Incentive Structure and Resolution of Financial Institution Distress: Latin American Experience

by

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INCENTIVE STRUCTURE AND RESOLUTION
OF FINANCIAL INSTITUTION DISTRESS:
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ABSTRACT

1. This Regional Study on Incentive Structure and Resolution of Financial Institution Distress in LAC outlines a set of principles that can guide Bank staff or country officials in developing policy reforms to resolve financial distress with speed. It complements ongoing work being undertaken in CECFP on financial restructuring of commercial banks that focuses on worldwide experience. The report is based upon the experiences of the authors in giving operational support to sector operating divisions in the development of financial sector adjustment loans or in preparation of financial sector studies in nine countries. These included Argentina, Bolivia, Brazil, Chile, Colombia, Nicaragua, Venezuela, Uruguay and Trinidad and Tobago.

2. Financial Institution Distress has been recurrent in Latin America and has often been protracted with significant real output costs. Although attention has increasingly been focused on implementing preventive measures (e.g. adequate supervision regimes or capital adequacy requirements) less attention has been devoted to curative measures (e.g. rehabilitation, liquidation, etc.) for resolving crises once they occur. Inadequate incentives for resolving financial institution crises on the part of different stakeholders in the financial institution (e.g. regulators, bank managers, shareholders, depositors, employees and borrowers) are shown to be directly related to institutional arrangements and legal processes for resolution of financial institution distress. Principles for reforming curative processes are presented and recommendations made for specific types of institutional and legal reforms that can help to speed the process of averting or resolving financial distress in Latin American countries.
EXECUTIVE SUMMARY

A. Background

1. Financial institution distress (FID) has been widespread in Latin America. Some countries (such as Argentina, Chile and Uruguay) have experienced system-wide crises. Others (such as Bolivia, Brazil, Ecuador, Perú and Venezuela) have managed to defer or contain the problem, although often at a very large fiscal or real output cost.

2. Throughout the 1980s, governments have set up mechanisms and procedures to promote the stability of the financial system. The institutional arrangements put into place fall under two categories: those designed to avert distress (preventive measures) and those designed to mitigate the consequences of distress once it occurs (curative measures). Preventive measures include: (i) the specification of rules of the game with laws and regulations seeking to contain bank risk-taking in relation to capital and to protect the interests of depositors against self-interested actions of bank insiders; and (ii) monitoring of the system through government supervision and external auditing seeking to enforce compliance with laws and regulations, get feedback on the impact of policies on the condition of banks, effect improvements in bank management and prevent fraud. Curative measures include: (i) intervention in problem banks through conservatorship or assumption of ownership by the state; (ii) provision of liquidity by the central bank acting as lender of last resort; (iii) instituting deposit insurance, and; (iv) orderly liquidation procedures.

3. By their very nature, preventive measures have to be put in place before distress is encountered. To be effective, these measures should be clear, consistent, stable and credible. Accordingly, preventive measures tend to be embodied in existing legal and institutional structures. On the other hand, curative measures are often ad-hoc because: (i) they only need to be implemented in the event of distress, which may not happen at all, and (ii) the event that triggers these measures (the threat of --or actual-- insolvency) is hard to define or measure precisely. For these reasons, legal and institutional mechanisms for dealing with distress generally provide a very weak basis for action in Latin America.

The result has often been that when FID strikes Latin American governments find themselves unable to act, as having to react in ways that lead to political interference in decision-making, lack of consistency, and the loss of the public's credibility in the monetary or banking authorities. The path of least resistance is often to do nothing --to avoid responsibility for taking action and wait in the hope that the problem will reverse itself -- which almost inevitably leads to an escalation of the costs of the clean-up. Even if decisive actions are taken under an ad-hoc approach, the outcome tends to be a "restructuring" of the ailing institution. In the absence of clear policy procedures to evaluate alternatives, restructuring is likely to be favored over liquidation, and banks are more likely than not to be bailed-out. This eventually leads to a loss of financial discipline and to the assumption by the State of the bulk of financial sector losses.

B. Objective

4. The main theme of this study is that, although curative measures must take effect on an ex-post basis, (i.e. upon distress), the process can be made much speedier and more orderly and
the economic cost minimized if an appropriate framework is put in place ahead of time. The study develops a set of principles that are important in the design of a framework of curative measures. It also provides examples of how these principles can be applied through changes in the banking law, in institutional processes, and in the functions of different regulatory agencies.

5. This paper does not address the causes of financial distress, and hence does not deal with the body of preventive measures, the condition of financial intermediaries, and the macro-policy environment. This is not to deny the importance of prudential regulation and supervision as the first line of defence against financial distress. Preventive measures are not addressed largely because appropriate arrangements are already in place or being put in place in most Latin American (and Caribbean?) countries. This paper is also not a primer on the implementation of restructuring or other curative measures. Instead, it focuses on putting in place *ex-ante* mechanism and criteria that can guide and facilitate appropriate decisions in the event of distress.

C. CONCLUSIONS AND RECOMMENDATIONS

6. In broad terms the conclusions of this study are that a policy framework for curative measures should:

- take into account the incentives of all concerned parties -- bank managers, the various classes of bank equity -and liability-holders, and regulators; in particular, it should strive to preserve financial discipline and should induce cooperative solutions;

- clearly spell out and protect the rights of all concerned parties (differentiation of liability holders by seniority and by the timing of origination of their claims);

- be based on rules rather than discretion, with a clear specification of policies and procedures to be pursued under a range of possible scenarios;

- be based on the principle of minimum long-run costs, and financial support by the State is provided in the most transparent and targeted fashion;

- force timely actions on the part of regulators by assigning responsibilities, enhancing accountability, and providing strong legal backing for their actions;

- be anchored in a set of laws and institutions that provide stability and protection against short-term interests; and

- be removed, as much as possible, from political influence, and concentrate analysis and decision-making in the area of bank failure resolution on a core of technical and independent staff.

7. These broad principles should be applied at several levels: (i) in the definition of the authorities’ objectives, (ii) in the definition of tradeoffs and constraints (by increasing transparency in the allocation of costs and benefits); and (iii) in the development of appropriate policy instruments (in terms of institutions, laws and particular mechanisms and operating procedures). Definition of objectives is ultimately political. However, technical advice can help to force priorities into sharper focus by stressing the importance and urgency of the issues.
Implementation of these principles in the context of designing a framework of curative measures in specific country cases results in a specific set of recommended reforms that are outlined in greater detail in Section IV of the main text and in Annex 1. The recommendations outline a sequence of actions for dealing with financial institution distress with the role and functions of each agency carefully delineated at each point in the process. They include the following provisions in the banking law:

(a) Imposition of a preventive surveillance regime for banks experiencing gradual decapitalization as explicitly defined and monitored. This will include cessation of all lending, special procedures for accessing Central Bank rediscounts and possibly application of veto power by supervisors on decisions taken by the bank’s Board of Directors.

(b) Imposition of a capital replenishment regime with an explicit time limit (e.g., 90 days). This would come into election when examinations of the bank reveal that losses on the portfolio are on the verge of forcing noncompliance with minimum capital adequacy standards. During this period, a call is made on existing shareholders to replenish capital. No Central Bank rediscounts will be permitted, and all lending by the Bank will be stopped. Relevant regulatory agencies will examine the financial condition of the institution to determine if the bank will need to be intervened.

(c) Circumstances in which intervention by authorities can occur will be explicitly stated and will be linked to an assessment of the bank’s capital position, or to other well defined and monitorable actions. These could include findings of gross mismanagement or fraud, recurring noncompliance with prudential regulations (e.g., in area of loan provisioning and classification), etc.

(d) The process for conducting rehabilitations will be defined where the following actions would have to be taken immediately:

(i) upon intervention the general assembly of shareholders should be disbanded;

(ii) directors should be removed;

(iii) losses should first be charged off against existing equity holders;

(iv) all bank operations inclusive of new lending and issuance of "net" new deposits should cease, until a full rehabilitation plan is adopted; and

(v) a capital replenishment and associated reorganization plan must be adopted.

After the rehabilitation technique of preference has been chosen and the government has injected capital into the institution it will be permitted to resume operations under a preventative surveillance regime. Within a fixed time period the government will
have to sell its entire explicit ownership participation in the bank. This process is designed to recognize losses and inject capital into the bank through means that will not tend to distort the incentives of old or new claimants on the bank.

(e) Define the conditions under which the liquidation option can be used and the guidelines for implementing this process. This should include actions to dispose of marketable assets through market sales with transparent procedures for sale of assets that are non-marketable (e.g., well-defined auctions). Care is important in this area, because if the receiver is also a regulatory agency (e.g., the Deposit Insurance Corporation) it can be discredited if economic agents perceive that the process for asset disposal is not "fair" and "transparent." In some countries such considerations can even lead to the need to have liquidations undertaken by a wholly different agency or under the auspices of the courts.

(f) A final set of reforms relates to changes in the banking law or other laws (e.g., penal code) to:

(i) impose severe punishment for conflict of interest on the part of regulators;

(ii) greater ex-post information disclosure relating to performance of regulatory agencies;

(iii) limit overlaps of functions among agencies that have a role in crisis resolution at each step noted in paras. (a)-(e) above; and

(iv) insist that assistance provided by relevant agencies in support of FID resolution reflect market rates and appear in the budget.

Experience in Bolivia, Colombia and Chile indicates that if a legal and institutional framework with these features is put in place before financial systems come under stress, the necessary curative measures can be taken much more efficiently and with much higher public credibility at low economic costs.

1 Government is an implicit owner due to the existence of explicit or implicit deposit insurance.
INCENTIVE STRUCTURE AND RESOLUTION OF FINANCIAL INSTITUTION CRISES:
LATIN AMERICAN EXPERIENCE

I. Overview and Introduction

A. Financial Distress: Latin American Experience

Financial distress, defined as a situation where a large number of financial institutions have negative capital or are insolvent, has been recurrent in Latin America. Some countries (e.g. Argentina, Chile and Uruguay) have experienced system-wide crises, whereas others (e.g. Bolivia, Brazil, Ecuador, Perú and Venezuela) have managed to defer or contain the problem of financial distress, often at a very large potential fiscal and real-output cost or in an unsustainable fashion. To illustrate the extent and severity of financial distress, consider the experiences of a few LAC countries:

- In Argentina, over the last 15 years more than 200 banks have been declared in liquidation and almost 100 banks have been intervened by the Central Bank.

- In Uruguay, the State's policy in the 1980s was to prevent all bank failures. However, a dominating public bank (itself accounting for one-third of total system deposits) absorbed four ailing private banks which together accounted for almost 30% of the system's deposits.

- In Chile, the Government was forced to assume control of a significant number of institutions in the early 1980s, following a vigorous reprivatization and liberalization of the banking system in the mid-1970s. The banking crisis came in two waves in 1981 and 1983, and in each instance the loan portfolio of intervened or failed institutions amounted to around 40% of total system loans.

- In Colombia, losses of the banking system in the mid-1980s amounted to 140% of the system's capital and reserves. As a result, the Government was forced to intervene in six banks that held one-quarter of the banking system's assets.

- In Bolivia, disastrous macroeconomic performance undermined the financial system to the extent that broad money (M2) as a percent of GDP fell by two-thirds in only three years (1982-85). Overdue loans accounted for almost 20% of the total loan portfolio as of end-1983, and for 92% of banks' net worth as of mid-1988. During this period, all foreign banks left for lack of profitability.

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2 In this paper financial distress is not viewed as equivalent to a situation where the banking systems as a whole has "negative" capital (See Hinds (1988) nor is it equivalent to systemic "crisis" where system-wide insolvencies result in significant real output costs. See Sheng (1990A) for a good review of these issues.
B. Institutionalization of Financial Sector Policies

Throughout the 1980s, governments have set up mechanisms and procedures to promote the stability of the financial system. The institutional arrangements put into place fall under two categories: those designed to avert distress (preventive measures) and those designed to mitigate the consequences of distress once it occurs (curative measures). Preventive measures include: (i) the specification of rules of the game with laws and regulations seeking to contain bank risk-taking in relation to capital and to protect the interests of depositors against self-interested actions of bank insiders; and (ii) monitoring of the system through government supervision and external auditing seeking to enforce compliance with laws and regulations, get feedback on the impact of policies on the condition of banks, effect improvements in bank management and prevent fraud. Curative measures include: (i) intervention of problem banks through conservatorship or the assumption of ownership by the state; (ii) provision of liquidity through the central bank's function of lender of last resort (L.R); (iii) the institution of deposit insurance and (iv) orderly liquidation or rehabilitation (i.e. recapitalization) procedures.

