

# Financial stability and globalization: getting it right

---

Frederic S. Mishkin<sup>1</sup>  
*Columbia University*

GETTING THE FINANCIAL SYSTEM to work well is critical to the success of an economy and is a key element in economic development. The financial system is a coordinating mechanism that allocates capital to productive investment opportunities. If capital goes to the wrong uses or does not flow at all, the economy will operate inefficiently and economic growth will be very low.

Financial globalization, the liberalization of the financial system to open it up to inflows of foreign capital, has several important benefits in emerging market economies. First, it lowers the cost of capital, thereby encouraging investment which promotes growth. Second, when foreign capital and financial institutions are allowed to enter a country, they improve the allocation of capital. Third, globalization of the financial system helps promote the development of better property rights and institutions that make the domestic financial sector work better in getting capital to productive uses.<sup>2</sup>

However, financial globalization is not necessarily always a force for good: it can go very wrong. Opening up the financial system to foreign capital flows can and has led to financial instability and disastrous financial crises, which have resulted in great pain, suffering and even violence. (There was widespread ethnic

---

<sup>1</sup> An earlier version of this paper was entitled “Getting Financial Globalization Right”. This paper draws heavily on material in chapters 8-12 of my forthcoming book, *The Next Great Globalization: How Disadvantaged Nations Can Harness Their Financial Systems to Get Rich*.

I want to thank for their helpful comments, David Archer, Christian Broda, Jerry Caprio, Bill Easterly, Barry Eichengreen, Bob Flood, Ross Levine, Sergio Schmukler, Jane Tufts and participants in the World Bank Conference, *Globalization and Financial Services in Emerging Market Countries*. I also thank Emilia Simeonova for helpful research assistance.

Any views expressed in this paper are those of the author only and not those of Columbia University or the National Bureau of Economic Research.

<sup>2</sup> Recent surveys of the impact of financial globalization on growth include World Bank (2001), Levine (2004) and Schmukler (2004) and Mishkin (2005a, 2006).

violence in Indonesia after its crisis and in the wake of Albania's financial crisis there were around 2500 casualties.) This is why financial globalization is so controversial. Thus, the issue is not whether financial globalization is inherently good or bad, but whether it can be done right.

This paper discusses policies to achieve successful financial globalization. It starts by discussing policies which are needed to end financial repression in emerging market countries, then discusses policies which can help promote financial stability and make financial crises less likely. It ends by outlining how the international community can help encourage financial reform so that the full benefits of financial globalization in emerging market countries can be achieved.

## Promoting financial development

In order to get a financial system that channels funds to those with the most productive investments, an emerging market country must end financial repression and promote financial deepening, that is increase the scale and development of the financial sector. But how can emerging market countries do this? They first need to develop an institutional infrastructure that enables the financial system to allocate capital efficiently.

The basic principles for developing the institutional infrastructure that fosters financial development have been discussed extensively in the literature and I outline them briefly.<sup>3</sup>

- 1 *Develop strong property rights.* Investments will not be undertaken if the fruits of the investment are likely to be taken away by the government or others, and so strong property rights are needed to encourage productive investment. Strong property rights are also necessary to create collateral which gives lenders confidence that they can cope with asymmetric information problems of adverse selection and moral hazard they encounter when providing funds to borrowers.

Property rights need to evolve over time to suit local conditions. De Soto (2000) describes how British property rights for land, which were based on a long-established title system, had to be modified to apply to the new lands in North America in the 18<sup>th</sup> and 19<sup>th</sup> centuries, illustrating that a system for defining property rights in one country may not work effectively in another. Rodrick (2003) has emphasized this point in discussing China's recent approach to defining property rights. The Chinese government decided to allocate property rights in a couple of nonstandard ways. First by

---

<sup>3</sup> Chapter 2 of Mishkin (2006) discusses these principles in far more detail.

developing the Household Responsibility System (HRS), in which local officials assigned land to individual households according to their size. Under this plan, farmers could develop their land, produce food and sell it for their own profit, thus giving them the incentive to increase production. To increase manufacturing output, the Chinese government allowed the establishment of Town and Village Enterprises (TVEs), in which the ownership rights to business were given to the local government of the township or village and not to individuals. Because the TVEs could keep the profits and use them to provide goods and services to the community, they now had an incentive to make good investments and be efficient.

Although the TVEs and Household Responsibility System did not confer private property right as we know them, they probably worked far better in China at its early stage of development than more standard private property rights – standard private property rights would not have been enforceable because a legal system to enforce them was not in place. Indeed, having local governments own enterprises gave the local governments an incentive to make sure that the profits from these enterprises would not be appropriated by the central government or by officials of the central government.

The experience in China raises an important theme in this paper. Institutions that work well in advanced countries may not always work well in developing countries; they may have to be adapted to the local environment. Even in China, what has worked in the past is less likely to work in the future. Their system of property rights needs to undergo changes because entities like the TVEs are often too small to be the engine of economic growth. If China is to be successful in its next stage of development, it needs to establish a modern financial system to allocate funds to larger enterprises. The Chinese government must now create property rights based on the rule of law if it is to develop a modern financial system.

- 2 *Strengthen the Legal System.* An essential step in supporting strong property rights is a legal system that enforces contracts quickly and fairly. Such a legal system reduces moral hazard problems and encourages lending. For example, lenders write restrictive covenants into loan contracts to prevent borrowers from taking on too much risk, but such covenants only have value if they can be legally enforced. An inefficient legal system in which loan contracts cannot be enforced will prevent productive lending from taking place. If it is too expensive to set up legal businesses or to get legal title to property, the poor will never get access to the legal system and so will be cut off from lending that could help them open up small businesses and escape poverty.

- 3 *Reduce Corruption.* Eliminating corruption is also essential to strengthening property rights and the legal system. When a corrupt official demands a bribe she reduces the incentives for entrepreneurs to make investments. The ability to buy off judges weakens enforcement of legal contracts that enable the financial system to function smoothly.
- 4 *Improve the quality of financial information.* High quality financial information is essential to well-functioning financial markets. If lenders cannot figure out what is going on in a firm, they will be unable to screen out good from bad credit risks or monitor the firm to ensure that it does not take on too much risk at the lender's expense. In other words, if information is too asymmetric, the adverse selection and moral hazard problems will prevent profitable lending, and productive investment will not take place. To make information easier to get accounting standards must be high enough so that prospective lenders can make sense of what is in a business's books. Also setting up standards for credit reporting to encourage the establishment of credit registries (also called credit bureaus), which share information about the credit history of prospective borrowers can be especially beneficial in increasing lending to households and small business borrowers.<sup>4</sup> Rules also have to be enforced that require businesses to disclose information, so that prospective investors can make sensible decisions as to whether the business deserves to get their hard-earned money.
- 5 *Improve corporate governance.* In order for people to be willing to buy stocks, which is another way of channeling funds to business, there must also be rules that make sure that the managers of corporations act in the stock holders' interest. If managers find it easy to steal from the corporation, or to use funds for their own personal use rather than for the benefit of the company, no one will want to invest in the company.
- 6 *Get the government out of the business of directing credit.* Too much government involvement in allocating credit also hinders the flow of funds to productive uses. State-owned financial institutions do not have incentives to make profits and so are often willing to make loans to those who are politically connected rather than those whose investment will increase productivity. Similarly when governments allocate credit directly, it is likely to go to the politicians' cronies or to business interests that support their campaigns.

---

<sup>4</sup> See World Bank (2001) Tullio Japelli and Marco Pagano (2001, 2003), Inter-American Development Bank (2005), for discussions of the benefits of credit registries. The empirical evidence finds that countries with credit registries have on average nearly nine percentage points greater financial development than countries that don't.

## How financial globalization promotes financial development

If developing the institutions that make the financial system work well is so important to poorer countries' well being, why doesn't it happen? Setting up the infrastructure for an efficient financial system is by no means easy. In addition, powerful elites in countries often oppose the necessary reforms because it will weaken their power or allow other people to cut into their profits. How can poorer countries overcome these obstacles?

Liberalizing the domestic financial system through financial globalization is one key way. Opening up to foreign financial institutions increases competition in the financial system. As domestic financial institutions start to lose business to better run and more trustworthy foreign institutions, they realize the need for a better legal and accounting infrastructure that will make it easier for them to minimize adverse selection and moral hazard problems as they seek out new customers. Domestic financial institutions will be far more likely to advocate and support the reforms to make this happen.

Allowing foreign financial institutions to operate in an emerging market country brings in expertise developed abroad. Bringing in best practices from other nations in areas such as how to screen good from bad credit risks and how to monitor borrower activities to reduce the amount of risk they take directly improves the functioning of financial markets.<sup>5</sup> Because of their familiarity with more advanced financial systems, foreign financial firms also are likely to increase the pressure on the domestic government to make reforms that will make the financial system work more effectively. Opening up to foreign capital also has the benefit of directly increasing liquidity and lowering the cost of capital for those with productive investments to make.<sup>6</sup>

## The dark side of financial globalization: financial instability

Although financial globalization can generate huge benefits for emerging market countries by encouraging development of the financial system, it has a dark side: it can lead to financial instability and crises which have a devastating impact on the economy. In a now famous, but initially ignored, paper published in 1985, "Good-

---

<sup>5</sup> This argument is made in World Bank (2001) and Goldberg (2004).

<sup>6</sup> When stock markets in emerging market countries are opened to foreign capital, dividend yields fall, there is an increase in average stock prices and liquidity goes up (Levine and Zervosm 1998, Bekaert, Harvey, and Lumsdaine (1998) and Henry, 2000a,b.)

bye Financial Repression: Hello Financial Crisis,” Chilean economist, Carlos Diaz Alejandro (1985), was way ahead of his time in warning of the dangers of financial globalization. Given a government safety net for financial institutions, particularly banks, liberalization and globalization of the financial system often encourages a lending boom which is fueled by capital inflows. Because of weak prudential supervision by bank regulators and a lack of expertise in screening and monitoring borrowers, losses at banking institutions begin to mount. With a weak banking sector, the government can no longer raise interest rates to defend the domestic currency because doing so would cause even more distress in the banking sector and precipitate a bank panic. Once market participants realize that the government no longer can defend the currency, they engage in a speculative attack, leading to a currency crisis and a large devaluation. Because so many firms in emerging market countries have their debt denominated in foreign currencies such as dollars, the currency collapse produces a sharp increase in their indebtedness in domestic currency terms, while the value of their assets usually remains unchanged. The resulting destruction of firms’ balance sheets then makes it more difficult for the financial system to solve asymmetric information problems and lending to firms contracts sharply, leading to a seizing up of the financial system and often a devastating economic contraction.<sup>7</sup>

Financial instability which follows financial liberalization and globalization create two problems. The most obvious one is the economic hardship following the resulting crisis, which particularly hurts the poor (Halec and Schmukler, 2003). Second, is that the resulting financial instability gives financial globalization a bad name and can provoke a backlash against both financial globalization and liberalization which retards financial development.

## Prudential regulation and supervision

Since financial institutions like banks are at the core of what can go wrong and trigger financial instability, promoting financial stability to prevent financial crises must start with governments’ providing effective prudential supervision and regulation of the financial system. To do so requires implementation of several types of reforms.<sup>8</sup> To understand what form these reforms might take, we need to

---

<sup>7</sup> The above dynamics of financial crises in emerging market countries is discussed in Mishkin (1996) and Chapter 4 of Mishkin (2006), while case studies of these crises are found in chapters 5-7 of Mishkin (2006).

