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## Managing banking crises in Latin America: The do's and don'ts of successful bank restructuring programs

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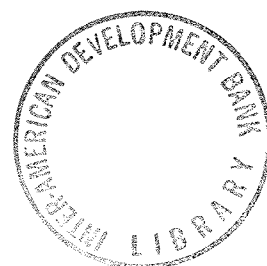
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**Managing banking crises in  
Latin America : the do's and**

Working Papers

**Managing Banking Crises in Latin America:  
The Do's and Don'ts of Successful  
Bank Restructuring Programs**

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and Steven R. Weisbrod



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*"What were the real reasons for doing the ... bailouts? Simply put, we were afraid not to."*

*Irvine H. Sprague, ex FDIC Manager*

## **I. Introduction**

Rescuing a banking system suffering from widespread bank failures surely ranks high among bank regulators' worst nightmares. In setting out on their task, policymakers face uncertainties as to the magnitude of the problem and the resources available to cope with it. In addition, regulators often do not have a firm grasp of the tools at their disposal to deal with failures, such as markets to sell insolvent banks. These uncertainties are magnified for policy makers in developing countries. First, accounting and legal standards are less exacting in developing countries, making it difficult to assess the scale of banking problems. Second, in developing countries both resources and tools for dealing with banking crises are much more limited than in industrial countries.

This paper focuses on the design of successful bank restructuring programs in Latin America -- a region where banking crises have been frequent in the past two decades. In each episode, Latin American policymakers have had to act under the severe constraints imposed on developing countries, which become particularly binding during periods of financial problems. Nevertheless, a review of these experiences demonstrates that a well-conceived bank restructuring program can succeed under even the most adverse conditions.

This paper is organized as follows. Section II establishes a framework for carrying out a successful restructuring program, which includes defining objectives and principles for execution of these objectives. The section also illustrates how differing constraints faced by regulators in industrial and developing countries affect the application of principles to achieve a successful restructuring program. Section III uses the framework to evaluate two bank restructuring efforts in Latin America in the early and mid 1980s that had very different outcomes -- Argentina, which emerged from its crisis with a much weakened banking system, and Chile, which used its restructuring program to strengthen its banking system. This section demonstrates that the nature of the constraints faced by regulators and willingness to adhere to basic principles of effective crisis management explain the sharply contrasting outcomes. Section IV considers the management of the current banking crises in Argentina and Mexico based on the framework as well as the lessons of the 1980s. Concluding remarks are presented in Section V.

## **II. Principles and Constraints in Managing Banking Crises**

### **1. Three Basic Principles**

When a large portion of a country's banking system is threatened with insolvency, funds set aside to resolve isolated bank failures, such as deposit insurance funds and emergency central bank credit, are usually inadequate for the task at hand. Thus, in systemic crises, if the integrity of the

banking system is to be maintained, public funds must often be used to resolve bank failures. Particular reasons for using public money to rescue banks vary across countries; in many, but by no means all countries, the purpose is to shield small depositors from the consequences of bank failure. However, since the Great Depression in the United States, there has been almost universal agreement that, because banks play a crucial role in the payments system, public funds must be used to resolve individual bank problems to ensure that a banking system survives the crisis.

Whether the regulatory system has an explicit deposit insurance program or not, inevitably, maintaining the integrity of the banking system requires that some bank liability holders be protected from the consequences of bank failure. Hence, the commitment of public funds for restructuring implies a transfer of resources from the public sector to the banking system. The objective of public policy is to ensure that the transfer is limited to those parties whose protection from bankruptcy is necessary to preserve the integrity of the banking system.

If policymakers are to execute a bank restructuring program that fulfills the above objectives, they must follow three basic principles. The first is to ensure that parties that have benefited from risk taking bear a large portion of the cost of restructuring the banking system. For example, bank stockholders should be first to lose their investment along with large holders of long-term liabilities such as subordinated debt.<sup>1</sup> Also, delinquent borrowers must not be given favorable treatment at public expense. Executing this principle not only limits current restructuring costs by forcing private parties to bear part of the loss, but it also creates incentives to restrain risk taking in the future, which strengthens the banking system in the long term.

A second principle is that prompt action should be taken to prevent problem institutions from expanding credit to highly risky borrowers or capitalizing unpaid interest on delinquent loans into new credit. Execution of this principle reduces the moral hazard risk in bank restructurings that arises when institutions with low and declining net worth continue to operate under the protection of public policies designed to maintain the integrity of the banking system. This principle implies that, when possible, insolvent institutions should be removed from the hands of current owners, either through closure or through sale.

Because executing the first two principles requires adequate funding to pay off some liability holders of institutions with negative net worth, a third principle for a successful restructuring is that a society muster the political will to make bank restructuring a priority in allocating public funds while avoiding sharp increases in inflation.

To execute a successful rescue program, policymakers must faithfully adhere to all three principles. However, the ability of regulators to carry out these principles is affected by the economic environment in which they must operate. Even if a society has mustered the will to fund a bank rescue, it may face a resource constraint that is so severe that it jeopardizes the success of the

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<sup>1</sup> Some large liability holders of money market instruments must inevitably be subsidized to some extent because the money markets must continue to function for the payments mechanism to continue to function.

restructuring program. For example, an economy may not be able to access debt markets for funds. In this case, to finance bank restructuring, it may be necessary to reduce fiscal expenditures in other areas to avoid inflation. Obviously, as the funding constraint becomes tighter, the task of assigning priorities becomes more difficult.

A second constraint affecting the implementation of the principles is the availability of markets for financial institutions or for financial assets held by these institutions. The existence of such markets can be useful for minimizing public expenditure because they permit private investors to recognize the franchise value of a failed bank's customer base and its distribution system. Revenues from the sale of these valuable assets can be used to offset public absorption of credit losses.

If markets are large and funding is abundant relative to the size of the problem, regulators have a wide variety of choices available to resolve banking problems that can be classified into three broad categories: private sector merger or sale; take over and management by the regulatory authorities; and, as a last resort, bailout of an existing institution with ownership left largely in place.

Under the first option, irrecoverable loans are charged off,<sup>2</sup> which may require a write down of bank capital if loan loss reserves are inadequate, often to the point where the value of liabilities exceeds the value of assets. When the institution is sold or merged, the price a buyer is willing to pay may not result in an adequately capitalized institution. Hence, public money often needs to be used to pay off the excess liabilities or to extend credit to the private sector to finance acquisitions. When private investors are unwilling to pay a positive price for the customer base and the distribution system of the failed bank, under this option, the regulator closes the institution and sells the financial assets of the institution to help pay off depositors.

The second option, take over by the authorities, is used when the market for impaired institutions is not large enough to absorb the supply of such institutions, either because it is underdeveloped or because the crisis has made banking properties unattractive even at very low prices, and regulators have sufficient know how to operate financial institutions. If delinquent loans are to be charged off and capital written down, this option usually requires a greater injection of public funds than the first option because regulators do not receive an up front payment for the franchise value of customers and the distribution network. However, if regulators have experience in managing failed banks, they may eventually be able to recoup the franchise value through earnings on their investment. The government can postpone some of the cost by permitting seized institutions to operate temporarily at capital levels that would be inadequate for privately owned banks. This policy has risks, however, as governments, like private owners, may take excessive risks with inadequately capitalized institutions. Moreover, the success of this alternative lies in ensuring that banks are returned to private ownership as soon as market conditions permit.

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<sup>2</sup> A loan charge off is the process of removing an irrecoverable loan from the asset side of the balance sheet. The loan loss reserve account is the corresponding liability account that is reduced. (Often loan loss reserves are a contra asset item.) If loan loss reserves are inadequate, the charge off forces a reduction in the capital account.

The third option, a bailout, must be used when funds that can be committed quickly are scarce, markets are undeveloped or are illiquid at the time of the crisis, and regulators do not have the know how to manage banks. It is the most complicated method of resolution to execute by following the principles of sound restructuring because insolvent institutions must be left in the hands of their present owners who are given public funds to maintain the viability of their institutions.

## **2. Differences in Constraints between Developed and Developing Countries**

Regulators in developing countries face more extreme constraints in terms of resources, markets, and know how than their counterparts in developed ones. Even if a developing country has followed a very conservative fiscal policy before the onset of a banking crisis, policymakers face a daunting task in obtaining adequate funds for a restructuring program.

In contrast to industrial countries, developing countries rarely possess a domestic long-term bond market, although many have access to international bond markets. When international markets perceive that a crisis is imminent, however, access to long-term bond markets dries up. For example, during the financial crisis precipitated by the devaluation of the Mexican peso in December 1994, Brady bond spreads over comparable US Treasury securities increased from one percentage point to 4 percentage points for Mexico and from 2 percentage points to 4.5 percentage points for Argentina between December 1994 and the end of February 1995.

This would seem to leave the issuance of short-term debt as a more common funding option in developing countries. However, the risk in the short-term market is that the government must not only cover interest payments but also principal payments if the debt cannot be rolled over. Thus, the slightest hint of deterioration in the government's capacity to service its debt may shut the government out of the market, which, in turn, increases the pressure for inflationary finance.