By its very nature, the framework of preventive measures has to be laid out before distress is actually encountered. To work at all, these measures have to be endowed with clarity, consistency, stability and credibility. Accordingly, preventive measures tend to be embodied (with various degrees of efficacy) in existing legal and institutional structures. On the other hand, curative measures are often ad-hoc both in terms of the nature of the actions taken and their timing. Curative measures tend to be ad-hoc because: (i) the fiscal implications of recognizing and allocating losses are viewed as politically untenable; the measures only need to be implemented in the event of distress, that may not occur; and (iii) the event that triggers these measures (the threat of -- or actual -- insolvency) is very loosely defined and hard to measure precisely. Therefore, legal and institutional mechanisms for dealing with distress are generally lacking in Latin America, which provides a very weak basis for action. The result has often been inaction, political interference in decision-making, lack of consistency, and the loss of the public's credibility in the monetary/banking authorities. The path of least resistance is often to do nothing -- to avoid responsibility for taking action and wait in the hope that the problem will reverse itself -- which almost inevitably leads to an escalation of the costs of the clean-up. Even if decisive actions are taken under an ad-hoc approach, the outcome tends to be a "restructuring" of the ailing institution. In the absence of clear policy procedures to evaluate alternatives, restructuring is likely to be favored over liquidation, and banks are more likely than not to be bailed-out. This eventually leads to a loss of financial discipline and to the assumption by the State of the bulk of financial sector losses.

From the perspective of IBRD's operations, there are also advantages of focusing on policy reforms relating to the development of an ex-ante framework for resolution of bank crises rather than on individual ad-hoc restructuring operations. IBRD's lending products and the required government guarantee, lend themselves to policy reforms through their conditionality, but are poor vehicles for reform at the level of private institutions for several reasons. First, the information requirements for decision-making and implementation of bank restructuring operations is beyond what the IBRD has the capability of obtaining and processing. Where banks form part of broader financial or industrial groups, as in many LAC countries, focusing on the restructuring of the bank alone will probably have unintended -- even perverse -- results. Second, loan conditions on the progress of a rehabilitation project cannot be specified clearly enough for them to be forceful in promoting efficient resolution.
Third, bank restructuring takes time: the balance sheet can be re-fitted over-night, but profitability must be earned through time.

C. Objectives and Main Conclusions of the Paper

The main theme of this paper is that, although curative measures must take effect on an ex-post basis (i.e. upon distress), the framework for their execution must be developed ex-ante. Thus, the objective is to develop principles that are important in the design of a framework of curative measures in Latin American countries. Within the set of curative measures noted above, the focus of this paper is not on LLR policies of the Central Bank or on the case for and against deposit insurance. This is because these components of the "safety net" have been analyzed in depth by others. Instead, this paper focuses on how to ensure ex-ante that decision-making processes will be followed to adopt the right intervention, restructuring or liquidation decisions in the event of financial distress of private financial institutions. This should be distinguished from a financial crises characterized by deposit runs etc. where LLR policy and deposit insurance would be particularly important.

This paper does not address the causes of financial distress, and hence does not deal with the body of preventive measures or the condition of financial intermediaries. Thus, the specific microeconomic (e.g. fraud, mismanagement, lending to related parties) or macroeconomic factors (e.g. terms of trade shocks, fiscal or exchange rate policies) that cause large fluctuations in the "value" of commercial bank assets and financial distress are not explicitly addressed. In other words, it takes the probability of distress as given. This is not to underestimate the importance of prudential regulation and supervision or enforcement of basic banking laws, as the first line of defence against financial distress. Preventive measures are not discussed in detail, because the way in which they are currently being institutionalized is appropriate. This paper is also not a primer on how to restruc-


4 The focus of this paper is upon financial distress experienced by private sector financial institutions. In this paper financial institutions are primarily viewed as commercial banks unless otherwise indicated. The resolution of financial distress among wholly government-controlled banks, which have been very significant in a large number of LAC countries, introduces other complications. For example, special, intragovernmental incentive problems arise between managers of the bank and government regulators and politicians. Also, special legal problems exist (e.g., ley de salva guarde in Venezuela) which do not permit the government to show losses in government banks.

5 A very large literature already exists within and outside the Bank on the key factors causing financial distress or crises. See for example Sheng (1990A), DeJuan (1988) and Thorne (1988) for good reviews.

6 For a good review of the types of preventative measures institutionalized in the context of financial sector lending operations by the Bank, See the CECFP working paper on Financial Sector Adjustment Lending.
ture financial institutions, since the actual process of restructuring occurs *ex-post* and has been the focus of intensive study in recent years.\(^2\)

This paper argues that the policy framework for *curative* measures will be more efficient, reliable and credible to the extent that:

- it takes into account the incentives of all concerned parties -- bank managers, the various classes of bank equity- and liability-holders, and regulators; in particular, it should strive to preserve financial discipline and should induce cooperative solutions;

- it clearly spells out and systematically protects the rights of all concerned parties (differentiation of liability holders by seniority and by the timing of origination of their claims);

- it is based on rules rather than discretion on behalf of relevant government agencies changed with resolving financial distress where a clear specification of policies and procedures to be pursued under a range of possible scenarios is posited; (?)

- policy decisions are based on the principle of minimum *long-run* costs, and financial support by the State is provided in the most transparent and targeted fashion;

- it forces timely actions on the part of regulators by assigning responsibilities, enhancing accountability, and providing strong legal backing for their actions;

- it is anchored in a set of laws and institutions that give it stability and protection against short-term interests; and

- it is removed as much as possible from political influence, and concentrates analysis and decision-making in the area of bank failure resolution on a core of technical and independent staff.

These broad principles can be applied at several levels: (i) in the definition of the authorities' *ex-ante* objectives; (ii) in the definition of tradeoffs and constraints (by increasing transparency in the allocation of costs and benefits); and (iii) in the development of appropriate policy instruments (in terms of institutions, laws and particular mechanisms and operating procedures). Definition of objectives is ultimately political. However, technical advice can help to force priorities into sharper focus by stressing the importance and urgency of the issues. In addition, because the State's objectives are in some sense the sum total of the subordinate agencies' objective function, working with technical agencies can help define the broader objectives of the government.

D. Structure of the Paper

This paper tackles the issue of designing a policy framework for resolving bank crises at the conceptual and practical levels: section II discusses the conceptual underpinnings, and section III provides specific illustrations in the context of country examples.

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\(^2\) See Sheng (1990B) for a review of experience in restructuring commercial banks.
Section II provides a definition of financial crises and distress, discusses the problems of measurement of solvency, and develops a terminology for understanding the concepts and processes of rehabilitation and liquidation of financial institutions. Schematic models providing a simplified application of these concepts are relegated to boxes inserted in the text. These simple models are used for illustration purposes, and largely abstract from actual practice. This section argues that what makes the resolution of bank distress unique in relation to distress experienced by non-financial companies is the banks' special liability structure (i.e., deposits withdrawable on demand, high gearing ratio) and asset structure (loans are products of heterogeneous quality, which depend on the characteristics of the borrower). This unique structure requires that financial distress be handled with speed by authorities. The section also indicates how the economic incentives of different parties to a financial crisis act to make bank liquidation or rehabilitation difficult.

Some of the general principles that can guide development of a policy framework for curative measures in Latin America are developed in Section III and are summarized for convenience in Annex 2. These principles are grouped according to how they affect incentives in three areas: (i) incentives of regulatory agencies, (ii) incentives for financial discipline and bank management, and (iii) incentives induced by liability and ownership structure. Each of these principles represent a particular application of the concepts discussed in Section II. Therefore, taken together they suggest a way of embodying those concepts in a country's policy framework for dealing with financial institution distress (FID). Although country specific considerations may make application of these principles inappropriate in some cases, they are generally considered to be elements that will lead to efficient and timely resolution of FID. Each of the points discussed in this section is motivated with a particular country experience contained in a box inserted in the text. The examples are meant to illustrate the specific points under consideration rather than to provide a full description of each country's experience. For a more thorough description of country cases or of the broader economic, legal and regulatory issues, the bibliography lists some reading suggestions grouped by subject.

Finally, Section IV summarizes recommendations for the specific types of legislative and regulatory reforms that will need to be considered in applying the principles developed in the previous section. It also indicates some provisos associated with application of these principles in LAC countries. Annex 1 provides more detailed examples of how these principles have been applied in the context of legal and institutional reforms to improve curative measures to resolve financial distress in selected Latin American countries.

II. Towards Conceptual Foundations

1. This section provides the conceptual underpinnings for determining principles to be adhered to in developing a framework of curative measures to resolve FICs. Five questions are addressed:

1. How to measure solvency and failure?

2. What are FI rehabilitation options?

3. What are FI liquidation options?

4. What is unique about the resolution of FI distress?
5. Why is FI rehabilitation and liquidation difficult?

2. Each of the questions above is addressed below in sufficient depth to provide a common set of definitions, terminology, and a set of economic considerations that form the basis of the analysis in Section III. For more thorough discussions of the questions discussed below the bibliography lists reading suggestions grouped by subject.

A. How to Measure Solvency and Failure?

3. Solvency and failure of a financial institution have been defined theoretically (see Kane [1985] and Demirguc-Kunt [1990]) as conceptually distinct events. Economic or market-value insolvency is viewed as a market-determined event that occurs when the market value of the FI's capital as reflected by the value of shares traded and non-allocated reserves excluding the explicit or implicit value of deposit guarantees is negative. More formally, economic solvency will imply that the discounted present value of the expected cash outflows and inflows associated with the FI's existing stock of non-owned liabilities and assets is negative. Economic insolvency will be synonymous with market value insolvency to the extent that the market value of the equity of the FI properly reflects the expected value of the FI's net worth, and an exact value can be imputed to the value of implicit or explicit deposit insurance.

4. By contrast, failure only occurs when economic or market-value solvency is officially recognized through actual closure of the FI—an event that need not be synonymous with economic insolvency. Upon announcement of failure the government will have a variety of options at its disposal to resolve the problem of insolvency which range broadly from outright liquidation to a variety of rehabilitation options. 

5. Despite the apparent precision of the above definitions problems in actually measuring economic or market value solvency can make it difficult for economic agents or officials to discern the extent to which an FI is insolvent and to subject it to some form of failure resolution process. Three problems are of particular importance.

6. First, if there is no market in which the shares of the FI are traded and no markets exist in which to trade the assets of the FI, measurement of market value insolvency becomes very difficult.

7. Second, empirically estimating the "value" of deposit insurance provided and how the value of this form of insurance changes as the amount of own-contributed capital by the FI falls is complex in practice. Decomposing the value of deposit insurance from own-contributed capital by

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8 Under this definition an economically solvent institution could be temporarily unable to meet certain obligations (i.e., payments to depositors). This can be viewed as a "liquidity" problem. However, if the FI does not receive financial assistance from the monetary authorities it can become insolvent if it has to sell its assets at distress prices to cover existing obligations.

9 See Sections II.B and II.C which provide a general description of these methods.
the FI is difficult, because no "market" transactions exist with which to value this guarantee. Rather a valuation model must be developed.\footnote{10}

8. Third, commercial banks like corporations have a certain intrinsic value as a going concern that can be particularly difficult to estimate even when markets do exist for trading the bank's equity or assets. For example, the charter of the bank can have a value that is extinguished if the bank is liquidated, but preserved if the bank is rehabilitated.\footnote{11}

9. To overcome the practical difficulties related to measuring economic solvency, a book value measure of solvency, where assets are valued at their nominal or historic cost (net of depreciations) value is sometimes used. Due to the arbitrary nature of book values and their possible manipulation by FIs, they do not necessarily tend towards market values. Thus, \textit{book value solvency} is a very imperfect measure of economic solvency. A better approximation can be achieved by adjusting the book value of certain assets--those that are more likely to be value impaired--according to a set of established but somewhat arbitrary rules. Through provisioning for probable losses, write-offs of realized losses, revaluations, and adequate treatment of off-balance sheet commitments, the net book values of certain asset categories can more closely reflect underlying market values. In addition, where a market value can be ascertained for certain assets rules can be adopted that require the valuing of these assets at the lower of replacement cost or market. Finally, where regulators can ascribe a value to the implicit or explicit deposit insurance provided to FIs it should be netted from the book value of net worth.

10. The resulting solvency measure can be termed \textit{technical solvency}, as this is the measure most frequently used by bank supervisors. It represents a compromise between the theoretically correct concept of economic solvency and readily observable book value solvency. Box 1 defines the alternative measures of solvency, and highlights the differences between economic, book value, and technical concepts of solvency.

\footnote{10} A far fuller treatment of this issue can be found in Demigurc-Kunt (1990), where deposit insurance is modelled as a form of compound option contract. From a practical vantage point estimates of the value of the deposit insurance guarantee will be very difficult to develop through use of a valuation model since the parameters needed are themselves difficult to ascertain empirically.

