monetary, as well as domestic financial liberalization, should precede external liberalization. High inflation reduces the information content of prices, so worsening the allocation of resources. Excess demand, resulting in unsustainable current account deficits or exchange rate fluctuations, reduces the credibility of liberalization measures. The problem of weak government finances (often implying a weak tax effort in developing countries) has to be addressed first to obviate the need for domestic financial repression.

Many economists have been concerned about real exchange rate overshooting that may occur during the liberalization of the capital account and the risk of falling output in the manufacturing sector (deindustrialization) (McKinnon 1991). Since capital markets in developing countries are far from perfect, temporary appreciation causes excessive investment (which is costly to reverse) in the nontraded sector.

Another objection to early capital account liberalization is unrelated to exchange rates. As long as distortions in domestic commodity markets prevail, capital inflows into the distorted economy may be immiserizing (Brecher and Diaz-Alejandro 1977). Thus the reduction of distortions should precede capital account liberalization to prevent foreign capital from flowing into industries with high private but low social profitability. All these considerations lead to the mainstream advice that stabilization, domestic price deregulation, financial sector reform, and

foreign trade liberalization should all be well under way before the capital account is opened up.

One deficiency of the sequencing literature is that it is apt to discourage liberalization and to ignore policies needed to prepare the ground for successful opening. The nature of the capital controls is rarely specified and no distinction is made between inflows and outflows of capital; it assumes that countries have to liberalize controls on both outflows and inflows simultaneously. A second reservation about the sequencing literature is that it stems from the experience of countries that liberalized at a time when funds were in abundant supply on the international capital markets. The sequencing literature also ignores the political economy of reform. Any move from a restricted to a liberalized financial regime implies a redistribution of income, rents, and decision-making powers. Therefore, it is likely to meet opposition from the affected groups, such as favored borrowers under domestic credit rationing, companies entitled to subsidized foreign exchange, and banks enjoying a comfortable life as a national monopolist.

While the sequencing literature has identified preconditions before capital *inflows* should be freed, Williamson (1993) has discussed a separate set of preconditions for liberalization of capital *outflows*. Policy makers in developing countries often worry that liberalizing capital outflows will reduce domestic investment. Williamson noted that the liberalization program should not be guided by any attempt to fine-tune the capital account. More fundamental are appropriate criteria for liberalizing capital flows: (1) investor confidence in the permanence of a policy regime respecting their property rights, in order to enable countries to borrow in difficult times and to smooth out cyclical shocks; (2) adequate flexibility of policy instruments to cope with a high degree of capital mobility, meaning either a willingness to accept a flexible exchange rate or a degree of flexibility in fiscal policy; and (3) arrangements to limit erosion of the tax base implied by capital outflows, by allowing developing countries access to tax information-sharing agreements negotiated by the OECD.

This paper advocates a positive strategy for capital account liberalization. The first step is to identify impediments to liberalization that must first be removed, distinguishing salient characteristics differentiating such impediments in advanced developing countries and OECD

countries. This leads to the identification of institutional and policy measures that must precede reform in each group of countries. The final section outlines the appropriate sequencing of capital account liberalization, giving special emphasis to the interaction between the prerequisite institutional and policy measures, on the one hand, and the sequential opening process on the other.

### Macroeconomic Policies for Financial Opening

Once governments opt for financial opening, their initial task should be to identify impediments to liberalization that must first be removed. We will try to assist in that task by emphasizing macroeconomic impediments that are typical for advanced developing countries (and which are often overcome by OECD countries). The identification of such impediments helps determine the policy measures that should precede reform. Finally, there will be some consideration of the appropriate sequencing of capital account liberalization in light of the progress achieved in macroeconomic policy performance.

There are three characteristics typical of developing countries that may pose a particularly important impediment to the dismantling of capital controls on macroeconomic grounds. First, regular tax effort is often weak and replaced by the repression of the domestic financial system. Second, since poor domestic markets result in a high dependence on world demand, developing countries rely on capital controls to prevent undesired appreciation in the real exchange rate. Third, domestic securities markets too shallow for indirect monetary control and fragile international credit standings work against the smooth absorption of shocks. This chapter discusses each of the three impediments in turn.

**Fiscal control.** The basic requirement for avoiding macroeconomic complications with free capital flows is fiscal control. First, government finances and tax efforts need to be sufficiently strong to obviate the need for domestic financial repression. Implicit and overt taxation of financial intermediation, the substitute for regular tax receipts, breeds capital outflows. Second, unless the government has fiscal control, it has to violate the Mundell assignment and use monetary

policy for internal balance. To use monetary policy for internal balance requires capital controls to insulate the country from international capital movements. Once the capital account is open, even imperfectly, monetary policy acquires a comparative advantage in dealing with external balance, while fiscal policy is assigned to maintaining internal balance (Mundell 1968).

However, tax ratios of developing countries tend to be much lower than those of industrial countries—less than half on average. Failure to broaden the tax base is the main cause of weak tax effort in most developing countries. Administrative and technical defects in tax assessment and collection prevent tax revenues from rising, and powerful interest groups often block tax legislation reforms aimed at abolishing tax holidays and exemptions. This also explains the widespread objection to multi- or bilateral tax treaties that would prevent the tax-free ownership of foreign assets.

Money creation and domestic financial repression result directly from weak government finances. Base money is an interest-free liability of the public sector that can finance real spending to the extent that the private sector holds domestic currency and the domestic banking system holds reserves with the central bank against its deposit liabilities. Removal of capital controls reduces the seigniorage base. Interest-free minimum reserve requirements on demand and savings deposits are important for providing the government with direct access to bank credit. As long as the government relies on this source of finance, free entry of banks is resisted. If financial repression does not give the government enough resources at a stable price level, inflation develops and interacts with the reserve requirements to impose an “inflation tax” that gives the government more revenue. High inflation tends to shorten maturities of financial assets, reduce the information content of relative prices, and stimulate capital flight. Capital controls may serve (for a while) to ameliorate these ills. An additional public finance aim of capital controls is accommodating the stock of government debt. Controls serve this purpose by maintaining captive buyers, for example, pension funds, which cannot easily escape domestic controls, that are forced to buy government debt at below-market interest rates.

In the short term, government budget control is achieved by cuts in public outlays for consumption and investment, eliminating subsidies

and privatizing or closing public enterprises running deficits. Long-term government budget control, however, usually needs supply-side tax reform, preferably by broadening the tax base, simplifying tax structures, and setting tax rates at competitively low levels. Tax reform also has to compensate for the loss of explicit and implicit taxes on financial intermediation, which is necessary if dismantling outflow controls is not to produce capital flight.