<sup>8</sup> One area of prudential regulation and supervision that I do not discuss here is capital controls. Capital controls are highly controversial and would require an extensive discussion that I do have space for in this paper. I do discuss them in Chapter 9 of Mishkin (2006). The conclusion that I reach is that in general capital controls are not to be recommended, although a form of prudential controls that would restrict how fast banks could expand their foreign borrowings could be beneficial.

draw on the experience that many countries have had with prudential supervision, which requires discussion of a fair amount of detail. We must not forget, however, that reforms in one country do not always work well in another. The details of the reforms may require substantial modification in particular circumstances, and so the reforms discussed below should not be viewed as a checklist that every country has to follow exactly. Instead, they point to the direction where emerging market countries need to head in order to make financial globalization work for them.

## 1 Limit currency mismatch

Emerging market countries almost always suffer from *currency mismatch*, that is many firms have debt denominated in a foreign currency like the U.S. dollar (*liability dollarization*), while the value of their production and assets is denominated in their domestic currency. As we have seen in countries with currency mismatch, currency crises and devaluations will trigger full-fledged financial crises by decimating the balance sheets of nonfinancial and financial firms.<sup>9</sup> (This does not usually happen in industrialized countries because their debt is generally denominated in domestic currency.)

The economy would be far less prone to financial crises if the issuance of foreign-denominated debt was discouraged, especially for firms that have their production sold in domestic markets.<sup>10</sup> Although reducing foreign-denominated debt is not an unmixed blessing because it might prevent some firms from borrowing,<sup>11</sup> there are strong reasons to believe that excessive liability dollarization is detrimental to the health of developing economies. Governments are more apt to bail out firms and banks when they all fail together and this is exactly what happens when firms have borrowed heavily in foreign currencies and the currency depreciates. Thus the government safety net encourages financial and nonfinancial firms to borrow in foreign currencies, even though this leaves the economy more vulnerable to financial crises.<sup>12</sup>

---

<sup>9</sup> Allen, Rosenberg, Keller, Setser and Roubini (2002), argue that “almost all recent crisis episodes were marked by currency mismatch exposures.”

<sup>10</sup> This is consistent with evidence in Calvo, Izquierdo and Mejia (2004) who find that more liability dollarization is associated with a higher probability of financial crises and more severe crises.

<sup>11</sup> De la Torre and Schmukler (2003) suggest that liability dollarization and currency mismatch may be a sensible way for firms to reduce risk. Thus limiting liability dollarization may have costs as well as benefits, implying that doing this right may be more complex than many advocates for restricting the use of foreign-denominated debt recognize.

<sup>12</sup> See Levy-Yeyati (2003), Broda and Levy-Yeyati (2003), Caballero and Krishnamurthy (2003) provide an additional reason for why liability dollarization may be excessive because firms that can borrow abroad in foreign currencies do not recognize the social value in providing insurance to domestic firms that do not have access to foreign borrowing.

Because so much of foreign-denominated debt is intermediated through the banking system, regulation and supervision to force banks to acknowledge and reduce the risk posed by currency mismatches could greatly limit liability dollarization and enhance financial stability.<sup>13</sup>

Similarly, restrictions on corporate borrowing in foreign currency or tax policies to discourage foreign-currency borrowing could help make the economy better able to withstand a currency depreciation without undergoing a financial crisis. Anne Krueger (2000), now the First Deputy Managing Director of the IMF, has even suggested that emerging market countries should make foreign-currency debt incurred by domestic firms unenforceable in domestic courts and that restrictions should be placed on financial institutions in industrialized countries to limit lending to emerging market countries using industrialized country currencies. However, blanket restrictions or tax policies to discourage borrowing in foreign currencies may be too draconian because firms that have their production priced in foreign currency should be borrowing in foreign currency in order to limit their exchange rate risk.<sup>14</sup> A more nuanced approach that focuses on systemic risk to the economy from currency mismatch, rather than just the amount of liabilities denominated in foreign currency, makes more sense.

Another reason domestic residents in emerging market economies use foreign currencies from industrialized countries to denominate debt is because these currencies have more stable purchasing power and therefore less inflation risk than domestic currencies. If domestic residents have access to debt indexed to inflation, they would have an alternative way to lower their inflation risk and liability dollarization would be less likely to occur.<sup>15</sup> However, domestic residents can be provided with an alternative way to lower their inflation risk if they have access to debt indexed to inflation. With indexation, debt contracts would be denominated in an index unit tied to a price level index like the Consumer Price Index (CPI) so that when the price level rises, the nominal value of debt would rise one-for-one. With indexation, the real value of the debt in terms of goods and services would remain unchanged. In the 1960s, Chile developed an indexing unit (the Unidad de Fo-

---

<sup>13</sup> Goldstein and Turner (2004) has an excellent survey of the literature on currency mismatches and provides additional recommendations to deal with currency mismatches.

<sup>14</sup> Goldstein and Turner (2004), for example, disagree with the Krueger proposal as being too draconian because the concern should be with currency mismatches rather than liability dollarization per se. In addition, restricting dollarization may lead to a reduction of financial deepening, both directly and because financial intermediation would move offshore (De Nicolo, Honohan and Ize (2003) and Inter-American Development Bank (2005), chapter 4).

<sup>15</sup> The argument here is for the indexation of financial contracts only. The indexation of other contracts, especially labor contracts, may have negative consequences as seen in Latin America in the 1980s. Indexed labor contracts, which are typically indexed to past inflation, have the undesirable consequence of putting substantial inertia into the wage-setting process, thereby making it harder to wring inflation out of an economy.

mento, UF), and indexation of debt and other contracts became widespread. As a result Chile was able to avoid liability dollarization, despite having high and variable inflation rates similar to other countries in Latin America that had very high liability dollarization.<sup>16 17</sup>

## 2 Without proper institutional backup, do not adopt deposit insurance

Deposit insurance, which protects depositors from losses when banks fail, originated in the United States. In 1960 only six countries had emulated the United States and adopted deposit insurance, but this began to change in the late 1960s, with the trend accelerating in the 1990s, when the number of countries adopting deposit insurance doubled to over 70. Despite its popularity, deposit insurance is mixed blessing. By decreasing the incentive for depositors to withdraw their money if the bank gets into trouble, it can prevent bank panics because depositors will no longer run on the bank.

On the other hand, deposit insurance increases moral-hazard incentives for banks to take on excessive risk. Without adequate prudential regulation and supervision to reduce banks' incentives to take on too much risk, deposit insurance can increase, rather than decrease, the likelihood of a banking crisis and this is exactly what has occurred in many emerging market countries. Research done primarily at the World Bank (Kunt and Enrica Detragiache, 2002, Kunt and Kane, 2002, Cull, Senbet, and Sorge, 2001, World Bank, 2001) has found that, on average, the adoption of explicit government deposit insurance is associated with more instability in the banking sector and a higher incidence of banking crises. Furthermore, it seems to retard financial development. However, these negative effects occur only in countries with weak institutional environments: an absence of rule of law, ineffective regulation and supervision of the financial sector, and rampant corruption. Again, this illustrates the point that policies that work in advanced countries may not work in developing countries.

---

<sup>16</sup> Ize and Levy-Yeyati (2003) find that dollarization is significantly lower in countries where indexation of contracts is prevalent.

<sup>17</sup> Private markets are rarely able to develop indexed debt contracts on their own, and so active government involvement to encourage indexation seems to be required to develop indexed-debt markets. E.g., see Shiller (1997). (This has been true in the United States where markets in indexed debt did not start to develop until the U.S. Treasury began to issue TIPS [Treasury Inflation Protection Securities] in January 1997). As has been carefully documented by researchers at the Central Bank of Chile (Herrera and Valdes, 2003), avoiding dollarization and the development of indexed debt markets in Chile was not easy: it was a long, slow process, which required both implementing regulations to encourage indexation and substantial issuance of indexed debt by the Chilean authorities.

### 3 Restrict connected lending and prevent commercial enterprises from owning financial institutions

The financial sectors of many developing countries are rife with *connected lending*, loans made by financial institutions to their owners or managers, or to the business associates (and friends and family) of the owners or managers of the institution.<sup>18</sup> This characteristic was instrumental in the 1994-95 collapse of Mexico's financial system. Financial institutions have less incentive to monitor loans to their owners or managers, a situation that increases the moral hazard incentive for the borrowers to take on excessive risk. These risky loans expose the institution to potential loan losses. In addition, connected lending in which large loans are made to one party can result in a lack of diversification for the institution, further increasing the risk exposure of the bank.

Restrictions on connected lending can take several forms.<sup>19</sup> Most countries have regulations limiting connected lending and many developing countries have limits on the books that are stricter than those in industrialized countries, but these limits are often not enforced effectively. An IMF study published in 1995 before the East Asian crisis (Folkerts-Landau, et al. 1995), found out that bank examiners in Asia were often unable to assess the amount of connected lending because they lacked the authority to trace to whom loans were made and because the banks hid the loans in dummy accounts. Strong efforts to increase disclosure of connected lending and to increase authority for bank examiners to verify the accuracy of loan information is crucial to controlling this moral hazard.

Having commercial businesses own large shares of financial institutions also increases the incentives for connected lending. The Korean financial crisis of 1997 was caused in part by chaebols (large commercial conglomerates) ownership of merchant banks, which were virtually unsupervised (Hahm and Mishkin, 2000). The merchant banks supplied the chaebols with large amounts of money by borrowing abroad and lending the proceeds to them. As a result of the exces-

---

<sup>18</sup> As documented in La Porta, Lopez-de-Silanes and Zamarippa (2003), 20% of all large loans outstanding from 1995 to 1998 in Mexico had gone to bank directors, while these insider loans had interest rates that were 4 percentage point lower than those on other loans, a 33% higher default rate and a 30% lower recovery rate for collateral.

<sup>19</sup> Barry Eichengreen (2002), argues that restrictions on connected lending can hinder financial transactions in emerging market countries because it may be the only effective way of structuring and enforcing financial contracts in countries where the information and contracting environments are weak. There are informational and enforcement benefits that can accrue from family and other connections, and this is why it often makes sense to have interfamily lending and family control of businesses in poorer countries. However, connected lending by banking institutions which have access to a government safety net leads to huge moral hazard and excessive risk-taking that is very destructive, and this is why it needs to be restricted.

sive risk taking by the merchant banks, who were making risky loans to the chaebols, most of them became insolvent, and their insolvency was a key factor in the Korean financial crisis. Preventing commercial enterprises from owning financial institutions is crucial for promoting financial stability in emerging market countries.

#### 4 Ensure that banks have plenty of capital

Requiring that banks have sufficient equity capital is another way to change the bank's incentives to take on less risk. When a bank is forced to hold a large amount of equity capital, the bank has more to lose if it fails and is thus more likely to pursue less risky activities.<sup>20</sup>

Bank capital requirements can take on two forms. The simplest type, the *leverage ratio*, is based on the amount of capital divided by the bank's total assets, while more complicated type of risk-based capital requirement, codified under the Basel Accord, requires banks to hold a certain amount of capital depending on the type of assets the bank holds and an assessment of how risky they are. Although the Basel Accord does encourage banks to reduce risk by making them hold more capital when they hold higher risk assets, it was designed for advanced countries' banking systems and is not as effective for emerging market economies. For example, the Accord classifies government bonds as having the least risk of all bank assets. This may make sense in advanced countries where government bonds are extremely unlikely to ever experience a default, but this is certainly not true for government bonds issued by emerging market countries. In fact, a major factor in the banking crisis in Argentina was that the value of banks' holdings of Argentine government bonds fell sharply when these bonds went into default. In addition, emerging market economies are subjected to much larger shocks than are advanced economies, and thus the increased risk that banks in these countries face indicates that the amount of capital they hold should be even larger. Thus bank capital requirements in emerging market economies need to be even more stringent than the international standards adopted by bank supervisors in advanced countries.<sup>21</sup>

---

<sup>20</sup> Bank regulations that restrict banks from holding particular risky assets such as common stocks or real estate are another means of ensuring that banks do not take on too much risk. Risk can also be reduced by regulations that promote diversification and prevent banks from concentrating loans to one large borrower or to a particular class of borrowers.