\footnote{11} The value of the bank charter is not independent of policies regarding freedom of entry to domestic or foreign banks.
**Box 1: Conceptual Characterization of Solvency**

Suppose that the off-site supervision department of the Superintendency of Banks inspects a balance sheet of a bank (shown schematically in panel A) as part of its periodic review process. It detects a collection of potentially value-impaired assets, $A_{vi}$ consisting of non-performing loans, a disproportionate amount of accrued yet unearned income, assetized losses, immobilized assets not being disposed of, equity investments in risky ventures, etc. It also has performing assets, $A_p$, comprising liquid reserves, receivables, current loans, fixed assets, fixed-income investments, etc., as well as deposits, $D$, on the liability side, some proportion of which may be insured. Given the size of potentially value-impaired assets, an examination is ordered. Aside from inspecting accounting and management practices, the purpose of the examination is to effect some adjustments to the book value of value-impaired assets. The examination team orders adequate provisions, write-offs and revaluations so that $A_{vi}$ better reflect the true value of the assets. After adjustments, the balance sheet will look as in panel B below. In this case the bank is book value solvent but technically insolvent. If technical solvency measures do not net out the value of government deposit insurance it can overstate the value of the FI's capital and solvency. This source of error grows rapidly as the value of own-contributed capital by the FI falls. However, as a practical matter, it will usually be impossible to account for this problem.

### A. Financial Condition as Revealed by Balance Sheet

- $A_p$
- $A_{vi}$
- $D$
- $K_b$

### B. Financial Condition with Adjustments Following Examination

- $A_p$
- $AV(A_{vi})$
- $D$
- $K_t$

**Solvency measures:**

- $K_b =$ book value net worth = book value of assets minus nominal value of liabilities = $A_p + A_{vi} - D$
- $K_t =$ technical net worth = adjusted value of assets (after provisioning for and write-offs of losses, revaluations) minus nominal value of liabilities = $A_p + AV(A_{vi}) - D$
- $K_a =$ market value net worth = market value of assets minus nominal value of non-owned liabilities and the value of deposit insurance = $MV(A_p) + MV(A_{vi}) - D - G(K_o)$
- $K_e =$ economic net worth = net present value of expected cash flow from assets minus net present value of payments on liabilities and net present value of deposit guarantees = $NPV(A_p) + NPV(A_{vi}) - NPV(D) - NPV(G(K_o))$

where: $AV(*) =$ adjusted value of $*$
- $MV(*) =$ market value of $*$
- $NPV(*) =$ net present value of expected cash flow of $*$
- $G(K_o) =$ the value of deposit insurance as a function of the capital contributed by the financial institution $(K_o)$
The above definitions of solvency imply that FID corresponds practically to a situation where a financial institution is insolvent in the technical sense. A technically insolvent FI may not immediately fail, because government actions may not be taken to declare it insolvent. However, once an FI is officially recognized as insolvent two possible outcomes can occur—rehabilitation, which can involve a variety of resolution techniques, and liquidation.

B. Rehabilitation Options and Institutional Processes

B.1 Rehabilitation Options

12. Rehabilitation of an insolvent bank, defined broadly, entails three types of action:

1. *restoring solvency* through a recapitalization scheme designed to ascertain all existing losses and endow the institution with an adequate level of capital to remain in operation;

2. *restoring profitability* through a restructuring of the institution's operations, staffing, cost structure and physical infrastructure; and

3. *upgrading management* through the hiring of adequate staff and improvements in decision-making, risk management and control systems and procedures.

13. Successful and quick FI rehabilitations require simultaneous actions in all these areas. However, the focus of this paper is on the options available to restore solvency through different recapitalization schemes and the procedures employed to implement them. This is because the nature of different recapitalization schemes or changes in the process for implementing recapitalizations (i.e., curative measures) affects incentives to resolve FID distress with speed. Inherent in any recapitalization scheme is the apportionment of losses among the parties effected by FI distress—new and old depositors, new and old shareholders, and the government. Since rehabilitation is usually adopted as a form of explicit or implicit deposit protection, depositors are not usually forced to incur losses. Old shareholders will lose the value of their investments to the extent that "old" capital is reduced to meet losses (through write-offs or provisions) prior to the introduction of new capital. New capital will not voluntarily flow into an insolvent FI until losses are allocated. Therefore, the government will typically absorb any residual losses (after writing off old capital) until the bank is returned to solvency. At that point, new capital can be solicited.

14. Recapitalization schemes differ primarily in regard to the source of new capital. It can come from old shareholders, new shareholders (e.g., other banks), the government itself, or through a combination of these sources. The most common recapitalization schemes are (see Box 2 for schematic representation):

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Some would argue that rehabilitation will automatically involve regulatory forbearance whereby certain types of preventive regulations (e.g., capital adequacy standards, leverage limits) will be relaxed or not strictly enforced to permit the rehabilitation to be achieved. This, however, need not be the case (see the discussion of rehabilitation procedures). Therefore it is not defined per se to be an action taken in the context of an FI rehabilitation.
1. **Bail-out.** The bank is kept afloat, with its operations and ownership preserved. The government itself covers all the losses. It may request that existing shareholders put in new capital. Since the bank is not put up for sale, existing shareholders have little incentive to provide additional capital.

2. **Nationalization.** In this case the recapitalization is borne entirely by the government: it provides enough capital to cover all losses and to allow the institution to remain as a viable entity.

3. **Assisted merger.** The government provides resources sufficient to induce other institutions to invest in the ailing institution. The government covers all losses to bring the institution into economic solvency. At this point outside investors may become interested in purchasing the bank. This will probably entail less government resources than under the previous two cases because competing bids can be solicited.

4. **Purchase and assumption.** This operates under the same principle as an assisted merger, but in addition the government removes from the bank a series of value-impaired assets. In effect, only a portion of the bank (on the asset side) is sold. In this case, the government will need to put in more fresh resources into the institution relative to the previous case simply to compensate for the assets that are removed. Acquiring banks will prefer this option to the full merger option particularly when the acquirer has difficulty in ascertaining the extent of explicit or hidden losses on the existing asset portfolio or on other contingent obligations of the FI. In some instances this option is preferred if it is believed that the government will be more successful than the acquiring bank in recovering the non-performing assets of the FI.\(^{13}\)

\(^{13}\) This latter consideration is not likely to hold in many cases.
Box 2: Modalities of Government Financial Support

Upon a finding of technical insolvency shown in panel B of Box 1, the government can provide financial assistance to effect a recapitalization. The assistance provided by the government is illustrated with solid boxes in the panels below. It takes the form of an injection of performing assets (cash or government bonds). Note that rediscount support (panel C) does not constitute recapitalization, because the new resources are accompanied by a corresponding liability. Therefore, on a stock basis the extent of recapitalization is not reduced. If provided on subsidized terms, rediscounts could lead to recapitalization through enhanced profitability. Panels E through G depict simplified examples of the main rehabilitation options. They show the condition of the balance sheet prior to the introduction of new capital. The nationalization of the bank can require the most government resources since no outside capital is to be solicited. Although this will often depend upon whether the government provides a "guarantee" as opposed to actual paid in capital. This is followed by the bail-out option since current shareholders have little incentive to put in capital of their own. The difference between an assisted merger and purchase and assumption is that in the latter the government "purchases" some or all of the institution's bad assets. Although sometimes the purchase occurs at book value (above market), this operation can be split into an unsubsidized purchase (i.e., at market value) and a recapitalization component (see panel F below).14

\[
\begin{align*}
\text{E. Rediscount Support} & \\
A_p & \text{D} \\
AV(A_{vi}) & \\
-K_t & \text{R} \\
A_p & \\
\text{where } R = \text{rediscount liability} \\
\text{F. Purchase & Assumption} & \\
A_p & \text{D} \\
A_p & \\
\text{where the government keeps } \text{NV}(A_{vi}) \\
\text{G. Assisted Merger} & \\
A_p & \text{D} \\
AV(A_{vi}) & \\
A_p & \\
\end{align*}
\]

In practice, the trade-offs among these rehabilitation options are not so clear in terms of government resources required as presented. See Acharya S. and Dreyfus (1988) that treat some of the issues involved.
B.2 The Rehabilitation Process

15. Implementation of each of the different recapitalization schemes above as well as the choice across these schemes is subject to some form of formal process in all countries. In most instances the special need to undertake rapid action to resolve FID’s results in the implementation of a process that is extra-judicial. In some countries (e.g., Spain) ownership of the FI is actually transferred to a special government agency as in the case of a deposit insurance corporation that functions as a bank hospital. In other countries legal powers to conserve the FI’s assets are vested in a conservator (e.g., the Office of the Comptroller of the Currency or the FDIC in the US case) as in corporate reorganizations. The conservator (i.e., 'interventor' in LAC countries) can be an individual or an institution, and is charged with rehabilitating the FI so that it can operate as a going concern. The conditions that prompt the appointment of a conservator can include the finding of technical insolvency, actions that are in violation of a FI's charter, inability of the FI to cover maturing obligations, or the presumption of fraud or mismanagement. The conservator is charged with conserving the FI's assets and with continuing to operate the FI so as to restore it as a going concern. Furthermore, the conservator has authority to investigate the financial condition of the FI, weighs the various recapitalization options, and implements the chosen one. After appraising the value of the good and bad assets of the FI, the conservator is usually obligated by law to make an offer to each class of creditor (i.e., depositors not covered by deposit insurance where applicable, and different classes of debt-holders). However, during the period in which the conservator is implementing a particular rehabilitation scheme, he is given authority in a variety of countries to take net new deposits after allowing for the rollover of the stock of deposits present at the time of intervention. He also has discretion to issue new equity even if the FI is being rehabilitated. In addition, substantial discretion is often given to the conservator to initiate steps to have the FI liquidated.

C. Liquidation Options and Institutional Processes

C.1 Liquidation Options

16. Liquidation involves the forced sale of assets of an FI after all its operations have been indefinitely suspended or permanently terminated. In many LAC countries the suspension of operations is decreed by the Superintendency or Central Bank. However, it may also require the issuance of a cease and desist order by a judge. Liquidation proceedings for FIs are somewhat analogous to bankruptcy proceedings for a corporation. Several techniques for liquidating assets can be distinguished:

1. Market Sales. This option can be used when a ready market exists for the asset being sold and sales are not so large so as to affect market prices.

2. Auctions. All or some portion of the assets of the FI are sold in a public auction.

3. Private Placements. Assets are disposed of through private sales rather than through a public auction process. Special circumstances might dictate the use of such methods. For example, a buyer might not wish to reveal its identity for tax reasons or the government might not wish to sell its assets publicly for political reasons. In general, use of private placements is not common in liquidations. It is used extensively in purchase and assumptions—a rehabilitation option where bidders are
permitted to appraise the assets of a particular FI before its closure is announced. This is done to permit bidders to make their own determination of what assets they will wish to assume versus those that they would want a regulatory agency to purchase.

Government assistance is not implicit in these techniques, although it is not precluded. Usually, the proceeds of the sale of assets, regardless of the technique used, are distributed first to each class of creditor of the FI with whatever amounts remain being distributed to shareholders.

17. Different liquidation techniques are sometimes used in conjunction with each other depending on the type and depth of markets in existence for the assets of a given FI in a particular country. For example, in Brazil, liquidation of some FIs has involved a combination of auctions and market sales. In the case of fixed assets, appraisals of the value of these assets are undertaken and auctions are held given the nonexistence of a sufficient market. In the case of government securities, market sales were undertaken.

C.2 The Liquidation Process

18. The process of liquidation involves appointment of a receiver in some countries. In most countries this will be the Central Bank or a Deposit Insurance agency. However, in some countries this can be a judge. In this case all operations of the FI are suspended. Management and the directors of the bank are displaced. The receiver does not have discretion to take new deposits or to continue the lending operations of the bank. The receiver will take control of the FI's assets and will dispose of these assets to pay each class of creditor upon the bank inclusive of pension liabilities to employees where the hierarchy of creditors is usually defined in the law for extra-judicial liquidations or in the commercial code. After this the receiver will call a shareholders meeting to determine how the remaining receivership assets will be distributed among different classes of shareholders (i.e., owners). In these cases the receiver (and or agency) charged with disposing of assets can contract out various aspects of this process to other institutions (e.g. merchant banks), specializing in providing services in this area.

19. An alternative process for managing liquidations is self-liquidation. This process, which is only applied to non-bank FIs such as broker/dealer firms, involves the externally imposed market-sale of all the FI's assets without closure of the institution and without replacing the management and directors. Unlike a forced liquidation through appointment of a receiver, this process will only be possible if the institution still has a positive net capital position, although this position can be close to zero. This is because a large negative net worth would imply the need for some form of loss sharing that would need to be imposed among customers and creditors. Thus, in managing the self-liquidation process it must be possible for regulators to carefully monitor some form of liquidation measure in order to assure that this process is implemented before the FI has a negative net worth. In any event a key precondition for this process to work is that a ready market exist for the assets of the institution so that a quick sale can be effected.

D. What Is Unique about Commercial Bank Distress?

/15 The events triggering the imposition of a receiver are often not distinguishable from conditions that require appointment of a conservator.
20. Although the sections above have defined solvency and failure as well as the typical curative procedures used to resolve FID little has been said about what makes commercial bank distress unique relative to distress experienced by nonfinancial corporations. An analysis of this question also helps to highlight some of the real costs of commercial bank distress.

