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## Banks and Capital Flows

As Asia's experience so graphically illustrates and a flurry of scholarly studies have sought to explain, banks are a special problem in emerging markets. They are far and away the most important providers of financial intermediation services. This is evident in the ratio of stock- and bond-market capitalization to credit provided by deposit-taking banks, which is significantly below that in the advanced industrial economies.<sup>1</sup>

This predominance of banks in emerging markets reflects their relatively early stages of economic and institutional development.<sup>2</sup> A deep and liquid securities market presupposes a well-developed information environment and reliable contract enforcement, the legal and institutional prerequisites for which are demanding. In particular, in the absence of mandatory disclosure requirements, insider-trading prohibitions, and effective laws protecting credit rights, the scope for cornering or manipulating markets and expropriating minority creditors tends to inhibit participation in over-the-counter markets and centralized exchanges. In turn, the absence of these institutional prerequisites limits the role of such markets in mobilizing savings, financing investment, and providing corporate governance. Banks, in contrast, can use long-term relationships

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1. Similarly, the share of banks in the assets of bank and nonbank financial institutions is unusually large in developing countries (Goldstein and Turner 1996).

2. Banks similarly dominated financial markets in the early stages of development of all of today's advanced industrial economies. This is true even of the United Kingdom and the United States, where the development of securities markets was most precocious (see Goldsmith 1985).

with their customers to obtain favorable access to information about their financial condition and can defend their rights as creditors by virtue of their economic size. It follows that in less-developed countries, where legal and regulatory infrastructure is relatively weak, banks are relied upon disproportionately for the provision of intermediation services.<sup>3</sup>

An economy that relies disproportionately on banks for the provision of financial services is vulnerable to problems of financial and macroeconomic instability. Sharp changes in stock and bond prices are not without their adverse consequences, but such consequences are mild compared to those caused by shocks to the banking system. This creates an argument for seeking to buttress financial stability by diversifying the financial sector to include a significant role for both banks and securities markets.

Observers such as Donald Tsang, the financial secretary of Hong Kong, therefore argue that emerging economies need to develop securities markets to supplement their banking systems (see Tsang 1998). In this they will be aided by ongoing changes in financial technology such as computerized trading and the computer-based pricing of derivative financial instruments, which are making the development of well-functioning securities markets easier and more attractive. But the special information and contracting problems characteristic of emerging economies will continue to slow the development of securities markets until rules for financial disclosure, auditing and accounting, insolvency procedures, and corporate governance, as described in chapter 3, are promulgated and rigorously enforced. This is a lot to ask of governments that have limited administrative capacity. It makes it naive to think that the forward march of technology will soon diminish the special importance and therefore the special problem of the banks.

## Causes and Consequences of Bank Fragility

Hence, financial systems in emerging markets will remain centered on banks for the foreseeable future. And bank-based systems are intrinsically fragile. These facts have several important consequences.

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3. A mature financial system in which information and contracting problems have been ameliorated will have a place for both financial institutions and financial markets. Banks are the cost-effective way of providing external finance for industries whose technology is stable and for which there is a consensus about managerial competence and expected returns. Where there is widespread agreement on these matters, it will pay to exploit the economies of scale in monitoring that banks can provide. But when technology is changing rapidly and management is faced with unusually complex decisions, no consensus will generally exist about managerial competence and prospective returns. It will then pay to use stock and bond markets to pool diverse assessments, the balance of which will be reflected in the prices of securities.

## Macroeconomic Instability

My work with Andrew Rose on banking crises in emerging markets shows that an economywide banking panic typically depresses output by 1 percent of GDP in the year it occurs, by fully 3 percent of GDP in the next year, and by somewhat less in the year following (Eichengreen and Rose 1997).<sup>4</sup> An emerging-market banking crisis, in other words, costs upwards of a year's worth of normal economic growth. These macroeconomic effects are larger in emerging markets than in advanced industrial economies, because banks dominate the financial system in the former to such an extent and there are few other channels for obtaining credit.<sup>5</sup>

These macroeconomic costs are distinct from the resolution costs of banking crises—the costs of taking over bad loans and recapitalizing insolvent banks—which tend to be borne by the public sector and, ultimately, the taxpayer. Bank losses and public-sector resolution costs have exceeded 10 percent of GDP in more than a dozen episodes since the late 1970s, sometimes approaching twice that level. Resolution costs are typically larger in emerging markets than in advanced industrial economies, again reflecting the disproportionate importance of the banking system.

Finally, there is the damage that banking crises do to the credibility of a government's economic-policy strategy. High resolution costs wreak havoc with fiscal control. The government's inability to rein in its budget deficit, together with its inability to raise interest rates when the banking system is weak, can in turn destroy its capacity to mount a credible defense of the currency.

## Understanding the Fragility of the Banking System

One reason banks pose a threat to the stability of the financial system is that they are linked together by the interbank market—because they manage fluctuations in their liquidity by borrowing from and lending to one another. It follows that the sudden inability of one bank to meet its obligations can cascade through the banking system, threatening the financial sector as a whole. Moreover, banks have only limited ability to protect themselves against these dangers. Their liabilities are more liquid than their assets because of the information environment in which they

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4. This study analyzed the experience of 105 developing countries, many of which, though not all, experienced banking crises sometime in the last 30 years.

5. Other studies surveyed by Goldstein (1997) reach similar conclusions. The grave impact of the Japanese banking crisis on the Japanese economy provides proof by counterexample. The ratio of market- to bank-intermediated finance is unusually low in Japan, and hence the macroeconomic effects of its banking crisis have been disproportionate.

operate.<sup>6</sup> Information asymmetries are intrinsic to financial markets—there is no avoiding the fact that borrowers know more than lenders about the borrowers' intentions and investment projects. Savers use banks as “delegated monitors” of borrowers in response to this fact (see Diamond 1984). But precisely because they invest in information on the creditworthiness of their borrowers and thereby acquire more knowledge of this than the market as a whole, banks are able to sell off their assets and raise liquidity in a crisis only at a loss. Other creditors will be willing to purchase those assets, about which there is relatively poor public information, only at fire-sale prices. Consequently, a loss of depositor confidence, even when unjustified, can bring down a bank, because the latter can raise liquidity only by doing further damage to its balance sheet.