<sup>21</sup> A counter to the view here is provided by Barth, Caprio and Levine (2005). They find little evidence that capital regulations improve bank stability, although they are cautious in interpreting this result. They, however, do take a stronger stance that regulatory restrictions have negative consequences for bank efficiency and stability in countries where property rights and political institutions are weak. Their evidence suggests that going too far in adopting regulatory restrictions in developing countries may be counterproductive.

## 5 Focus on risk management

The traditional approach to bank supervision has focused on the quality of the bank's balance sheet at a point in time and on whether the bank complies with capital requirements. Although the traditional focus is important in reducing excessive risk-taking by banks, it alone may no longer be adequate. Financial innovation has produced new markets and instruments that make it easy for financial institutions and their employees to quickly take on huge amounts of risk. In this new financial environment, an institution that is healthy today can be driven into insolvency extremely rapidly from trading losses. This point was forcefully demonstrated by the failure of Barings Bank in 1995 which, although initially well capitalized, was brought down in a matter of months by the losses incurred by a rogue trader. An examination that focuses only on a financial institution's balance-sheet position at a point in time may not be an effective indicator of whether a bank will be taking on excessive risk in the near future.

Bank examiners in developing countries can help promote a safer and sounder financial sector by assessing how banks manage risk by evaluating: 1) the quality of the risk measurement and monitoring systems, 2) the adequacy of policies to limit activities that present significant risks, 3) the adequacy of internal controls to prevent fraud or unauthorized activities on the part of employees, and 4) the quality of oversight of risk management procedures provided by the board of directors and senior management. Once this assessment is completed, the bank supervisory agency should make sure that this information is disclosed to the public. By giving poor rankings to banks that are not up to speed on risk management, banking supervisors can make sure that best practice for risk management would spread throughout the banking industry in their country.<sup>22</sup>

## 6 Encourage disclosure and market-based discipline

There are two problems with relying solely on supervisors to control risk-taking by financial institutions. First, financial institutions have incentives to keep information away from bank examiners so these institutions are not restricted in their activities. Even if supervisors are conscientious, they may not be able to stop financial institutions from engaging in risky activities. Second, supervisors may give into political pressure or be corrupt and not do their jobs properly.

To eliminate these problems it would be better to have the impartial market discipline financial institutions if they are taking on too much risk. Disclosure

---

<sup>22</sup> More controversial is whether bank supervisors should recommend approaches to risk management. Barth, Caprio and Levine (2005) suggest that the answer is no because giving increased discretionary powers to supervisors has not led to safer and sounder banks for the reasons discussed in the subsection on strong discretionary supervisory powers.

from financial institutions about the state of their balance sheet and the riskiness of their activities allows individual depositors or other creditors to monitor these institutions and withdraw their money if the financial institution takes on too much risk.

Disclosure requirements have one important advantage over capital requirements. If bank capital requirements are set too low, they will have little impact. If set too high, banks may try to evade them. Disclosure of a bank's true balance-sheet position can help the market discipline banks by not providing the bank with funds if it does not hold an adequate amount of capital. Similarly, disclosure of the extent of bank lending denominated in foreign currency can help limit the degree of currency mismatch. Depositors and other creditors will be more wary of putting their money in a bank if it has lent extensively in dollars to firms that have their products denominated in the domestic currency so that a currency depreciation will result in a surge in bad loans. In addition, disclosure about the riskiness of banks' other activities allows individual depositors or other creditors to monitor these institutions and withdraw their money if the financial institution takes on too much risk.

Because financial institutions are able to take on more risk than many conventional businesses and because they are typically provided with a government safety net, disclosure requirements need to go beyond the simple public issuance of conventional balance sheet and income statements. Governments need to hold bank directors and managers responsible for timely and accurate disclosure of a wide range of information on the quality of their assets, the amount of risk they are exposed to, and the procedures they use to manage risk. Recent evidence in Barth, Caprio and Levine (2005) indicates that disclosures of this type are the most effective tool in promoting a safe and sound banking system.

Two additional steps may also help increase market discipline. One would require that financial institutions have credit ratings. Part of the supervisory system implemented in Argentina in December 1996 was the requirement that every bank have an annual rating provided by a rating agency registered with the central bank.<sup>23</sup> Institutions with more than \$50 million in assets were required to have ratings from two rating agencies. As part of this scheme, the Argentinean central bank was responsible for performing an after-the-fact review of the credit ratings to check if the rating agencies were doing a reasonable job. In addition, after January 1998, it was required that these credit ratings be placed on billboards in the banks as well as appear on all deposit certificates and all other publications related to obtaining funds from the public. The lack of a credit rating or a poor credit rating would make depositors and other creditors reluctant to put

---

<sup>23</sup> See Banco Central de la Republica Argentina (1997) and Calomiris (1998) for detailed descriptions of the Argentine regulatory system.

their funds in a bank, thus giving the bank incentives to reduce its risk taking and boost its credit rating.<sup>24</sup> The Argentine regulatory system worked extremely well in promoting a healthy banking system, until Argentina's fiscal difficulties led to destruction of the banking system.<sup>25</sup>

## 7 Allow entry of foreign banks

Many developing countries have laws that prevent foreign banks from establishing branches or affiliates in their country. Instead of seeing foreign banks as a threat, their entry should be seen as an opportunity to increase the stability of the financial system in general and the efficiency of the banking system in particular.<sup>26</sup>

Foreign banks have more diversified portfolios and also usually have access to sources of funds from all over the world through their parent companies. This diversification means that these foreign banks are exposed to less risk and are less affected by negative shocks to the home country's economy. Because many emerging market and transition economies are more volatile than industrialized countries, having a large foreign component to the banking sector is especially valuable because it can help insulate the banking system from domestic shocks. Encouraging entry of foreign banks is thus likely to lead to a banking and financial system that is substantially less fragile and far less prone to crisis. In fact, data show that countries that allow foreign bank entry have more stable financial systems and fewer

---

<sup>24</sup> For a favorable assessment of the Argentine bank regulatory system before the crisis, see Calomiris and Powell (2001).

<sup>25</sup> Another way to impose market discipline on banks is to require that they issue subordinated debt (uninsured debt that is junior to insured deposits, but senior to equity). Subordinated debt, particularly if it has a ceiling on its spread between its interest rate and that on government securities, can be an effective disciplining device. If the bank is exposed to too much risk, it is unlikely to be able to sell its subordinated debt. Thus, compliance with the subordinated debt requirement will be a direct way for the market to force banks to limit their risk exposure. Alternatively, deposit insurance premiums could be charged according to the interest rate on the subordinated debt. Not only would the issuance of subordinated debt directly help reduce incentives for banks to engage in risky activities, but it can also provide supplemental information to bank examiners that can help them in their supervisory activities. In addition, information about whether banks are successful in issuing subordinated debt and the interest rate on this debt can help the public evaluate whether supervisors are being sufficiently tough on a particular banking institution, thus reducing the scope of the principal-agent problem. A subordinated debt requirement does require that an emerging market country have sophisticated capital markets. However, Argentina did implement a subordinated debt requirement in its BASIC program, although without an interest rate cap, which took effect on January 1998. As reported in Calomiris (1998), initially about half of the banks were able to comply with this requirement. Interestingly, as expected, it was the weakest banks that had trouble issuing subordinated debt. Furthermore, banks that complied with the requirement had lower deposit rates and larger growth in deposits. Thus, the subordinated debt requirement looks like it has had the intended effect of promoting discipline on the banks (Calomiris and Powell, 2000). Calomiris (1998).

<sup>26</sup> See Levine (1996) and World Bank (2001) for a general discussion of the benefits of foreign bank entry.

episodes of financial crisis (Demirguc-Kunt, Levine and Min (1999) and Barth, Caprio and Levine (2005)).

Another reason to encourage entry of foreign banks is that this can encourage adoption of best management and prudential supervisory practices in the banking industry. Foreign banks come with expertise in areas like risk management and are typically more efficient than domestic banks.<sup>27</sup> When bank examiners in a country see better practices in risk management, for instance, they can encourage the spread these practices throughout their country's banking system by downgrading banks who do not adopt these practices. Having foreign banks demonstrate the latest risk management techniques can thus lead to improved control of risk in the home country's banking system (Ross Levine (1996) Caprio and Honohan, (1999), and Mishkin, (2003)).<sup>28</sup>

Encouraging the entry of foreign banks makes it more likely that a failed bank's uninsured depositors and creditors will not be bailed out.<sup>29</sup> Governments are far less likely to bail out the banking sector when it gets into trouble if many banks are foreign-owned because such a move will be politically unpopular (Kane, 2000). Thus uninsured depositors and other creditors will have greater incentives to monitor a bank's practices and performance and will withdraw their funds if it takes on too much risk. The resulting increase in market discipline is likely to encourage more prudent behavior by banking institutions: foreign banks provide higher provisions for potential loan losses and have higher recovery rates for loans that go into default (Crystal, Dages and Goldberg, 2001).<sup>30</sup>

---

<sup>27</sup> Foreign banks have lower overhead costs than domestic banks and are thus able to operate with lower net interest margins (net interest income relative to assets) and still earn similar returns on assets. See Figure 10.5, page 133 in Inter-American Development Bank (2004).

<sup>28</sup> Levine (1996) and Caprio and Honohan (1999) point out that there are also benefits from the increased competition that foreign bank entry brings to the banking industry in the home country, because it leads to improved management techniques and a more efficient banking system.

<sup>29</sup> In addition, because foreign banks do not have the same political connections as domestic banks, foreign bank entry seems to reduce political influence peddling in the financial sector (Kroszner (1998) and Calomiris, Klingebiel and Laeven, (2003)).

<sup>30</sup> There are two concerns about the entry of foreign banks that seem unfounded. The first concern is that the entry of foreign banks might hurt small customers because it may cause the demise of small domestic banks that specialize in lending to small businesses and individuals. However, although when domestic banks in Argentina were first acquired by foreign banks, they did not initially focus on consumer, mortgage, or property lending, over time they did begin to enter these businesses aggressively, thereby lowering interest rates for consumers (Clarke, Cull, D'Amato and Molinari (2000)). A second concern is that foreign banks may be more likely to cut and run during a crisis and thus could exacerbate financial crises. However, the opposite seems to be the case in emerging market countries like Argentina and Mexico, where the presence of foreign banks has stabilized credit flows during crises (Goldberg, Dages and Kinney, 2000, and Clarke, Cull and Martinez Peria, 2001).

## Making prudential supervision work

We would like to think that politicians and government official (the *agents*) work on behalf of the public (the *principals*), but this doesn't take into account human nature. The principal-agent problem occurs because agents (politician or government officials) have incentives to act in their own interest rather than in the public (principal's) interest. To act in the public's interest, prudential supervisors (and regulators) have to limit currency mismatch, restrict connected lending, ensure that banks have enough capital, make sure that banks don't take on too much risk and encourage disclosure. They also must not engage in regulatory forbearance, that is, allow financial institutions that are broke to continue to operate because it creates enormous incentives for banks to take on even more risk because they have almost nothing to lose. However, because of the principal-agent problem, prudential supervisors have incentives to do the opposite. Bankers in developing countries may bribe these government officials to allow banks to skirt prudential regulations, or get politicians to lean on the supervisors to weaken regulations or look the other way when banks are not complying with them. The principal-agent problem, which has led to inadequate prudential supervision, has not only been at the source of financial instability in emerging market countries, but also has led to banking crises in most of the advanced countries, including the United States.

What reforms can limit the principal-agent problem and ensure that prudential supervision will work?