21. Four structural characteristics distinguish commercial banks from nonfinancial corporations. These are:

1. a liability structure characterized by deposits withdrawable on demand;
2. substantial leverage as measured by total liabilities (inclusive of pure debt and deposit contracts) relative to the value of own contributed capital;
3. a smaller proportion of "nonmarketable assets" vis-a-vis most corporations, but a larger amount of these assets relative to institutions such as money market mutual funds; and
4. the existence of implicit or explicit deposit insurance.

22. These characteristics of a commercial bank's financial structure highlight the need for quick resolution of financial distress. This is because losses at financial institutions can increase very rapidly if the bank cannot renew deposits when its proportion of non-readily marketable assets is high, and its leverage is great (e.g., typically between 10 to 1 and 20 to 1). Box 3 provides a simple illustrative example of how quickly losses can mount given this type of financial structure.

Box 3: The Need for Speed in Resolving FICs

Consider a commercial bank that has a leverage ratio of 20 to 1, where the value of own-contributed capital is 10 ($K_0$) and 50% of total assets are in non-readily marketable securities (NMA). Panel A shows what the balance sheet would look like under the assumption that the only liabilities issued are deposits (D).

A. Initial Financial Condition

| NMA = 105 | D = 200 |
| NMA = 105 | $K_0 = 10$ |

Panel A highlights the importance of leverage since only a 5% loss in assets will completely eliminate the bank's capital. Alternatively, if deposits cannot be rolled over the combination of high leverage and a high proportion of non-marketable assets can rapidly precipitate liquidity and solvency problems as assets cannot be sold quickly enough to meet deposit withdrawals. In this example these pressures will become acute once more than half of deposits cannot be renewed (see Panel B). At this point capital will have to be used to meet deposit withdrawals as income earned from existing assets is not sufficient to cover these requirements. Besides the risk associated with sudden deposit withdrawals or runs, the financial structure of banks is also vulnerable to the effects of different forms of price risk (i.e., interest rate risk, or asymmetric indexation of assets and liabilities). To the extent that banks engage in term transformation or more generally carry a duration mismatch in assets and liabilities asymmetric changes in short-versus-longer-term interest rates (e.g., sudden shift to an inverted yield curve) can rapidly erode the bank's capital. In the contrived example here a negative spread of 6% on all liabilities and assets will completely erode the bank's capital.

B. The Case of Non-renewal of Deposits

| NMA = 105 | D = 95 |
| -10 = K |
23. The losses sustained by banks and the lack of confidence among economic agents is associated with real output costs. This is because banking distress that became crises and associated runs by depositors, require banks to liquidate loans that, from an economy-wide vantage point, should have been continued in order to finance certain projects. More broadly such crises make it far more difficult for the financial system to act as a buffer in response to real shocks. In a financial system not experiencing crises economic agents can smooth consumption through borrowing and lending operations. Expressed in another way—stability of the monetary regime has a "public good" aspect given the reduction in transaction costs to economic agents of this stability. It is for these reasons that most modern banking systems employ some form of government intervention through use of a safety net (i.e., discount window facilities, lender of last resort capacity, and deposit insurance) to reduce lack of confidence on behalf of depositors.

24. The existence of explicit or implicit deposit insurance, although a factor mitigating bank runs, also highlights the need for an effective process of insuring the quick closure of insolvent financial institutions, as well as adequate preventative measures (i.e. supervision and loan classification, etc.). This point is highlighted in the work of Demigurc-Kunt (1990), Sheng (1990A), Kane (1989) and Benston and Kaufmann (1988).

E. Why is FI Rehabilitation and Liquidation Difficult?

25. Despite the need to resolve financial distress quickly, experience indicates that curative measures and processes are typically not rapid. A growing body of literature stresses the importance of the incentive problems faced by the parties to FI distress (e.g., regulators, bank managers, liability [debt, deposits, etc.] and equity holders and employees or borrowers from the bank). It has begun to provide a conceptual framework that can be used to suggest reasons why financial distress is not resolved rapidly.

26. Two major groups of incentive problems can be identified: (i) incentive problems of regulators or agents charged with implementing curative measures, and (ii) incentive problems of bank managers or various classes of claimants on the bank that can arise due to non-clarity of property rights in procedures for rehabilitating or liquidating banks. Having explained these basic sets of incentive problems this section indicates how they are exacerbated by both "valuation" problems associated with determining solvency or the value of the bank as a going concern (see Section II.A above) and by the existence of explicit or implicit deposit insurance schemes.

E.1 Incentive Structure of Regulators

27. Issues associated with the incentives of regulators to close FIs and resolve FICs quickly have been treated in depth in analyses conducted of the US savings and loan crises (see Kane [1989], Silverberg [1990], and Demigurc-Kunt [1989]). This literature develops a model of regulatory behavior and decision-making in which both the relationship of regulators to political interests (e.g., public choice theory as exemplified by Buchanan [1967]) and the potential capture of regulators by

/16 See the article by Scheinkman (1990) which provides more elaborate arguments as to how real output costs can arise if bank runs take place.
their clientele, the FIs (see Stigler [1971], Peltzman [1989]), create incentives for regulators not to let FIs fail.

28. The need for regulators not to alienate politicians who have oversight and authority to appoint them results in incentives not to take action (e.g., closure of commercial banks) that can have "visible" budgetary consequences for taxpayers. This is because alienation of taxpayers due to the future tax implications of resolving financial distress can affect re-election of the politicians. This argument assumes that it will be very difficult for taxpayers as a group to take collective action to adequately monitor regulators.17

29. Second, regulators also must satisfy another clientele—the FIs they regulate. In many countries, tendencies can exist for the regulators' interest to be increasingly coincident with those FIs it regulates, particularly if salary differentials for the government versus the private sector are large. Under these conditions regulators will often not have incentives to resolve financial distress quickly, since their future employment possibilities in the private sector will be linked to the degree of comfort they can provide to FIs they are charged with regulating. This argument applies not only in regard to decisions to close a bank. For example, when regulators are charged with implementing the process of rehabilitating or liquidating the bank after the closure decision has been made, incentives can exist to compensate previous bank managers and even existing shareholders in return for future benefits.

30. In addition to the above incentive problems, another type relates to intragovernmental regulatory jurisdiction disputes. This occurs in countries that have multiple regulatory institutions with overlapping functions and responsibilities in the implementation of the failure resolution process. Often such a structure rather than creating checks and balances upon regulators through a form of "competition" leads instead to bureaucratic inertia. This is because each regulatory agency will act to protect its mandate and husband scarce information so that a "non-cooperative" outcome can occur.

31. The types of incentive problems faced by regulators highlight the importance of carefully analyzing the relative importance of the different causes of incentive problems facing regulators (e.g., inadequate information provided to taxpayers about regulatory activities, unclear demarcation of regulatory jurisdiction, or large wage differentials between regulators and employees at FIs) before developing specific implementable policy reforms in particular country circumstances.

E.2 Incentives of Other FI Stakeholders

More formally a type of principal agent problem exists where the principals (taxpayers) find it difficult to monitor the actions of the agent (regulators and government) to act in their interests to resolve financial distress quickly. These conflicts result in agency costs that represent welfare losses. Besides this cause of incentive problems Kane (1988, 1989) has identified a variety of other causes of these problems which include distributional conflict inherent in government actions (e.g., closure of banks) that will have a differential effect on different segments of society and information asymmetries between government regulators and taxpayers which can create incentives for regulators to delay action if taxpayers do not have access to adequate information about the condition of FIs.
32. While incentive problems facing regulators create difficulties in resolving FID with speed, incentive problems for other stakeholders (bank managers, depositors, creditors and shareholders) also can lessen the speed with which failure resolution can occur. Of particular importance are ill-defined property rights in the failure resolution processes (i.e., rehabilitation procedures or those used for liquidation) that create disincentives for these other stakeholders in the FI to resolve a crisis rapidly. Two strands of theoretical research—contingent claims analysis (CCA) and agency theory (AT) (see Altman and Subrahmanyan [1985]) help to shed light on this issue.

33. This literature suggests that all forms of claims on the firm can be viewed as combinations of options contracts. The best example is equity that can be viewed as a form of call option, written on the value of the firm. The value of this option depends upon the volatility of the return on the assets of the FI.\textsuperscript{18} Thus, in this case equity/owner-managers of the firm will have incentives to expropriate the wealth of bondholders by trying to engage in more highly leveraged and riskier asset operations. To prevent this activity bondholders will have incentives to try to monitor shareholder/owner-managers by incorporating covenants in their contracts with the FI (e.g., restrictions on payments of dividends, restrictions on disposition of the FI's assets or overall leverage, etc.). Imposition of these covenants with which to monitor owner/managers are costly (due to the associated monitoring and enforcement costs). These so-called agency costs will tend to rise as the proportion of debt to equity grows. Besides, these conflicts Jensen and Meckling (1976) have shown that conflicts between managers and shareholders in the case of a separation of corporate control from ownership (or between existing shareholder/owners and new external shareholders) result in the need for equity holders that do not manage or control the firm to try to monitor managers also. This leads to increasing agency costs as the FI issues more equity.\textsuperscript{19}

34. The above discussion when applied to FIs (see Sheng [1990a,b]) suggests that the conflicts among different claimants upon the future cash flows of the FI and the contractual arrangements adopted for protecting the value of these claims (i.e., property rights) will affect the asset allocation and capital structure decisions of bank management.\textsuperscript{20} This type of framework indicates how the form of the contractual claim on the bank affects the incentives of different claimants to control the asset allocation decisions of bank management. For the sake of simplicity—three types of claimants on an FI can be distinguished with different and often conflicting incentives—equity holders/managers, depositors, and subordinated debt holders. Equity-holders will have incentives to encourage managers to undertake "risky" asset allocation decisions so as to

\textsuperscript{18} More formally the shareholder/owners' wealth (S) can be written as $S = \text{Max}(O, V - D)$ where V is the value of the firm, and D is the value of a zero-coupon bond. This view of equity arises because one can think of the equity owner as selling the assets of the firm (not control) to bondholders in return for cash and a call option on the value of the firm. In this case the shareholder will exercise the call option (i.e., pay off the holders of zero-coupon bonds) if the value of the firm exceeds the value of the bond $V > D$.

\textsuperscript{19} In fact it can be shown that an optimal debt/equity ratio exists based on these arguments. See for example Altman and Subrahmanyan (1985) or Copeland and Weston (1988).

\textsuperscript{20} Agency costs are only one type of cost which can result in the liability and capital structure of an FI affecting asset allocation. Both high bankruptcy costs and taxes can invalidate the Miller Modigliani proposition for the individual firm.
maximize the value of their implicit option contract on the value of the bank. Depositors, if not subject to some form of ex-post insurance, will have incentives to withdraw funds and place them in "safe" banks--imposing a certain degree of discipline on bank management. They will, however, have little incentive to monitor the behavior of equity holders or managers of the bank. Finally various classes of subordinated debt holders (e.g., holders of subordinated bonds) cannot withdraw funds on demand like depositors, are not provided with ex-post insurance like depositors, and do not share in the profits derived from risk-taking by managers to the same degree as shareholders. Hence, this group of claimants could have incentives to limit the riskiness of commercial bank activities through incorporation of explicit limitations on bank risk-taking in bond indentures (e.g., overall leverage limitations).

35. Besides the stake-holders noted above the incentives of employees of FIs as well as borrowers must also be taken into account in the rehabilitation or liquidation process. In the case of employees, the incentives to cooperate in a bank-rehabilitation or liquidation as well as the incentives of potential "new" equity holders will depend importantly on whether the pension, severance payment and other rights of employees are clearly delineated relative to other creditors. In addition, when employment contracts permit profit sharing as exists for some FIs, greater incentives may be created to police management, if other types of benefits (e.g. pensions or severance payments) are linked to the continued existence of the FI as a going concern.21 Borrowers from the FI by contrast to most classes of creditors will have incentives to slow the rehabilitation/liquidation process --particularly when it is clear that resolution of FI distress will involve foreclosure.

36. In light of the above stylized characterization of incentives, two aspects of the rehabilitation/liquidation process as conducted by the Deposit Insurance or other agency introduce important incentive problems.

37. First, non-clarity in the legal rights and standing of existing FI claimants under rehabilitation or liquidation can slow the speed of resolving an existing crisis and create disincentives to avert crises through pressure on bank management. In rehabilitation processes that permit existing shareholders not to take explicit losses even greater incentives are created for shareholder/managers to undertake risky asset selection. This increases the value inherent in the option on the value of the bank and lessens incentives of shareholders to replace bank management in order to avert a crisis. At the same time, perceptions on behalf of depositors, bondholders, and bank employees that existing shareholders will not be forced to take losses or worse that the loss allocation process will be arbitrary lessens incentives by bondholders or employees to try to monitor bank management and avert crises. The crisis resolution process itself is slowed if claimants bring court actions to dispute allocation of losses implemented by the conservator or receiver in the context of rehabilitations or liquidations.