The illiquidity of bank assets reflects the fact, already noted, that banks operate in an environment of incomplete and asymmetric information. This information environment also creates the danger that initially isolated runs can spread contagiously to other banks and threaten the system as a whole. Because information about bank customers is incomplete, it will be hard for outsiders to know whether problems affecting a particular institution are bank specific or also pervade the balance sheets of other intermediaries. Hence, a run on a bank can spread contagiously and threaten the stability of the entire system.

In response, governments and central banks provide deposit insurance and lender-of-last-resort services to the banking system. A century and more of experience points to the need for these backstopping functions to prevent financial markets from seizing up. But provision of this financial safety net encourages bank management to take on additional risk, because while their losses are limited to their capital, their potential income, enhanced by the use of leverage, is unbounded. If supervision and regulation are not strengthened to limit the scope for banks to respond in this way, the moral hazard associated with the provision of deposit insurance and lender-of-last-resort services may in the end produce more bank failures and banking crises, not fewer.

## Triggers

In many emerging markets, the stage has been set for banking crises by financial liberalization that creates opportunities for banks to expand their risky activities without concurrent upgrading of supervision and regulation to ensure that those risks are appropriately managed and to

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6. This is what we mean when we say that banks are in the business of providing “liquidity-transformation services.”

limit them where they are not.<sup>7</sup> Asli Demirguc-Kunt and Enrica Detragiache (1997) show that banking crises have typically occurred in the wake of financial liberalization that ignites a credit boom in which the banks significantly expand their lending activities.<sup>8</sup> The lending boom then leads to a construction and a real estate boom. The real exchange rate appreciates in response to the increased demand for home goods, creating competitiveness problems for domestic exporters and widening the current-account deficit.

External events can then trigger a crisis by raising doubts about the creditworthiness of bank borrowers. The single most powerful trigger, historically, has been a rise in world interest rates (Eichengreen and Rose 1997). Higher foreign interest rates mean higher domestic interest rates when financial markets are integrated internationally. As domestic banks pass the higher cost of funds along to their customers, the real estate bubble begins to deflate. Investment declines and growth slows. Borrowers find it more difficult to repay their loans. Rising defaults can then throw the entire banking system into crisis.

## Capital Mobility and Crises

These dangers can be greatly heightened by the liberalization of international capital flows. The more integrated are domestic and foreign financial markets, the greater will be the sensitivity of the domestic economy and financial system to foreign interest rates. If foreign interest rates are the immediate trigger for banking crises, that trigger can now operate more powerfully.

Moreover, the higher is capital mobility, the greater is the scope for banks seeking to expand their risky activities to do so by funding themselves abroad. When the capital account is open, there will be more scope for banks gambling for redemption to lever up their bets.<sup>9</sup> Critically, foreign investors will be inclined to let them do so. Foreigners will more freely fund the risky activities of emerging-market banks if they are confi-

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7. Similarly, in countries where deposit insurance coverage is universal, market discipline will be less, because depositors bear no risk of losses from reckless bank behavior; the expansion of risky bank activities will be correspondingly greater.

8. The tendency for a domestic credit boom to precede a banking crisis is also a theme of Gavin and Hausmann (1996).

9. The World Bank (1998, 144) illustrates the problem by referring to South Korea. "In the Republic of Korea, excessive domestic financial risk taking—including low equity and heavy bank borrowing—was a long-standing practice. What may have tipped the balance in the 1997 crisis, however, was capital flows; when in the context of its entry into the OECD, Korea liberalized the ability of its banks to borrow (short term) abroad (instead of tightening safeguards), there was a massive surge in such inflows; their reversal subsequently precipitated the crisis."

dent that governments regard those banks as too big to fail. In the presence of government guarantees, they will be attracted by the high interest rates characteristic of capital-scarce emerging markets without being deterred by the risk. They know that governments in emerging-market economies are loath to let their banks fail because the latter so dominate their financial systems, rendering them politically powerful and critical to economic stability, and because guarantees are the quid pro quo extended to the banks in return for their being used as instruments of industrial policy. The other side of what Ronald McKinnon and Huw Pill refer to as the “overborrowing syndrome” is thus overlending by foreigners lured by government guarantees (see McKinnon and Pill 1997). And this overlending and overborrowing mean that when banks fail and recapitalization is required, the resolution costs will be that much greater.

It is fashionable to assert that foreign bank creditors should be made to “take a hit” when an emerging market experiences a currency and banking crisis. If the banks’ short-term foreign deposits are running off, then the government, it is said, should refuse to use its scarce foreign-exchange reserves to replace them. Not only will replenishing bank liabilities endanger the stability of the currency, but allowing foreign depositors to get out whole will only encourage more overlending and overborrowing in the future, and even greater crises.

Unfortunately, the alternatives to rescuing the banks are less than palatable. For the government or central bank to refuse to act as a lender of last resort, causing the entire banking system to come crashing down, would be one way of “teaching a lesson” to foreign creditors, but at very great cost to the economy. Alan Greenspan has put the dilemma succinctly. “Cross-border interbank funding . . . [is] the Achilles’ heel of the international financial system. Creditor banks expect claims on banks, especially banks in emerging economies, to be protected by a safety net and, consequently, consider them to be essentially sovereign claims. Unless those expectations are substantially altered—as when banks actually incur significant losses—governments can be faced with the choice either of validating those expectations or risking serious disruption to payments systems and to financial markets in general” (Greenspan 1998b, 7).<sup>10</sup>

## Preventing Banking Crises

In principle, the solution to this problem is straightforward: strengthen supervision and regulation of the banking system. This means identifying banks that are incapable of managing market risks, including the risks associated with the new activities made available by financial liberalization, and preventing them from taking on additional risk in response to

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10. I return to the problem and discuss some recent proposals for solving it in chapter 5.

provision of the financial safety net. Properly supervised and regulated banks will be compelled to follow sound practice with respect to management of their assets and liabilities, and there will be no reason to regard short-term liabilities denominated in foreign currency as posing special dangers or to regulate the capital-account transactions of the banking system in a special way.