### 1 Implement prompt corrective action

Quick action by prudential supervisors to stop undesirable activities by financial institutions and, even more importantly, to forgo regulatory forbearance and close down institutions that do not have sufficient capital, is critical if financial instability is to be avoided. An important way to ensure that bank supervisors do not engage in regulatory forbearance is implementing prompt corrective action provisions (first implemented in the United States in the 1991 FDICIA legislation) which require supervisors to intervene earlier and more vigorously to force financial institutions to either clean up their act or close them down if they are close to insolvency. Prompt corrective action is crucial to preventing problems in the financial sector because it creates incentives for institutions to take on less risk in the first place: they know that if they take on more risk, they will be closed down quickly when they get into trouble.

One key element in making corrective action effective is that supervisors must have an accurate assessment of the condition of the bank. Such accuracy is achieved by examining banks frequently and ensuring that they recognize their bad loans so that they are subtracted from the amount of capital on hand. It is particularly impor-

tant that banks be prohibited from “evergreening”, a common practice in developing countries in which banks extend new loans to troubled borrowers who then pay back the old loan plus its interest with the new loan. In this way, the bank takes the old loan, which would otherwise be classified as non-performing, off its books and so does not have to record the loss and lower the value of its capital.

Not only must weak institutions be closed down, but closure must be done in the right way: Funds must not be supplied to weak or insolvent banking institutions to keep them afloat. The way to recapitalize the banking system is to close down all insolvent and weak institutions, and sell off their assets to healthy institutions. If getting healthy institutions to buy these assets is not possible, a public corporation, like the Resolution Trust Corporation (RTC) in the United States or KAMCO in Korea, can be created which will have the responsibility to sell off the assets of these closed banks. However, in order to put these assets quickly into productive use by the private sector, and so limit the losses, they need to be sold off as promptly as possible, as occurred in both Korea and the United States.

It is also imperative that the government make clear and then make sure that stockholders, managers and large creditors will suffer large financial losses when financial institutions are closed and public funds are injected into the financial system. If managers, stockholders, and large uninsured creditors expect to be bailed out by the government (often the case in developing countries) they will have tremendous moral hazard incentives to take on risk. If their bets pay off, they win big, and if the bets fail, the government will cover (at least partially) their losses.

Punishing the managers and owners of insolvent financial institutions is necessary to generate public support for committing sufficient funds to clean up the financial sector. In the United States, for example, owners of insolvent banking institutions such as savings and loans did incur substantial financial losses when they failed and sometimes were even thrown into jail afterwards. Such actions helped provide political support for the full clean up of the savings and loan and banking industry in the late 1980s and early 1990s. This rarely happens in developing countries, and even in advanced countries like Japan. The result has been that the public is often unwilling to support the injection of public funds into the banking system to get it fully back on its feet. In Japan, the public was outraged that owners of failed banking institutions (some of whom were criminal figures) got off scot free. The lack of political support for cleaning up the banking mess has been disastrous for Japan and is an important source of Japan’s economic stagnation.

## 2 Limit Too-Big-To-Fail

Because the failure of a very large financial institution makes it more likely that a major, systemic financial disruption will occur, banking supervisors are

naturally reluctant to allow a big financial institution to fail and cause losses to depositors. The result is that most countries either explicitly or implicitly have a *too-big-to-fail policy* in which all depositors at a big bank, both insured and uninsured are fully protected if the bank fails.<sup>31</sup> The problem with a too-big-to-fail policy is that it increases the moral hazard incentives for big banks to take on excessive risk. Once large depositors know that a financial institution is too big to fail, they have no incentive to monitor the bank or pull out their deposits when it takes on too much risk. No matter what the bank does, large depositors will not suffer any losses. Because bank monitoring by depositors declines, banks are more likely to take on even bigger risks, making failures more likely.<sup>32</sup>

This problem is even more severe in emerging market countries because their financial systems are typically smaller than those in developed countries and so tend to be dominated by fewer institutions which are even larger relative to the size of the economy, increasing the likelihood that they will be considered too big to fail. Furthermore, the government connections and political power of large financial institutions is often much greater in emerging market countries, making it more likely that they will be bailed out if they experience difficulties. Indeed, other creditors and stockholders, as well as uninsured depositors, in many emerging market countries have been protected in many emerging market countries when large institutions have been subject to failure.

Limiting moral hazard that arises when financial institutions are too-big or too-politically-connected to fail is a critical part of prudential supervision in emerging market countries. To discourage large institutions from taking on excessive risk, prudential supervisors need to scrutinize them even more rigorously than smaller ones and, at a minimum, must allow shareholders and managers to suffer losses when these institutions are insolvent.

The same incentives clearly apply to non-financial companies if they are considered to be too-big-to- or too-politically-influential-to fail) by the government. Lenders, knowing that they are unlikely to be subjected to losses if a company gets into trouble, will not monitor the company and call in its loan if it is taking on excessive risk. In many emerging market countries, governments have propped up large and politically-connected companies when they suffer financial distress and this has been a source of increased risk taking by these companies, especially when they face difficult times. Indeed, the too-big-to-fail policy for the chaebols (conglomerates) was a key factor generating the financial crisis in Korea.

---

<sup>31</sup> For an excellent discussion of the too-big-to-fail problem, see Stern, and Feldman (2004). Mishkin (2005b) indicates, however, that although the too-big-to-fail problem is important, it is not the dominant problem for bank supervisors, as the Stern and Feldman book seems to suggest.

<sup>32</sup> See Boyd and Gertler (1993), for evidence, that even in advanced countries like the United States, large banks take on riskier loans than smaller banks.

To eliminate incentives for the corporate sector to take on too much risk, too-big-to-fail policies must be eliminated for this as well as the financial sector. This implies a greater separation between the corporate sector and the government, something that requires a change in the business culture of many emerging market countries.

### **3 Give adequate resources and statutory authority for prudential regulators/supervisors**

In many emerging market countries, prudential supervisors are not given sufficient resources or statutory authority (the legal ability to issue cease and desist orders and to close down insolvent banks) to do their jobs effectively. In close to 40% of developing countries, supervisors can be held personally liable for their actions.<sup>33</sup> In addition, their salaries are generally very low relative to those paid in the private sector. In India, for example, bank supervisors in the late 1990s typically had a salary of \$3000 (plus some additional housing benefits), while a comparable position at the assistant vice president level in a private sector bank was paying \$75,000.<sup>34</sup> While the problem of low public sector pay relative to the private sector exists in rich countries, it is far less severe. When I was an executive at the Federal Reserve Bank of New York, I worried that its employees could often double or triple their salaries by moving to the private sector, not increase their income by a factor of twenty-five!

Without sufficient resources and incentives, supervisors will not adequately monitor the activities of banks and their managers. Indeed, absence of sufficient monitoring of banking institutions has occurred in many emerging market countries, and in industrialized countries. For example, the U.S. Congress's resistance to providing the savings and loan supervisory agencies with the resources to hire an adequate number of bank examiners was a key factor in making the S&L crisis in the 1980s much worse.

Giving supervisors sufficient resources and statutory authority to do their jobs is thus critical to promoting a safe and sound financial system that is resistant to financial crises. Ruth Krivoy (2000), who was the president of Venezuela's central bank during its banking crisis in 1994 and saw the supervisory process in Venezuela from the inside has put it nicely by saying that supervisors in emerging market countries must be given "respect". If they are paid poorly, they will be more easily

---

<sup>33</sup> Barth, Caprio and Levine (2005) indicate that in their sample supervisors in one-third of all the countries are subject to lawsuits for doing their jobs and that the percentage is higher for developing countries. In private correspondence, Gerard Caprio informed me that 50 of 105 developing countries have their supervisors subject to lawsuits (38%) while this is true for only 15 of 45 industrialized countries (33%).

<sup>34</sup> These figures come from Barth, Caprio and Levine (2005), Chapter 2.

bribed either directly or through promises of high paying jobs by the institutions they supervise. Making supervisors personally liable for taking supervisory actions also makes it less likely that they will take the appropriate actions. Furthermore, if they do not have sufficient resources to monitor financial institutions, particularly in information technology, then they will be unable to spot excessive risk taking.

Adequate government funds for supervisors to close down insolvent institutions is also needed to make prompt corrective action work. Politicians and regulatory authorities often engage in wishful thinking when the banking system is in trouble and hope to avoid a large injection of public funds to save the banking system. Such regulatory forbearance allows insolvent institutions to keep operating with disastrous consequences.

#### **4 Give independence to regulatory/supervisory agencies**

Because politicians often lean on prudential supervisors to not do their jobs, the bank regulatory/supervisory agency must be sufficiently independent from the political process so that it will not be encouraged to sweep problems under the rug and engage in regulatory forbearance. Providing supervisory agencies with adequate resources also will help promote their independence. If supervisory agencies have to come hat in hand to the government for the funds to close down insolvent institutions, they will be more subject to political pressure to engage in regulatory forbearance. Supervisors must have adequate financial resources at their finger tips to prevent this from occurring.

#### **5 Make supervisors accountable**

Giving independence to prudential supervisors is not an unmixed blessing. The principal-agent problem indicates that supervisors will not always act in the public's interest. They not only have incentives to do the bidding of bankers and politicians and not enforce regulations to restrain bank risk-taking, but also have incentives to engage in regulatory forbearance and hide problems of insolvent banks and hope that the situation will improve, a behavior that Edward Kane (1989) has characterized as "bureaucratic gambling".

To improve incentives for them to do their job properly, supervisors must be held accountable if they engage in regulatory forbearance.<sup>35</sup> Opening up

---

<sup>35</sup> For example, as pointed out in Mishkin (1997), an important but very often overlooked part of the U.S.'s FDICIA legislation which has helped make it effective is that there is a mandatory report that the supervisory agencies must produce if the bank failure imposes costs on the Federal Deposit Insurance Corporation (FDIC). The resulting report is made available to any member of Congress and to the general public upon request, and the General Accounting Office must do an annual review of these reports.

the actions of bank supervisors to public scrutiny makes regulatory forbearance less attractive to them, thereby reducing the principal-agent problem. In addition, politicians will be less likely to lean on supervisors to relax their supervision of banks when the reasons for supervisory actions are visible to the public. To get supervisors to do their jobs properly, supervisors must also be subject to criminal prosecution if they are caught taking bribes and must also be subject to censure and penalties if they take jobs with institutions that they have supervised recently. In many emerging market countries, supervisors are allowed to get too close to the institutions they supervise and go to work for the institutions they have been supervising almost immediately after leaving the supervisory agency.

## 6 Strong discretionary supervisory powers may backfire

The new Basel Accord for bank supervision (known as Basel II) has strengthening of official supervision as one of its three major pillars. (The other two are minimum capital requirements and strengthening market discipline.) Giving supervisors stronger discretionary powers (such as forcing a bank to change its internal organizational structure, suspend dividends, stop bonuses, decrease management fees, remove and replace managers and directors, and so on) provide supervisors with a stick to force banks to comply with regulations and to constrain them from engaging in risky behavior.

However, giving supervisors these powers is beneficial *only* if they are acting in the public interest (that is, the principal-agent problem is small). In countries with a strong rule of law, an active free press that holds supervisors accountable for their actions, and relatively high wages for supervisors, supervisory powers are far more likely to be used in the public interest. What works well in rich countries with strong institutional environments, however, may not work in the weaker institutional environment found in developing countries. Instead of acting in the public interest and being a “helping hand”, supervisors may instead act in their own interest and be a “grabbing hand”. An important new book by Barth, Caprio and Levine (2005) uses a unique data base on bank supervisory practices throughout the world compiled by the World Bank to see whether supervisors act as a helping hand or a grabbing hand. In rich countries, supervisors generally help; in developing countries they generally grab. The statistical evidence suggests that in developing countries, strengthening the discretionary powers of supervisors has led to lower levels of bank development, greater corruption in lending, and banks that are less safe and sound. Following the Basel II recommendation of strengthening supervisory powers, then, may do more harm than good in developing countries, unless it is accompanied by substantial progress in institutional development.