38. Second, the nonsegregation of new from old liabilities (i.e., depositors/bondholders) or equity holders in rehabilitations where the conservator is permitted to take net new deposits (often allowing for rollover of the amount of deposits existing at the time of intervention) creates the possibility for new deposits to be used to pay off old (pre-intervention) equity holders or other

21 If the pension plan were not company-related, employees, like other shareholders, may have incentives to encourage management to take greater risks to maximize the value of the FI (i.e., of the option contract on the value of the FI).
creditors of the bank (e.g., bondholders, employees, etc.). Under these conditions the speed with which certain rehabilitation techniques can be undertaken will be slowed and the costs to the government in resolving banking distress through use of different rehabilitation options (e.g., purchase and assumptions, mergers and acquisitions or eventual privatizations) will increase. The latter effect results because new shareholders will not want to make new investments if they must share future returns due to an improved performance of the FI with old creditors or shareholders. In this sense the problems that arise under these rehabilitation options are very similar to problems that arise in merger/acquisition and tender offers among nonfinancial firms (see Grossman and Hart [1980]), where those institutions making the offer are forced to share prospective returns with old liability or equity holders of the firm being acquired.

39. In sum, reforms to the processes for resolving FID must give attention to:

1. the definition of property rights among different classes of existing creditors inclusive of the government as the insurer of deposit-holders and the "incentives" that will be created through ambiguities; and

2. the distinction between new and old claimants and their respective rights where these must be carefully delineated.

E.3 Valuation Problems

40. The incentive problems of both regulators and stakeholders in the commercial banks and of bank managers (in cases where management is separated from control) are further distorted by valuation problems in measuring solvency or more broadly the value of a bank as a "going concern" inclusive of its charter value and other intangibles. As observed in Section II.A, lack of organized trading of the equity of an FI, common in many LAC countries, makes it very difficult to calculate market-value solvency. Relatedly, the actual value of the losses sustained by FIs will be related to the overall condition of the industrial sector to the extent that a large proportion of the portfolios of banks are concentrated in commercial loans.

41. In the case of regulators, these valuation problems create greater scope for "inaction" when incentives already exist not to show visible losses through actual closure of FIs. In the case of other stakeholders these valuation problems create an environment where the ability of bondholders or depositors to monitor the financial condition of the FI is far more difficult. This hinders their ability to try to take action to avert financial distress.

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22 It should be observed that this type of intermingling of new and old claimants does not occur in standard corporate reorganizations in which all existing creditors of the bank are stayed.

23 In cases of extreme systemic financial crises related to unsustainable fiscal deficits, Banks often have asset portfolios that are concentrated in holdings of government securities (e.g. Argentina).
E.4  Deposit Insurance

42. Although hinted at in Sections II.A and II.D and developed in detail in a large body of literature (see Mas and Talley [1990] for a review) implicit or explicit deposit insurance can further complicate the process of allocating the losses associated with financial distress (see Box 4 below).
Box 4: Government Intervention in FICs and the Allocation of Costs of Financial Distress

In cases of banking distress, governments frequently intervene to ensure the stability of the financial system as a whole. Since stability is premised on the maintenance of depositor confidence, governments typically take action to prevent the failure of institutions and/or to insulate the value of deposits (either explicitly or ex-post). Such measures seek to alter the distribution of costs associated with financial distress, but in so doing also affect the total cost (and the probability) of distress. The figures below plot the costs associated with financial distress against the level of protection (or intervention) offered by the government. This cost is distributed between three types of stakeholders: depositors (D), shareholders (S) and government (G). At the left end of the protection scale, insolvent banks are allowed to fail systematically. With no protection, the government has a stake in the bank given by deferred taxes, outstanding central bank credit, etc. At the other extreme is where there is full deposit insurance—and it is credible. The impact of protection on the distribution of losses and on the total size of the losses is treated separately below.

a. Assuming constant total cost of financial distress. In Figure 1, the sum of the costs to the three stakeholders is constant at all levels of protection. As protection increases, the losses accruing to depositors are gradually transferred to the government. The cost accruing to shareholders will depend on whether the protection offered by the government results in their being bailed out. The figure shows the case where they are not—whether because protection takes the form of depositor payoffs upon liquidation or because old equity is written off prior to any bank rehabilitation effort.

b. With endogenous cost of financial distress: the polar cases. Several alternative cases can be envisioned. Figure 2 shows the case where the total cost of distress falls as protection increases. The probability of bank runs falls, and consequently less banks fail. Figure 3 shows the opposite case, where the total cost of distress increases with protection because of moral hazard. This could occur for several reasons: (i) there are large incentives for risk-taking on the part of shareholders because they can expect the government to bail them out (which is why the costs to shareholders are shown to fall with protection in Figure 3); (ii) depositors do not exert market discipline because they have no incentive to shop around for safe and sound banks; and (iii) regulators delay closing down insolvent banks because of the financial impact this would have on the insurer.

c. Likely scenario. It is likely that at high levels of protection moral hazard is very pervasive. However, at lower levels of protection the benefits from the sense of confidence imparted by protection is likely to outweigh the problem of moral hazard. Thus, in Figure 4, the total cost is assumed to decrease initially and then increase explosively. The policy implication suggested by the figure is that authorities should seek to target the level of protection that minimizes total costs. The exact location of this point on the protection scale will depend, among others, on: the quality of prudential regulations and supervision, the nature of threats against the banking system (micro versus systemic), the degree of concentration in the banking industry and in the economy generally, the credibility in the government's commitments, and the history of financial distress.
43. On the one hand it can be argued that deposit insurance helps to create better incentives to "avert" crises by reducing the probability of bank runs by depositors and associated real-output costs. Also, it is sometimes argued that existence of this contingent liability creates incentives for regulators to intervene FIs early and resolve crises since government and taxpayer funds are at risk.

44. On the other hand, deposit insurance results in moral hazard on the part of depositors and increases long-run implicit costs of resolving financial crises by destabilizing the financial system. More specifically, there is evidence that in countries without well-developed supervision systems and concentrated ownership of FIs, deposit insurance creates incentives for lending to related parties. Often major equity-holders also become major depositors of the bank as a means of obtaining access to the explicit guarantee offered by deposit insurance.

III. Elements in the Design of a Policy Framework for Resolving Financial Institution Distress

A. Background

45. Section II described the liquidation/rehabilitation options available to policy-makers for the resolution of FID. It developed the general economic considerations that are important in designing curative processes that create incentives for the stakeholders of FIs, to resolve financial distress rapidly. This section applies these concepts by illustrating how they can be taken into account in the design of principles that can be used in the design of legal or procedural reforms to improve existing curative measures. The set of principles outlined below relates to three specific areas: (i) incentives of regulatory agencies; (ii) incentives for financial discipline and bank management; and (iii) incentives induced by liability and ownership structure.

46. The importance of establishing well defined processes and procedures for intervening financial institutions experiencing distress and employing well defined techniques to liquidate or rehabilitate banks in Latin American countries is heightened by several structural characteristics of financial systems in these countries. Relative to the financial systems in other regions, Latin American economies are characterized by

(i) the nonexistence of substantial debt and equity markets and rating agencies so that stakeholders in the FI find it difficult to ascertain the market value of different FI's;

(ii) the existence of financial groups where little separation exists either between banking and commerce or other types of financial services (i.e., securities). This can further complicate the valuation of commercial bank assets and liabilities due to problems of consolidation.

(iii) large volatility in asset prices (e.g. interest rates) and in exchange rates that combined with the leverage of FIs and lack of markets to manage these risks.

\[24\] A notable exception is Chile where domestic debt issues by commercial banks are rated both by an inter-agency classification committee and by private rating agencies.
can exacerbate financial distress. This can also complicate the success of the rehabilitation or liquidation process.

(iv) lack of well paid and technically competent civil servants in the government agencies charged with undertaking the failure resolution process or in some countries outright corruption.

47. These characteristics of LAC economies heighten the need to implement reforms that will drastically limit the discretion of government agencies or the roles of other stakeholders charged with implementing the failure resolution process. In addition, it suggests that inaction by authorities or stakeholders in LAC countries to resolve financial institution distress is also the natural outcome of structural characteristics of the financial system itself that hinder the ability of all stakeholders to measure the solvency of FI’s and hence the degree of distress.

B. Incentives of Regulatory Agencies

48. The State's full opportunity cost of funds should be felt by the agency in charge of effecting bank rehabilitations.

49. The agency in charge of effecting bank rehabilitations must operate on a cost-effective basis: assistance should be provided as long as rehabilitation is a cheaper option than liquidation (after payment of de-jure or de-facto insured deposits, after consideration of the relevant externalities relating to the payments system), and the "value" of the bank as a going concern. Proper decision-making will require that: (i) all relevant costs to the Government be taken into account, and (ii) the right opportunity cost of funds be applied. Only in this fashion can the full budgetary implications (current as well as in the long term) of the various options be examined.

50. It is common for the agency in charge of effecting bank rehabilitations to be responsible for the costs associated with deposit payoffs (if it happens to be a deposit insurance corporation), capital injections, and assumption of losses (through purchases of value-impaired assets). However, costs may accrue to other government agencies, most likely the central bank, through several mechanisms. First, central bank rediscouts or credit are often granted to intervened insolvent banks as liquidity support, but this support may contain an element of recapitalization (if it is granted at below market rates or if it is continually rolled over and effectively capitalized) or deposit guarantee (if it serves to fund a deposit withdrawal). In this case, central bank support becomes indistinguishable from the rehabilitation support offered by a deposit insurance corporation or the superintendency. Second, the central bank may provide subsidized financing to the agency in charge of rehabilitations (implicitly capitalizing it). All these forms of support must be examined on a consolidated basis when evaluating the costs of alternative resolution mechanisms.

51. Use of the proper opportunity cost of funds allows the government to prioritize its spending in bank rehabilitation operations vis-à-vis its other undertakings. The notion of opportunity cost contains the concept of the discount factor. Resolving bank failures implies a trade-off between the current cost of recapitalizing a bank against the future cost of dealing with a larger insolvency. Given the magnitudes involved, it is of paramount importance that a market-related discount factor be used in evaluating these decisions. Box 5 illustrates how inappropriate pricing of credit distorts decisions relating to resolving FICs in the case of Venezuela.
Box 5: Venezuela: Implicit Capitalization of the Deposit Insurance Corporation by the Central Bank

The economic impact of financial flows between the Central Bank (BCV), the Treasury, the deposit insurance corporation (FOGADE) and commercial banks are clouded by the proliferation of interest rates. The flows and the corresponding interest rates prevailing as of April 1990 (in annual terms) are shown schematically in the figure below. The BCV’s cost of funds is around 32%, given by the implicit rate carried by its zero-coupon bills. It lends at 0% to the Treasury, at 1% to FOGADE and at 33% to banks for liquidity support. FOGADE in turn lends to insolvent banks at 6%, and financial institutions can purchase Treasury securities paying 15% interest. Inflation stood at around 35%.

Because FOGADE’s funds originate at the BCV at the margin (given that regular bank assessments are insufficient to cover its costs), disbursements of financial assistance must be sterilized with an equal issue of BCV zero-coupon bills. The BCV pays 32% on these bills while it only receives 1% from FOGADE. Thus, FOGADE’s assistance generates a quasi-fiscal loss for the BCV and contributes to the government’s deficit. It amounts to a capitalization of FOGADE by the BCV—equal in magnitude to the grant element implicit in the 1% loan. This cost should be taken into account when granting assistance to financial institutions. Since the cost is not directly borne by FOGADE, it is likely not recognized in the decision-making process, thereby creating disincentives for FOGADE to choose the most cost-effective means of resolving financial problems experienced by banks. This could be corrected by either having the BCV charge FOGADE its real marginal cost of funds or by consolidating the costs of the main agencies and properly capitalizing FOGADE.

Well-defined rules should be adopted in the rehabilitation process.

52. A broad concern of many banking laws relating to the handling of bank crises is to grant regulators and supervisors as much discretion and as many policy instruments as possible. It is expected that policy-makers will be able to pick the appropriate procedure in each particular case. This approach has proven to be deficient in many countries for a number of reasons. First, the lack of clear rules cloud the "rules of the game": discretion often translates into unpredictability. Although the handling of a particular case may be more appropriate with discretion, the deterrent effect is likely to be lost. Second, where technical expertise and managerial skills are deficient—as in some Latin American countries—the benefits of discretion may not accrue. With rules, better outcomes may be ruled out but the down-side risks are minimized. Third, too much discretion opens
policy-makers to charges of abuse of power, and permits latitude not to take action at each stage in the curative process (i.e., intervention to close). The threat of legal actions against authorities often paralyzes the resolution of bank crises at both the decision-making and the implementation stages. The law, initially conceived as a tool at the disposal of authorities, has often been turned into a weapon to be used against them.