The preparation, drafting, and implementation of tax reform takes time, if it is to be an economic and fiscal success. Tax reforms in developing countries have often failed because the period allowed for preparation and implementation was too short. Indonesia's tax reform, which took effect in 1983, has been a rare exception to widespread failures of tax reform, in which a broadened tax base (away from oil) lowered tax rates. The simplified tax system succeeded in raising the tax ratio by several percentage points of gross domestic product (GDP). The Indonesian tax reform plan allowed a two-year period for the necessary administrative and technical changes (modernization of the accounting system, training of tax officials, and changes in administrative structure) before implementation. Since powerful interest groups often block legislative reforms aimed at abolishing tax holidays and exemptions, credible commitment to reform on the part of the authorities is absolutely essential. Jail sentences for tax fraud have to become part of the culture, as happened recently in Mexico.

Tax reform and government budget control do not immediately remove the heritage of past budget deficits, that is, large stocks of public debt. Dismantling capital controls undermines the government's ability to keep interest rates on its domestic debt low, if capital flight is to be avoided. Domestic banks are often major captive lenders to their governments and continued implicit taxation in this discriminatory form weakens their position in the face of new competition from foreign banks.

Taxing domestic bond returns would help only if the tax did not raise bond yields commensurately. With open capital markets, domestic savers would compare after-tax yields at home and abroad, and would simply demand higher gross yields on any domestic government debt they held. Much depends in practice on the extent to which financial opening precludes the option of forcing captive buyers to hold domestic

government debt. To the extent that captive buyers are lost, more fiscal discipline will be needed to preserve (or restore) a government's creditworthiness on open financial markets. Just how much discipline will be required is difficult to say, because of changing market perceptions and unstable lending conventions. A more modest approach would determine the government budget balance needed to stabilize debt ratios and meet other macroeconomic targets at the same time. More fiscal discipline is needed to avoid inflation and rising debt ratios when the demand for base money is low, when GDP growth is low relative to real interest rates (when public debt is high relative to GDP), and when real depreciation raises the real value of net foreign debt (Reisen 1989). Only when real GDP growth exceeds real interest rates and accumulated debt is low relative to seigniorage can the government run a noninterest deficit without raising the debt ratio.

Sound government finances are also a precondition for a more activist fiscal policy for managing domestic demand. As experience in Singapore and Indonesia shows, manipulating the flow of domestic liquidity into the banking system using government excess savings partly frees the interest rate from demand management purposes so that it can be used for exchange rate management. This avoids the overcommitment of policy instruments—maintaining exchange rates at competitive levels and using interest rates to manage domestic demand—which cannot be reconciled in the absence of capital controls.

**Exchange rate and money targets.** Many economists have been concerned about real exchange rate overshooting that may occur during the liberalization of the capital account, and the risk of falling output in the manufacturing sector (deindustrialization). Since capital markets in developing countries are far from perfect, temporary appreciation causes excessive investment (which is costly to reverse) in the nontraded sector. In particular, the liberalization experiences of New Zealand and the Southern Cone of Latin America confirmed economists' concern. That outcome, however, should not be generalized as an inevitable result of financial opening *per se*. Much depends on the exchange rate regime.

To analyze the risk of undesired appreciation of the exchange rate associated with opening, it is necessary to disentangle the exchange rate effects of moving to capital account convertibility from the exchange

rate effects of stabilization. In practice, however, stabilization often does *not* precede financial opening. The complication for exchange rate management arises because inflation tends to be built into expectations, by means of implicit (or even explicit) indexation in goods and labor markets. This makes goods prices and labor costs sticky, while financial markets tend to be forward-looking. This asymmetry between the labor market and financial markets raises stabilization costs by producing real exchange rate overshooting. If the government that wants to bring down inflation firmly believes in domestic monetarism it will, as did the government in New Zealand from 1984 to 1988, dismantle controls and opt for a clean float. With a clean float of the exchange rate and no capital controls, the effectiveness of monetary policy is enhanced by both domestic demand (tight credit) and foreign demand (strong currency). However, the effectiveness of monetary policy has an immediate and often persistent cost in terms of external competitiveness. Real exchange rate overvaluation implies overinvestment in nontraded goods and underinvestment in traded goods sectors, as well as missed opportunities for diversifying away from unproductive product ranges, thus having a strong negative impact on long-term growth performance.

Moreover, as long as prices are rigid, the dismantling of capital controls tends to be deflationary under a pure float. Monetary tightening sends interest rates up; there is a simultaneous appreciation of the exchange rate to offset the interest rate differential created by monetary tightening, which will choke off capital inflows. To the extent that financial opening weakens the influence of fiscal variables on short-term interest rates, as it did in New Zealand, fiscal tightening may not produce a fall in interest rates and exchange rates sufficient to restore the initial level of output in the Mundell-Fleming world.

The dismal outcome of financial opening in the Southern Cone of Latin America has also been shaped to a large degree by the exchange rate regime. A central feature accompanying the liberalization episode in the late 1970s was a substantial real appreciation of the exchange rate following massive capital inflows in response to sustained interest differentials. Real exchange rates in the Southern Cone became overvalued once attempts were made to stabilize inflationary expectations by announcing future devaluation rates below current inflation rates (active crawling peg). Anchoring inflationary expectations to the ex-

change rate did not work: excessive capital inflows exceeded the sterilization capacity of the central bank and loosened fiscal and wage discipline, hence eroding the very foundations on which the nominal anchor approach is built.

Under a pegged exchange rate (or with an active crawling peg), financial opening tends to be inflationary, in contrast to the deflationary impact of the pure float. With positive nominal interest rate differentials against the world financial markets (reflecting microeconomic causes or the ongoing stabilization effort), a credible peg can induce excessive portfolio inflows, which easily exceed the sterilization capacity of the central bank. The resulting excess demand can, in principle, be eliminated by fiscal or income restraint. In many developing (and some industrial) countries, however, the opposite is likely to happen because excessive inflows tend to undermine support for restrictive policies. Without restraint, inflation will rise.

In developing countries exchange rate pegs translate easily into overvalued real exchange rates. Capital inflows tend to be powerless to arbitrage away large interest rate differentials relative to industrial countries. To be sure, interest rates in developing countries embody country risk (higher than in OECD countries) and real overvaluation fuels the exchange risk premium. But there are institutional factors, too, that explain the much-observed lack of interest rate convergence toward world levels (see the next section).