Should we just throw up our hands and give up on prudential supervision in developing countries with weak institutional environments? Clearly not. Measures to make prudential supervision effective need to be high on policymakers agenda. But since instituting effective and accountable prudential supervision takes time, giving strong statutory powers to supervisors may have to be sequenced. For countries with weak institutional development, prudential supervision may need to focus less on telling banks what to do and more on encouraging market discipline by making sure banks comply with disclosure requirements: that is, make sure that information provided by financial institutions is both accurate and sufficient. Only when the institutional environment improves so that supervisors are accountable for doing their jobs properly, should supervisors be given discretionary statutory powers.

## **7 Get the government out of the banking business**

We have already seen that because state-owned banks do not have the incentives to allocate credit to productive uses, a banking sector dominated by state-owned banks results in less efficient investment and slower growth. State-owned banks also weaken the banking system. The absence of a profit motive means that they are less likely to manage risk properly and be efficient. State-owned banks typically have larger loan losses than private institutions, and countries with the highest share of state-owned banks, on average, are also the ones with a higher percentage of non-performing loans and higher operating costs.<sup>36</sup>

The inefficiency of state-owned banks and their higher loan losses strongly argue for privatization of the banking sector. However, even privatization must be managed properly or it can lead to disaster. If purchasers of banks are those who are likely to engage in excessive risk taking or even fraud, the possibility that banking problems will arise in the future are high. Also if purchasers of banks are allowed to put in very little of their own capital into the bank (as happened in Mexico), then they may also have strong incentives to engage in risky activities at the depositors' and taxpayers' expense. If corporations are allowed to purchase banking institutions (as occurred in South Korea), they are more likely to make connected loans which in turn are more likely to end in default. The potential downsides of privatization do not indicate that privatization be avoided, but rather that the chartering or licensing process be sufficiently stringent to screen out bad owners and ensure that bank ownership goes to individuals who will improve bank performance over the previous government managers.

---

<sup>36</sup> For additional reasons why the government should get out of the banking business, see Goldstein and Turner (1996), World Bank (2001) and Barth, Caprio and Levine (2005).

## Managing the overall economy

So far I have outlined reforms which focus on the details of how to develop a financial system that is less prone to crises. But there is a bigger picture of how the overall economy needs to be managed to prevent financial instability.

### 1 Financial liberalization should be sequenced

Although deregulation and liberalization are highly desirable objectives, if this process is not managed properly, it can be disastrous. If the proper bank regulatory/supervisory structure, accounting and disclosure requirements, restrictions on connected lending, and well-functioning legal and judicial systems are not in place when liberalization comes, the appropriate constraints on risk-taking behavior will be far too weak. The result will be that bad loans are likely, with potentially disastrous consequences for bank balance sheets at some point in the future.

In addition, before liberalization occurs, banks may not have the expertise to make loans wisely, and so opening them up to new lending opportunities may also lead to loan portfolios of poor quality. Opening up to foreign capital inflows often leads to a lending boom, because of increased resources for bank lending and because it promotes financial deepening in which more funds flow into the banking system. Although financial deepening is a positive development for an economy in the long run, in the short run the lending boom may outstrip the available information resources available in the financial system and promote a financial collapse in the future.

The dangers in financial deregulation and liberalization do not imply that countries would be better off by rejecting a liberalization strategy. To the contrary, financial liberalization and globalization are critical to the efficient functioning of financial markets so that they can channel funds to those with the most productive investment opportunities. Getting funds to those with the most productive investment opportunities is especially critical to emerging market countries because these investments can have especially high returns, thereby stimulating rapid economic growth.

To avoid financial instability, policymakers need to put in place elements of a proper institutional structure before fully liberalizing their financial systems, especially if there are no restrictions on financial institutions seeking funds abroad or issuing foreign-denominated debt.<sup>37</sup> Crucial to avoiding financial crises are the precepts outlined above: limits on currency mismatch, restrictions on connected lending, requirements for adequate bank capital, an appropriate focus on risk

<sup>37</sup> Goldstein (1998) provides a strong argument for sequencing.

management, adequate disclosure and encouragement of market-based discipline, adoption of prompt corrective action, limits on too big to fail, provision of adequate resources and statutory authority to bank supervisors, independence of bank regulators/supervisors from short-run political pressure, increased accountability of bank supervisors, elimination of state-owned banks, and encouragement of entry of foreign banks.

There is an important counterargument to the view that the above reform measures need to be fully put in place before financial liberalization takes place. Because, as we have seen, powerful elites in emerging market countries often oppose reforms to improve the working of the financial system, many countries do not pursue reforms before they undertake financial liberalization. A staged approach may provide policymakers with an excuse for prolonging bad policy (Irwin, Gilbert and Vines, 2004). Politicians who benefit from status quo are willing to agree in principle to reforms, but emphasize practical difficulties. Sequencing arguments then may be little more than a ploy for attracting assistance without implementing difficult policies. Instead it is the opening up of the financial system that provides the impetus behind reform. In a study of financial liberalizations, Kaminsky and Schmukler, (2003) find that in only 18% of countries does the rule of law improve before financial liberalization, while it improves in 64% after the liberalization. This same study also found that financial liberalization is followed by more volatility in business cycles, but leads to more stability in the long run.<sup>38</sup>

Because financial liberalization may still be worth pursuing even if the necessary reforms are not already in place or because they take time to install and because of the stresses that rapid expansion of the financial sector puts on both managerial and supervisory resources, restricting the growth of credit when financial liberalization is put into place makes a lot of sense. Such restrictions can take the form of putting upper limits on loan-to-value ratios, or for consumer credit, setting maximum repayment periods and minimum downpayment percentages. Banks could also be restricted in how fast certain types of loans in their portfolios are allowed to grow. In addition, at the beginning of the liberalization process, restrictions on foreign-denominated debt and prudential controls that might limit capital inflows may be necessary to reduce the vulnerability of the newly-liberalized financial system. As the appropriate infrastructure is put into place, these restrictions then can be reduced.

The bottom line is that, although eventually a full financial liberalization is a worthy goal, to avoid financial instability financial liberalization may have to be phased in over time, with some restrictions imposed along the way.

---

<sup>38</sup> A similar result is also found in Ranciere, Tornell and Westermann, (2005).

## 2 Fiscal policy should be reformed to prevent excessive budget deficits

Although most of the financial crises in recent years have been triggered by deficiencies in the financial system, the Argentine crisis of 2001-2002 demonstrates that even a prudential regulatory and supervisory system that effectively restricts risk taking may not be enough to prevent devastating crises if fiscal policy spins out of control.<sup>39</sup> Fiscal reform to ensure that this doesn't happen is thus another key to preventing financial crises in emerging market countries. Fiscal reform takes several forms.

First, provincial or state governments must not be bailed out by the central government when they can't pay their bills. Knowing that the central government will come to the rescue, the provinces (states) then have every incentive to overspend because they can put the burden onto the taxpayers in other provinces. This is just another manifestation of moral hazard and the free-rider problem at work, but in this case it applies to governments and not the private sectors. When provinces spend far more than their revenue and then go to the central government to fund their deficits, the central government will print money to pay the bills of the provinces (leading to hyperinflation), or it can lead to a default on the government debt which triggers a financial crisis. Both outcomes have occurred in Argentina.

Having a no-bail-out rule for state and local governments is therefore a critical reform for emerging market countries in which the consequences of high government fiscal imbalances can trigger a financial crisis. Alternatively, budget rules can be set up for state and local governments, preventing them from running large deficits. Indeed, this is exactly what the members of the European Monetary Union have done with their Growth and Stability Pact which limits member states to maximum budget deficits of 3% of GDP. However, as has become clear in Europe recently with France and Germany violating this limit, enforcement of budget rules of this type may not be easy.

Another necessary reform to keep fiscal imbalances from triggering crises is budget rules that increase transparency. Fiscal policy gets out of control in emerging market countries because the government's fiscal accounts are nontransparent. If the public has no idea what the government is spending – a clear cut information asymmetry – then it is hard for them to constrain politicians who can spend money on projects that reward their family, friends or constituents who will fill the politicians campaign coffers. Such “pork barrel” spending is not restricted just

<sup>39</sup> E.g., see Mussa (2002), Jonas (2002), De la Torre, Eduardo Yeyati, and Schmukler, (2003) and Chapter 7 of Mishkin (2006).

to emerging market countries, but occurs in advanced countries as well. There is typically far less transparency in emerging market countries, however, and this is why their fiscal problems are generally far worse.

Increasing transparency by eliminating numerous special accounts and consolidating all fiscal activities under one bottom-line measure that summarizes the total government budget situation is one step in this direction. In addition, fiscal rules, like balanced budget amendments, can be put in place to ensure fiscal responsibility. However, rules of this type can be manipulated and thus require a high degree of budget transparency to work. Also giving more power to chief executives or finance ministers to control spending can help to constrain the tendencies of different parts of the government to push their pet spending projects,<sup>40</sup> which otherwise would lead to large budget deficits.<sup>41</sup>

### **3 The monetary policy framework should promote price stability**

It is important to recognize that monetary policy can play an important role in promoting financial stability. Price stability which entails a low inflation rate is a worthy goal in its own right. Not only do public opinion surveys indicate that the public is very hostile to inflation, but there is also strong evidence that inflation is harmful to the economy. Inflation, particularly at high levels, is found to be negatively associated with growth, while at lower levels, inflation is found to lower the level of economic activity, although not necessarily the growth rate.<sup>42</sup> Empirical evidence also indicates that price stability helps promote financial deepening, with all the benefits it brings, such as a lower cost of capital, higher economic growth and a reduction of poverty (Boyd, Levine and Smith (2001) and Kamil and Izquierdo (2004).

Our understanding of the causes of financial crises provides additional reasons why price stability is so important. When countries have a past history of high inflation, debt contracts are often denominated in foreign currencies (De Nicolo, Honohan and Ize, 2003, and Inter-American Development Bank, 2005, and Honig, 2003), a factor that makes the financial system more fragile because currency depreciation can trigger a financial crisis. Achieving price stability is a necessary condition for having a sound currency, and with a sound currency, it is far easier for banks, nonfinancial firms and the government to raise capital with debt de-

---

<sup>40</sup> Evidence that giving more power to chief executives or finance ministers to control spending produces better fiscal outcomes can be found in Alesina, Hausmann, Hommes, and Stein (1996) and von Hagen and Harden (1994).

<sup>41</sup> For further discussion of fiscal reforms, see Poterba and von Hagen (1999).

<sup>42</sup> See the survey in Anderson and Gruen (1995) and Fischer (1993), one of the most cited papers in this literature.

nominated in domestic currency. Israel, for example, went from above 50% dollarization of its bank deposits in the mid 1980s to less than 10% by the mid 1990s after a decade of achieving low and stable inflation and fiscal consolidation (Galindo and Leiderman, 2003). Thus another method for reducing an economy's dependence on foreign-denominated debt and thereby reducing currency mismatches and enhancing financial stability is the successful pursuit of price stability.

What reforms can help emerging market countries achieve price stability? The fiscal reforms mentioned above are key because if fiscal imbalances get too large, governments resort to printing money to finance their deficits, and inflation will take off. Indeed, the primary reason that emerging market countries often have such a bad historical experience with inflation is because they have so often pursued irresponsible fiscal policy. Central banks also need to be insulated from the political process because politicians typically focus on the short-run creation of jobs and often push central banks to pursue expansionary policy to create them. The result is that inflation rises, which harms the economy in the long-run and thus eventually hurts workers rather than helping them. Granting the central bank independence so that it can set monetary policy instruments without political interference can help it to focus on the longer-run goal of containing inflation. In addition, giving the central bank a mandate to pursue price stability as its overriding, long-run goal can provide more political support for the central bank to control inflation. Also, as I have advocated in a large body of my research (Mishkin, 1999, 2000a, 2000b, 2001, forthcoming, Mishkin and Miguel Savastano, 2001, Schmidt-Hebbel and Mishkin, 2002, Jonas and Mishkin, 2005, and Bernanke et al., 1999), having the government and the central bank commit to achieving an explicit numerical goal for inflation (an *inflation target*) can help anchor inflation expectations and increase the probability that the central bank will pursue the price stability goal seriously. The improved control of inflation and the resulting reduction of liability dollarization promotes financial stability.