53. For these reasons, many countries' legal framework would prove more effective if it contained less discretion. This would serve to protect authorities, provide clear signals to the private sector, and force policy-makers to act promptly. The powers of authorities must emanate from the law, which should clearly specify the following: (i) the circumstances that warrant liquidation, conservatorship and/or rehabilitation; (ii) the range of the receiver's or conservator's actions, powers and rights; and (iii) the timing of these actions. An example of a banking law that provides rules at the expense of regulatory discretion is the Chilean Banking Law (see Box 6).

**Box 6: Chile: Events That Prompt Actions by Supervisor as Contained in Bank Law**

As an illustration of the application of rules over discretion, consider the list of events that legally prompt action by bank supervisors (without specifying here the nature of those actions):

- if the bank's debt-equity ratio falls below the minimum mandated level;
- if, on the basis of the performance over the previous year, the projected debt-equity ratio in six months' time falls below the minimum mandated level;
- if the value of assets, after deduction of specific provisions, unprovisioned losses, and liquid liabilities, is less than 40% of capital and reserves;
- if emergency credits from the Central Bank (with maturity of more than 15 days) are drawn three times within a calendar year;
- if the liquidity requirement is not met during 15 consecutive days;
- if three or more monthly statements show on average losses in excess of 10% of capital and reserves at the beginning of the period;
- if deposit interest rates offered by the bank exceed by 20% the average rate for institutions in its class during three consecutive months;
- if loans are granted to insiders on terms more advantageous than to other bank clients;
- if loans to insiders on aggregate exceed the value of capital and reserves;
- if external auditors express reservations about the management or stability of the institution.

**Well-defined rules should be adopted in the liquidation process.**

54. As in the case of rehabilitations, great discretion is often given to the receiver in liquidations of FIs. For reasons similar to those noted in the preceding section, such an approach has proved deficient since greater discretion imparted to regulators leads to greater uncertainty regarding the legal standing of existing creditors and to inaction by the receiver in the liquidation process.
55. Several types of rules can be adopted. First, conditions that trigger liquidation could be embodied in the banking law. For example, rules can be adopted to bind authorities to initiate a process of self-liquidation before an FI becomes technically insolvent (see Box 7 below for a description of such rules that have been applied to broker/dealer firms in the USA and UK). This type of specific rule would only be applicable to FIs that have a very large proportion of assets that are readily tradeable in active markets (e.g., broker dealers/mutual funds) as opposed to commercial banks. Hence, direct applicability of this specific rule in LAC will only be relevant in those few countries with more developed capital markets and with a significant set of non-bank FIs (e.g., Brazil).

56. Second, rules can be used to specify the mechanisms for asset disposal. Excessive discretion can lead to charges of financial impropriety on the part of the receiver, legal challenges to the adopted procedures, or inaction. Third, the hierarchy of claims against the liquidated assets must be clearly established under the law to minimize the scope for legal tangles.

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**Box 7: USA and UK: The Case for Self-Liquidation Rules**

In a variety of developed countries, rules have been established by regulatory agencies that define when self-liquidation can and cannot be undertaken for broker/dealer firms. The United States and the United Kingdom have used *net capital rules* in which a risk-adjusted definition of capital is compared to a safety margin level of capital. However, unlike the uniform risk-adjusted capital adequacy standards adopted by developed countries for commercial banks, these *net capital rules* are tantamount to a measure of the value of the broker/dealer upon liquidation. In simplified terms the rule can be expressed as follows:

\[
(\text{Equity} + \text{subordinated debt}^{1} - (\text{illiquid assets}^{2} + \text{unsecured receivables}^{3} + \text{market risk adjustments}^{4})) \geq 6\% \text{ of aggregate indebtedness.}
\]

If net capital is not greater than the safety margin (expressed as a percentage of the broker/dealer's aggregate indebtedness) regulators are given the authority to order the broker dealer firm to liquidate assets quickly in order to meet the claims of customers. This action can be taken without imposition of formal bankruptcy proceedings. In addition, so-called warning levels for net capital above the requirement are typically monitored so that broker dealers do not distribute dividends or make unsecured loans to related parties (i.e., owners) if such actions would reduce the FI's net capital below warning levels.

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1. Includes subordinated debt (this form of claim is only paid off after general creditors, but before equity holders). It must be of a minimum term of 1 year and cannot be prepayable.
2. Includes certain fixed or intangible assets not easily convertible to cash.
3. Includes special forms of receivables from other broker/dealers or third parties not collected within a specified time (e.g., within 60 or 90 days).
4. Adjustments (i.e., haircuts) in the values of assets and liabilities so as to allow for adverse movements during the process of liquidation.
Laws must be realistic so that they can be strictly enforced.

57. The laws regulating banking activity should be tough, but realistically so. When requirements on banks and/or regulators are too demanding or costly, laws are frequently transgressed. This undermines confidence in the law as well as in regulators who are supposed to enforce it. Therefore, unrealistic strict provisions in the law can be counterproductive. Box 8 illustrates how Nicaragua's banking law has become "papel mojado"—in this case because it was overwhelmed by macro/financial conditions rather than because they were too strict.

**Box 8: Nicaragua: Non-compliance with Banking Law**

The Banking Law is fundamentally inoperative in as much as it is being violated in at least five of its provisions: (i) reserve requirements; (ii) 8% minimum ratio of net equity to assets (excluding claims to the government or central bank); (iii) limit of lending to individual persons or enterprises equal to 15% of bank equity; (iv) annual publication of banks’ statements in the official journal; and (v) obligation by the supervisor to intervene in institutions that have lost 25% of their capital.

Although not particularly strict, these conditions became impossible to implement in Nicaragua's hyperinflationary environment. Without proper revaluation procedures, bank equity on any given month was entirely driven by current profits, as capital and accumulated profits were deflated away. All provisions of the banking law that relate to equity became obsolete because equity became a very variable concept.

Well-defined rules should be employed in bank rehabilitations so that this option is not tantamount to nationalization.

58. Bank rehabilitations are usually performed by either the supervisor through its powers of conservatorship or by another public institution that takes over the problem bank. In the latter case, the acquiring institution could be the central bank, another public bank, the deposit insurance corporation, or a special-purpose "bank hospital." There is a danger that the problem bank will never be divested from the acquiring institution, and so the rescue operation becomes a nationalization. This could occur if the acquiring institution finds the once troubled bank a profitable business opportunity, but it is more likely to occur in cases where attempts at rehabilitation are half-hearted and not very successful. Then the acquired institution becomes a financial and administrative burden on the acquiring institution, and the scope of financial intermediation of the public sector increases.

59. It is advisable that public institutions charged with bank rehabilitations have a clause in their statutes fixing the maximum period of time during which they can keep an equity participation in troubled banks. If the bank cannot be sold within this period of time, it would directly enter into liquidation. Box 9 reviews the experience of a range of public agencies with rehabilitation of acquired banks in different countries, and whether they are bound by fixed divestment schedules.
In these countries, various government agencies or institutions have taken direct responsibility for the resolution of FICs by absorbing or acquiring failed FIs. Only in the first two countries is there a statutory limitation on the duration of public ownership of problem banks.

- In Spain, the Deposit Guarantee Fund (DGF) is charged with acquiring ailing institutions through the "accordion" mechanism (i.e., the purchase occurs after the reduction of existing capital to the extent of losses). It acts as a holding company of insolvent banks. By law it is required to reprivatize the bank within one year.

- In the USA, the Federal Deposit Insurance Corporation (FDIC) typically arranges for, and financially assists, the merger of a problem bank into a solvent one. This operation is typically performed over a week-end. Recently, FDIC has been empowered to establish a "bridge bank" with the sole purpose of acquiring a problem bank. The bridge bank becomes a subsidiary of FDIC, and in turn it is the holding company of an individual troubled bank. By law the FDIC has to divest itself of the bridge bank within two years.

- In Venezuela, the Central Bank has assumed majority ownership in three distressed commercial banks. There is no legal statement on the duration the Central Banks’ stake in commercial banks, and in fact they have remained in its hands for at least four years. While privatization efforts are scheduled to begin shortly, there has been no major restructuring of these banks.

- In Uruguay, the state-owned Banco Repúbica bailed out four of the largest banks in the system between 1985 and 1987. It holds almost exclusive ownership over these banks. Three of these banks—accounting for about 31% of total banking deposits—are in the process of privatization while the fourth was recently liquidated.

- In Perú, the state-owned Banco de la Nación has directly or indirectly bailed out all failing banks that authorities chose to keep operating.

**Box 9: Spain, USA, Venezuela, Uruguay: Reprivatization of Rehabilitated Banks**

Design of an efficient institutional structure for relevant regulatory agencies that implement curative measures.

60. The institutional structure must be designed in a way that induces incentives for efficient and timely resolution of bank failures. There must be a delicate balance between decentralization of regulatory and supervisory functions across agencies and the compatibility of the objectives, functions and powers of each agency. The following principles must generally be observed:

1. Matching duties with responsibilities. If the performance of an agency will be measured in terms of specific objectives, the duties of the agency should correspond to the attainment of those objectives and none other.
2. Avoiding the "ping-pong" effect, whereby responsibility for a particular problem is juggled across institutions (superintendency, central bank, deposit insurance corporation, ministry of finance, etc.). This is likely to happen when each regulatory agency's functions are overlapping or imprecisely defined, or when the role of each agency in any given problem is not defined in a sequential manner.

3. Allowing each agency to issue those threats against banks (fines, liquidation, intervention, etc.) that it is in a position to unilaterally implement and enforce. If an agency does not itself have the power to enforce its own threats, the morale of its officers and outside credibility in the agency will both deteriorate. This will undermine the effectiveness of the agency.

See Box 10 for examples of how the institutional structure has distorted the incentives of regulators to resolve FID.

**Box 10: Brazil, Nicaragua and Venezuela: Sharing of Information and Responsibilities across Regulatory Agencies**

- In Brazil, the financial system is centered around a number of groups (*bancos multiplos*) that perform a wide array of financial services. Therefore, they can fall under the scrutiny of a number of different regulatory agencies: the Central Bank (BC), the Securities Exchange Commission (CVM), and even insurance and pension fund regulatory agencies (SUSEP and SPC). This has led to numerous conflicts as exhibited most recently when several broker-dealer firms had to be liquidated in the aftermath of Brazil's 1989 stock exchange crisis. The liquidation of some of these institutions was slowed because of insufficient sharing of information between the CVM and the Central Bank in regard to commercial bank borrowing and positions taken in different equity contracts by broker-dealers.

- In Venezuela, bank insolvency problems can be acted upon by either the Superintendency of Banks (through its power of conservatorship) or by the deposit insurance corporation (through its recapitalization instruments). There are no norms on who should initiate actions, or how each agency's actions can support the other's. In this case, responsibility is shared in an imprecisely defined manner.

- In Nicaragua, the National Comptroller is charged with supervising banks' compliance with reserve requirements and for assessing the corresponding fines—which it does with significant delays. However, the Central Bank rather than the Comptroller is charged with collecting the fines—which it almost never does. Because responsibility is shared (though, as opposed to the previous Venezuelan example, in a precisely defined manner), each agency sees the other's lack of action as a reason for not stepping up its own efforts.

*Lack of information leads to inaction.*

61. Lack of detailed information on the financial condition of banks that are presumed to be insolvent tends to paralyze the decision-making process for two reasons:
1. Difficulty in legally justifying intervention by the authorities or other actions that go against the interests of legal owners. Supervisors may be hard pressed to prove beyond reasonable doubt that the bank is insolvent and hence that the authorities’ actions are not confiscatory. Reliable and abundant information can serve as a shield against legal battles brought on by owners.

2. Uncertainty about the potential costs of the various alternatives will put a grave responsibility on authorities. They will be open to charges of mishandling resources and mismanagement since information not available at the time the decision is made might be subsequently available to review the appropriateness of the decision.

It is easier politically to pin responsibilities for specific actions than for the lack of actions: specific actions can be blamed on the people that issued them while the blame for lack of actions can be deflected or spread to other people or agencies. Therefore, where information is deficient, the status quo will always look more attractive than any other alternative to most decision-makers. This has been the case in Argentina (where bank interventions are invariably decreed only once the prospects of recovery of the institution are all but gone), Bolivia (where a fundamentally inoperant bank has remained with a bank license for five years), and, in more extreme fashion, in Paraguay where Government support of problem banks is extremely rare (see Box 11).