## **The Elements of Prudential Supervision**

The elements of sound prudential supervision and regulation are well known.<sup>11</sup> Supervisors should monitor the adequacy of banks' internal controls, external audits, loan and investment policies, and risk-management techniques to identify banks incapable of managing the risks to which they are exposed. They should verify that banks have management information systems in place that enable them to identify risky loan and investment concentrations. They should verify that banks are adequately managing liquidity and foreign-exchange risks. Banks should lend on an arm's-length basis and attach realistic values to the assets on their balance sheets. They should be required to provide adequate and accurate information to their supervisors, who should be empowered to impose remedial and punitive measures, including revocation of the license to operate, in the event of noncompliance. Supervisory oversight should be strengthened by giving bank supervisors political independence, financial autonomy, legal immunity, and the power to conduct on-site inspections. Other desirable elements include limiting deposit insurance to small deposits, establishing a credible exit policy for unprofitable banks, and eliminating government guarantees where possible. They include the adoption of regulations requiring public disclosure of intermediaries' financial condition as a way of strengthening market discipline and helping depositors to distinguish good and bad banks, thereby limiting the tendency for runs to spread contagiously throughout the system.

Finally, banks should be required to meet internationally recognized capital-adequacy standards so that they have the financial cushion needed to cope with volatility and so that their owner/managers have something to lose. Capital requirements should be keyed to the riskiness of bank assets and corrected for discrepancies between the private and social costs of banks taking on additional risk (where the latter include the costs of threats to systemic stability). In the mature markets, prudential regulation has tended to evolve away from regulations that mechanically attach different weights to different types of assets in favor of more complex

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11. The particulars that follow are drawn from the Core Principles for Effective Banking Supervision (Basle Core Principles), which in turn build on Goldstein (1997) (see also Folkerts-Landau and Lindgren 1998 and G-22 1998b).

models, including the banks' own proprietary (value at risk) models, that take into account correlations in the returns on different classes of assets when calculating risk weights.

## **Political and Developmental Constraints on Regulation**

The length of this list is one clear indication that all this is easier said than done. Considerable administrative capacity is required, for one thing. Moreover, meaningful reform that subjects banks to serious regulatory and market constraints will be opposed by vested interests that benefit from access to subsidized credit. Political pressure for regulatory forbearance will be intense in emerging markets where banks so dominate the financial system. And the expertise required to evaluate bank balance sheets is in short supply, nowhere more than in emerging markets (see Gould and Amaro-Reyes 1983). This problem deepens as banks branch into new lines of business and with the proliferation of exotic, thinly traded derivative financial instruments. The use of proprietary models to calculate risk weights pushes the envelope of competence of bank regulators and managers even in countries with the most advanced financial markets (witness US and European bank exposure to the hedge fund Long Term Capital Management). In emerging markets it is likely to create more problems than it solves.

One suggestion is that in less mature markets, where supervisory capacity is least and the pressure for regulatory forbearance is greatest, banks should be held to higher than conventional capital standards. George Benston and George Kaufman argue that regulators in such countries should rely even more heavily on regulations requiring banks to hold capital and issue subordinated debt (Benston and Kaufman 1988).<sup>12</sup> Where the government's capacity to supervise banks is least, there is a particularly compelling argument for strengthening the incentive for owners and creditors to manage balance sheet risks prudently because their own capital and credits are at stake.

Raising capital requirements will not hurt.<sup>13</sup> But relying on capital requirements higher than the Basle Standards to deter excessive risk taking

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12. The advantage of subordinated debt is that debtholders are exposed only to downside risk (in contrast to those who contribute to bank capital, they do not also share in exceptional profits), so they have a particularly strong incentive to encourage management to avoid taking on excessive risk. In addition, the interest rate on subordinated debt provides a particularly transparent indicator of the adequacy of a bank's risk-management practices, which should serve to focus the attention of regulators on potential problems and make it more difficult for them to forebear (see also Calomiris 1998b).

13. Except in countries already suffering from severe financial distress, where forcing banks to raise additional capital would only aggravate the existing credit crunch and is therefore best delayed. That said, this is an approach that has been successfully implemented by a number of emerging markets, notably Argentina and Singapore.

will work only if there is a realistic prospect of bank capital being written down. If there is political pressure for the authorities to recapitalize an otherwise insolvent bank on concessionary terms or to establish a special public facility that takes nonperforming loans off the banks' books in return for government bonds in excess of those loans' marked-to-market value, as is the case in many emerging markets, bank owners may be let off the financial hook.<sup>14</sup> Higher capital requirements will then have little effect. They will be similarly ineffectual when accounting standards are inadequate, since there can then be considerable slippage between actual and putative capital (Reisen 1998, 25).

Another approach, inspired in part by these problems, relies instead on rules limiting portfolio concentrations, illiquid investments, and foreign-currency exposures. Thus, where capital-account liberalization allows banks to borrow offshore in foreign currency, the obvious rule is to require them to match the currency composition of their assets and liabilities. Simple rules can have complex consequences, however, and unintended ones. As Thailand's experience illustrates, restricting open foreign-exchange positions may simply cause banks to pass on those exposures to their domestic customers, who are even less able to handle it. In the Thai case, banks made foreign-currency denominated loans, transforming the currency mismatch into a maturity mismatch.

These dilemmas have motivated a search for additional options for buttressing the stability of the banking sector. I consider four.

### Narrow Banking

Under narrow banking, insured banks may invest their liquid liabilities only in liquid assets.<sup>15</sup> Eligible assets are limited to deposits with other banks and to interest-bearing assets such as short-term government securities, the market for which is deep and broad. The liquidity and transparency of their assets will allow narrow banks to raise funds in a crisis, eliminating the danger that fundamentally solvent banks can be brought down by a depositor run. Because narrow banks are still exposed to interest rate risk and depositors will still have some difficulty in evaluating institutional portfolios, there remains a case for deposit insurance. But narrow banks would have little scope for taking on additional risk in response to any consequent weakening of market discipline.<sup>16</sup> This option

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14. This problem has been prominent in recent discussions of how to recapitalize the Mexican banking system, where political opposition has been fanned by the failure of prior owner/managers to take significant losses.