#### 4 Pegging the exchange rate can be dangerous

Pegged exchange rate regimes, in which the domestic currency is pegged to a foreign currency like the U.S. dollar, have often been used by emerging market countries to promote price stability. Although often successful in bring inflation down, pegged exchange rate regimes have been a common element in emerging market countries that have experienced financial crises. A pegged exchange rate regime appears to encourage liability dollarization, which makes the economy highly vulnerable to harmful effects from depreciation of the domestic currency. By providing a more stable value of the currency, an exchange-rate peg can lower the perceived risk for foreign investors and thus encourage capital inflows. Al-

though these capital inflows might be channeled into productive investments and stimulate growth, the presence of a government safety net and weak bank supervision can lead instead to excessive lending. An outcome of the capital inflow is then likely to be a lending boom, an explosion of non-performing loans and an eventual financial crisis.

A pegged exchange rate regime also can also make it easier for countries to tap foreign markets for credit and so make it easier for the government to engage in irresponsible fiscal policy because it is easier for it to sell its debt. Argentina again provides a graphic example of this problem: when its fiscal policy became unsustainable, it provoked a disastrous crisis that pushed it into a great depression.

Pegged exchange-rate regimes are subject to speculative attacks and if these attacks are successful, the collapse of the domestic currency is usually much larger, more rapid and more unanticipated than when a depreciation occurs under a floating exchange-rate regime. The pegged regime makes an emerging market economy especially vulnerable to twin crises, in which the currency collapse, destroys firms' and households' balance sheets, which then provokes a financial crisis and a sharp economic contraction. Countries exiting from pegged exchange rate regimes are more prone to higher-cost financial crises and large declines in output the longer the exchange rate peg has been in place (Aizenman and Glick, 2005, Eichengreen, 1999, and Eichengreen and Masson, 1998).

The dangers of pegged exchange rate regimes are so clear that most emerging market countries would be far better off avoiding exchange rate pegs and instead adopting a flexible exchange rate regime, in which the exchange rate is allowed to fluctuate on a daily basis. As the former First Deputy Managing Director of the IMF, Stan Fischer (2003), put it: "The adoption of flexible exchange rate systems by most emerging market countries is by far the most important emerging market crisis prevention measure ..." A flexible exchange rate regime has the advantage that movements in the exchange rate are much less nonlinear than in a pegged exchange rate regime. Indeed, the daily fluctuations in the exchange rate in a flexible exchange rate regime have the advantage of making clear to private firms, banks, and governments that there is substantial risk involved in issuing liabilities denominated in foreign currencies. Furthermore, a depreciation of the exchange rate may provide an early warning signal to policymakers that their policies may have to be adjusted to limit the potential for a financial crisis.<sup>43</sup>

Flexible exchange rate regimes do not prevent negative consequences of exchange rate volatility, because liability dollarization does not disappear entirely and a currency depreciation can still damage balance sheets and harm the econ-

---

<sup>43</sup> For additional criticisms of pegged exchange rate regimes, see Obstfeld and Rogoff (1995), Eichengreen (1996), and Levy-Yeyati and Sturzenegger (2003).

omy. Nevertheless, lightly burned fingers are better than death from conflagrations.<sup>44</sup>

The conclusion is that a pegged exchange rate regime, which is only backed up by a government announcement of the peg and not by a firmer institutional commitment is likely to increase financial instability in emerging market countries. This is why I have advocated in my academic writings the adoption of a flexible exchange rate regime for most emerging market countries, but with a strong commitment to controlling inflation with an inflation target.<sup>45</sup>

Pegged exchange rates are not always inappropriate, however, and advocacy of flexible exchange rate regimes can be taken too far. As Paul Volcker (1998), a former Chairman of the Federal Reserve has put it, “We still hear the siren song that somehow floating exchange rates will solve the problem. That seems to me a strange and sad refrain.”

In emerging market countries whose political and monetary institutions are particularly weak and who therefore have a history of continual bouts of very high inflation, fixing the exchange rate relative to a sound currency may be the only way to break inflationary psychology and stabilize the economy. This consideration has driven some economists to suggest that there might be times when a strong commitment to a fixed exchange rate (either through a currency board or through full dollarization in which the country abandons its currency and adopts a foreign currency like the dollar as its money) might be necessary (Calvo and Reinhart, 2000, Mishkin and Savastano (2003) and McKinnon and Schnabl, 2004).

However, as I have argued above and in Mishkin and Calvo (2003), the choice of exchange rate regime, whether a fixed or flexible one, is likely to be of secondary importance to the development of good financial, fiscal, and monetary institutions in producing economic success in emerging market countries.<sup>46</sup> When countries have placed their hopes for institutional development on adoption of a particular exchange rate regime, as the Argentineans did when they adopted the Convertibility Plan, they have been sorely disappointed. Placing too much emphasis on a particular choice of exchange rate regime can actually be harmful because it may reduce the focus on pursuit of institutional reforms that are so critical to successful financial globalization, reforms such as improved bank and financial sector regulation, fiscal restraint, building consensus for a sustainable and predictable monetary policy, and increasing openness to trade.

---

<sup>44</sup> This phrase was suggested to me by David Archer.

<sup>45</sup> See for example, Mishkin (1998, 2000a). I lean to the position taken by Goldstein (2002) who advocates flexible exchange rates, inflation targeting and prudential measures to limit currency mismatch.

<sup>46</sup> For a similar view that more focus needs to be on improving fundamental institutions rather than on exchange rate regimes, see de la Torre, Levy-Yeyati and Schmukler (2002).

## 5 Open up to international trade

Opening up to foreign trade is another measure that can not only make financial crises less likely, but also less severe. When a country experiences a sudden stop of capital inflows, it can no longer finance its net purchase of foreign goods and services and so must increase its net exports (the difference between its exports and imports). The value of the currency must then fall to increase the demand for exports by making them cheaper and decrease the domestic demand for imports by making them more expensive. In this way, net exports increase. When a country is more open to trade, exports and imports are a larger percentage of GDP, and net exports can more easily adjust for a given change in the exchange rate. When there is a sudden stop of capital flows, a country that is more open to international trade will have less downward pressure on its currency and will be more likely to avoid a currency crisis. In addition, an economy open to trade has more firms exporting goods and services that are priced in foreign currency. When a depreciation occurs, even if firms have debt denominated in foreign currency, the prices of the goods and services they produce rises in terms of domestic currency. When the domestic currency depreciates, the resulting rise in the domestic-currency value of firms' assets then offsets the increase in the foreign-currency denominated value of their debt so a depreciation has less impact on the balance sheets of domestic firms.

Trade openness, therefore, not only reduces the likelihood of a currency crisis, but also makes it less likely that a currency crisis will trigger a severe financial crisis. Empirical research bears this out. Countries that are more open to trade are less likely to experience currency crises and when they experience sudden stops of capital flows, the size of the output contraction is smaller (Calvo, Izquierdo and Talvi, 2003, Frankel and Cavallo, 2004, Frankel, 2005, Edwards, 2004a, 2005, and Desai, Foley and Hines, 2005). Trade openness has the desirable feature that it promotes financial development, which is so necessary for economic growth.<sup>47</sup> The fact that trade openness also makes financial crises less likely and less severe should make trade openness a top priority for developing countries.

### **How can the international community encourage emerging market countries to adopt necessary reforms**

To harness the power of financial globalization, emerging market countries have a difficult task. We have seen that they have to adopt a number of reforms to get their financial systems to work properly. First steps involve developing strong prop-

---

<sup>47</sup> This is discussed more extensively in Chapter 3 of Mishkin (2006).

erty rights by strengthening the legal system and rule of law, reducing corruption, and improving the quality of financial information and corporate governance. But this is not enough. They further need to develop a prudential regulatory and supervisory system for their financial institutions that prevents financial instability. The list of reforms to accomplish this is long: limit currency mismatch; restrict connected lending, ensure that banks have plenty of capital and have good risk management; encourage disclosure and market discipline of financial institutions; implement prompt corrective action; limit too big to fail; give adequate resources and statutory authority for prudential regulators/supervisors, but make them accountable; get the government out of directing credit and the banking business; allow entry of foreign banks, reform fiscal policy to prevent excessive budget deficits; and adopt a monetary policy framework that promotes price stability.

Implementing these reforms in emerging market countries is a long hard path and there are powerful forces that work to block reform. Business elites in emerging market countries benefit from such practices as connected lending, which provides their businesses with cheap sources of finance. They also want weak prudential regulation and supervision of banks they own. Again, globalization can help. As pointed out by Rajan and Zingales (2003), globalization increases competition, which weakens domestic elites who often block reforms and regulations that make the financial system safer and work better. Globalization also promotes domestic industries that require more capital, who have an interest in reforming the financial sector so that financial crises become less likely. Globalization thus needs to be seen in emerging market countries as an important driver of needed institutional reforms.

But how can the international community help? This is a complex topic that I discuss extensively in Mishkin (2006),<sup>48</sup> but I will touch on it briefly here. The key is to provide the right incentives to encourage institutional development in emerging market countries.

Currently, the IMF and the World Bank typically find it hard to deny loans to governments in the less-developed world that misallocate the funds or refuse to develop the institutions that are needed to make the nation's economy successful. The inability to "just say no" creates exactly the wrong kind of incentives for ill-run nations. Money should be used as a carrot to help poorer countries develop good institutions. If a government in one of these countries is unwilling to do this, it must be cut off. The IMF and the World Bank must learn to just say "no". This sounds harsh, but it is better to engage in "tough love" rather than to encourage countries to go down the wrong path.

The international financial institutions such as the IMF and World Bank and other governmental organizations in the rich countries (like the G7) have also

---

<sup>48</sup> Especially in chapters 11 and 12.

had a tendency to impose institutions on less-developed countries patterned after those that have worked well in advanced countries. Furthermore, the international financial institutions and governments in the advanced countries have often pushed standard “one size fits all” prescriptions for less-developed countries such as complete abolition of capital controls. The IMF is greatly resented in the less-developed world, because the standard prescriptions often do not work and also have a strong element of hypocrisy because many of the prescriptions imposed on the less-developed countries are not followed by the rich countries.

The international financial institutions can help in several ways. Although less-developed countries need to develop their own institutional frameworks to make globalization work, there is a lot of expertise in institutions like the IMF and the World Bank that these countries could draw on. Technical assistance from these organizations can thus be of great value and indeed has been, as occurred in South Korea after their financial crisis. The right incentives from the international financial institutions can also help encourage elements in the less-developed countries overcome special interest who may block good institutional development.

But what can advanced countries do to help promote institutional development? The answer is opening up our markets to goods and services from emerging market countries. By so doing, rich countries can provide exactly the right incentives to promote institutional reforms that will improve the functioning of financial markets. If firms in emerging market countries have access to foreign markets, their increased need for capital means that they will demand that the legal system be better at enforcing property rights and financial contracts that will enable them to borrow. Similarly these growing, exporting firms will want to see improvements in the availability and quality of information because fewer asymmetric information problems will make it easier for them to get loans. They will also be more supportive of improvements in prudential supervision since a more efficient banking system can be a source of credit. Thus opening up the markets in the advanced countries to emerging market countries is the single most valuable thing the developed world can do to promote the financial reforms. In turn, financial reforms can increase financial deepening and help allocate capital to its most productive uses.