Constraints on the size and depth of the market for bank assets are likewise much more limited in developing countries. This is more than a lack of skilled professionals, which of course, can be imported. It is also a lack of the legal and market infrastructure necessary for secondary markets to develop, a point that is illustrated by recent attempts by U.S. real estate investors to purchase properties in default in Mexico.<sup>3</sup>

Regulatory know how is sometimes in short supply in developing markets as well. Even in markets with skilled professionals in bank supervision, if bank regulators do not have political independence, they may not be able to sell banking properties through arm's length transactions. This problem also arises in the developed world, as scandals surrounding savings and loan

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<sup>3</sup> Press reports have described the difficulty that U.S. real estate investors have faced in attempting to purchase properties in the Mexican market. For example, many of the properties used as collateral for loans in default have not been legally foreclosed; hence, they cannot be transferred to new owners.

restructuring in the U.S. suggest, but they are less important than in the developing world because other constraints are less severe.

Thus, the constraints on bank supervisors in developing countries make it much more likely that the bailout option must be taken in these countries than in industrial countries. Nonetheless, restructurings, even under the most severe constraints, are more likely to be successful if policymakers attempt to enforce the three general principles outlined above. It is the capacity of the authorities to adapt principles to local conditions, more than the severity of the constraints, that often determines whether a bank restructuring effort will be successful.

**a. Application of Principles under Ideal Conditions**

The case of the U.S. savings and loan rescue and restructuring plan is an example of how access to funding and the availability of markets permits bank supervisors to apply principles to good effect. However, this example also demonstrates that, unless policy objectives are clearly defined and the political will can be mustered to commit funds, relatively lenient constraints do not lead to good policy.

The U.S. savings and loan crisis had its origins in two fundamental changes in U.S. financial markets. The first was the broadening of potential investors for mortgage-backed securities, and the second was a rapid increase in nominal interest rates resulting from inflation. The first event reduced the economic value of institutions dedicated solely to directing funds to the residential housing market. The second increased the spread between open market interest rates and the interest rate ceilings on savings and loan deposits, making it difficult for these institutions to raise funds through the deposit market.

As a result of these fundamental market changes, many institutions lost their net worth during the late 1970s and early 1980s. The magnitude of the problem exceeded the resources of the insurance fund available to insulate small depositors from the impact of bank failures. In violation of principle 3, the political will to provide additional public funds to cover the loss was not present. Hence, regulators attempted to solve the problem by manipulating accounting rules and pumping emergency funding into institutions in trouble.

Even with the lack of funding, regulators could have placed controls on the expansion of savings and loans with zero market net worth if they had established supervisory guidelines for asset growth relative to an institution's capital base. However, the political power of the real estate industry and regulatory lethargy combined to prevent any application of the principles of sound crisis management. Because principles 2 and 3 were not followed, the owners of these institutions, having nothing to lose, took additional risks in hopes of recovering their investment.

By the late 1980s, when it became obvious that the program in place only magnified the cost of restructuring, the authorities obtained sufficient public funds to deal with the situation in accordance with sound restructuring principles. For example, they were able to seize and sell failed



institutions. Bidders assessed the value of the bank's assets as well as the franchise value of its distribution network. If bids were too low, regulators paid off depositors from sale of assets and government funds and closed the institution.

The policy accomplished two objectives consistent with principle 1: it forced stockholders of failed institutions to take losses, and it forced borrowers in default to lose their collateral. (It failed to force large liability holders to take losses because they had left during the prolonged period of political indecision.) The policy worked because there were sufficient funds to close failed institutions that could be raised without generating inflationary fears, and there was a market for the seized assets.

An additional example of the importance of clearly defining the objectives of a restructuring program and then making funds available to carry it out promptly is illustrated by current banking problems in Japan.<sup>4</sup> Large segments of the Japanese banking system are suffering from an overhang of non performing loans from the asset inflation of the 1980s. The potentially large supply of funds available to bank supervisors is evidenced by Japan's large current account surpluses.

A public policy debate is now taking place over the use of public money to restructure the system. If public funds are used, the policy question is how these funds ought to be applied to rescue failed institutions. For example, several large cooperative banks have recently failed. This segment of the banking industry made exceptionally risky investments because their traditional markets had disappeared.<sup>5</sup> A public consensus has yet to emerge as to what ought to be done with the cooperative banks.

Because objectives and funding needs are not yet fully determined, steps that have been taken so far have focused on maintaining the viability of existing institutions. For example, decreases in the central bank discount rate are reducing banks' cost of funds, making it easier to hold non performing loans.

Even after the objectives and level of funding are decided upon, Japan faces a constraint not present in the United States: the lack of a deep market for impaired institutions or for non performing loans. Rather than being able to sell collateral held against defaulted loans in private markets, banks have written down loans through sales to an agency wholly owned by the banks, known as the Cooperative Credit Purchasing Corporation (CCPC). Each bank, however, must supply funds to the CCPC equal to the amount of loans sold to it; hence, the only gain to the banks is a tax write off equal to the difference between the book value of the loan and the price at which it is transferred to the CCPC. The transfer prices are determined by appraisers rather than by market transactions.

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<sup>4</sup> For a discussion on the banking problems in Japan, see Goldstein and Folkerts-Landau (1993).

<sup>5</sup> These markets are small traditional businesses which are shrinking as a percentage of GDP and are not attracting young entrants with a need for capital.

Recent efforts have been made to sell bonds backed by distressed properties in the Euromarket. However, a major obstacle to encouraging new borrowers to enter the market is that financial institutions have been reluctant to place distressed properties on the market for fear of depressing prices further. Hence, foreigners are reluctant to buy in a thinly traded market.

The experiences of the bank supervisors in the Nordic countries illustrate how, even without a thick market for financial institutions or seized collateral, a bank restructuring can be successful with adequate funding and a transfer of ownership of closed institutions to the government. In Sweden, once non inflationary funding was made available to deal with the crisis (principle 3), problems were handled promptly. Institutions with zero or negative net worth were closed (principle 1), and stockholders lost their investment (principle 2). In addition, it appears that the seized institutions have returned to financial health and are out performing banks that were not closed.<sup>6</sup>

#### **b. Constraints in Developing Economies**

Experiences with bank rescue efforts in Latin American countries indicate that in the past regulators have often resorted to inflation and interest rate controls to resolve bad debt problems. These solutions have been utilized because countries have entered a banking crisis with large fiscal deficits and with no political will to reduce them, in violation of principle 3. Argentina in the early 1980s and Mexico and Peru in the mid 1980s are prominent examples. Depositors took severe losses due to inflation, and it took more than five years in each country for investors to recover confidence in the financial system.

There are, however, other examples in Latin America demonstrating that, even under tight constraints, regulators have sometimes been able to fashion a policy that has remained sufficiently close to the principles to be successful. The most noted example of this is Chile in the early and mid 1980s. While funds to close failing banks were limited and markets were not available to sell large impaired institutions, regulators fashioned a recapitalization and loan rescheduling program that minimized incentives to capitalize unpaid interest or expand balance sheets by taking increased risk. This case will be dealt with in detail below.

Colombia was also able to design a program to rescue its banks in the mid 1980s without inflation. Colombia had maintained a tight fiscal policy that enabled it to use export earnings to resolve non performing banks. A bank insurance fund was used to recapitalize impaired institutions, which were transferred to government ownership. By forcing stockholders of impaired banks to lose their investment, Colombian authorities strictly enforced the first principle for good crisis management.

The brief sketches of the experiences of both industrial and developing countries in executing bank restructuring programs indicate that abiding by the three principles of crisis managements are

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<sup>6</sup> For a detailed analysis of the evolution of the banking crisis in the Nordic countries, see Burkhard, and Pazarbasioglu (1995).

the most important determinants of success. However, in developing countries, in developing countries, the constraints imposed on regulators carrying out these tasks are more severe. Thus, it is important to consider in some detail how regulators in Latin America deal with the constraints they face, a topic considered in the next section.

### **III. Lessons from Bank Restructuring in the 1980s: The Cases of Argentina and Chile**

It is a well-known fact that banking crises followed in the wake of the debt crisis of the 1980s in a number of Latin American countries. As case studies in crisis resolution, the experiences of Argentina and Chile, stand out for their contrasting results: Argentina's crisis ended in hyperinflation and substantial disintermediation, as evidenced by a sharp decline in bank deposits to GDP, whereas Chile's crisis ended with a strengthened banking and financial system. This leads to the question of how much of the differing result was due to initial constraints and how much was due to the tenacity of the regulators in applying the three principles under severe constraints.

#### **1. Constraints and Designs**

Chile experienced a severe banking crisis beginning in 1982, and, after an inadequate attempt to deal with the crisis, by 1984 had put into place a bank restructuring program that is heralded for its singular success.<sup>7</sup> Nevertheless, the basic outline of Chile's program was not unique: the program originally proposed in Argentina in 1981 contained many of the same elements, as a brief description of each program indicates.<sup>8</sup> Indeed, the design of both programs was fully consistent with principles 1 and 2. As will be discussed below, however, it was the implementation rather than the design of each program that accounts for the different outcomes. In carrying out their programs Chile followed principle 3 closely whereas Argentina did not.