15. See Litan (1987) and Burnham (1990) for details on narrow banking.

16. They would be competitive with other financial institutions in the same sense as are money-market mutual funds. And were there any doubt about this, giving them exclusive access to the payments system operated by the central bank would give them a special advantage in terms of convenience in carrying out transactions for their customers.

is particularly appealing for countries with rigidly pegged exchange rates (e.g., under the provisions of a currency board), on the grounds that their central banks possess relatively little capacity to act as lenders of last resort.

But the demand for other banking services would not disappear. Firms in a position to do so would supply increasing amounts of commercial paper and junk bonds, the demand for which would be provided by mutual funds, pension funds, hedge funds, and insurance companies. In practice, of course, only relatively creditworthy borrowers are able to issue the liquid securities attractive to these investment vehicles. The demand for commercial, industrial, real estate, and consumer loans by less creditworthy borrowers would therefore tend to shift to uninsured finance companies and finance-company-like entities that are not offered deposit insurance. These nonbank intermediaries would then undertake the delegated monitoring that had traditionally been the province of banks and have an incentive to offer liquid, deposit-like liabilities to fund their investments. Many of the activities and risks traditionally associated with the banking system would thus shift to these bank-like organizations.

The question is then whether the authorities' commitment not to apply too-big-to-fail arguments to these nonbank financial intermediaries would be politically sustainable. Insofar as distress in the finance-company sector gave rise to bank-like externalities, there would be pressure for the government to intervene. And the hope that these nonbank financial intermediaries would be subject to stronger market discipline by creditors who do not enjoy deposit-insurance protection would be frustrated by the expectation that the government would ultimately be forced to leap into the breach. Some proponents of narrow banking insist that by dividing intermediaries into insured narrow banks and uninsured finance companies that can offer higher returns but assume additional risks, the authorities can make credible their commitment not to intervene. In a sense they are simply assuming a convenient answer to the question: were it so simple for governments to limit their support operations in this way, they could equally well limit their extension to existing financial institutions, obviating the need to create narrow banks.

A clear illustration of the problem is the decision of the Federal Reserve Bank of New York to coordinate a rescue of Long Term Capital Management. Long Term Capital Management presumably is the kind of nonbank entity whose risk-taking activities should have been contained by creditor discipline; it is now painfully clear that this was not the case. And the Fed was clearly very concerned about the effects of its possible failure both on Long Term Capital Management's counterparties and on the systemic stability of the markets into which it would have to sell its remaining assets. It is hard to imagine a more devastating critique of the narrow-banking proposal.

### Internationalizing the Banking System

A second option is internationalizing the banking system, allowing foreign banks to set up shop domestically by either opening new branches or

acquiring existing financial institutions. A banking system with an internationally diversified asset base is less likely to be destabilized by a downturn in domestic economic activity and to worsen that recession in turn.<sup>17</sup> Domestic branches of foreign banks possess their own private lenders of last resort in the form of the foreign head office. An international bank should also be able to count on last-resort lending by the central bank of the country in which the home office resides.<sup>18</sup> And where competent management is in short supply, foreign banks can be a channel for importing expertise, because parent banks with reputations for financial probity have an incentive to apply to their foreign branches state-of-the-art internal controls and accounting standards.

Notwithstanding these advantages, governments are reluctant to allow entry by foreign financial institutions. Seen from the perspective of an emerging market, foreign banks are large—the entire Polish banking system is smaller than one medium-sized Western European bank—raising fears that foreigners will quickly come to dominate the local market. These are issues of high political sensitivity: the domestic banking industry is a valued symbol of national economic sovereignty behind only the national currency and the national airline.

That said, it is not clear why policies that have been discredited in other contexts should still be regarded as valid when applied to banking. Rather than relying on import substitution to promote industrialization, countries now seek to facilitate technology transfer by attracting foreign direct investment (FDI). In financial services, FDI means entry into the domestic market by branches of foreign banks. Moreover, the reluctance of governments to permit foreign banks to enter the domestic market has often been based on their desire to use banks as instruments of industrial policy. Insofar as this creates more problems than it solves—as in Asia, where it encouraged connected lending and the extension of implicit guarantees—entry by foreign banks, which are less vulnerable to having their arms twisted by the government, is a way of defusing the problem.

To be sure, eliminating statutory barriers to the establishment of foreign branches and subsidiaries will not produce a seamlessly integrated global banking system overnight. Domestic banks will have developed long-standing customer relations and proprietary sources of information with which they can defend their market share. And however invigorating are

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17. As Alan Meltzer has observed, the entire South Korean economy is barely the size of the economy of greater Los Angeles, and US regulators would hardly regard it as prudent to prevent banks based in Los Angeles from diversifying their activities into other parts of California and the United States.

18. A counterargument is that international banks have disproportionate political influence. By lobbying and enlisting the help of their home-country government, they may actually raise rather than reduce the pressure for the host-country government or central bank to provide a bailout.

the chill winds of international competition, abruptly opening domestic banking to foreign entry can be a sharp shock to previously sheltered financial institutions. In the absence of rapid regulatory action and an orderly exit policy, this sudden intensification of competition may encourage gambling for redemption and other perverse short-run responses, undermining rather than buttressing financial stability. This is an argument for phasing in the internationalization of the banking market, which in turn suggests that this solution will take time to implement.

### Limiting Banks' Foreign Funding

A third option is placing taxes (implicit or explicit) or quantitative limits on banks' short-term foreign-currency borrowing. That banks are a special source of financial vulnerability is beyond dispute. Aware that the need to maintain confidence will ultimately induce the government to make good on the banks' liabilities, international investors attracted by high interest rates will be inclined to provide short-term foreign-currency funding in the expectation of being able to get their money out. At the same time, allowing banks to borrow freely short term, in foreign currency, heightens the risk of crisis, because the domestic authorities cannot print the foreign exchange needed by a lender of last resort seeking to make good on these liabilities and can pay off banks' creditors, absent unlimited reserves, only by putting the economy through a wrenching recessionary wringer.