**Managed floating and sterilized intervention.** The liberalization experiences in New Zealand and the Southern Cone of Latin America illustrate Peter Kenen's case for a managed float of the exchange rate and its main instrument for targeting money and exchange rates, sterilized intervention. During both liberalization episodes, the monetary authorities failed to supply the appropriate mix of assets. "The authorities did nothing in the floating-rate case; they issued money in exchange for foreign assets in the pegged-rate case. They should have issued bonds instead, by engaging in sterilized intervention." (Kenen 1993).

One familiar objection to using sterilized intervention does not hold for developing countries: that it is ineffective when foreign and domestic assets are perfect substitutes. Our feeling is that the exchange risk premium in most countries is important enough (or can be made im-

portant enough, for example, by softening bands), so that it can be exploited by managed floating to reconcile monetary and exchange rate targets.

But the practical problems with sterilized intervention are large:

- During opening, the world's pent-up demand for a country's assets may easily exceed the sterilization capacity of its central bank. Central bank liabilities swell relative to the monetary base. Increased pressure on the refinancing schedule of central bank liabilities can endanger future control of the monetary base. Such pressure on the monetary base can be attenuated to some degree by carrying intervention in the foreign exchange market from the spot to the forward market.
- Sterilized intervention can also have negative fiscal consequences. First, it prevents the government from cutting the debt-servicing burden by obstructing the decline in domestic interest rates that normally comes with a capital inflow. Second, the central bank typically has to swap low-yield foreign exchange for high-yield domestic bonds; the accumulated interest differential can become an important burden.
- With shallow domestic securities markets, sterilized intervention in developing countries exerts a contractionary supply effect, which is felt much quicker than in the typical OECD country: the sectoral distribution of the domestic credit squeeze is sharper; working capital costs for unpreferred borrowers in the curb market rise faster; the liquidity position of financial institutions is quickly affected (especially if the instruments used—such as government bonds—carry below-market rates); and the resulting crowding out rapidly depresses the shallow corporate bond market.

The Asian sterilization practice holds lessons for open economies with underdeveloped securities markets (Reisen 1993). In fact, the monetary

massive capital flows without losing price stability and external competitiveness. Moreover, they have not been helped by capital controls in their aim of targeting money supply and exchange rates at the same time. But they do not shy away from (sometimes mandated) transactions to manipulate the flow of liquidity into the banking system in response to external capital flows. They often swap government excess savings (originating, say, in social security funds or public enterprises) held with banks into (and out of) government bonds. This practice can be considered a generalized form of sterilized intervention. It should be noted that the approach relies on the existence of public sector savings and hence on "fiscal complicity." Moreover, Frankel (1993) suggests that Asia retained the ability to sterilize with open capital markets because domestic financial liberalization has been delayed.

**Switching to the use of market-based monetary tools.** While OECD countries can spread the costs of external shocks and financial crises through time (as shown by the recent crisis of U.S. savings and loan institutions), most developing countries do not have this option. They risk losing international creditworthiness, inhibiting consumption smoothing based on foreign borrowing (even Korea was on the brink of losing access to voluntary lending in 1985). Moreover, domestic securities markets are too small to absorb shocks through variations in domestic liquidity; liquidity shocks often end up in the central bank as hidden losses. Therefore, full financial opening requires the establishment and deepening of money and securities markets. Otherwise, while using indirect monetary tools for daily operations, when everything goes well, the monetary authorities of the representative advanced developing country will typically resort to direct credit rationing and to mandated asset transactions to combat capital flight and recession.

The failure to establish and deepen domestic money and securities markets is often simply a consequence of ongoing domestic financial repression. Deregulation of interest rates, for example, threatens the soundness and safety of banks that have been saddled with nonperforming loans by government credit allocation. Interest regulation also inhibits the development of domestic money markets, bond markets, and secondary securities markets—all important ingredients for open market operations. Furthermore, the discount window can only play a

lending consists of the automatic rediscounting of subsidized loans made by the banking system. The undercapitalization of domestic banks often inhibits changes in the required minimum reserve ratio as a monetary policy instrument for influencing domestic liquidity.

The origin of domestic money markets is usually trading in short-term government bonds. Other money market instruments—interbank deposits, bankers' acceptances, certificates of deposits, and corporate bond issues—appear later. The reluctance of finance ministries to pay market rates on their debt is usually the biggest obstacle to the development of a domestic money market. Obviously, heavy reliance of government revenues on concessional borrowing and aid tends to create a shortage of government paper on the domestic market. Lax enforcement of corporate income taxes is another public finance impediment to establishing markets for private bonds and equities. Evading corporate taxes by showing very low profits is incompatible with creating the investor confidence needed for successful equity and bond issues. The creation of independent credit-rating agencies might overcome these obstacles to sound market judgments on private debt issues. Subsidized bank lending is another important obstacle to be removed in order to develop domestic money markets. The time needed to establish and deepen money markets crucially depends on how quickly domestic financial repression is overcome.

### **The Domestic Banking Sector**

Inconsistent targeting of exchange rates and monetary policies alone cannot explain why domestic interest rates did not converge toward international ones. Microeconomic explanations, based on analyses of the structure and organization of the domestic financial market in the reforming countries as a factor affecting interest rate behavior, have been generally neglected, in particular in the discussion of sustained interest differentials. It may be useful, therefore, to distill the liberalization experiences of advanced developing countries by the following stylized facts (Fischer 1993):

- The deregulation of interest rates has mobilized substantial savings in financial assets. Increases in the

supply of long-term credits, especially in countries with high and volatile inflation rates, however, remained rather modest. The experiences of Korea and Taiwan suggest that for the provision of risk capital, in addition to maintaining stable interest rates and low inflation rates, new instruments and markets have to be developed.

- In most of the reforming countries the private net real savings did not increase significantly in spite of high real rates of interest (with the notable exception of Korea and Taiwan). Financial opening also did not contribute substantially to increasing real investment into the capital stock, for capital flows from abroad went into more liquid forms of investment. Hence, at least in the short run, financial reforms did not stimulate growth, an experience that could also be observed in reforming OECD countries.
- Contrary to theoretical expectations, domestic interest rates did not converge toward the international rate, especially in the Latin American countries.
- Almost all reforming countries experienced, although to differing degrees, banking crises. They were most pronounced in the Southern Cone countries.

An overall assessment of financial liberalization policies in the reforming countries reveals that results have been generally more favorable in countries with gradual reforms than in those with shock approaches. Open financial systems per se cannot be blamed for the failure of financial reforms, as the cases of Indonesia and Malaysia clearly demonstrate. Domestic financial systems in these countries, however, were still heavily regulated in the 1980s. Deregulation and liberalization policies for the domestic financial sector and cautious opening in Korea and Taiwan have up to now prevented widespread financial crises and major disturbances in economic performance.