By late 1981 in Argentina and by 1984 in Chile, regulators in both countries recognized that they had to prevent banks from capitalizing interest on loans to borrowers that were in default. They also realized that they had to force stockholders of risky institutions to bear part of the costs of cleaning up the system.

The programs the regulators designed included mandatory restructuring of approximately half the loans of the banking system. Each program tied the principal of restructured loans to an index that reflected the rate of inflation and required the payment of a predetermined real interest rate. Both programs permitted the banks to place loans with the central bank in return for a long-term

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<sup>7</sup> Chile's restructuring effort actually began in 1982, but, after proving inadequate for the task, was revised in 1984. The remainder of the subsection only discusses the revised program since it illustrates how regulators can successfully overcome funding constraints to execute a successful program.

<sup>8</sup> For a detailed description of events leading up to the Chilean crisis, see Velasco (1991) The case of Argentina is discussed in Baliño (1991).

bond. Under the Argentine program, banks were permitted to discount restructured loans with the central bank, and they were required to purchase a government bond with the proceeds. In the Chilean program, the banks were required to purchase a central bank security with the funds received from the transfer of restructured loans to the balance sheet of the central bank. In both countries, banks were required to buy back loans sold to the central bank at the price at which they were sold, plus, in most cases, accumulated interest, by a specified date.

With the exception of a few small banks in Chile, the programs did not include the sale of banks with depleted capital to new owners, nor did they include a government take over of failed institutions. The programs in both countries, therefore, can be classified as bailouts of existing banks since they contemplated that existing banks would be in effect, recapitalized. As discussed in Section II, regulators choose bailouts when they face severe funding constraints, inadequate markets for bank assets, and lack know how to manage seized financial institutions. In managing their crisis in the early 1980s, both Chilean and Argentine authorities were faced with all three of these problems, but the funding constraint was probably the most onerous obstacle to establishing a good restructuring program.

In the case of Chile, the accumulation of foreign debt in the late 1970s and 1980s hampered the authorities' ability to tap non inflationary sources of funds to deal with banking problems. Indeed, in spite of its strong fiscal position, Chile was limited in its capacity to tap domestic savings to fund bank restructuring because much of its savings was needed to service the high ratio of foreign debt to GDP (Table 1). The funding constraint became more onerous with the onset of the debt crisis in 1982, which effectively shut Latin American countries out of private international debt markets. Thus, in the absence of markets for bank assets, Chile was forced to seek funds from multilateral agencies to restructure its banking system.

In sharp contrast, the funding constraint faced by Argentine regulators arose from that country's large fiscal deficit relative to GDP rather than its international debt burden, which was substantially less than Chile's as a percent of GDP (Table 1.) Allocating tax money to resolve banking problems was given a low priority, since these funds were used to finance government spending of other projects.

As discussed below, differences in the nature of each country's constraint had a crucial impact on how each program was implemented. Since the bank regulators of neither country solely determined domestic priorities, they faced a common problem: a shortage of non inflationary funds to shut down insolvent institutions and pay off liability holders. Hence, it is no surprise that authorities in both countries followed a strategy of recapitalizing existing institutions by extending loan maturities and easing payment schedules. However, the success of a restructuring program ultimately depends on authorities' ability to convince bank liability holders that the banking system can be returned to solvency and that the value of their investment will be maintained in real terms. The Chilean authorities eventually succeeded in making this case whereas the Argentine authorities did not.

Table 1 Fiscal Deficit and Long Term Debt (percentage of GDP)				
	Fiscal Deficit		Long Term Debt	
	Argentina	Chile	Argentina	Chile
1979	-2.6	4.8	20.5	37.7
1980	-2.6	5.4	22.0	35.4
1981	-6.0	2.6	29.6	40.7
1982	-4.8	-1.0	34.2	62.6
1983	-7.9	-2.6	36.5	82.0
1984	-3.4	-3.0	33.4	99.5
1985	-5.5	-2.3	50.2	122.6
1986	-2.0	-0.9	44.8	114.9
1987	-2.9	0.4	49.2	95.1
1988	-1.9	-0.2	40.7	72.4
1989	-0.4	1.8	76.4	52.8
1990		0.8	36.0	51.9
1991		1.5	26.9	46.0
1992		2.2	21.9	38.6
1993		1.9	24.5	38.0
Source: IMF, International Financial Statistics, World Bank, World Debt Tables				

## 2. Implementing Strategies

Why did the outcome of the Argentine restructuring program differ so sharply from the Chilean one in spite of the similarity in original design of the programs? The analysis indicates that, in implementing its program, Argentina departed from principle 3: its authorities did not place a high priority on funding the restructuring program with real resources; instead, banking problems were solved through inflation. In contrast, Chile clearly discarded the policy option of inflation, which was the major reason for the success of its program.<sup>9</sup>

It is important to recognize, however, that the difference in constraints played a key role in the outcomes. Inflation could not have eliminated the bad-loan problem in Chile because a large portion of bank liabilities were to foreigners and denominated in foreign currency. Argentina's bad-loan problem was largely denominated in domestic currency. The fact that Chile's funding constraint was more external, imposed an element of market discipline on the implementation of the program.

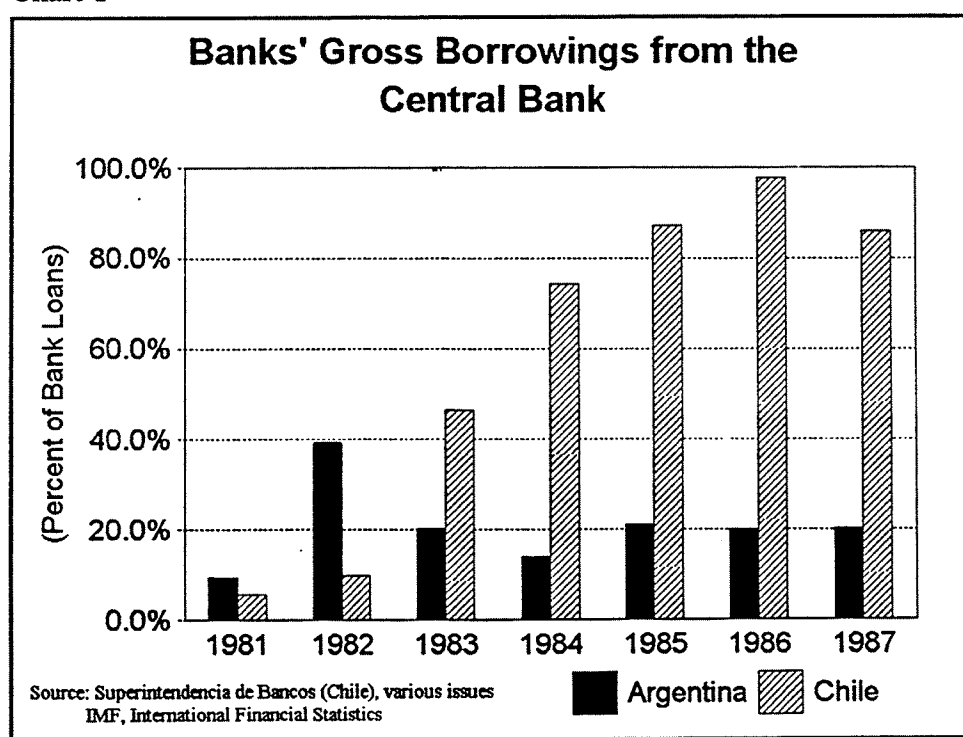
To meet foreign commitments, Chile had to manage its banking system bank to solvency. This policy had the added benefit of restoring domestic investor confidence in the banking system by the late 1980s, almost 5 years before such confidence returned in Argentina. How the actual implementation of each program was carried out is a subject of the remainder of this section.

<sup>9</sup> Of course, Chile could have defaulted on its foreign debt as some borrowers did, but policymakers believed that the consequences of this action were too severe to make it a viable option.

As indicated above, regulators in both countries attempted to recapitalize banks by extending loan maturities, which implies a slower pace of principal repayment than was originally contemplated and, consequently, an increase in the funding commitment of banks. Hence, even with strong funding constraints, regulators had to find a source of funding for their programs. In both cases, resources for bank restructuring programs were channeled through the central bank to the banks. Hence, the magnitude of the funds required to restructure loans can be estimated by considering the extent to which gross central bank loans to each banking system as a percent of total loans made by banks increased as the restructuring effort progressed. As indicated in Chart 1, in 1982 in Argentina, the central bank supplied gross loans to the banking system equal to 39 percent of banks' loan portfolios, compared to about 9 percent in 1981, whereas in Chile, in 1985 gross central bank loans equalled 87 percent of total loans, compared to about 6 percent in 1981.<sup>10</sup>

The original constraints faced by regulators in each market made it difficult to fund the restructuring effort; hence, each central bank borrowed a large portion of the funds necessary to bail out insolvent banks from solvent banks in its own system. Of course, in order for solvent banks to lend funds to the central bank, they had to reduce credit to their own borrowers.