These are rationales for limiting banks' short-term foreign-currency borrowing.<sup>19</sup> Emerging markets should put in place price-based incentives by keying capital requirements to the riskiness of banks' funding as well as to the riskiness of their assets. The advanced industrial countries, for their part, should agree to raise the Basle risk weights on short-term claims on banks from their excessively low 20 percent and to differentiate lending to banks in countries that merit internationally recognized accounting, regulation, and disclosure standards from lending to countries that do not. The Basle Committee's decision this past September to undertake a decennial review of the Basle Capital Accord should be used as an opportunity to implement these changes.

This approach, or at least elements of it, has already been embraced by influential members of the official community (see, e.g., Greenspan 1998b). But while relying on differential capital standards cannot hurt, it will not by itself provide much traction on the problem. On the side of the advanced industrial countries, higher capital requirements on lending

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19. The policy implication follows directly from the so-called theory of domestic distortions. Insofar as there exist other distortions that encourage excessive offshore bank borrowing (in the form of implicit or explicit government guarantees that relieve foreign investors of default risk), welfare can be enhanced by an intervention that works in the opposite direction to reduce excessive reliance on foreign funding.

to banks, emerging-market banks in particular, will simply encourage financial institutions to channel their lending through nonbanks. They will provide credit to hedge funds or nonfinancial firms, which will then turn around and lend to emerging markets. More comprehensive revisions of the Basle Standards to attach higher weights to bank lending to hedge-fund-like entities would then be necessary. While this will help, there is reason to worry that the markets will stay one step ahead of the regulators. And on the emerging-market side, higher capital requirements will only bite if there is the prospect of bank capital actually being written down, which, as already noted, is a dubious assumption. Where there is doubt about this, more direct measures should be contemplated. Each bank could be restricted to borrowing no more than a certain percentage of its liabilities. Alternatively, the banks' total short-term foreign-currency borrowing could be limited to a certain percentage of their liabilities, and they could trade entitlements to borrow among themselves.

Again, however, discouraging offshore operations (in this case, offshore borrowing) by banks would simply encourage nonbanks to do those operations for them. Corporations could borrow offshore in foreign currency and deposit the proceeds with domestic banks, which, with their access to external funding restricted, would offer relatively attractive deposit rates; the banks could then onlend the proceeds to their domestic customers. If corporations hedged their exposure by making foreign-currency denominated deposits, the banks would end up with the same short-term foreign-currency exposure as when there were no limits on their ability to fund themselves abroad. Assuming no change in the pressure on the authorities to provide the banks with guarantees, foreigners would have the same incentive to freely supply short-term foreign-currency funding, because there would still be little question about their ability to get their money back. The vulnerabilities to which the financial system was subject would remain unchanged.<sup>20</sup>

## Taxing Capital Inflows

The logical consequence of starting down this road is therefore a tax on all short-term foreign capital inflows (not just on inflows into the banking system) designed to offset distortions that result in excessive reliance on short-term foreign borrowing. Given the difficulty of distinguishing the term of the investment by the type of instrument, a holding-period tax that falls disproportionately on short-term investments would work better

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20. If, on the other hand, corporations made deposits in the domestic currency, they would assume the foreign-exchange exposure and be subject to similar insolvency risk from exchange rate changes as the banks in the no-restriction scenario. It seems likely that the authorities that had previously felt impelled to extend guarantees to the banks would now extend similar support to nonbanks, having induced the latter to take on financial-intermediation responsibilities.

than a tax on specific instruments.<sup>21</sup> Several countries (e.g., Chile, Colombia, and Brazil) have demonstrated the feasibility of this approach. Chile, as is well known, long required all nonequity foreign capital inflows to be accompanied by a one-year, noninterest-bearing deposit, whose tax equivalent therefore declines with the duration of the investment.<sup>22</sup>

Chilean-style inflow taxes should be adopted by all economies with the following characteristics. First, the capacity of bank owners and managers to manage risk is underdeveloped, and the narrowness of domestic financial markets means that their mistakes can have devastating systemic repercussions. Second, supervision and regulation of the banking system is weak—in particular, regulatory forbearance is a problem. Third, inadequate auditing and accounting standards and political pressure prevent bank capital from being written down. Fourth (and, obviously, related to the previous points), there exists a culture of implicit guarantees. Under these circumstances, banks gambling for redemption or otherwise unable to manage the riskiness of their portfolios will tend to fund themselves excessively abroad, and foreigners will tend to accommodate them. Holding-period taxes on all capital inflows are the only effective way of containing this problem.

Viewing the issue this way makes clear why emerging- and mature-market economies should adopt different policies toward the capital account. The definition of an emerging market is one where a substantial subset of the preceding conditions apply. As economic and financial development proceeds, these conditions are removed, and the emerging market emerges: it graduates to the club of countries with mature financial systems. At that point, the capital-inflow tax can be safely abolished. Thus, the fact that none of today's advanced industrial economies impose Chilean-style inflow taxes, preferring to partake of the advantages of an open capital account, hardly challenges the preceding argument. There is no double standard in arguing that emerging markets, where conditions are fundamentally different, need to follow fundamentally different policies.<sup>23</sup>

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21. The difficulty of discerning a correlation between the type of investment (e.g., equity investment, bond investment, direct foreign investment) and its term and maturity is a theme of Dooley (1996) and Chinn and Dooley (1998).

22. Between May 1992 and May 1998, the required deposit was 30 percent of the capital inflow. In June 1998, in response to declining copper prices and the country's growing current-account deficit, the authorities sought to attract additional foreign financing by reducing the reserve requirement from 30 to 10 percent, and in September it reduced the rate to zero. The perspective developed below suggests that this was a very risky way of attempting to finance the current account. In addition, the Chilean government applies a number of direct controls, notably by requiring foreign bond issues by local companies to have an average maturity of at least four years.