One of the most puzzling features of the financial reform in the

Southern Cone countries was the behavior of interest rates. As stylized facts emerging from the interest rate behavior during the reform periods one can highlight

- high nominal interest rates in local currency, not easily explainable by international interest parity considerations
- extraordinarily high real interest rates on loans in domestic currency
- a high and relatively stable margin between loan and deposit rates denominated in local currency

It is also noteworthy that full integration of interest rates did not take place even when capital movement was always free, as in Indonesia and Malaysia. Because of the maintained controls on capital movements, the Korean and Taiwanese interest rates could not be expected to be very sensitive to international interest rates.

Microeconomic explanations that have been advanced to explain sustained interest differentials after financial opening stress structural impediments in the domestic financial sector: segmented credit markets, oligopolistic structure of the finance industry, interlocking ownership of banks and firms, and the overhang of bad loans. These explanations suggest some prerequisites for successful financial opening:

- the enforcement of domestic competition to foster allocative and operational efficiency within the financial sector
- the strengthening of prudential regulation and supervision and the existence of legal and accounting systems to cope with systemic risks of financial systems
- the restructuring of the domestic banking system to remove excessive bad loans, thus permitting unfettered competition on level playing fields

**Domestic financial sector constraints.** Domestic financial markets in developing countries can be stylized as follows: credit markets are segmented, competition among banks is weak, joint ownership

between the corporate sector and financial institutions predominates, asset quality in banks' balance sheets is low, and institutional arrangements for prudential supervision and regulation are inadequate. While some of these features may at times be shared by OECD financial markets, their joint existence in developing countries is likely to increase financial instability, particularly in the presence of macroeconomic disequilibria. Financial opening, unless carefully designed, would be unlikely to generate interest rate convergence toward world levels, strengthen competition within the banking sector, or improve allocational and operational efficiency. Financial stability can be threatened in such a situation by the increased possibility of financial institution failure, inasmuch as the entry of new foreign banks undermines the viability of domestic banks saddled with bad loans and foreign exchange exposure of domestic banks rises.

**Segmented credit markets.** A first microeconomic explanation of deviation from interest parity and the persistence of interest rate differentials concerns credit market segmentation before and after the opening of the capital account. Credit markets have been segmented in the reforming countries both between national and international financial markets, as well as within the domestic credit markets.

Even in countries that have deregulated domestic interest rates, credit market segmentation has persisted, discriminating, for example, against small and rural financial institutions. Since international capital markets are largely wholesale markets, access to foreign capital is restricted, in practice, to firms linked to principal banks and to the export sector. With these financial market imperfections, financial opening may result in a distorted relief of liquidity constraints and in misallocated resources. Moreover, the lack of information and difficulties in monitoring small and rural sectors, as well as specialized institutions servicing specific sectors, impede the interest rate convergence predicted in economic textbooks.

A clear example of the persistence of segmented credit markets, even after financial opening has taken place, is provided by Uruguay in the 1977–1981 period (see Ramos 1988). Access to credit at varying terms depended on the borrower's creditworthiness and on the nature of investment being financed. Perceptions of creditworthiness, particularly among the private commercial banks, was heavily based upon

consideration of the size of the borrower's operation and the share of the borrower's income originating in riskier primary agricultural activities as opposed to manufacturing and certain service sectors. Relatively little emphasis was placed on assessing the merits of the project being financed or the soundness of the borrower's guarantees. As a consequence, substantial variations were observed in the average interest rates charged to the same class of borrowers in different lines of activity. For example, lending rates for small farmers were twenty to thirty percentage points higher than rates charged to prime industrial borrowers. The highest rates were charged to consumers.

Access to credit denominated in foreign currency has been a significant factor in determining the cost of borrowing in Uruguay. Borrowers without substantial foreign currency earnings, such as agricultural producers, continued to show a strong preference for borrowing in pesos at fixed, albeit high, rates of interest rather than borrowing more cheaply in foreign currency and assuming the risks of variable interest rates and peso devaluation. Concerns about clients' solvency in the event of a major devaluation also curbed lenders' willingness to extend foreign credit to smaller, less diversified borrowers, so that, in many cases, these borrowers had little option but to borrow in pesos or not at all.

Institutional specialization was another type of financial market segmentation in Uruguay that did not disappear after financial opening. Although financial liberalization has removed most legal and institutional barriers to multisectoral banking and reduced somewhat the traditional specialization in markets, specialization remained largely the rule. The Banco de la Republica, for example, has been the dominant source of foreign trade financing as well as the key lender to the agricultural and meat-packing sectors, reflecting the long history of direct state involvement in managing those activities. The State Mortgage Bank has been the sole source of medium- and long-term mortgage financing. Foreign-owned banks, for their part, have concentrated mainly on serving the needs of their multinational clients and those of a few prime borrowers in local industry and trade.

**Oligopolistic structure of the finance industry.** Another micro-economic explanation of very high real lending rates after financial

liberalization and the persistence of interest rate differentials after financial opening is related to oligopolistic pricing in a highly concentrated banking sector.

Restrictions on domestic and foreign bank entry, restrictions on foreign ownership of domestic financial institutions, and government ownership of domestic banks typically produce an oligopolistic structure in the banking industry in developing countries. If capital account opening excludes the entry of foreign banks, high operating costs and large spreads between lending and borrowing rates are likely to persist until the impact of foreign competition begins to be felt. This will be felt particularly in high-inflation countries where banks have very high spreads and cost ratios, mainly due to the increased paper work caused by inflation and due to the expanded branch network used to capture low-cost deposits. Moreover, privileged banks can borrow long-term funds abroad cheaply and relend short-term funds at high interest rates to domestic borrowers excluded from the wholesale world capital market. Furthermore, the presence of cartels or concentration in banking impedes the reduction in domestic lending costs in spite of financial opening.

The empirical measurement of bank concentration and the threat to entry into the banking sector is a difficult task (see Bröker 1989). Some frequently used measures of participation and concentration are the expansion of banking networks and their density in terms of inhabitants, the number of foreign banks operating within the host countries, or the share of the four or five largest banks in the total or domestic assets of all banks. Available empirical evidence for the last indicator suggests that the bank concentration in the reforming developing countries is significantly higher than in industrial countries. There is also evidence that in a number of reforming developing countries financial liberalization has obviously not led to significant changes in the behavior of financial institutions. It seems that in some countries bank associations have assumed the function of setting the interest rate, which the monetary authorities relinquished.