Chart 1

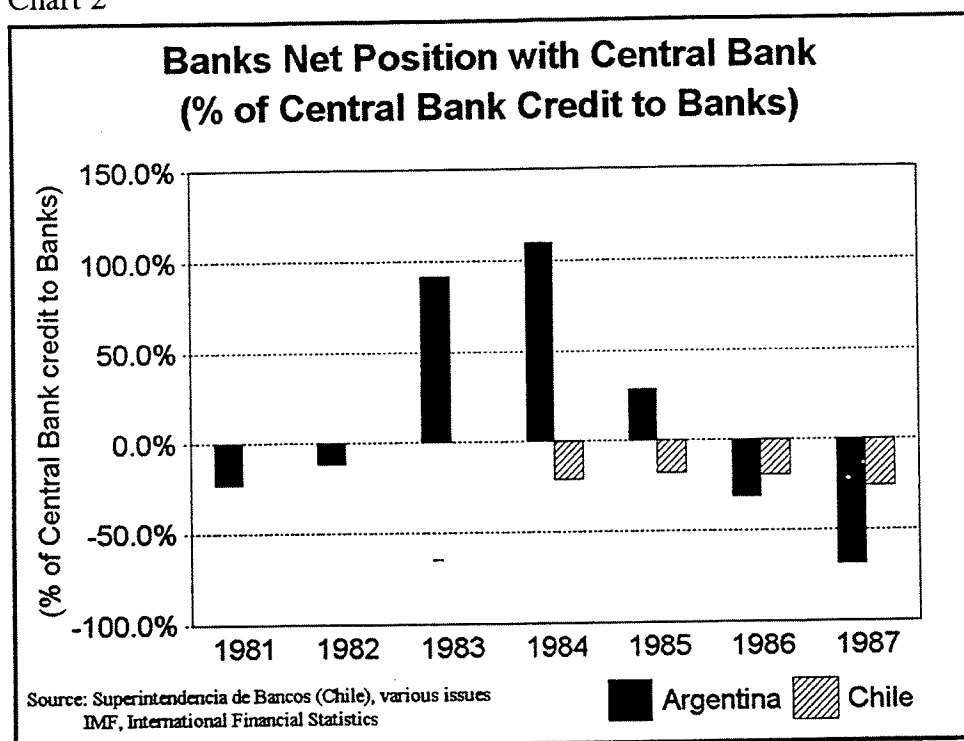


As indicated in Chart 2, in Argentina, the net credit position of banks with the central bank as a percent of central bank credit to banks equaled -22 percent in 1981 and increased to just over

<sup>10</sup> In the case of Chile, loans include loans sold to or placed with the central bank. Gross borrowings from the central bank include these items as well since banks were required to buy them back.

-12 percent in 1982.<sup>11</sup> This implies that, in 1982, 88 percent of central bank credit to banks was funded by the banks themselves. For Chile, the data begin in 1983 because prior to that date, detailed asset breakdown are not available. In Chile, in 1984, at the inception of the second restructuring program, banks' net position with the central bank was -21 percent declining to -25 percent by 1987, implying that 75 percent of central bank credit to banks was funded by banks.

Chart 2



In the case of Argentina, central bank loans to impaired banks were funded with reserve requirements on bank deposits whereas in Chile, they were funded by central bank bonds purchased by solvent banks. Thus, in both cases, the central bank absorbed the credit risk of lending to impaired banks by acting as intermediary between banks lending funds and banks borrowing funds.

Events changed dramatically in Argentina in 1983. In contrast to developments in 1981 and 1982, by 1983, the banks became net lenders to the central bank, as indicated by the fact that banks' net position increased to positive 90 percent. The central bank used the funds from the banks to fund the fiscal deficit, as central bank loans to the public sector increased from 11 percent of GDP in 1982 to 27 percent of GDP in 1983.<sup>12</sup>

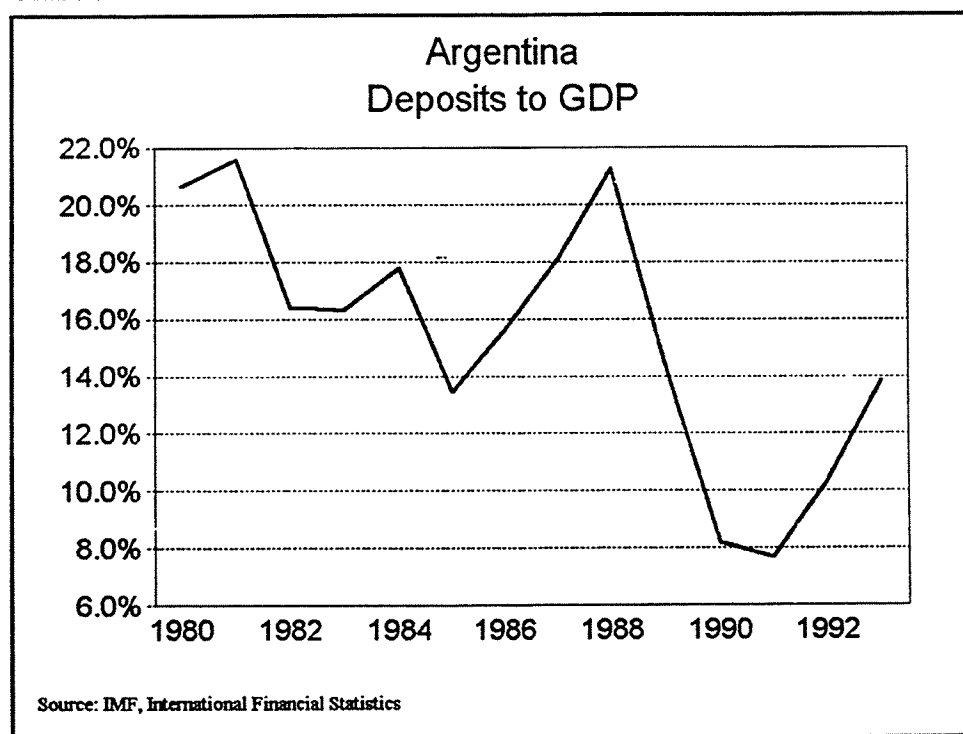
<sup>11</sup> A negative net position signifies banks are net borrowers.

<sup>12</sup> The ratio declined in 1986 and 1987, which were years of fiscal tightening. However, fiscal policy became highly expansionary again in 1988.

Since the central bank was no longer lending to the banks, it had to find another method for dealing with problem loans. This method was to impose interest rate ceilings on bank loans during a period when inflation reached almost 500 percent per year. As a result of these policies, the real value of loans was inflated away, falling from 51 percent of GDP in 1982 to 39 percent in 1984. Real interest rates on deposits were also negative, falling to about -50 percent by 1984.

In short, in Argentina, in violation of principle 3, there was no political commitment to control the fiscal deficit, with the result that, in real terms, no funds could be committed to the bank bailout. Principles 1 and 2 were also violated since the negative real interest rate on loans provided a subsidy to borrowers and heavily penalized depositors, a party bearing little responsibility for the crisis. Stockholders, on the other hand, emerged from the crisis with much of their wealth preserved in real terms. Depositors fled the banking system, and deposits to GDP declined from 22 percent of GDP in 1981 to 14 percent of GDP in 1985. (See Chart 3a.)<sup>13</sup>

Chart 3a



In contrast to Argentina, Chile worked its way out of its bad loan problem gradually. It was not until 1992 that the banks became net lenders to the central bank. During this period, Chile

<sup>13</sup> A short period of relatively low inflation (100 percent per year) occurred in 1986 and 1987, and bank deposits as a percent of GDP recovered to their pre crisis level. (See Chart 3.) However, in 1988 and 1989, the government again used the banks to fund a growing fiscal deficit, and the inflation rate rose to 3000 percent. Deposits as a percent of GDP fell precipitously to 8 percent.



experienced only moderate inflation, and real interest rates on loans and deposits remained positive. As mentioned above, an element of market discipline foreclosing an inflationary solution in Chile was the large percentage of bank liabilities to foreigners, mostly to U.S. banks, denominated in US dollars. Foreign borrowings as a percent of bank financial liabilities plus capital accounts on the eve of the crisis in Chile was 53 percent in 1982, compared to 24 percent in 1981 in Argentina.

If the foreign liability holders were to be paid, the Chilean restructuring program had to work. During the crisis, many borrowers who had borrowed foreign currency from banks were unable to earn foreign currency to repay their loans. Hence, banks could not service their own foreign liabilities. To help banks repay these liabilities, the central bank absorbed the foreign exchange risk for the banks.