More open trade with emerging market firms can also help promote financial stability and reduce the likelihood and severity of financial crises in emerging market countries by increasing the size of the export sector in these countries (Calvo, Izquierdo and Mejia, 2004, Calvo, Izquierdo and Talvi, 2003, Calvo and Talvi (2005), Edwards, 2004a,b, Frankel and Cavallo, 2004). Having debt denominated in foreign currency makes firms more vulnerable to currency depreciations when the goods they produce are sold primarily in domestic markets and so are priced in the local currency. Under these circumstances, a domestic currency depreciation increases the value of their foreign-currency denominated debt in terms of

the local currency, while the domestic currency value of their output remains unchanged. The discrepancy between the increase in what they have to pay on their debt (liabilities) and what their product sales will bring in (assets) is what destroys their balance sheets. However, if the firm is selling its goods abroad, when there is a depreciation, the demand for the goods they produce rises in terms of local currency, so that the value of their production goes up, thus compensating for the increased value of the debt. When an emerging market country's export sector is larger, it is less vulnerable to a financial crisis because a currency depreciation will do less damage to the balance sheets of firms. Indeed, one of the reasons why Argentina was so hard hit by the collapse of its currency in 2001 was that it had such a small export sector.

## Concluding remarks

Is making financial globalization work for emerging market countries without causing financial instability easy to accomplish? Far from it. It is extremely difficult because it requires development of institutions that took advanced countries a long time to develop. Furthermore it requires getting the political process in poor countries to support institutional reform.

This paper does not come up with easy answers to getting globalization right and promoting financial stability. Globalization and promoting financial stability requires hard work on the part of emerging market countries. All that we can do in the advanced countries is to provide incentives to encourage businesses, policy makers, politicians and ordinary citizens to support the kind of institutional development that will promote economic growth in poor countries. Opening up our markets to emerging market countries is the single most valuable way that the international community can help emerging market economies become successful. Although providing more aid to poor countries seems like a good way to stimulate growth and eradicate poverty, it rarely works. It usually does not create the right incentives to promote economic growth (Easterly, 2001). International financial institutions like the IMF and the World Bank can also help by providing technical assistance and incentives to pursue financial reforms by providing funds to countries that are serious about developing and supervising their financial systems, while denying funds to those countries that are not.

## References

- ALEJANDRO, CARLOS DIAZ. 1985. "Goodbye Financial Repression: Hello Financial Crisis," *Journal of Development Economics* vol. 19, no. 1-2: 1-24.
- ALLEN, MARK; ROSENBERG, CHRISTOPHER; KELLER, CHRISTIAN; SETSER, BRAD and NOURIEL ROUBINI. 2002. "A Balance-Sheet Approach to Financial Crisis," IMF Working Paper 02/210 (December) Washington: International Monetary Fund.
- AIZENMAN, JOSHUA and REUVEN GLICK. 2005. "Pegged Exchange Rate Regimes – A Trap?" National Bureau of Economic Research Working Paper 11652, September.
- ANDERSON, P., and DAVID GRUEN. 1995. "Macroeconomic Policies and Growth" in Palle Anderson, Jacqui Dwyer and David Gruen, eds., *Productivity and Growth* (Reserve Bank of Australia: Sydney): 279-319.
- BANCO CENTRAL DE LA REPUBLICA ARGENTINA. 1997. "Main Features of the Regulatory Framework of the Argentine Financial System," mimeo., April. Charles W. Calomiris, Charles W. "Evaluation of Argentina's Banking Sector, 1991-1998," Columbia University mimeo. (1998).
- BARTH, JAMES R.; CAPRIO, GERARD and ROSS LEVINE, *Rethinking Bank Regulation and Supervision: Till Angels Govern* (Cambridge University Press: Cambridge, 2005).
- BEKAERT, GEERT; CAMPBELL R. HARVEY and ROBIN L. LUMSDAINE. 1998. "Dating the Integration of World Equity Markets," NBER Working Paper 6724, September.
- BERNANKE, BEN S.; LAUBACH, THOMAS; MISHKIN, FREDERIC S. and ADAM S. POSEN. 1999. *Inflation Targeting: Lessons from the International Experience* (Princeton University Press: Princeton).
- BOYD, JOHN and MARK GERTLER. 1993. "U.S. Commercial Banking: Trends, Cycles and Policy," *NBER Macroeconomics Annual*: 319-368.
- BOYD, JOHN H.; ROSS LEVINE and BRUCE D. SMITH. 2001. "The Impact of Inflation on Financial Sector Performance," *Journal of Monetary Economics*, 47(2), April: 221-48.
- BRODA, CHRISTIAN and EDUARDO LEVY-YEYATI. 2003. "Endogenous Deposit Dollarization," Federal Reserve Bank of New York Staff Reports No. 160.
- CABALLERO, RICARDO and ARVIND KRISHNAMURTHY. 2003. "Excessive Dollar Debt: Financial Development and Underinsurance," *Journal of Finance* vol. 58, no. 2: 867-93.
- CALOMIRIS, CHARLES W. 1998. "Evaluation of Argentina's Banking Sector, 1991-1998," Columbia University mimeo.
- CALOMIRIS, CHARLES; KLINGEBIEL, DANIELA and LUC LAEVEN. 2003. "A Taxonomy of Financial Crisis Restructuring Mechanisms: Cross-Country Experience and Policy Implications," Columbia University mimeo. September, forthcoming in Luc Laeven, ed., *Systemic Financial Distress*.
- CALOMIRIS, CHARLES W. and ANDREW POWELL. 2001. "Can Emerging Market Bank Regulators Establish Credible Discipline? The Case of Argentina, 1992-99", in Frederic S. Mishkin, ed., *Prudential Supervision: What Works and What Doesn't* (University of Chicago Press: Chicago, 2001).
- CALVO, GUILLERMO; IZQUIERDO, ALEJANDRO and LUIS-FERNANDO MEJIA. 2004. "On the Empirics of Sudden Stops: The Relevance of Balance-Sheet Effects," National Bureau of Economic Research Working Paper No. 10520 (May).

- CALVO, GUILLERMO A.; ALEJANDRO IZQUIERDO and ERNESTO TALVI. 2003. "Sudden Stops, the Real Exchange Rate, and Fiscal Sustainability: Argentina's Lessons," National Bureau of Economic Research Working Paper No. 9828.
- CALVO, GUILLERMO and FREDERIC S. MISHKIN. 2003. "The Mirage of Exchange Rate Regimes for Emerging Market Countries," *Journal of Economic Perspectives*, 17(4), Fall: 99-118.
- CALVO, GUILLERMO and CARMEN REINHART. 2000. "When Capital Inflows Come to a Sudden Stop: Consequences and Policy Options," in Peter Kenen and Alexander Swoboda, eds., *Reforming the International Monetary and Financial System*. International Monetary Fund: Wash. D.C.: 175-201.
- CALVO, GUILLERMO and ERNESTO TALVI. 2005. "Sudden Stop, Financial Factors and Economic Collapse in Latin America: Learning from Argentina and Chile," NBER Working Paper No. 11153 (February).
- CAPRIO, GERARD and PATRICK HONOHAN. 1999. "Restoring Banking Stability: Beyond Supervised Capital Requirements," *Journal of Economic Perspectives*, vol. 13, no. 4 (Fall): 43-64.
- CLARKE, GEORGE R; CULL, ROBERT; D'AMATO, LAURA and ANDREA MOLINARI. 2000. "The Effect of Foreign Entry on Argentina's Domestic Banking Sector," in Stijn Claessens and Marion Jansen, eds. *The Internationalization of Financial Services: Issues and Lessons for Developing Countries* (Dordrecht, Holland: Kluwer).
- CLARKE, GEORGE; CULL, ROBERT and MARIA SOLEDAD MARTINEZ PERIA. 2001. "Does Foreign Bank Penetration Reduce Access to Credit in Developing Countries? Evidence from Asking Borrowers," World Bank Policy Research Working Paper 2716.
- COWAN, K., KAMIL, H. and A. IZQUIERDO. 2004. "Macroeconomic Determinants of Dollarization: A New Look at the Evidence," Inter-American Development Bank mimeo.
- CRYSTAL, JENNIFER S.; DAGES, GERARD and LINDA GOLDBERG. 2001. "Does Foreign Ownership Contribute to Sounder Banks in Emerging Markets? The Latin American Experience," in Robert Litan, Paul Masson and M. Pomerleano, eds., *Open Doors: Foreign Participation in Financial Systems in Developing Countries* (Brookings Institution Press: Wash. D.C.): 217-266.
- CULL, ROBERT; SENBET, LEMMA W. and MARCO SORGE. 2001. "Deposit Insurance and Financial Development," Policy Research Working Paper no. 2682 World Bank, Wash. D.C.
- DE LA TORRE, AUGUSTO; LEVY-YEYATI, EDUARDO and SERGIO L. SCHMUKLER. 2002. "Financial Globalization: Unequal Blessings," *International Finance* vol. 5, no. 3: 335-57.
- DE LA TORRE, AUGUSTO and SERGIO L. SCHMUKLER. 2003. "Coping with Risk Through Mismatches: Domestic and International Financial Contracts for Emerging Economies," World Bank mimeo, December 17.
- DE LA TORRE, AUGUSTO; LEVY-YEYATI, EDUARDO and SERGIO L. SCHMUKLER. 2003. "Living and Dying with Hard Pegs: The Rise and Fall of Argentina's Currency Board," *Economia* (Spring): 43-107.
- DEMIRGUC-KUNT, ASLI and ENRICA DETRAGIACHE. 2002. "Does Deposit Insurance Increase Banking System Stability," *Journal of Monetary Economics* vol. 49, no. 7: 1373-1406.

- DEMIRGUC-KUNT, ASLI and EDWARD J. KANE. 2002. "Deposit Insurance Around the Globe: Where Does it Work," *Journal of Economic Perspectives*, vol. 16, no. 2 (Spring: 175-95).
- DEMIRGUC-KUNT, ASLI ROSS and HONG G. MIN, HONG G. 1998. "Opening to Foreign Banks: Issues of Efficiency, Stability, and Growth" in Seongtae Lee, editor, *The Implications of Globalization of World Financial Markets*, Bank of Korea: Seoul, Korea.
- DESAI, MIHIR; C. FRITZ FOLEY and JAMES R. HINES, JR. 2005. "Capital Controls, Liberalizations and Foreign Direct Investment," National Bureau of Economic Research Working Paper 10337 (March).
- DE NICOLO, G.; HONOHAN, PATRICK and ALAIN IZE. 2003. "Dollarization of the Banking System: Good or Bad?" IMF Working Paper no. 03/146.
- DE SOTO, HERNANDO. 2000. *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else* (Basic Books: New York, 2000), pp. 105-151.
- EASTERLY, WILLIAM. 2001. *The Elusive Quest for Growth: Economists' Adventures and Misadventures in the Tropics* (MIT Press: Cambridge, Mass. 2001).
- EDWARDS, SEBASTIAN. 2004a. "Thirty Years of Current Account Imbalances, Current Account Reversals and Sudden Stops," NBER WP 10276 January.
- EDWARDS, SEBASTIAN. 2004b. "Financial Openness, Sudden Stops and Current Account Reversals," NBER WP 10277, February.
- EDWARDS, SEBASTIAN. 2005. "Capital Controls, Sudden Stops and Current Account Reversals," NBER Working Paper No. 11170, March.
- EICHENGREEN, BARRY. 1996. *Globalizing Capital: A History of the International Monetary System*. Princeton: Princeton University Press.
- EICHENGREEN, BARRY. 1999. "Kicking the Habit: Moving from Pegged Exchange Rates to Greater Exchange Rate Flexibility," *Economic Journal*, 109, March: C1-C14.
- EICHENGREEN, BARRY. 2002. *Financial Crises* (Oxford University Press: New York).
- EICHENGREEN, BARRY and PAUL MASSON. 1998. "Exit Strategies: Policy Options for Countries Seeking Greater Exchange Rate Flexibility," International Monetary Fund Occasional Paper No. 98/168.
- FISCHER, STANLEY. 1993. "The Role of Macroeconomic Factors in Growth." *Journal of Monetary Economics* 32: 485-512, one of the most cited papers in this literature.
- FOLKERTS-LANDAU, DAVID; GARY J. SCHINASI; M. CASSARD, V. K. NG; CARMEN M. REINHART and M. G. SPENCER. 1995. "Effect of Capital Flows on the Domestic Financial Sectors in APEC Developing Countries," in *Capital Flows in the APEC Region*, in Moshin S. Khan and Carmen M. Reinhart, eds., International Monetary Fund: Washington, D.C.: 31-57.
- FRANKEL, JEFFREY. 2005. "Contractionary Currency Crashes in Developing Countries," National Bureau of Economic Research Working Paper 11508, July.
- FRANKEL, JEFFREY and EDUARDO A. CAVALLO. 2004. "Does Openness to Trade Make Countries More Vulnerable to Sudden Stops or Less? Using Gravity to Establish Causality," National Bureau of Economic Research Working Paper 10957, December.
- GALINDO, ARTURO and LEONARDO LEIDERMAN. 2003. "Living with Dollarization and the Route to Dedollarization," paper prepared for IDB/World Bank Conference, Financial Dedollarization: Policy Options, Washington, D.C., December 1-2.
- GOLDBERG, LINDA. 2004. "Financial Sector FDI and Host Countries: New and Old Lessons," Federal Reserve Bank of New York Staff Reports No. 183, April.