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**Box 11: Paraguay: Unreliability of Financial Statements**

Financial statements are notoriously unreliable in Paraguay. Information disclosure to supervisors or to the public is poor, accounting standards are very loose and not abided by, and examinations are infrequent and inadequately staffed. Consider the reporting exchange rate used by banks. The exchange rate was unified in February 1989, but banks continued applying accounting exchange rates that reflected previous practices. It was common for banks to book items—including the bulk of deposits—at up to one tenth the true exchange rate. The exchange rate used varied across balance sheet items for a given bank and also across institutions. Financial statements only included the local currency equivalent of foreign currency items, and so the Superintendency (SB) did not know what exchange rate was being used by banks or what was the underlying value in foreign currency. Furthermore, since the use of lower (higher) exchange rates could reduce (exaggerate) the value of liabilities and assets, this mechanism could be used to conceal open foreign exchange exposures or even insolvencies.

In October 1989, the SB ordered banks to revalue all assets and liabilities to the then prevailing market-determined exchange rate. A review of the revised financial statements for the 24 banks revealed a number of anomalies: some items remained at an undervalued exchange rate in four banks; three banks had assetized the resulting foreign exchange short-fall (i.e., losses); net reconciliation differences with own branches exceeded 50% of equity for two banks; checks receivable but not being collected—presumably uncollectible—amounted to over 40% of equity for two banks. This made it apparent that the inappropriate foreign currency valuation was indeed hiding distress in certain financial institutions which they were subsequently forced to reflect in their statements—albeit in some instances still in a rather creative way.
C. Incentives for Financial Discipline and Bank Management

*Negative net worth needs to be covered with capital (stock) assistance rather than with income enhancement (flow) assistance in bank rehabilitations.*

63. Insolvency is a problem of *stocks*: it occurs when the stock value of liabilities exceeds the stock value of assets. The insolvency may have been brought about by a lack of profitability which gradually erodes capital. However, despite the possible *flow* source of the insolvency, as of a particular point in time it is a *stock* problem.

64. An insolvent bank can be returned to solvency either by: (i) replenishing capital from the onset (the *stock* solution), or (ii) granting it a steady income subsidy which can be capitalized over time (the *flow* solution). The *flow* solution is frequently adopted (refer to Box 12 for country examples) because it allows spreading the costs of recapitalization into the future. The same can be achieved under the *stock* solution if the capital injection takes the form of government bonds. In this case, the cost to the government is equal to the annual service on this stock of bonds. Even though the cost to the government is spread out, it represents a *stock* assistance to the bank because it can sell the bonds in the secondary market. Politically, *flow* assistance may still be superior because it defers not only actual government payments but also the recognition of the costs. In the case of recapitalization with bonds, the government is acknowledging the total future cost at the time it issues the bonds.

**Box 12: Venezuela, Chile and USA: Income Support to Insolvent Institutions**

Income enhancement is a common course of action to prevent the actual failure of financial institutions. Although countries have found creative ways of packaging and justifying such assistance, the end result is analogous in all cases:

- In Venezuela, the deposit insurance corporation (FOGADE) provides financing to insolvent banks under its auspices to purchase Treasury bonds at favorable terms. FOGADE lends to financial institutions at 6%, and requires them to purchase Treasury bonds at face value paying around 15% (see Box 5 for further details). Thus, FOGADE provides institutions with a 9% annual flow subsidy. Institutions can slowly capitalize the subsidy implicit in the financing scheme, which is typically provided for about seven years.

- In Chile in 1982, the Central Bank purchased eligible FI's risky or non-performing portfolio by issuing a ten-year note to the institution. In effect, the Central Bank guaranteed a return (equal to the interest rate on the note) on the risky or non-performing portfolio.

- In the USA, the Federal Savings and Loan Insurance Corporation (FSLIC) routinely compensated ailing S&Ls for the negative spread between their cost of funds and yields on fixed rate mortgages. In essence, FSLIC assumed the interest rate risk on S&Ls' long-term mortgage obligations.
The fundamental difference between stock and flow assistance is that the latter takes longer to have its impact felt than the former. Under a flow assistance program, the bank remains insolvent (but in operation) for some period of time. This is a dangerous situation for two reasons. First, the bank remains vulnerable to any economic or financial shocks in the intervening period. Without the robustness conferred by capital, the probability of non-recovery of the institution is higher. This may lead to a waste of government efforts and resources. Second, it induces moral hazard as existing shareholders are running the bank without any personal stake in it. Only with positive capital can shareholders be made to feel some of the cost of failure.

In rehabilitations, insolvent banks cannot be made to contemporaneously pay for the cost of cleaning them up.

It is common for governments to try to deflect the cost of cleaning up banks to the banks themselves. Frequently this is done indirectly through confiscatory reserve requirements and forced lending to the government (see Box 13), debt reschedulings at subsidized rates, or various punitive economic regulations. This only serves to undermine the recovery efforts of banks. Using the terminology of the previous case, the government seeks to recover its stock assistance to banks by imposing flow losses on them. To compensate for these future flow losses, the government would need to inject more stock assistance in the first place, making the cost sharing effort futile.

### Box 13: The Cost of Deposit Insurance versus Reserve Requirements

The two most common forms of indirect taxation on banking activities are reserve requirements and deposit insurance premia. The table below quantifies their importance in relation to their corresponding tax base (the volume of deposits) on an annual basis. In the case of deposit insurance premia, this is simply given by the level of the assessment. In the case of reserve requirements, the size of the tax relative to the volume of deposits is given by the product of the opportunity cost of holding one unit of reserves (the cost of raising deposits including operating costs minus the average remuneration on reserves) and the average reserve requirement. (There is also an interaction term because the presence of a deposit insurance premium increases the opportunity cost of reserves. Since this factor is attributable to the joint presence of premia and reserve requirements, it cannot be allocated to either category.

<table>
<thead>
<tr>
<th>Country</th>
<th>Deposit interest rate</th>
<th>Operating costs</th>
<th>Req. interest on req. reserves</th>
<th>Implicit Tax as % Deposits of req. reserves action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>336.2%</td>
<td>2.0%</td>
<td>59%</td>
<td>0.32%</td>
</tr>
<tr>
<td>Colombia</td>
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<td>2.0%</td>
<td>30%</td>
<td>0.15%</td>
</tr>
<tr>
<td>Kenya</td>
<td>10.5%</td>
<td>2.0%</td>
<td>6%</td>
<td>0.10%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>12.0%</td>
<td>2.0%</td>
<td>33%</td>
<td>0.94%</td>
</tr>
<tr>
<td>Philippines</td>
<td>7.0%</td>
<td>2.0%</td>
<td>18%</td>
<td>0.09%</td>
</tr>
<tr>
<td>Spain</td>
<td>5.1%</td>
<td>2.0%</td>
<td>31%</td>
<td>0.12%</td>
</tr>
<tr>
<td>USA</td>
<td>6.9%</td>
<td>1.0%</td>
<td>5%</td>
<td>0.08%</td>
</tr>
</tbody>
</table>

Notes: Appendix with methodology and data sources is available from the authors. Data is for 1987-88, depending on country.

The table shows that in no case is the cost of deposit insurance larger than the cost of reserve requirements. The annual deposit insurance tax does not exceed 1% of deposits in any country, while the implicit reserve requirement tax can be much more burdensome--especially in countries where inflation is rampant.
67. There are three mechanisms whereby the Government can share the costs of bank rescue or deposit protection operations without falling into this trap. First, repayment by the bank to the government of the cost of the financial assistance can be made contingent on the bank's performance. This is where the government shares on the bank's upside potential but does not bleed the bank in the event that the bank's recovery is only shaky (see Box 4 for an example of such a scheme). Second, the government can make the remaining solvent banks pay for the cost of cleaning up insolvent banks, although these cross-subsidies are not likely to promote efficiency. Because cost-sharing would be with fundamentally solvent banks through "ex-post assessments" (e.g. deposit insurance systems in France, Austria and the Netherlands), this would probably not undermine the financial health of any particular institution. The possibility of instituting this kind of scheme in Latin America is probably remote because banking problems are likely to be sufficiently widespread that only a few institutions would be largely unaffected. Third, cost-sharing could be ex-ante, for example through regular bank assessments (e.g. deposit insurance systems in Venezuela, Colombia, Chile, Spain and USA). In this case, bank payments are not concentrated in periods of banking instability (just after a banking crisis) but are spread out through time.

68. Of course, the government could adopt the policy of trying to avoid these costs in the first place, instead of looking for mechanisms to share them ex-post. This would be the case if the government adopted the policy of not preventing failures and undertaking no rehabilitations. Alternatively, a private deposit insurance system could be set up whereby banks insure each other. Given systemic instability in the financial systems of Latin America, it is doubtful that mutual insurance would be at all credible despite the possible positive incentive effects on managers of FIs to self-regulate under such a system.

Wholesale debt reprogramming in rehabilitations, and other actions that undermine credit discipline, should be avoided.

69. Government-decreed wholesale debt reschedulings and reprogramming are common in Latin American. They can be instituted for political or social reasons (Nicaragua), as an instrument to promote investment and growth (Bolivia), or to buy time for the resolution of generalized banking crises (Argentina, Chile and Uruguay). The Government typically specifies the range of debtors (by economic sector, geographic location or income level) that are eligible, and compensates financial institutions for the income forgone with the reprogramming.

70. From the banks' point of view, it is always more profitable to reschedule non-performing loans with a very small or zero probability of repayment. Lower reprogrammed interest rates will not hurt the banks' income (as these loans will probably never be collected anyway), and rescheduling makes overdue loans current thereby allowing the reversion of provisions (see Box 14 for a more thorough financial analysis). This bias to reprogram bad loans makes the exercise a purely cosmetic one that simply seeks to defer problems into the future. Furthermore, to the extent that debtors understand this bias, there is an incentive for them to let their loans become overdue so that they become prime candidates to benefit from the reprogramming. This may actually lead to a worsening of portfolios in the short-run, and is certain to undermine credit discipline in the medium term.
Box 14: Bolivia: Disincentive Effects of Wholesale Loan Reschedulings

Refinanced credits enjoy an interest reduction from the prevailing market rate of 25% (in dollars, per annum) to LIBOR + 6% (equivalent to 15%). The Central Bank (BCB) compensates the banks for their interest forgone by financing their purchase of an equal amount of BCB bills (paying 14% interest) with credit at 10%. For simplicity, it is assumed that maturities and grace periods are not altered, and that loans as well as BCB bills are in dollars so that there is no cross-currency risk involved. This scheme results in an increase in bank assets equal to 100% of refinanced loans (from the BCB bills purchased), and so banks have to put up additional capital equal to 10% of refinanced assets (assuming a required capital/asset ratio of 10%).

Financial Analysis of Rescheduling Performing Loans: For every $1 of rescheduled loans, the bank’s net increase in income is equal to the interest differential earned on BCB bills (14%-10%) minus the interest differential lost on refinanced loans (25%-15%). Given required new capital of $0.1, the return on additional capital is equal to ([(14%-10%)-(25%-15%)]/0.1 = 60%. It is therefore not profitable for banks to reschedule performing loans.

Financial Analysis of Rescheduling Non-performing Loans: Suppose that the loan is non-performing, and that in fact the chances of recovery are nil. If the $1 loan were provisioned by 25%, then reversion of provisions will liberate $0.25 in bank resources which can be invested at, say, the banks’ average return on assets of 16%. In this case, the bank’s net increase in income is equal to the income on liberated resources (0.25*16%) plus the interest differential earned on BCB bills (14%-10%, as before). The return on additional capital is equal to [(0.25*16%+(14%-10%))/0.1 = 80%. Now it is very profitable to reschedule the loan.

71. Reschedulings and debt workouts are also performed in the context of corporate reorganizations. In many cases, filing for reorganization can be a means for a firm completely to avoid repaying its debts to FIs. This is particularly likely to be the case where: (i) the liabilities of the corporation under reorganization are frozen and not indexed to inflation (e.g., concordatos in Brazil and Colombia are vivid examples), or (ii) there are effectively no penalties to filing for reorganization (e.g., in terms of future access to credit) other than the effect on reputation. This situation weakens credit discipline and can induce moral hazard on the part of borrowers as they can benefit from reorganization.

72. From the government’s point of view, wholesale credit reprogramming sponsored and financed by the government has severe short-comings: (i) it is a grossly imperfect mechanism for channelling subsidies as these are not targeted; (ii) it is usually a source of uncontrolled quasi-fiscal losses for the Central Bank that can be hard to estimate ex-ante if there is insufficient disclosure of banks’ loan portfolios; and (iii) it consolidates the public’s view of the government as the residual absorber of all losses and risks.
Regulatory and accounting standards should be tougher, not weaker, during financial crises

73. Financial crises induce severe incentive problems on all parties to financial transactions. Depletion of bank capital leads to moral hazard as shareholders’ stake in business risk is reduced. High interest rates following macro stabilization programs lead to adverse selection as only risky borrowers can afford such rates. If interest rates are controlled to avoid adverse selection, lending to insiders is likely to increase as insiders try to be rationed in to capture the implicit subsidy. These adverse incentive problems require that regulation and supervision of banks be strengthened during financial crises.