In the first step in this process, many foreign currency loans held on the balance sheets of banks were converted into indexed peso loans to relieve borrowers of foreign exchange risk. However, this left the banks with an imbalance of foreign currency liabilities. For example, in 1985, foreign currency loans remaining on bank balance sheets totaled US\$2.0 billion while liabilities to foreigners denominated in foreign currency (mostly rescheduled loans from U.S. banks) equalled US\$6.3 billion. In other words, foreign currency liabilities were funding indexed peso assets.

As the second step in the process, to remove most of the risk created by this imbalance from the banks, the central bank issued foreign-currency bonds to the banks, and, at the same time, made loans to the banks denominated in indexed pesos. For example, in 1985, all banks held foreign-currency-denominated bonds and deposits issued by the central bank equal to US\$3.6 billion on the asset side of their balance sheet. At the same time, the banks borrowed US\$5 billion in indexed pesos from the central bank, excluding loans sold to the central bank.<sup>14</sup>

This device was available to all three categories of banks operating in the market -- foreign-owned banks, the state bank, and private domestic banks, but it was the private domestic banks, where the bad loan problem was focused, that most extensively used the program. In 1985, private domestic banks had indexed peso loans of US\$4.2 billion on their balance sheets and indexed peso deposits of only US\$1.1 billion. At the same time, these banks had foreign liabilities of \$4.6 billion and foreign currency loans of US\$1.3 billion. Private domestic banks were net lenders of over US\$3.1 billion to the central bank in foreign currency and net borrowers of US\$3.8 in indexed pesos, excluding loans sold to the central bank.

As indicated in Table 2, the net position of domestic private banks in all currencies with respect to the central bank, including loans sold, was US\$-2.8 billion, indicating a net borrower position with the central bank. The other two categories of banks were actually net creditors of the central bank in 1985, although they were net borrowers in indexed pesos.

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<sup>14</sup> In that same year, all banks were net borrowers to the central bank in all currencies in the amount of US\$2 billion, including loans sold to the central bank.

The data from Table 2 permit us to estimate the cost of the restructuring effort and determine the role of domestic and foreign sources in paying for it. (As mentioned above, foreign funds did not come from private sources but were restructured loans from foreign banks plus additional funding from multilateral agencies.)

<b>Table 2</b> <b>Chilean Banks' Credit Position with the Central Bank</b> <b>(billions of US\$)</b>									
	1985			1986			1987		
	All Currencies	Indexed Pesos	Foreign Currency	All Currencies	Indexed Pesos	Foreign Currency	All Currencies	Indexed Pesos	Foreign Currency
<b>Net Position</b>									
Private Domestic Banks	-2.8	-5.1	3.1	-2.8	-5.7	3.1	-4.3	-5.9	2.0
State and Foreign Banks	0.9	-0.5	1.4	1.1	-0.3	1.4	1.4	0.1	1.1
<b>Memo: Gross Positions</b>									
<b>Private Domestic Banks</b>									
Loans to Central Bank	4.6	1.8	2.7	5.7	2.6	2.8	4.9	2.7	2.1
Liabilities to Central Bank	-4.4	-3.8	-0.3	-4.0	-3.7	-0.2	-3.6	-3.3	-0.2
Net Loans Sold to Central Bank	-3.0	-3.1	0.6	-4.5	-4.6	0.6	-5.6	-5.3	0.1
Net Position with Central Bank	-2.8	-5.1	3.1	-2.8	-5.7	3.1	-4.3	-5.9	2.0
<b>State Bank</b>									
Loans to Central Bank	1.3	0.5	0.7	1.1	0.4	0.6	1.1	0.6	0.5
Liabilities to Central Bank	-1.2	-0.8	-0.3	-1.1	-0.8	-0.3	-0.8	-0.6	-0.2
Net Loans Sold to Central Bank	0.6	0.0	0.6	0.6	0.0	0.6	0.6	0.0	0.6
Net Position with Central Bank	0.7	-0.3	1.0	0.6	-0.3	0.9	0.9	-0.0	0.8
<b>Foreign Banks</b>									
Loans to Central Bank	0.5	0.3	0.1	0.7	0.5	0.2	0.7	0.5	0.1
Liabilities to Central Bank	-0.4	-0.4	-0.0	-0.4	-0.3	-0.0	-0.3	-0.3	-0.0
Net Loans Sold to Central Bank	0.2	-0.1	0.3	0.2	-0.1	0.3	0.2	-0.1	0.1
Net Position with Central Bank	0.2	-0.2	0.4	0.5	0.1	0.5	0.5	0.1	0.2
Note: Total includes unindexed pesos									
Source: Superintendencia de Bancos e Instituciones Financieras									

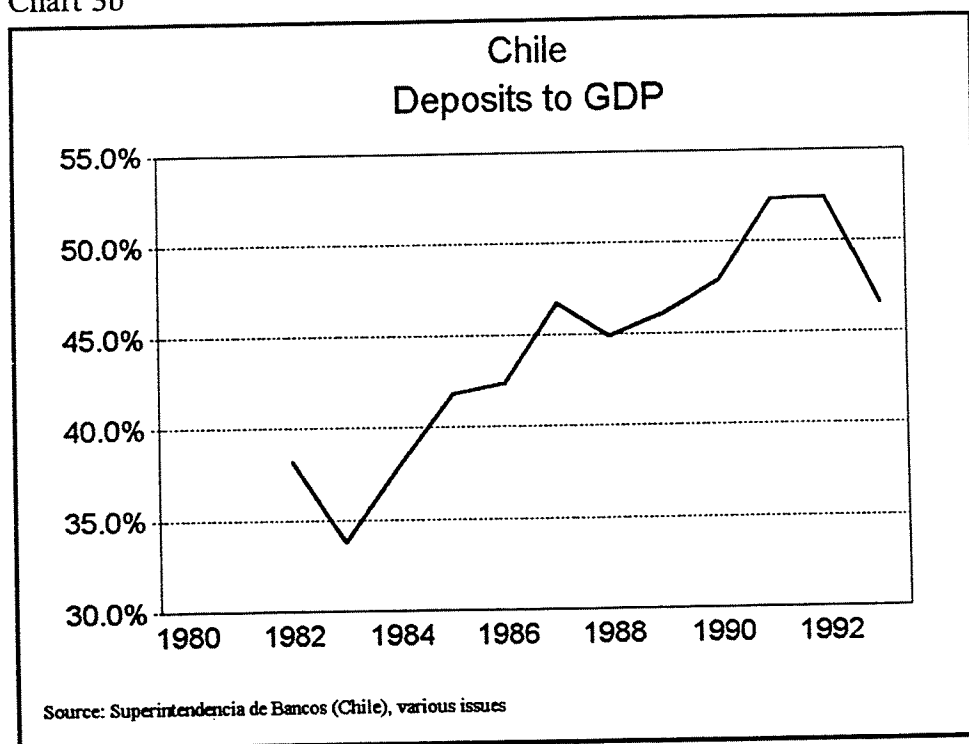
The cost is calculated based on 1987 balance sheets since afterwards the cost began to decline. According to Table 2, the net borrowing position of the domestic private banks with the central bank equaled \$4.3 billion in 1987. Approximately one third of this figure, or \$1.4 billion was covered by loans to the central bank from the state bank and foreign banks, which, by year-end 1987 were net creditors of the central bank. Approximately \$1.2 billion of the \$1.4 billion was funded by foreign currency bonds issued by the central bank to the state bank and foreign banks.

The central bank funded the remaining \$3.2 billion from its liabilities to non banks. In 1987, the central bank was able to issue \$2.6 billion in domestic currency securities to the non bank public. To avoid financing the remainder with inflation, it had to fund about \$600 million from foreign sources, again mainly borrowings from multilateral agencies. As a result, foreign sources covered \$1.8 billion, or 42 percent of the cost, with the remaining \$2.8 billion funded in the domestic market.

The proportion of the cost funded by foreign sources was much higher in 1985, 82 percent of the total, even though at that point the total cost appeared smaller. In 1985, the central bank did not have sufficient access to the domestic non bank funding market to cover much of its share of the cost. The rapid increase in the importance of non bank domestic funding in the Chilean restructuring program that occurred after 1985 demonstrates that, in contrast to Argentina, domestic investors gained confidence that the restructuring program would return the banking system to solvency.

It is sometimes argued that this confidence was somewhat artificially created by Chile's mandatory pension system, which purchased much of the central bank's debt in 1987. It must be noted, however, that, if domestic investors remained suspicious of the financial system, some would have fled the banking system to offset their mandatory investment in pension funds.<sup>15</sup> That this did not happen is demonstrated by the fact that, from 1984 onward, deposits increased rapidly as a percent of GDP. (See Chart 3b.)