**Excessive interlocking ownership.** Interlocking ownership and nonperforming loans in the portfolio of the banking sector were also said to have contributed to the interest spread and financial collapse, espe-

cially in the reforming Southern Cone countries. The prevalence of joint ownership of financial, industrial, and commercial firms in developing countries risks jeopardizing the desired results of financial opening. Typically, such holding companies or groups are not capable of adjusting quickly to a market-determined cost of credit, which financial opening entails. Without prudential regulation and supervision, banks may extend credit to insolvent but related firms in order to protect their own capital. Increased interest rates, which often accompany financial opening, do not reduce demand for credit as expected but stimulate "distress borrowing," particularly when interlocking ownership is prevalent. Moreover, interlocking ownership strengthens domestic lobbies against free entry of foreign banks enabling doubtful lending practices to continue.

Chile is frequently mentioned as an outstanding example of how excessive interlocking ownership hindered the success of financial opening in the late 1970s (see, for example, Galves and Tybout 1985). At that time, the Chilean capital market was characterized by the existence of economic conglomerates ("grupos"), that is, a group of firms organized around one or more domestic banks. Under these conditions financial intermediaries pursued the objectives of the economic group to which they belonged rather than the objectives of their depositors and creditors. As a consequence, large enterprises having connections with the economic groups had privileged access to cheaper foreign credit. With the increasing concentration of credits to related firms, which was accompanied by sectoral concentration, the risks of the banks' portfolio also increased. High real interest rates contributed to the problem as banks were more and more forced to provide credit to insolvent enterprises of the same groups in order to secure their own capital base. This development finally resulted in an increasing number of nonperforming loans.

**Bad loan overhang.** A final critical impediment to financial opening, in particular to foreign bank entry, is the overhang of nonperforming loans in the domestic banking system. The interaction between loose banking supervision and unstable macroeconomic environment led to excessive risk taking in the Southern Cone countries, which was reinforced by interlocking ownership and free deposit insurance. The con-

sequence was an accumulation of bad loans and the collapse of financial systems. The absence of significant reforms in prudential supervision in almost all the reforming countries contributed to the number of bank failures. The existing rules either were not enforced in practice or some of the accounting rules themselves were not codified to ensure consistency and transparency. This situation encouraged troubled banks to book accrued interest on nonperforming loans and to distribute the book profits. After the onset of financial crises, the central bank had to choose between forcing banks to provision for bad debt to maintain confidence in banking institutions, or being tolerant on this issue to "buy time" for troubled banks to overcome the financial difficulties.

The size of the bad loan problem is easily underestimated. Data on bad debts generally do not include large but doubtful debtors (particularly those with interlocking ownership) for whom the banks are capitalizing the arrears into new loans. Questionable accounting and supervisory practices also help to obscure the hidden losses. Inclusion of such nonperforming loans would often increase total bad debts significantly. While domestic interest liberalization often makes the existence of doubtful loans apparent, it can also contribute to underestimating the extent of the problem. As deposits grow (thanks to higher interest rates), the debt-asset ratio seems stable or even to decline over time. Yet, the banking system may be based on bad debt, with the central bank providing the necessary reserves. Once the monetary authorities impose a restrictive monetary stance, bankruptcies in the nonbank sector and subsequent financial institution failure will force the government to consolidate the whole banking system.

Arrears in the service of nonperforming loans in the banking system in the Southern Cone countries was, and still is, a significant problem (see Fischer and Reisen 1993). Loan quality deteriorated during the 1980s as (1) macroeconomic difficulties made it more difficult for borrowers to prosper and thus repay their loans, (2) loans made with inadequate credit analysis (particularly before 1982) began to deteriorate, and (3) some improvement in institutional capabilities made estimates of nonperforming loans increase (see Morris et al. 1990). It is very likely that such estimates are far too low because disclosure of large volumes of nonperforming assets could be disastrous to individual banks and to entire banking systems.

In contrast with the Southern Cone countries, the quality of bank portfolios was much better in the Asian reforming countries although situations differed. Nonperforming loans never assumed large proportions in Malaysia and nominal interest rates were never excessively high. The burden of arrears, however, has grown since 1985, as real interest rates increased and the economy slowed. The Indonesian financial system also faced the serious problems of a growing volume of bad and doubtful assets in bank portfolios. The main reason for this was the high interest rate in relation to the productivity of capital. In Korea, the problem of nonperforming loans (1984–1986) was gradually resolved without major impact on the solvency of banks (see Nam 1989). Nonperforming loans also peaked in Taiwan in the 1984–1986 period, although their share in total assets was only between 4.6 and 6.5 percent for domestic banks, with a declining trend toward the end of the 1980s.

The costs involved in the rescue operation of failing banks impose a heavy burden on central banks and the government budget. The actual cost of the rescue depends, apart from the size of bad loan portfolios to be handled, on the type of rescue scheme and on the timing of intervention. Experience in the Southern Cone of Latin America in the early 1980s suggests that the costs of rescue operations are far from negligible. In Chile, for example, these costs incurred during the 1982–1985 period have been estimated at 44 percent of Chile's 1985 GDP (see Larrain 1989).

The overhang of bad loans in the domestic banking system is also a particular stumbling block for financial deregulation in the Eastern European countries, and especially for the free entry of foreign banks. It is almost impossible, however, to quantify the volume of bad loans at present in view of the lack of reliable balance sheets and the difficulty of distinguishing between solvent and insolvent enterprises. As in most developing countries, financial institutions in the Eastern European countries are seriously undercapitalized, and there are often no clear guidelines on the minimum level of capital and reserves. In Czechoslovakia, for example, the capital ratios of the two commercial banks were only 1.5 percent at the beginning of 1991, and those of the savings banks were even lower (see OECD 1991).

### Financial Sector Reform Measures

Credit market segmentation, lack of competition in the domestic banking sector, and insufficient prudential regulation and supervision have certainly complicated financial opening and frustrated its intended outcome. There are three policy areas that are essential to help achieve successful liberalization: enhancing competition among banks, strengthening prudential regulation and bank supervision, and solving the bad loan problem.

**Enhancing competition among banks.** Credit market segmentation can be overcome by abolishing restrictions imposed on banks and specialized financial institutions. Institutions should be allowed to extend their business over a wider range of financial activities; for example, industrial sector banks should be allowed to lend to other sectors. Bank management autonomy from government policy guidance can be fostered by making risk-averse management and habits more profit oriented. Governments should stop restricting the creation of new financial instruments that provide a wider range of financial substitutes better tailored to the needs of clients.