- GOLDBERG, LINDA; DAGES, GERARD and DANIEL KINNEY. 2000. "Foreign and Domestic Bank Participation in Emerging Markets: Lessons from Mexico and Argentina," Federal Reserve Bank of New York, *Economic Policy Review*, vol. 6. no. 3: 17-36.
- GOLDSTEIN, MORRIS and PHILIP TURNER. 1996. *Banking Crises in Emerging Economies: Origins and Policy Options*, BIS Economic Papers No. 46, October (Bank for International Settlements: Basle).
- GOLDSTEIN, MORRIS and PHILIP TURNER. 2004. *Controlling Currency Mismatches in Emerging Markets* (Institute for International Economics: Washington, D.C. April).
- HAHM, JOON-HO and FREDERIC S. MISHKIN. 2000. "The Korean Financial Crisis: An Asymmetric Information Perspective," *Emerging Markets Review*, Vol.1, #1: 21-52.
- HALEC, MARINA and SERGIO SCHMUKLER. 2003. "Distributional Effects of Crises: The Role of Financial Transfers," World Bank Policy Research Paper 3173 (October).
- HENRY, PETER BLAIR. 2000a. "Equity Prices, Stock Market Liberalization, and Investment," *Journal of Financial Economics* 58(1-2): 301-34.
- HENRY, PETER BLAIR. 2000b. "Stock Market Liberalization, Economic Reform, and Emerging Market Equity Prices," *Journal of Finance* 55(2), April: 529-64.
- HERRERA, LUIS O. and RODRIGO O. VALDES. 2003. "Dedollarization, Indexation and Nominalization: the Chilean Experience," Banco Central de Chile manuscript, November.
- HONIG, ADAM. 2003. "Dollarization, Exchange Rate Regimes and Government Myopia." mimeographed, Columbia University, March.
- INTER-AMERICAN DEVELOPMENT BANK. 2005. *Unlocking Credit: The Quest for Deep and Stable Bank Lending*, 2005 Report, Economic and Social Progress in Latin America (Inter-American Development Bank and Johns Hopkins University Press, Wash. D.C.)
- IRWIN, GREGOR GILBERT, CHRISTOPHER L. and DAVID VINES. 2004. "How Should the IMF View Capital Controls?" in David Vines and Christopher L. Gilbert, eds., *The IMF and its Critics: Reform of Global Financial Architecture* (Cambridge University Press: Cambridge, UK): pp. 181-206.
- IZE, ALAIN and EDUARDO LEVY-YEYATI. 2003. "Financial Dollarization," *Journal of International Economics*, vol. 59: 232-47.
- JAPELLI, TULLIO and MARCO PAGANO. 2001. "Information Sharing in Credit Markets: Theory and Evidence," in Marco Pagano, ed. *Defusing Default: Incentives and Institutions* (Inter-American Development Bank: Wash. D.C.)
- LEVINE, ROSS. 2004. "Finance and Growth," National Bureau Working Paper 10779 (September 2004), forthcoming in Philippe Aghion and Steven N. Durlauf eds. *Handbook of Economic Growth* (North Holland).
- JONAS, JIRI. 2002. "Argentina's Crisis and its Implications for the Exchange Rate Regime Debate," IMF mimeo. June.
- JONAS, JIRI and FREDERIC S. MISHKIN. 2005. "Inflation Targeting in Transition Countries: Experience and Prospects," in Michael Woodford, ed., *Inflation Targeting* (University of Chicago Press: Chicago): 353-413.
- KAMINSKY, GRACIELA L. and SERGIO L. SCHMUKLER. 2003. "Short-Run Pain, Long-Run Gain: The Effects of Financial Liberalization," NBER Working Paper No. 9787 (June).
- KANE, EDWARD. 1989. *The S&L Insurance Mess: How Did it Happen?* (Urban Institute Press: Wash. D.C.)

- KANE, EDWARD. 2000. "How Offshore Financial Competition Disciplines Exit Resistance by Incentive-Conflicted Bank Regulators," *Journal of Financial Services Research* vol. 17, no. 1, pp. 265-91.
- KRIVOY, RUTH. 2000. "Reforming Bank Supervision in Developing Countries," in Eric S. Rosengren and John S. Jordan, eds., *Building on Infrastructure for Financial Stability*, Conference Series 44 (Federal Reserve Bank of Boston: Boston, June): 113-33.
- KROSZNER, RANDALL. 1998. "On the Political Economy of Banking and Financial Regulatory Reform in Emerging Markets," *Research in Financial Services* vol. 10: 33-51.
- KRUEGER, ANNE. 2000. "Conflicting Demands on the International Monetary Fund," *American Economic Review*, 90 (2): 38-42.
- LA PORTA, RAFAEL; LOPEZ-DE-SILANES, FLORENCIO and GUILLERMO ZAMARIPPA. 2003. "Related Lending," *Quarterly Journal of Economics* 118 (February): 231-68.
- LEVINE, ROSS. 1996. "Foreign Banks, Financial Development and Economic Growth," in Claude E. Barfield, ed., *International Financial Markets: Harmonization versus Competition* (AEI Press: Washington, D.C.): 224-255.
- LEVINE, ROSS, and SARA ZERVOS. 1998. "Capital Control Liberalization and Stock Market Development," *World Development*, 26: 1169-84.
- LEVY-YEYATI, EDUARDO. 2003. "Financial Dollarization: Where Do We Stand?" Paper presented at the IDB/World Bank Conference, Financial Dedollarization: Policy Options, December 1-2, Washington, D.C.
- LEVY-YEYATI, EDUARDO and FEDERICO STURZENEGGER. 2003, "To Float or to Fix: Evidence on the Impact of Exchange Rate Regimes on Growth," *American Economic Review*, vol. 93, 4.
- MCKINNON, RONALD and GUTHER SCHNABL. 2004. "The East Asian Dollar Standard, Fear of Floating and Original Sin," *Review of Development Economics*, vol 8, no. 3 (August), pp. 331-360.
- MILLER, MARGARET J. ed., 2003. *Credit Reporting Systems and the International Economy* (MIT Press: Cambridge, Mass.)
- MISHKIN, FREDERIC S. 1997. "Evaluating FDICIA" in George Kaufman, ed., *Research in Financial Services: Private and Public Policy*, Vol. 9 FDICIA: *Bank Reform Five Years Later and Five Years Ahead* (JAI Press: Greenwich, Conn): 17-33.
- MISHKIN, FREDERIC S. 1998. "The Dangers of Exchange Rate Pegging in Emerging-Market Countries" *International Finance*, 1(1), October: 81-101.
- MISHKIN, FREDERIC S. 1999. "International Experiences with Different Monetary Policy Regimes," *Journal of Monetary Economics*, Vol. 43, #3 (June): 579-606.
- MISHKIN, FREDERIC S. 2000a. "Inflation Targeting in Emerging Market Countries," *American Economic Review* (May), Vol. 90, #2, pp. 105-109.
- MISHKIN, FREDERIC S. 2000b. "What Should Central Banks Do?" Federal Reserve Bank of St. Louis *Review*, vol. 82, #6 (November/December), pp. 1-13.
- MISHKIN, FREDERIC S. 2003. "Financial Policies and the Prevention of Financial Crises in Emerging Market Countries," in Martin Feldstein, ed., *Economic and Financial Crises in Emerging Market Countries* (University of Chicago Press: Chicago): 93-130.
- MISHKIN, FREDERIC S. 2005a. "Is Financial Globalization Beneficial?" NBER Working Paper No. 11891 (December), forthcoming in *Journal of Money Credit and Banking*.
- MISHKIN, FREDERIC S. 2005b. "How Big A Problem is Too Big to Fail?" NBER Working Paper No. 11814 (December) forthcoming in *Journal of Economic Literature*.

- MISHKIN, FREDERIC S. 2006. *The Next Great Globalization: How Disadvantaged Nations Can Harness Their Financial Systems to Get Rich* (Princeton University Press: Princeton, N.J.)
- MISHKIN, FREDERIC S. Forthcoming. "Can Inflation Targeting Work in Emerging Market Countries?" in Carmen Reinhart, Carlos Vegh and Andres Velasco, eds., *A Festschrift for Guillermo Calvo* (MIT Press: Cambridge, Mass.)
- MISHKIN, FREDERIC S. and MIGUEL SAVASTANO. 2001. "Monetary Policy Strategies for Latin America," *Journal of Development Economics*, 66, 2 (December): 415-444.
- MISHKIN, FREDERIC S. and KLAUS SCHMIDT-HEBBEL. 2002. "One Decade of Inflation Targeting in the World: What Do We Know and What Do We Need to Know?" in Norman Loayza and Raimundo Soto, eds., *Inflation Targeting: Design, Performance, Challenges* (Central Bank of Chile: Santiago): 171-21.
- MUSSA, MICHAEL. 2002. *Argentina and the Fund: From Triumph to Tragedy*, (Institute for International Economics: Washington, D.C.)
- OBSTFELD, MAURICE and KENNETH ROGOFF. 1995. "The Mirage of Fixed Exchange Rates," *Journal of Economic Perspectives*, 9(4), Fall: 73-96.
- POTERBA, JAMES and JURGEN VON HAGEN, eds. 1999. *Fiscal Institutions and Fiscal Performance*, (University of Chicago Press: Chicago).
- RAJAN, RAGHURAM G. and LUIGI ZINGALES. 2003. *Saving Capitalism from the Capitalists: Unleashing the Power of Financial Markets to Create Wealth and Spread Opportunity* (Crown Business: New York).
- RANCIERE, ROMAN; TORNELL, AARON and FRANK WESTERMANN. 2005. "Systemic Crises and Growth," NBER Working Paper No. 11076 (January).
- RODRIK, DANI. 2003. "Growth Strategies," National Bureau of Economic Research Working Paper 10050 (October).
- SCHMUKLER, SERGIO L. 2004. "Financial Globalization: Gain and Pain for Developing Countries," Federal Reserve Bank of Atlanta *Review* (Second Quarter): 39-66.
- SHILLER, ROBERT J. 1997. "Public Resistance to Indexation: A Puzzle," *Brookings Papers on Economic Activity*.
- STERN, GARY H. and RON J. FELDMAN. 2004. *Too Big to Fail: The Hazards of Bank Bailouts* (Wash. D.C.: Brookings Institution Press).
- WORLD BANK. 2001. *Finance for Growth: Policy Choices in a Volatile World* (World Bank and Oxford University Press: Oxford).