Chart 3b



While the loan restructuring program extended payment schedules of borrowers with problems meeting payment schedules, it adhered closely enough to principle 1 that, as of year end 1994, the banks were able to repurchase about half of the restructured loans sold or placed with the central bank have been repaid. However, two large banks still had large unpaid liabilities to the

<sup>15</sup> There will always be people who save primarily through pensions and therefore not be able to reduce deposits, and deposits are not perfect substitutes for pensions.

central bank. It appears that about half of this debt, equal to about 5 percent of GDP, will not be repaid.<sup>16</sup>

As a result of relatively close adherence to principles under severe constraints, Chile achieved a stable banking system by the late 1980s with deposits increasing relative to GDP, at a time when deposits to GDP in Argentina had dropped precipitously to less than 8 percent from 19 percent early in the decade. (See Chart 3b.)

The Chilean experience demonstrates that a successful program to restructure banks must be backed up with adequate real funding to buy sufficient time to prove to domestic investors that bank liabilities will be paid off in real terms. To obtain this result, a program must contain elements to encourage borrowers to meet their commitments and incentives for bank managers to return their banks to solvency. However, even carefully devised programs can only be successful if policymakers pursue policies conducive to low inflation and macro-economic stability. As the Chilean experience demonstrates, when investors become convinced that their domestic financial assets are safe, they will be willing to provide a good portion of the real funds needed for a successful restructuring program.

#### **IV. Restructuring Systems in the Mid-1990s: Argentina and Mexico**

Having implemented strong stabilization programs as well as financial and other economic reforms in the early 1990s, many Latin America countries experienced large capital inflows. In December 1994, however, large outflows of capital from Mexico resulted in a balance of payments crisis and a sharp devaluation of the Mexican peso.<sup>17</sup> The crisis of international investor confidence in Mexico expanded to several other Latin American countries, most notably Argentina. To stem capital flight both countries increased domestic interest rates, which led to concerns that bank borrowers would not be able to meet their obligations.

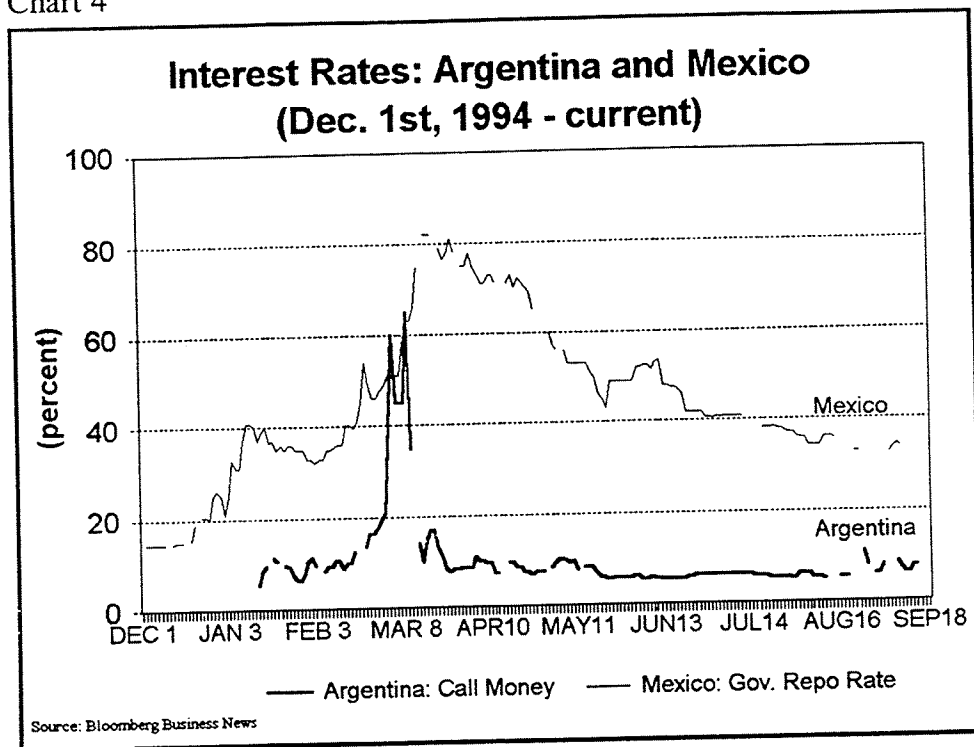
By early March 1995, the peso interbank interest rate in Argentina reached a peak of almost 70 percent, and, in late March 1995, the repurchase agreement rate on government securities in Mexico reached over 80 percent. (See Chart 4.) The fears concerning the quality of the banking systems in these two countries were further fed by the impression that both systems contained pockets of institutions that were weak before the financial crisis. The loss in confidence combined with tight monetary policies resulted in banking crises that required major restructuring programs. The constraints regulators have faced in designing these programs as well as their progress in executing them are the subjects of this section.

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<sup>16</sup> For the basis of this calculation, see Rojas-Suarez and Weisbrod (1995).

<sup>17</sup> Analysis of the macroeconomic issues leading to the Mexican crisis are contained in Leiderman (1995), and Sachs, Thornell, and Velasco (1995).

Chart 4



## 1. Constraints

Despite investors' reduced confidence in their financial systems, regulators in both Argentina and Mexico face their current banking problems under much more favorable conditions for successful resolution than was the case in the early 1980s for a number of Latin American countries. Policymakers' know how in designing effective restructuring programs is much improved as a result of absorbing the lessons of success and failure from the 1980s. Also, although still below industrial country standards, bank reporting and supervisory conditions are much improved.

On the funding side, the fiscal situation in each country is much healthier than in the early 1980s. Moreover, since the fight against inflation has become a priority, each country has committed itself to solving the current crisis with non inflationary policies. Nevertheless, just as in the early 1980s, private funding for restructuring efforts practically vanished with the onset of the crisis, indicating that perceptions about country risk remained fragile in the early 1990s. Moreover, despite the reforms of the early 1990s, markets for long-term funds have not yet developed in many countries, and the market for insolvent banks remains thin. Although constraints on resolving bank problems have eased compared to the early 1980s, funding constraints are still relatively severe, compared with conditions in industrial countries.

## 2. Program Design

In determining whether a restructuring program follows the three principles, the analyst must consider the following aspects of the program: how it is funded, who bears the cost of resolution, and whether it controls the growth of impaired institutions. Conceptually, the restructuring programs in both Argentina and Mexico address each of these aspects in a manner that is consistent with adherence to the basic principles.

Consistent with principle 3, the authorities in each country have promised to fund their recapitalization programs with non inflationary sources of finance. In Mexico, the capital injection program, known as PROCAPTE, or Programa de Capitalizacion Temporal, provides for the insurance fund, Fondo Bancario de Proteccion al Ahorro (FOBAPROA) to lend funds to the banks in the form of subordinated debt that will count as capital. These funds must be placed with the central bank to avoid monetary expansion and, therefore, inflation.

In five years, if this debt is not repaid, it is to be converted to equity, which will be transferred to FOBAPROA. In other words, banks with impaired capital can remain in business, but they face a specific deadline by which they must return to profitability. FOBAPROA can exercise conversion rights before the end of the five year period if bank capital (excluding the subordinated debt) falls below 2 percent of assets or if, at any time, the regulators believe that the solvency of the bank is impaired — that is, if the bank continues to lose money during the restructuring program. Thus, the program enforces principle 1.

In Argentina, the government has decided that a large part of the risk of adjustment would be borne by the private segment of the banking system. It has established a "safety net" fund, supported by large private banks and managed by Banco Nacion, which is used to provide liquidity assistance to banks losing funds. In addition, the central bank has provided liquidity assistance to banks through swap arrangements. The scope of these programs has been limited because regulations are in place that severely restrict the central bank's authority to act as lender of last resort to prevent the use of inflationary finance to solve banking problems.<sup>18</sup>

To channel non inflationary sources of funds to resolve banking problems, the government has established a trust fund to recapitalize banks. The fund is partially financed by the proceeds of US\$2 billion in government bonds with a three year maturity paying a below market floating interest rate sold to domestic private investors and foreign financial institutions.<sup>19</sup> The remainder of the trust fund is financed by international multilateral agencies. The fund will purchase subordinated debt

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<sup>18</sup> As of March 1995, it appears that the provincial banks had made very little use of liquidity facilities.

<sup>19</sup> The government has been able to raise funds at below market interest rates by appealing to private investors' stake in the success of economic reforms.

in banks with a maturity of three years, which will be converted to equity if a bank fails to repay interest and principal. As in the case of Mexico, this feature of the program enforces principle 1.

In Argentina, to encourage depositors to keep their funds in troubled institutions while they are being restructured, the authorities have permitted banks to establish a private deposit insurance system, funded by the banks. Since the insurance fund is independent of the government, its commitment to insure deposits cannot be viewed as a potential source of inflationary finance.

While the design of capital injection plans is similar in the two countries, policies to prevent banks in the program from expanding bad credit during the restructuring phase (principle 2) differed significantly in the design of each program.<sup>20</sup> Mexican authorities proposed two measures: strengthened supervision to force risky banks to reduce their capital and thereby subject them to the restructuring program; and a loan indexation program, along the lines used by Chile. Argentine authorities emphasized the sale of impaired institutions to new owners.