Measures to stimulate competition among existing financial institutions include the abolition of interest ceilings, the abolition of subsidized loans to and credit floors for priority sectors, and the privatization of government-owned financial institutions. An effective way to increase competition is to encourage the establishment of direct securities markets. The success of privatization depends on the ability of privatized banks to exercise independent credit judgments. Hence, banks must be able to protect their own capital position against loan losses forced upon them by past and ongoing government credit allocation. This is not possible before the existing balance sheets are cleaned up, by writing off bad loans and injecting new capital (see next section for details).

New domestic as well as foreign bank entry should be allowed and encouraged, subject to adequate prudential requirements. New entrants should not be allowed to exacerbate the problem of interlocking ownership between financial, industrial, and commercial sectors. In devel-

oping countries, powerful business interests are often in a position to finance new entrants into the domestic banking system. When domestic competition is a remote option, foreign competition on a level playing field becomes all the more important. A prerequisite for undistorted competition between domestic and foreign banks is ending domestic financial repression. For example, excessive minimum reserve requirements give a competitive edge to foreign banks, which can more easily raise funds that are not subject to these reserve requirements abroad. Another obvious disadvantage for domestic banks arises from their obligation to buy government bonds and to make high-risk policy loans at below-market interest rates. Equal treatment also requires that the existing stock of nonperforming loans be largely consolidated before foreign competition can be beneficial. After the banks' balance sheets have been cleaned up, the authorities might consider the merger of some banks with the foreign entrants. This would help domestic banks obtain an international reputation and create opportunities for diversifying into a broader portfolio.

#### **Strengthening prudential regulation and bank supervision.**

Like macroeconomic stability, prudential regulation and supervision is a *conditio sine qua non* for successful financial opening. Strong regulatory and supervisory policies are important to minimize moral hazards (including corruption, fraud, and excessive risk taking) in the banking system, to ensure the viability and health of the banking industry, and to make interest rate liberalization more effective. The ultimate objective of prudential regulation and supervision of the banking sector is to achieve stability (and public confidence in such stability) of the financial system, as well as to manage systemic risk and to protect clients. As risks in the financial system increase as a result of greater competition, market volatility, and uncertainty after deregulation and liberalization, the authorities must strengthen prudential regulation, notably with respect to capital requirements and the range of banking supervision.

In most developing countries, financial institutions are significantly undercapitalized and the regulatory framework often lacks meaningful minimum capital adequacy guidelines. To provide a cushion against unexpected losses for the protection of depositors and to maintain

general confidence in the banking system, appropriate capital adequacy requirements should be established. When bank accounting and management information systems are sound, it may be appropriate to adopt the risk-based capital adequacy guidelines formulated by the Basle Committee of Bank Supervisors. Concern over the stability of the banking system may induce the government to impose high capital requirements. This may, however, deter entry and foster a rather concentrated banking structure. This example demonstrates that there is clearly a trade-off between the various objectives of financial regulation, especially between controls that stimulate competition, efficiency, and innovation on the one hand and those that promote stability, safety, and fairness on the other.

It is important that prudential regulations embrace the whole spectrum of risks in the banking industry. Frequently, they just cover credit risk. Other risks such as default, liquidity, and interest rate risks should also be supervised and regulated. Effective supervision has to ensure that (1) the supervisors have sufficient autonomy from political interference; (2) the overall regulatory framework is sound; (3) the supervisors have adequate resources to hire, train, and retain competent personnel as well as to acquire appropriate technology; (4) the supervisors have sufficient authority to enforce their decisions; and (5) the system of supervision has a balance of off-site supervision and on-site inspection. Among the institutional arrangements needed to achieve these aims are the establishment of "rules of the game" for commercial banks and other financial institutions, the creation of an early warning system, and an improved, standardized communications system between the central bank and the other financial institutions (for further details see Polizatto 1990).

Improved prudential regulations can also help avoid the problem of nonperforming loans, the emergence of interlocking lending among related banks and firms, and the concentration of loans to specific sectors and firms. In countries having such problems, they should be solved before there is complete liberalization of interest rates. Successful financial reform also depends on the healthy profitability of the private sector. If the macroeconomic environment is unstable and bank supervision is ineffective, interest rate liberalization should proceed gradually to avoid possible disruption to long-standing financial contracts that

could be caused by a sudden removal of interest rate regulations. Given the economies of scale in finance and the temptation to form economic groups based on banks, banking regulations must be devised to limit ownership links, to ensure a wide distribution of ownership and control of banks, and to limit loans to any single economic group or sector, especially if it is related to the bank itself.

Prudent regulation is also essential for the development of a healthy capital market. An adequate regulatory environment for securities markets should include systems of corporate disclosure, external auditing, and the establishment of credit rating. Furthermore, regulations on insider trading, price manipulations, and other unfair transactions should already be effective before the opening of capital markets.

An important, but frequently neglected, ingredient for financial system efficiency is an adequate information system. Lack of complete and accurate information, the absence of adequate accounting standards, and reluctance to make balance sheets and profit-and-loss accounts available to creditors probably constitute the most severe obstacles to financial development even in the more advanced developing countries. They require institutional reforms that include a strong supporting infrastructure to provide an adequate flow of information, credit appraisal and rating, and legal and accounting systems. Accounting and auditing are fundamental tools not only for managerial decision making but also for lender evaluation of credit risk. Information and disclosure requirements are particularly important for effective securities markets. Publicly available sources of accurate, reliable, and honest information are still scarce in most developing countries.

Deregulation, technological advances, financial innovation, and the globalization of financial markets imply stronger competition and expose financial institutions to new areas of risk, including foreign exchange risk and position risk in securities trading. In economies with a long history of financial repression, the participating actors, including banks, managers, borrowers, lenders, and public officials, are not trained to deal with these risks. Financial opening therefore, has to be accompanied by a further strengthening of bank supervision and surveillance of the financial system. At the same time, banks' capacities to assess new types of risks associated with international financial markets have to be strengthened. While the supervising body should be concerned with the

integrity of the financial system as a whole, the banks should receive special attention because they are the major depository of savings and have a central role in the payments and settlements systems.

**Solving the bad loan problem.** The overhang of nonperforming loans in the domestic banking system represents a barrier to financial opening, in particular for free entry of foreign banks. In view of the limited number of successful restructuring experiments and because cross-country evidence on cost-effective ways to handle the problem is precarious, not many generalizations on the optimal approach to the bad loan problem can be made. Some basic principles, however, can be advanced.