23. This approach also points to the only effective way of dealing with the problem for emerging markets posed by hedge funds, an issue that has lately been much in the news. An effective solution requires tackling the problem on both the lending- and borrowing-

Several reservations have been voiced about the advisability and effectiveness of Chilean-style taxes. One is the compatibility of the policy with financial liberalization in general and capital-account liberalization in particular. But there is a crucial distinction between controls that seek to prevent international financial transactions from taking place at any price and taxes that merely seek to correct the price for discrepancies between private and social cost.<sup>24</sup> Taxes are not prohibitions.<sup>25</sup>

The idea of taxing capital inflows is also criticized on the grounds that it will raise the cost of short-term borrowing for emerging markets. The criticism is mistaken because this is precisely what the measure is designed to do. Raising that cost will be welfare improving (so long as the tax is not excessive) when there exist other distortions like implicit guarantees that encourage excessive foreign lending.<sup>26</sup>

## The Evidence on Chilean Capital-Inflow Taxes

A large literature has considered these issues by referring to Chile's experience.<sup>27</sup> Some contributors minimize the importance of the country's policy

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country sides. On the lending-country side, supervisors need to tighten up capital requirements and other regulatory requirements on bank lending to hedge funds to prevent the those funds from acquiring excessive leverage. On the borrowing-country side, the authorities need to use Chilean-style capital-inflow taxes to make it more costly for hedge funds to get in and out of their markets.

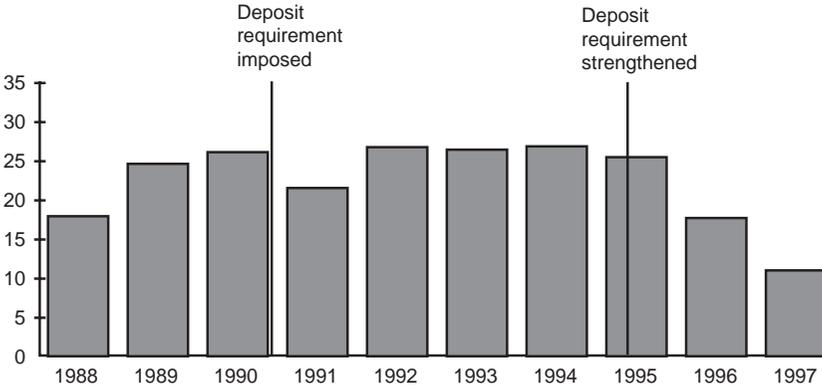
24. Note that the same distinction applies in discussions of current account convertibility. While current-account convertibility is defined under Article VIII of the IMF's Articles of Agreement as freedom from restrictions on the making of payments and transfers for current international transactions, it does not proscribe restrictions, such as import tariffs and taxes, on the underlying transactions. Correspondingly, capital-account convertibility means the removal of exchange and other controls but does not necessarily preclude the application of tax-like instruments imposed on the underlying transaction, which agents retain the option of undertaking.

25. Theorists point out that short-term lending and borrowing is particularly valuable where information, contracting, and agency problems are most severe. In these circumstances, creditors will prefer to lend short term because the threat that they might not roll over their maturing credits can help to discipline borrowers who might otherwise be inclined to act opportunistically. It follows that short-term foreign borrowing can be especially important for poorer developing countries whose creditworthiness is impaired. Prohibiting it may mean prohibiting essentially all borrowing, which would be an unacceptable price to pay. Again, this is an argument for avoiding controls and prohibitions and instead taxing short-term foreign borrowing where government guarantees and other distortions result in excessive reliance on short-term loans.

26. Alternatively, borrowing will be excessive insofar as banks do not fully internalize the negative implications for systemic stability of their foreign borrowing, either because their own risk-management techniques are inadequate or because bank-specific funding problems have negative repercussions external to the individual bank experiencing them.

27. Two reviews and assessments of this literature are Edwards (1998a, b).

**Figure 4.1 Chile's short-term external debt, 1988-97**  
(percentage of total external debt)



Source: Eichengreen and Mussa (1998).

of nonremunerated deposits on the grounds that it is only one of a set of initiatives adopted by the government that have helped to insulate the economy from the potentially destabilizing effects of international financial volatility. Equally important, they argue, have been measures to strengthen the supervision and regulation of the Chilean banking system and the country's relatively flexible exchange rate.

The critics are right that taxes on capital inflows alone will not solve emerging markets' financial problems. They are likely to be effective only when supplemented by other policies to encourage hedging by banks and corporations and to strengthen the domestic financial system. But upgrading financial supervision is a laborious process; it has taken Chile more than a decade to strengthen its banking system to the present point.<sup>28</sup> So long as banks' own risk-management techniques are underdeveloped, supervisory capacity is limited, and government guarantees are prevalent, there is an argument for capital-import taxes not as a substitute for progress in these other areas but to provide the kind of stable environment that encourages reform.

Others observe that Chile's deposit requirement has had a larger effect on the composition of inflows—shifting foreign lending toward the longer end of the maturity spectrum—than on their overall level (see figure 4.1).<sup>29</sup> Controlling for other determinants of capital flows and measuring

28. Calomiris (1998a) estimates that—even under the best circumstances and with the best technical assistance—upgrading risk-measurement and risk-management practices, adopting new regulations, and putting in place new supervisory procedures can take no less than five years and cites the relatively successful examples of Argentina and Chile as cases in point.

29. Cardenas and Barrera (1997) come to essentially the same conclusion in their analysis of the Colombian tax on short-term foreign capital.

the level of the tax as the ratio of tax revenues to capital inflows, Salvador Valdes-Prieto and Marcelo Soto (1997) find no impact on the level of total capital inflows but an impact on maturities, especially after 1994. That this lengthening of the maturity structure of the foreign debt is plausibly attributable to the holding-period tax is buttressed by the fact that the share of short-term debt fell significantly in a period when that same share was trending upward sharply in other countries.<sup>30</sup> Measuring the tax rate an entirely different way (computing it from the provisions of the statute and interest earnings on foreign funds forgone), Jose De Gregorio, Sebastian Edwards, and Rodrigo Valdes (1998) obtain the same result, namely, a significant impact on the composition of inflows but not on the level. Soto confirms the result in a multiequation model, in addition finding a small impact on the level of total inflows (1997).