In Mexico, however, the loan restructuring program, as originally conceived, has not played an important role in the actual operation of the program. Under this program, the government intended to issue zero coupon bonds, paying interest indexed to inflation, to a trust fund established for the purpose of holding banks' non-performing loans. To fund the government bonds, the trust fund was to issue liabilities to the government. The trust fund was to exchange the government bonds for non-performing loans currently held on bank balance sheets.

Thus, as a result of these transactions, the trust fund's assets were to be non performing loans, funded by liabilities issued to the government. To reduce the interest burden on borrowers, the principal of the non performing loans was to be indexed to inflation.<sup>21</sup> The indexed peso units are known as UDIS. One of the purposes of the UDIS program was to provide explicit criteria for defining a non performing loan to aid regulators in stopping the expansion of credit to bad borrowers. Thus, as in the first stage of the savings and loan crisis in the U.S., the Mexican program was designed to give banks time to return to solvency. However, in sharp contrast to the U.S. case, the Mexican program intended to control the expansion of weak banks.

In Argentina, a significant portion of the resources from the fund established to inject capital into banks was planned to be used to finance mergers and acquisitions, which, by taking control of banks away from bad managers, would reduce the expansion of bad credit. Accomplishing this is likely to take time, however, and regulators must prevent risky banks from expanding credit to bad

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<sup>20</sup> Note that instituting policies preventing monetary expansion is not sufficient to control the growth of bad credit because banks can reduce credit to good borrowers to fund bad ones.

<sup>21</sup> During inflation, the principal of loan contracts with fixed nominal value depreciates in real terms. Lenders are compensated for this with high interest rates; however, the borrower must pay off real principal at a faster rate than in non inflationary times since the high nominal interest rate in effect includes principal repayment. This increases his cash flow burden.

borrowers until buyers are found. The next section focuses on how this is actually being done in both Argentina and Mexico.

### **3. Evaluating the Restructuring Programs in Argentina and Mexico**

As the Chilean experience suggests, creating a restructured banking system that enjoys the full confidence of domestic investors takes time. Hence, it is too early to assess how closely the implementation of the programs in Argentina and Mexico have adhered to their original designs. Specifically, it is not yet clear whether principle 1 will be followed because each program is designed to give time to the owners of problem institutions to resolve problems before the authorities seize their banks. Indeed, even in cases where the program envisions the closure or sale of banks, such as in the case of provincial banks in Argentina, the institutions are allowed to remain in business while a buyer is found.

However, based on data for early 1995, there is already ample evidence that principles 2 and 3 have been followed in the execution of programs in both countries, as well as in their design: regulators acted quickly to constrain the growth of impaired institutions, and they have not resorted to inflationary finance to resolve banks.

The authorities in the two countries have relied on very different tools to accomplish these tasks: in Argentina, they have used stringent controls on monetary base growth through the convertibility law and on bank deposit growth relative to the monetary base through reserve requirements; in Mexico, they have enforced a capital to risk asset ratio standard.

To evaluate how these different methods of controlling the expansion of bank balance sheets have restrained the growth of weak banks and avoided inflationary finance, we consider the behavior of two groups of banks in each country between late 1994 and early 1995 -- those that are candidates for restructuring and those that are not. This subsection compares the behavior of the two groups of banks across the two countries to assess the progress of the two programs.

For Argentina, the banking data are divided into large provincial banks, which are relatively weak, and large private banks, which are relatively strong. To analyze the Mexican restructuring program, we categorized banks by whether, as of December 1994, they met supervisory standards for capital and provisions through their own resources, or whether they needed a capital infusion from PROCAPTE or from other sources, including FOBAPROA and private sources.<sup>22</sup> Provincial

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<sup>22</sup> Whether a bank needs a capital infusion is determined as follows. Banks are required to have loan loss reserves to non performing loans equal to 60 percent. They are also required to maintain a capital to risk-weighted asset ratio of 8 percent. If reserves fall below the required level, and reported net income is insufficient to make up the difference, banks must withdraw funds from the capital account and place them in the loan loss reserve account. If this causes their capital to risk-weighted asset ratio to fall below 8 percent, a bank must raise additional capital. If it cannot raise funds, it must apply to PROCAPTE for assistance.



banks in Argentina and banks requiring a capital infusion in Mexico are, designated weak banks; other banks in both markets are, for expositional purposes, referred to as strong banks.

An important issue is whether the authorities in each country have prevented the weak banks from expanding credit -- specifically, whether these banks are capitalizing interest on non performing loans into new loans. To answer this question, we must first determine whether loan portfolios are growing at a slower rate than the rate at which interest is being credited to the portfolio.

Table 3 presents annualized growth rates of loan portfolios for each class of bank by country. Based on early 1995 data,<sup>23</sup> the rate of growth of loans at both categories of banks in both countries has been less than the rate at which interest was credited, indicating that credit growth has been severely constrained. In both countries, the negative growth rate in loan portfolios after accounting for interest earned is greatest at the weak banks, approaching negative 29 percent in Mexico and approximating negative 26 percent in Argentina. The strong banks in Argentina experienced a negative growth rate of 6 percent whereas the strong banks in Mexico experienced a negative growth rate of 22 percent.

<p align="center"><b>Table 3</b>  <b>Growth Rates of Bank Loan Portfolios in Argentina and Mexico:</b>  <b>1995</b>  <b>(in percent)</b></p>			
	Nominal Loan Growth	Interest Credited	Growth Net of Interest Credited
<b>Argentina</b>			
Strong Banks	6.5	12.9	-6.4
Weak Banks	-9.3	17.0	-26.3
<b>Mexico</b>			
Strong Banks	25.8	47.7	-21.9
Weak Banks	21.8	50.6	-28.8
<p>Note: Growth rates and interest credited are annualized based on data through March 1995 for Argentina and through June 1995 for Mexico.</p>			
<p>Sources: Superintendencia de Entidades Financieras y Cambiarias (Argentina), <i>Estados Contables de las Entidades Financieras</i>, and Comision Bancarias y Valores (Mexico), <i>Boletin Estadistico de Banca Multiple</i>.</p>			

In contrast to the loan growth picture, the pattern of liability growth rates between strong and weak banks has been significantly different across the two countries. As indicated in Table 4, the growth rate of liabilities has been slower than the rate of interest credited at all institutions in both

<sup>23</sup> The Mexican data are through June 1995, and the Argentine data are through March 1995. For Argentina rates of interest credited are for all interest earning assets, and for Mexico they are interest and fees received on loans.

countries. However, in Argentina, the growth rate of liabilities net of interest credited was most negative at the weak banks, equaling -42 percent on an annual basis, compared to -2 percent at strong banks, whereas in Mexico it was most negative at the strong banks, equaling -33 percent on an annual basis, compared to -4 percent at weak banks. It is also noteworthy that weak banks in both markets paid substantially more for liabilities than strong banks (Table 4).

<b>Table 4</b> <b>Growth Rates of Bank Liabilities in Argentina and Mexico: 1995</b> <b>(in percent)</b>			
	Nominal Liability Growth	Interest Credited	Growth Net of Interest Credited
<b>Argentina</b>			
Strong Banks	4.0	5.9	-1.9
Weak Banks	-50.4	8.6	-59.0
<b>Mexico</b>			
Strong Banks	1.0	34.0	-33.0
Weak Banks	46.2	50.3	-4.1
Note: Growth rates and interest credited are annualized based on data through March 1995 for Argentina and through June 1995 for Mexico.			
Sources: Superintendencia de Entidades Financieras y Cambiarias (Argentina), <u>Estados Contables de las Entidades Financieras</u> , and Comisión Bancaria y Valores (México), Boletín Estadístico de la Banca Múltiple.			

The Argentine pattern -- strong bank liability growth and weak bank liability losses -- parallels the loan growth data and is consistent with the perception that the supervisory program is restraining the growth of risky institutions. Because the Mexican pattern -- weak bank liability growth relative to strong bank liability growth -- does not follow the loan growth pattern, it requires some analysis.

A negative growth rate of liabilities after accounting for interest credited indicates that liability holders are withdrawing funds from banks, which requires banks to come up with cash to pay for this outflow, for example, by divesting cash assets. Before the crisis, Mexican banks held very little cash on their balance sheets since reserve requirements have been set at zero. Hence, banks would need positive cash flow if faced with deposit withdrawals, or they would have to bid aggressively for deposits to prevent withdrawals.

Since weak Mexican banks bid more aggressively for deposits than strong banks (Table 4), the issue is whether this signifies that they did not have positive cash flow to pay for withdrawals. As indicated in Tables 3 and 4, weak Mexican banks earned more interest on their assets than they paid on their liabilities. In addition, net income after provisioning for loan loss was positive for this

group of banks.<sup>24</sup> Thus, the accounting data indicate positive cash flow; however, the accounting data would be misleading if banks were capitalizing unpaid interest into new loans.