The first step for a government committed to solving the bad loan problem is to determine the precise extent of the damage. The cost of rescue schemes is multiplied by the lack of data on nonperforming loans, reflecting the inadequacy of financial statements and accounting methods and the failure of the banks and regulatory authorities to recognize the size of the problem and to address it at an early stage. Auditors, who must be independent of the parties involved in the problem (that is, the current bank management, the nonperforming borrowers, and the authorities concerned with credit allocation), should assess the magnitude of the problem and prepare rescue schemes.

In a second stage, a choice has to be made whether to liquidate or to recapitalize the ailing financial institutions. The decision depends on a country's legislative framework, the size and structure of the national banking system, the amount of loss not backed by an ailing bank's equity, and the weakness (or strength) of government finances. Recapitalization can take various forms. One solution, adopted by Chile in the 1980s, is for the government to buy up the nonperforming loans by swapping them for government bonds. Another mechanism is to inject new capital from existing or new shareholders or from the public authorities. A third solution is to merge the ailing domestic banks with healthy domestic or foreign corporations. Two recent examples of dealing with the bad loan problem are worth closer scrutiny.

Chile recapitalized its banking system by removing bad loans from the banks' portfolios and then providing a government-backed mechanism for injecting new capital (see Larrain 1989). First, the government

determined the damage by means of a special portfolio audit and then purchased the banks' bad loans with long-term government bonds carrying a yield above the banks' cost of funds. With the gradual elimination of problem loans and the positive net income flow from the government bonds, the banks' capital grew over time. Chile's approach placed a considerable burden on the government budget, which had to absorb losses on the bad loans and transfer new resources to the banks through interest payments on the government bonds.

An alternative approach was chosen by Malaysia's authorities (see Sheng 1989). Shareholders of ailing banks were required to inject as much capital as possible through a rights issue. The new private capital was supplemented by the central bank to meet the minimum adequacy requirements. The shares subscribed by the central bank were held under a buyback scheme under which shareholders who had participated in the rescue operation were allowed to buy back the unsubscribed shares at *pari plus* holding costs. Malaysia's approach meant less government involvement than Chile's and more immediate restructuring of ailing banks (or liquidation if not enough private subscribers could be found).

Reform of the financial sector in the Eastern European countries must be closely coordinated with the restructuring of the corporate sector (see Dittus 1993). The reform of the financial sector and the restructuring of enterprises could essentially follow two models, which need not be mutually exclusive. In the first model, efforts would be concentrated initially on reorganizing and privatizing the enterprise sector, and only later would attention be turned to the problem of bad loans. The advantage of this gradual approach would be that the burden on the government budget could be spread over a longer period. On the down side, the privatization of state enterprises is likely to proceed slowly and the banks will probably tend to continue to increase their bad loans. This would seriously impede the channelling of financial savings into new and more promising activities.

In the second model, the reform of the financial sector would be tackled first and the banking system used as the driving force for the restructuring of the enterprise sector. To this end, the banks would have to be recapitalized in order to make provision for bad loans and write off irrecoverable loans. The preconditions for successful rehabilitation of the banks are adequate recapitalization and the pledge that this is an

exceptional, one-off measure. The advantage of this model is that the banking system would become an agent with an institutional interest in the restructuring of the enterprise sector. However, the major problems with this approach are the enormous burden it would place on the government budget and the associated problem of macroeconomic instability. There is also a danger that the sheer volume of nonperforming loans and the uncertain economic prospects of the Eastern European countries will prevent governments from credibly excluding the possibility of future capital injections.

Financial opening (rather than delay of reform, which would preserve financial repression) may provide less costly avenues for solving the nonperforming loan problem in the domestic banking system. Newly entering foreign banks are potential candidates for mergers with and recapitalization of ailing domestic banks. The participation of foreign banks in the consolidation of the domestic banking system can be made part of the entry conditions. There are essentially two options available. The first is a direct merger of the foreign bank with an ailing domestic bank as a precondition for entry. The second option for foreign banks unwilling to participate directly in a rescue operation, would be an auction procedure for a limited number of new bank licenses. Those with the highest bids would be awarded licenses and the auction proceeds could be earmarked for the rehabilitation of the domestic banking system.

### Phasing Out Capital Controls

To avoid disarray, an open capital account requires consistency of macroeconomic, financial, and exchange rate policies. Since such a consistency is nowhere immediately established, we prefer a phased reduction of capital controls in line with and subsequent to improvements in other policy areas. Countries that have ignored these interactions have seen a delay for many years of any net benefits arising from liberalization, because efficiency gains were wiped out by macroeconomic and financial instability.

The variety of capital flows on which controls are often imposed equips the policy maker with an instrument that is often neglected in

economic advice. He or she can sequence the process of capital account liberalization itself. To develop a watertight blueprint that provides a guarantee against financial crises would be pretentious. Open financial systems always face the risk of crisis, but crisis has often been a forceful catalyst for reform. As this paper hopes to have made abundantly clear, however, pitfalls with financial opening and openness can and should be avoided by establishing durable macroeconomic stability and tightly enforced prudential regulation and bank supervision.

The instruments available to the policy maker are the various controls that are imposed on different capital flows. Flows must be identified as outflows or inflows, short-term or long-term, bank or nonbank. Major capital flows to be distinguished are borrowing and lending, buying and selling of securities, and foreign direct investment. Flows should also be distinguished by whether they are for real investment, financial investment, or consumption. Foreign direct investment and trade-related finance, for example, are absolutely necessary for development at the earliest stage. Moreover, they are unlikely to cause trouble for macroeconomic management and financial sector stability. They are early candidates for liberalization, while other capital flows confront the authorities with more complicated issues.

In view of the considerable time needed to establish sound government finances, to lay the ground (and the reputation) for durable macroeconomic stability, and to implement institutions for prudential regulation and bank supervision, these steps should be undertaken without delay and should precede the dismantling of further capital controls. Fiscal consolidation is a necessary prerequisite for domestic financial liberalization because regular tax revenues obviate the need for government to rely on the implicit taxation of the domestic financial intermediation. The solution of bad loan problems also requires strong government finances. Since liberalizing capital flows is apt to erode a country's tax base, the problem arises of enforcing taxation obligations on income earned abroad. It is recommended not only to align tax burdens and structures in a competitive way but also to engage multilateral tax information-sharing agreements with industrialized countries.

Even a tight fiscal and monetary stance will not immediately reduce inflation and inflationary expectations. Using the exchange rate regime (a nominal peg, an active crawl, or a pure float) would help speed up

the disinflationary process with open capital markets, but the costs of misallocation involved by real overvaluation of the currency would seem too high to make this route advisable. Moreover, only when disinflation has succeeded in reducing nominal interest rates and raising real interest rates can the problems of domestic interest rate deregulation (which are apt to complicate the process of removing capital controls) be avoided. This is part of a strategy of domestic financial liberalization that aims at avoiding sustained interest differentials with world financial centers.