That the main effect is on composition rather than the level of total capital inflows is of course hardly a devastating criticism of the tax. In fact, this is a perfectly happy result—precisely what is intended—for those who regard short-term inflows as a special problem and who see the holding-period tax as a way of offsetting other distortions encouraging excessive *short-term* borrowing abroad (see Le Fort and Budnevich 1996).

If the measure has such wonderful effects, how then are we to understand the decision of the Chilean authorities to set the unremunerated reserve requirement to zero in 1998? In fact, the Chilean authorities were actually elaborating rather than moving away from the policy: they were adjusting tax rates to the cycle. Having raised them in 1995 when large amounts of capital were flowing in and excessive short-term foreign borrowing was a problem, they now reduced them because excessive inflows to emerging markets were suddenly no longer a problem—when there was no willingness in the summer of 1998 to lend to emerging markets, short term or long.<sup>31</sup> As one author characterized the authorities' position, "Our tax on capital inflows is like an umbrella: you use it when it rains and close it when the rain stops" (Valdes-Prieto 1998).

In addition, supervision and regulation of the Chilean banking system has been strengthened sufficiently that it could be argued that it is no longer necessary to supplement prudential supervision with disincentives for foreign funding. But this is entirely consistent with the view that emerging markets should impose capital-import taxes as a third line of defense against financial instability until banks have upgraded their own risk-management practices and prudential supervision and regulation

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30. De Gregorio, Edwards, and Valdes (1998) compare trends in the share of short-term debt in Chile and other emerging markets, pointing up the contrast.

31. Effective rates were raised in 1995 by requiring deposits to be made in US dollars. Previously, many investors had fulfilled the deposit requirement by depositing yen, whose interest cost was lower.

have been enhanced, at which point the measure can be removed. Chile could reduce its holding-period tax because it had made significant progress in the requisite direction.

Other critics warn that the investors will grow more adept at evading the tax over time. In Chile's case, various types of foreign borrowing were initially exempt, to which the markets responded by relabeling other investments as exempt instruments. Inflows of less than \$10,000 were exempt, for example, to facilitate transfers to family members and modest trade credits; this encouraged investors to avoid the tax by breaking up larger transactions. In response, the authorities extended the coverage of the deposit requirement to virtually all forms of foreign financing other than FDI (De Gregorio, Edwards, and Valdes 1998).<sup>32</sup> Foreign banks then created domestic investment firms to exploit the FDI loophole; the government responded by not authorizing "financial" FDI after mid-1995.

In fact, this is precisely when the effect on maturities showed up: after the tax had been made relatively comprehensive.<sup>33</sup> This suggests that the measure can deliver the desired result if it is not riddled with exemptions. In any case, the Chilean tax does not have to be watertight to deliver the desired result. So long as avoidance is costly, the deposit requirement will still reduce the economy's dependence on short-term foreign borrowing.

That said, the critics have a point when they observe that financial-market participants will sooner or later devise additional ways of avoiding taxes on capital inflows, requiring the authorities to monitor private-sector behavior in increasingly invasive ways in order to maintain a given level of effectiveness.<sup>34</sup> To the extent that taxes on short-term inflows will not be effective forever and ultimately need to be seen as transitional measures, this makes it all the more urgent to accelerate other reforms. The authorities should use the breathing space provided by these transitional measures to eliminate the distortion that gave rise to the excessive depen-

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32. New issues of American Depository Receipts (ADRs) remained exempt on the grounds that these, like FDI, increase the domestic stock of productive capital, although qualifying ADR issues must satisfy certain minimum rating requirements granted by internationally recognized credit-rating agencies.

33. Again, this is the finding of Valdes-Prieto and Soto (1997).

34. The obvious technique for evading the measure is for the foreign investors to purchase Chilean exports at an inflated price and to have the exporting firm give them a share of its equity along with a put option that enables that investor to sell back that equity at a preset price. That there are costs associated with evading the tax in this way should be evident in the fact that the technique is available only to foreign importers who are also investors or to investors with close connections to them and in the fact that the courts cannot be resorted to in order to enforce such surreptitious contracts.

dence on short-term borrowing in the first place and to strengthen other forms of prudential supervision.

Conversely, Chilean-style measures toward capital inflows will be counterproductive if the authorities use the breathing space created by the tax not as an opportunity to correct imperfections in the information and contracting environment and to strengthen regulatory supervision of the banking system but as an excuse to delay in implementing reforms. It need not be this way; Chile itself is an example of a country that succeeded in wedding inflow taxes with banking-sector reform. While not all governments will be as reform minded, outside pressure can reinforce their commitment, including pressure by the IMF for its members to meet international standards for disclosure, auditing and accounting, and prudential regulation. But IMF pressure for countries using inflow taxes to complement these with accelerated reform will be effective only if the Fund acknowledges the validity of those taxes themselves.

## **The Importance of Not Confusing Inflow and Outflow Controls**

While there is a compelling argument for taxes on short-term capital inflows as a third line of defense against excessive risk taking by domestic financial institutions (where the first and second lines of defense are banks' own risk-management practices and regulatory oversight, respectively), the case for controls on capital outflows is weaker. Given Malaysia's experiment with outflow controls and the attention it has attracted, it is important not to confuse the two arguments.

Outflow controls are less well-suited as a deterrent to excessive risk taking by bank owners and managers. They attempt to contain instability in the banking system not by preventing bank owners and managers from leveraging up their bets but by preventing depositors fearful of the consequences from taking flight and bringing down the banking system. They treat the symptoms, in other words, rather than the cause.

In addition, outflow controls are unlikely to be effective against pressure for devaluation except when they are aggressively enforced. A 10 percent devaluation with a 90 percent probability in the next 10 days implies an annualized return of more than 700 percent. Returns of this magnitude create powerful incentives for evasion. The government will therefore have to develop a burdensome administrative bureaucracy with the right to inspect and approve essentially all financial transactions and search travelers at the airport. This in turn creates an environment conducive to official favoritism and corruption. Chilean-style inflow taxes do not create these problems, at least not to the same extent, because inflows will not typically take place when there are expectations of a large, discrete change in the value of the currency and because they apply across the board to

all financial transactions. Compared to controls and licensing requirements, they are relatively transparent.