To determine whether or not interest earned on assets resulted from capitalization of unpaid interest on loans, it is necessary to determine what these banks did with their cash. For example, if they expanded their loan portfolios, we would not be able to rule out the possibility that they capitalized interest. As indicated in Table 5, weak Mexican banks expanded their cash and securities portfolios at a very rapid rate, whereas, as indicated in Table 3, the growth rate of loans was substantially less than interest credited. These data indicate that Mexican banks used interest revenue to purchase securities. Since investors who sold securities to these banks likely demanded to be paid with cash, the data indicate that the banks were actually earning cash on their loan portfolios rather than capitalizing unpaid interest. Thus, they had sufficient cash flow to meet liability withdrawals up to interest credited to these accounts.<sup>25</sup>

Table 5 Growth Rates of Liquid Assets and Securities in Argentina and Mexico: 1995 (in percent)		
	Liquid Assets	Securities
<b>Argentina</b>		
Strong Banks	-5.4	-43.0
Weak Banks	-67.9	-63.2
<b>Mexico</b>		
Strong Banks	2.3	-13.0
Weak Banks	28.8	38.4
Note: Growth rates are through March 1995 for Argentina and through June 1995 for Mexico. The Mexican growth rates are at a quarterly rate.		
Sources: Superintendencia de Entidades Financieras y Cambiarias (Argentina), Estados Contables de las Entidades Financieras, and Comisión Bancaria y Valores (México), Boletín Estadístico de Banca Múltiple		

In contrast, weak banks in Argentina held a large stock of liquid assets as a result of high reserve requirements. As indicated in Table 5, they divested liquid assets, which fell by 68 percent,

<sup>24</sup> Positive net income implies that interest withdrawals by liability holders can be met by interest revenue on assets.

<sup>25</sup> The absolute volume increase in the securities and cash portfolios was more than twice the growth in the loan portfolio. In addition, the increase in securities exceeded by a wide margin the increase in the capital account plus any transfers from the capital account to loan loss reserves. This implies that capital injections from the government did not entirely finance the increase in the securities portfolio.

to meet liability withdrawals.<sup>26</sup> The volume of liability withdrawals at weak banks exceeded the decline in volume of liquid assets, indicating that these banks had to pay out some interest revenue or call in some loans to meet liability holders' demands for cash. Hence, there is also no evidence that weak banks in Argentina capitalized interest on non performing loans.

Nevertheless, for two large provincial banks, the decline in liquid assets exceeded liability withdrawals. Since part of the decline in cash assets relative to liabilities was offset by an increase in loans at these institutions, we cannot dismiss the possibility that unpaid interest on some loans was capitalized into new loans.<sup>27</sup>

The evidence through early 1995 indicates that the restructuring programs in both countries have constrained the growth of bank balance sheets. Therefore, neither country is resorting to inflation to rescue weak banks. The evidence also indicates that both countries have made tremendous strides in controlling the growth of credit to bad borrowers by capitalizing interest payments. However, the possibility of unpaid interest capitalization at several large provincial banks in Argentina suggests that reserve requirements alone are not sufficient to control the growth of bad credit. Strong supervision is necessary as well.

#### **4. Indexation of Financial Assets: Is It Always Necessary?**

As indicated in Section III, the indexation program in Chile was an important vehicle for restructuring loans. A similar program (UDIS) was attempted in Mexico, but, as indicated by its absence from the discussion in the previous subsection, the policy has not played a significant role in the Mexican program to date. In fact, as of June 1995, less than 0.5 percent of outstanding loans.<sup>28</sup> Recently, the authorities have proposed a new loan restructuring program, which reintroduces indexation for consumer and small business loans and provides a subsidy for these borrowers.

The lack of success of the original program and the proposal of a new one raise two questions. The first is why borrowers were reluctant to index loans under the original program, and the second is whether a successful restructuring program requires the success of an indexation program.

As indicated earlier, indexation of principal is a method of reducing borrowers' loan payments because it relieves them of the responsibility of paying real principle when they pay

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<sup>26</sup> The decline in liquid assets at large provincial banks equalled 665 million pesos during the first quarter, compared with a decline of 760 million in liabilities. The remainder was accounted for by a decline in the loan portfolio. The 68 percent decline in liquid assets is for the quarter only; it is not annualized.

<sup>27</sup> It is, of course, impossible to determine from the accounting data the extent to which good loans are called in to capitalize interest on bad loans.

<sup>28</sup> See Comision Nacional Bancaria y de Valores (June 1995).

nominal interest rates that include a substantial inflation premium. In Mexico, however, it is not clear that many borrowers would gain by accepting an indexed contract. As of June 1995, interest paid on loans relative to loans has been substantially below the inflation rate, indicating that real interest rates on many loans are negative.<sup>29</sup> Thus, many borrowers have received a substantial reduction in their real loan payments without the indexation program. In fact, the real cost of accepting an indexed loan contract would be higher over the life of the contract because the indexed contract, by assumption, carries a positive real interest rate.<sup>30</sup> This suggests that indexation is not as important a device for reducing loan payments for many borrowers as it was in Chile in 1984. This leads to the question of why the authorities are attempting to establish a new indexation program aimed at small borrowers.

There have been some reports that banks have been more reluctant to reduce interest payments on small loans than on large ones. Hence, the new program is a response of the authorities to demands for more lenient treatment by small business and consumer borrowers whose cash flow is not adequate to service their nominal contracts.

The creation of the new program does not necessarily imply a step backwards in the bank restructuring program because it is a result of the fact that banks are making a serious effort to collect on delinquent loans, which reflects positively on supervisory efforts. However, since the new program eases the impact of collection, it must be carefully circumscribed. There is a risk is that the program may open avenues for subsidies to be extended to relatively large borrowers. If this were to occur, further pressure would be placed on the fiscal account. Therefore, in administering the new program, the authorities need to ensure that it remains limited. They must also ensure that borrowers participating in the program are meeting all their obligations.

## **V. Concluding Remarks**

Five major lessons for successful banking crisis management emerge from the analysis presented in this paper. First, the do's of good banking crisis management must begin with three basic principles: ensure that parties responsible for the crisis bear most of the costs of restructuring; prevent problem banks from expanding credit to delinquent borrowers; and avoid financing the program with inflation by making the restructuring program a high priority. An examination of experiences in restructuring banks in Latin America indicates that the most important element for a successful program is a strong commitment to adherence to the three principles. The Chilean experience stands out as evidence for this.

Second, while the three basic principles for bank crisis resolution are the same for industrial and developing countries, constraints differ significantly: they are much more severe in developing

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<sup>29</sup> This conclusion is based on interest earned on performing loans.

<sup>30</sup> Borrowers can still face larger payments under the nominal contract paying negative real interest rates than under an indexed contract as long as the nominal interest rate is above the rate on the indexed contract.

than in industrialized countries. These constraints include the availability of funding, the availability of markets to dispose of non performing assets and institutions, and the know how to manage a restructuring program. Since the severity of constraints determines the shape of a restructuring program, the attributes of successful programs differ between industrial and developing countries.

Third, while Latin American policymakers face similar obstacles in resolving banking crises, there is no unique formula for success. For example, extension of loan maturities to give borrowers time to return to solvency is a common element of bank crisis management in the region. Since banks in the region face volatile short-term funds markets, regulators must find ways of removing the risks created by maturity extension policies from the balance sheets of banks. However, the appropriate method to execute loan restructuring programs varies by country: indexation worked in Chile but does not seem indispensable in the Mexican environment.

Fourth, the appropriate policy tool for controlling the expansion of risky credit must also be tailored to the conditions in the market. For example, the choice between two policy instruments -- reserve requirements and supervisory standards such as capital to risk-weighted asset requirements -- should be based on the quality of bank management and the experience of bank supervisors. Where both are weak, reserve requirements are often an appropriate tool for controlling bank expansion. As supervisors gain experience and the banking system has a core of sound banks, supervisory tools become much more attractive methods of controlling the expansion of risky credit. These tools can be refined to distinguish between credit growth at sound and unsound banks better than can reserve requirements.

Fifth, a crisis should be used as an opportunity to strengthen supervision and improve the quality of bank management. While, for the foreseeable future, Latin American economies are likely to be subject to periodic shocks that are large enough to generate banking crises, a sound banking system will speed the recovery process. It appears that conditions in both Argentina and Mexico are much more favorable to rapid recovery than they were in the 1980s.

A policy question that comes out of these conclusions is what authorities can do to ease constraints to reduce the cost of resolving banking crises. The only certain means of loosening constraints in Latin America is to build credibility in policies and institutions, which takes time. Even policies that are designed to reduced constraints directly, such as forced savings schemes, can only work when authorities pursue policies to build credibility. For example, mandatory pension funds can be useful as a means of relaxing funding constraints. However, these programs will work only if investors have some confidence in the economy. If policies are volatile and institutions weak, some investors will react to forced savings plans by removing funds from voluntary savings vehicles, such as bank deposits. Nonetheless, forced savings can improve funding options if introduced when institutions and markets are clearly becoming more stable.

How can authorities know that the constraints for resolving banking difficulties have been eased? A clear market signal for regulators is that funds markets do not dry up in a crisis -- a feature present today primarily in industrial countries.

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