Domestic interest rate deregulation removes both the main incentive for capital flight and the most important obstacle to the development of domestic money markets. Having succeeded in deepening financial markets offering undistorted assets for financial investment, controls on capital outflows can now be dismantled. Deregulating interest rates, reducing minimum reserve requirements, and solving the bad loan problem pave the way for the free entry of foreign banks (which can simultaneously help solve the bad loan problem). When and if adequate prudential regulation is in place, the free entry of foreign banks is a realistic strategy for promoting competition in the banking sector.

At this stage of the liberalization process, the major elements should be in place for dismantling controls on short-term capital inflows. With increased bank competition due to free bank entry, with credit market integration from competition, with banks exercising independent credit judgments after the solution of the bad loan problem, with prudential regulation preventing distress borrowing, and with lowered interest rates resulting from stabilization, the integration of short-term capital markets should now produce interest rates convergence toward world levels. Deepened money markets now allow the authorities to absorb shocks to domestic liquidity in a smoother and less contractive way than before. This is the time to dismantle controls on short-term borrowing for banks and nonbanks and to allow nonresidents to operate freely in the domestic securities markets.

## REFERENCES

- Bergsten, F., and J. Williamson. 1990. "Currency Convertibility in Eastern Europe." In *Central Banking Issues in Emerging Market-Oriented Economies*, Federal Reserve Bank of Kansas City.
- Brecher, R., and C. Diaz-Alejandro. 1977. "Tariffs, Foreign Capital, and Immiserizing Growth." *Journal of International Economics*, vol. 7, no. 4, pp. 317-22.
- Bröker, G. 1989. *Competition in Banking*. Paris: OECD.
- Corbo, V., and J. de Melo. 1987. "Lessons from the Southern Cone Policy Reforms." *The World Bank Research Observer*, vol. 2.2, pp. 111-42.
- Diaz-Alejandro, C. 1985. "Good-Bye Financial Repression, Hello Financial Crash." *Journal of Development Economics*, vol. 19, pp. 1-24.
- Dittus, P. 1993. "Finance and Corporate Governance in Eastern Europe." In *Investment and Financing in Developing Countries*, ed. B. Fischer. Baden-Baden: Nomos.
- Edwards, S. 1990. "The Sequencing of Economic Reform: Analytical Issues and Lessons from Latin America." *The World Economy*, vol. 13.1, pp. 1-14.
- Fischer, B. 1993. "Impediments in the Domestic Banking Sector to Financial Opening." In *Financial Opening: Policy Issues and Experiences in Developing Countries*, ed. H. Reisen and B. Fischer. Paris: OECD.
- Fischer, B., and H. Reisen. 1993. *Liberalising Capital Flows: Pitfalls, Prerequisites and Perspectives*. OECD Development Centre Studies. Paris.
- Frankel, J. 1993. *Sterilization of Money Inflows: Difficult (Calvo) or Easy (Reisen)?* CIDER Working Paper no. C93-024. University of California, Berkeley.
- Galves, J., and J. Tybout. 1985. "Microeconomic Adjustments in Chile During 1977-81: The Importance of Being a Group." *World Development*, vol. 13, no. 8, pp. 969-94.
- Journard, I., and H. Reisen. 1992. "Real Exchange Rate Overshooting and Persistent Trade Effects: The Case of New Zealand." *The World Economy*, vol. 15, no. 3, pp. 375-88.
- Kenen, P. 1993. "Financial Opening and the Exchange Rate Regime." In *Financial Opening*, pp. 237-62. See Fischer 1993.
- Lal, D. 1987. "The Political Economy of Economic Liberalization." *The World Bank Economic Review*, vol. 1, no. 2, pp. 273-99.
- Larrain, M. 1989. *How the 1981-83 Chilean Banking Crisis Was Handled*. World Bank, Policy, Planning and Research Working Papers, no. 300. Washington, D.C.
- McKinnon, R. 1991. *The Order of Economic Liberalization: Financial Control in the Transition to a Market Economy*. Baltimore and London: Johns Hopkins University Press.
- Mathieson, D., and L. Rojas-Suarez. 1993. *Liberalization of the Capital Account: Experiences and Issues*. Occasional Paper no. 103. Washington, D.C.: International Monetary Fund.
- Morris, F. with M. Dorfman, J. P. Ortiz, and M. L. Franco. 1990. *Latin America's Banking Systems in the 1980s*. Discussion Paper no. 81. Washington, D.C.: World Bank.
- Mundell, R. 1968. *International Economics*. London: Macmillan.
- Nam, S. W. 1989. "The Liberalization of the Korean Financial and Capital Markets." In *Korea's Macroeconomic and Financial Policies*. Seoul: Korea Development Institute. pp. 133-72.
- OECD. 1993. *Exchange Control Policy*. Paris.
- . 1991. *Economic Survey: Czech and Slovak Federal Republic*. Paris.
- Polizatto, V. P. 1990. *Prudential Regulation and Banking Supervision: Building an Institutional Framework for Banks*. Working Paper Series, no. 320. Washington, D.C.: World Bank.
- Ramos, J. 1988. "The Rise and Fall of Capital Markets in the Southern Cone." In *Financial Liberalization and the Internal Structure of Capital Markets*, ed. M. Urrutia. Tokyo. United Nations University.

- Reisen, H. 1989. *Public Debt, External Competitiveness, and Fiscal Discipline in Developing Countries*. Princeton Studies in International Finance, no. 66. Princeton, N.J.: Princeton University.
- . 1993. "Southeast Asia and the Impossible Trinity." *International Economic Insights*. May/June, pp. 20–23.
- Reisen, H., and H. Yèches. 1993. "Time-Varying Estimates on the Openness of the Capital Account in Korea and Taiwan." *Journal of Development Economics*, vol. 41, pp. 285–305.
- Reisen, H., and J. Williamson. 1994. "Pension Funds, Capital Controls, and Macroeconomic Stability." Forthcoming in *Pensions: Funding, Privatization, and Macroeconomic Policy*, ed. Salvador Valdes-Prieta.
- Sheng, A. 1989. *Bank Restructuring in Malaysia, 1985–88*. Working Paper Series, no. 54. Washington, D.C.: World Bank.
- Williamson, J. 1993. "A Cost-Benefit Analysis of Capital Account Liberalisation." In *Financial Opening*, pp. 25–34. See Fischer 1993.



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