A different argument for outflow controls, and the one emphasized in the Malaysian context, is as a way for crisis countries to regain command of their monetary and fiscal instruments and jump-start their economic recoveries. While this book is about longer-term architectural reform, not about policy toward the crisis, it is important to be clear about these arguments so that they will not be confused with those appearing elsewhere. That high capital mobility can hamstring policy in a crisis is clear. Indeed, one country after another, from Thailand, to Indonesia, to South Korea, and now to Brazil, has been forced to raise interest rates and cut government spending in the crisis—this despite suffering very serious recessions. The single greatest discovery of the Keynesian revolution, namely the importance of fiscal stabilizers, has thus been thrown out the window. Some would say this simply reflects bad advice by the IMF, which required budget cuts of the Asian crisis countries as a condition for the disbursement of official funds and which is now demanding the same of Brazil despite forecasts of recession there. But in fact, were a country, say Brazil, to respond to a slowdown in economic growth by cutting taxes and increasing public spending, investors would flee, the currency would crash, and the resulting investment collapse and financial distress would only make the recession worse. It seems as if market discipline is perverse. As Paul Krugman (1998c, 2) puts it, “Brazil, we are informed, must suffer a recession because of its unresolved budget deficit. Huh? Since when does a budget deficit require a recession (which itself will, of course, make the deficit that much harder to bring down).”<sup>35</sup>

This is at least part of the rationale for the capital controls imposed by Malaysian Prime Minister Mahathir—to provide the leeway to implement a more expansionary fiscal policy and offset a potentially serious recession. Outflow controls may require the creation of a burdensome administrative bureaucracy and interrupt access to foreign sources of investment finance, but their benefits may still dominate their costs if they allow automatic fiscal stabilizers to be used in response to a serious economic downturn.

Whether this is a sensible argument hinges on which of two models of market discipline one believes. If the problem is that irrational investors panic whenever the government activates its stabilizers, then it can be sensible for countries to protect themselves from this irrationality by using controls. If, on the other hand, investors respond negatively because they

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35. In fact, this observation that fiscal policy in developing countries tends to be perversely procyclical is not as novel as recent authors let on. Well before the current crisis, Gavin and Perotti (1997) documented that fiscal policy tends to be much more sharply procyclical in Latin America than in the OECD countries. They offered international credit constraints, which might bind more tightly in recessions than in normal periods, as one explanation for the phenomenon.

correctly anticipate that the government is about to lose all monetary and fiscal discipline, then the solution is not to use controls to relax market discipline but for the authorities to take the steps necessary to reassure investors that such fears are unwarranted. It is understandable that investors should take fright when governments with a history of fiscal laxity respond to a crisis by increasing the budget deficit; they will naturally worry that the government is about to relapse to its prior habit of living beyond its means. If they expect budget deficits to be monetized, deficits today imply inflation tomorrow and a return to the bad old days of runaway inflation. The rational investor will then respond by taking the first opportunity to get his money out of the country.

This explains the supposedly paradoxical fact that deficit spending in the United States strengthens the currency while deficit spending in Brazil weakens it. In the US case, no one expects the Fed to monetize the deficit; hence, additional government spending pushes up demand, pushes up the real interest rate, and strengthens the real exchange rate. In the Brazilian case, however, monetization is still perceived as a real and present danger, implying more inflation and ultimately the need to devalue the currency. This is also why the other textbook advice for responding to a recession, to devalue the currency and switch spending toward domestic goods, can have such catastrophic effects (particularly when devaluation is accompanied by the adoption of a more expansionary monetary policy). Many countries trying to wean themselves from inflation do so by pegging the exchange rate, which is designed to tie the hands of the central bank and to signal the government that the inflation tax will no longer be available. Countries that devalue are thus seen as returning to the bad old days of inflationary excess, which causes panicked investors to flee.

The first-best solution in this case is not to impose capital controls but to eliminate the distortions conducive to excessively expansionary monetary and fiscal policies. The most convincing way of signaling that not just current policies but also future policies will be sound and stable is to reform the economic and political arrangements by which they are made. For monetary policy this means making the central bank politically and economically independent and thereby insulating it from pressure to monetize government deficits. For fiscal policy, there are parallel arguments for creating an independent national fiscal council constitutionally empowered to set a ceiling for each year's budget deficit, along with automatic procedures specifying what will be done if deficit spending threatens to broach that limit (as proposed in Eichengreen, Hausmann, and von Hagen 1996). More modestly, fiscal reforms that vest more agenda-setting power in the hands of the prime minister or finance minister, thereby reining in the common-pool problem that arises in the presence of autonomous spending ministries (none of which has an incentive to fully internalize the impact of its additional spending on the deficit of

the government as a whole), have been shown to be associated with smaller deficits and debts (see von Hagen and Harden 1994; Alesina and Perotti 1994). Similarly, measures that enhance the transparency of budgeting will make it easier for voters to detect politicians who place self-serving goals above the national interest. With these fundamental institutional reforms in place, markets will not conclude that deficits today mean deficits tomorrow or that monetary expansion today means monetary expansion tomorrow. The freedom to use fiscal and monetary instrument in countercyclical ways will be regained, and capital mobility will no longer be a constraint.

Recommending that governments should reform their monetary and fiscal institutions, strengthen their banking systems as a way of minimizing the pressure for inflationary bank bailouts, and complete other far-reaching structural reforms in order to regain control of the levers of monetary and fiscal policy is easy; actually doing so in the midst an economic and social crisis is much harder. Reform takes time, especially reform sufficient to build credibility. That said, concerted reform can restore freedom of action relatively quickly. That there are viable alternatives to draconian controls that infringe significantly on the liberty of citizens and jeopardize a country's access to international capital markets is evident in the speed with which reforms have enabled Thailand and South Korea to substantially regain their policy autonomy. Both succeeded in bringing down interest rates and in loosening their fiscal policies once it became clear that reform was under way. This is the first-best way of relaxing the external constraint on domestic policies. To say that an economic emergency such as the current crisis in emerging markets justifies the use of emergency controls on outflows such as Malaysia's is an admission that the political will to follow through with more fundamental reforms is not there.