74. Yet the tendency is for standards to be loosened. The regulator/insurer’s incentive is to grant regulatory forbearance to problem institutions to avoid responsibility for closing down the bank. If the financial condition of the insurer (whether de jure or de facto) is very weak, it will try to defer the closure of banks so as not to become insolvent itself. Since rehabilitation may be a costly venture, the path of least resistance may be to turn a blind eye to insolvent institutions and to provide implicit subsidies through the exemption from regulations which are costly to abide by.

75. Forbearance may be justified when it does not seek to cover the problems but rather when it is intended as a respite for institutions that had to cope at the same time with the crisis itself as well as with the new tougher regulatory standards. If accompanied by more stringent supervision, forbearance may add a touch of pragmatism. In this respect, the policy objectives of forbearance in the USA and Chile (see Box 15) were very different.
Box 15: USA and Chile: Regulatory Forbearance in Times of Crisis

In the USA (see Silverberg [1990] and Todd [1990]), the Federal Savings and Loan Insurance Corporation (FSLIC) came under pressure in the early 1980s. Savings and loan associations (S&Ls) were exposed to severe interest rate risk in the face of macroeconomic imbalances due to the fixed-interest, long-term nature of their assets. FSLIC's insufficient resources prevented FSLIC from recognizing the failures and paying-off insured deposits, or from taking strong action to rehabilitate ailing institutions. The approach taken was to buy time and delay technical insolvencies through the use of flow assistance (referred to in Box 1), and the granting of temporary regulatory forbearance and special privileges to troubled institutions and their acquirers. This included exemption from prevailing capital standards, favorable accounting treatment in acquisitions of failing institutions with a long schedule for amortization of losses, easier conditions for geographic expansion, and tax benefits. This was coupled with a relaxation of supervisory standards. The result was that technically insolvent S&Ls were purchased with very little cash and "zombies"—clinically dead institutions that remain alive—proliferated.

In Chile, the authorities had also sought to improve the book condition of distressed financial institutions by imparting some flexibility in accounting and regulatory standards. Larraín (1989) refers to the following practices: the definition of non-performing loans was relaxed, from those unpaid after 30 days upon maturity to those unpaid after 90 days; institutions were allowed to build up to required provisions (both general and specific) over a 36 month period, subsequently extended to 60 months; losses arising from the disposal of goods received in lieu of payment were amortized over a five year period; foreign exchange losses arising from the 1982 devaluation were deferred over 15 months; temporary inclusion of a quarter of specific provisions in capital was permitted for purposes of capital adequacy estimations. However, unlike in the US case, these measures were coupled with toughened regulation and supervision.

Announcement effects of resolution mechanisms need to be considered, as they can change the future behavior of economic agents.

Public policy actions are carefully scrutinized by all economic agents and, by their public announcement effect, can affect their future behavior. A specific action to resolve a bank crisis may affect the outcomes of future crises because those actions will be taken by the public as indication of the government's likely behavior. The possible longer-term effects of government policies need to be considered when handling a particular crisis. Examples include:

1. Systematic rehabilitation of banks to prevent their failure instills a culture of full implicit deposit protection, which induces moral hazard on the part of depositors. Market discipline is weakened as depositors lose the incentive to shop around for safe banks.

2. Some governments (e.g. USA) systematically rehabilitate (i.e., bail out) large banks while allowing smaller banks to fail. Confirmation by the public of the too-large-to-fail effect will confer a competitive advantage to large banks.
3. If the public perceives that banks under intervention are seldom successfully rehabilitated, placing banks under conservatorship will be tantamount to a public announcement that the bank is probably about to fail. If depositors fear that their deposits would not be preserved in the event of liquidation, declaration of the conservatorship will by itself prompt a deposit withdrawal that will only accelerate the failure of the bank. This becomes a self-fulfilling prophecy that entirely undermines the use of conservatorship as a policy tool. This has been the Argentinean experience (see Box 16), where interventions occur only once the banks' equity and profitability position are severely undermined in which case the chances that the bank will be successfully turned around are very small. Authorities are now considering eliminating from the banking law the power to declare conservatorships.

**Box 16: Argentina: The Sad Record of Interventions**

The power of intervention (conservatorship) was granted to the Central Bank of Argentina (BCRA) in 1980. In the following nine years, the BCRA proceeded to intervene 93 institutions, of which only 7 were successfully sold or merged. The other 86 were subsequently liquidated, along with another 89 institutions that were liquidated directly without going through official intervention. The seven successful rehabilitations occurred in the first four years, and rehabilitations have failed in all instances in the last five years. Anecdotally, one of the institutions that was rehabilitated through a merger fell for a second time on the BCRA's lap when the acquiring bank itself came under intervention. In effect, the original institution had to be bailed out twice.

D. Incentives Induced by Liability and Ownership Structure

*Existing shareholders should be the first to assume losses in rehabilitations and liquidations.*

77. The particular risk-reward structure built into equity confers upon it a vital role in all corporate structures: since payoffs are linked to company performance, equity holders have an incentive to monitor management's actions. Rehabilitation operations that do not preserve this incentive for equity holders will result in a weakening in discipline.

78. There are several ways whereby equity holders can be made to shoulder the losses of banks to the extent that limited liability permits. The cleanest option is for the supervisor to reduce capital against losses by provisioning or writing off assets prior to any restructuring. Once this has occurred, capital injections by government agencies can then replace the lost capital and cover any additional losses. This is the "accordion" mechanism applied by the Spanish authorities. Alternatively, old equity can be preserved but its future payoff structure can be modified to extract the upside potential until the government is compensated for the cost of rescuing the bank. This requires strict segregation of old and new capital. Chile (see Box 17) tried this approach.
Box 17: Chile: Portfolio Repurchase Program

In order to assist ailing institutions, the Central Bank purchased the risky portfolio of commercial banks with cash in 1984. The purchased portfolio was priced at face value, and could not exceed 150% of the institution's capital and reserves. The value of the purchased portfolio was capitalized into a loan, indexed to the price level, and accumulated 5% annual interest. Banks continued managing the portfolio in the name of the Central Bank. The share of dividend payments that would normally accrue to old equity (i.e. equity existing prior to the repurchase program) had to be destined to repurchasing the portfolio (i.e., repaying the loan). While dividends would continue accruing to new equity, old equity would not receive dividends until the entire portfolio had been repurchased.

Depositors who can be construed to share some responsibility for an institution's distress should be forced to assume some losses in rehabilitation operations.

79. The blame for an institution's distress usually does not lie exclusively with its shareholders/managers. Several types of depositors could be held responsible in varying degrees:

1. Insiders and related parties, when distress is due to excessive lending to related parties or practices that confer preferential treatment on them.

2. Clients with deposit balances who also: (i) have overdue loans, or (ii) represent a significant portion of the bank's loan portfolio.

3. Official or institutional depositors which exert some influence over the institution’s actions; for instance, institutional depositors which also have a stake in the activities in which the distressed institution had concentrated its portfolio, or which had utilized their market power to lead the distressed institution towards certain activities.

4. New depositors who had been attracted by high interest rates usually offered by institutions caught in a distress cycle. These depositors sought high returns, and should accept the risks implicit in those returns.

5. Very large informed depositors that should have been expected to exercise so.

80. These depositors should be made to assume losses, unless they are explicitly covered by a deposit insurance law (see Box 18 of an example in Trinidad and Tobago). Short of canceling the institution's obligation towards them, they could be converted into equity. Implicitly, they would be decreased in the hierarchy for distribution of proceeds in case of liquidation and their payoff would be contingent on the bank’s recovery in the case of rehabilitation. It should be noted that in severe cases of insolvency, capitalization of deposits is likely to be, and should be, tantamount to the virtual loss of the value of the deposits.
Box 18: Trinidad and Tobago: Capitalization of Deposits in a Rehabilitation Plan

The Worker’s Bank was created in 1971 with the dual purpose of promoting the indigenization of the domestic financial system and to serve and protect the interests of the working people. Consistent with these objectives, ownership and management power was conferred to the Trade Unions. The bank never managed to consolidate a deposit base among its intended clientele, and instead had to rely primarily on large institutional depositors, to which it paid premiums on the interest rate demanded. It also acted as financial agent to the social security National Insurance Board (NIB) by issuing mortgage instruments and selling them to NIB.

The result is that a few institutional investors became the primary stakeholders in the Worker’s Bank: trade unions as de-facto managers; credit unions, insurance companies and various government agencies as important depositors seeking above-market remuneration; and NIB as business partner.

The Worker’s Bank performance worsened steadily after 1984, and in 1989 the Central Bank decided to rehabilitate it after a brief suspension of its activities. At that time, the bank’s deposit base was US$550 million. As part of the rehabilitation process, these institutional investors were implicated through the following measures: (i) conversion of US$65 million of deposits into equity; (ii) roll-over of the remainder of their deposits for 1-5 years at 2% below market interest rate; and (iii) US$27 million in new capital subscription paid in cash.

New and old liabilities should be segregated in FI interventions and rehabilitations.

81. In most LAC countries as well as in developed countries (e.g., United States) there is usually no segregation of old and new liabilities following the intervention and rehabilitation of problem banks. Great discretion is given to the interventor to take new deposits or even issue new equity that is used to pay off old liability- or equity-holders. In many LAC countries this results in the spreading of prospective losses particularly when such actions have been permitted where the FI has been deemed to be technically insolvent. As such, these prospective losses are usually ultimately borne by the institutions providing an explicit or implicit safety net to FIs (e.g., Central Bank, Deposit Insurance Fund, etc.)--and therefore by taxpayers.

82. Non-segregation of net new depositors from old equity holders can complicate the FIC resolution process. The perception by new investors that their claims will not remain superior to old equity holders, depositors or debtholders can alter their incentives to lend new resources to the FI. This is because of the increased uncertainty associated with their return on this investment or loan given such ill-defined property rights. In effect, the problem here is not unlike that which occurs in mergers or tender offers, where from a social viewpoint there can be underinvestment in the acquisition of banks by new owners of the bank because the probability is high that they will have to share the possible benefits of restructuring the bank with the old depositors, shareholders, and creditors.
IV. Recommendations and Some Provisions

A. Recommendations

1. The types of specific reforms to the banking law and in the institutional structure of regulatory agencies that are implied by the principles developed in Section III are described in detail in Annex 1, with an example applied to the case of Bolivia. The reforms should outline a sequence of actions for dealing with FI distress where the role and functions of different agencies are carefully delineated at each point in time in the process. In summary these will include the following provisions in the banking law:

(a) Imposition of a preventive surveillance regime if a bank experiences gradual decapitalization as explicitly defined and monitored. This will include cessation of all lending, special procedures for accessing Central Bank rediscounts and possibly application of veto power by supervisors on decisions taken by the bank's Board of Directors.

(b) Imposition of a capital replenishment regime with an explicit time limit (e.g., 90 days) when examinations of the bank reveal that losses on the portfolio will soon force noncompliance with minimum capital adequacy standards. During this time a call is made on existing shareholders to replenish capital, no Central Bank rediscounts will be permitted and all lending by the bank will be stopped. The relevant regulatory agency or agencies will examine the financial condition of the institution over this period to determine if the bank will need to be intervened.

(c) Circumstances in which intervention by authorities can occur will be explicitly stated and will be linked to an assessment of the bank's capital position, or to other well defined and monitorable actions. These could include findings of gross mismanagement or fraud, recurring noncompliance with prudential regulations (e.g., in area of loan provisioning and classification), etc. The interventor will have to decide whether to liquidate or rehabilitate the bank. Due to the valuation problems inherent in this decision some discretion must be permitted, however, overall guidelines (e.g., taking into account the guaranteed deposit payments or charter value in event of a liquidation) that limit discretion in choosing between rehabilitation and liquidation would be specified.

(d) Defining the process for conducting rehabilitations where the following actions would have to be taken immediately:

(i) upon intervention the general assembly of shareholders should be disbanded;

(ii) directors should be removed;

(iii) losses should first be charged off against existing equity holders;

(iv) all bank operations inclusive of new lending and issuance of "net" new deposits should cease, until a full rehabilitation plan is adopted; and
(v) a capital replenishment and associated reorganization plan must be adopted.

After the rehabilitation technique of preference has been chosen and the government has injected capital into the institution it will be permitted to resume operations under a surveillance regime. Within a fixed time period the government will have to sell its entire explicit ownership participation in the bank. The process defined above is designed to recognize losses and inject capital into the bank through means that will tend not to distort the incentives of old or new claimants on the bank.

(e) The conditions under which the liquidation option can be used and the form of the process should be explicitly defined. This should include actions to dispose of marketable assets through market sales and to use transparent procedures for sale of assets that are non-marketable (e.g., well-defined auctions). Care is important in this area, because if the receiver is also a regulatory agency (e.g., the Deposit Insurance Corporation) it can be discredited if economic agents perceive that the process for asset disposal is not "fair" and "transparent." In some countries such considerations can even lead to the need to have liquidations undertaken by a wholly different agency or under the auspices of the courts.

(f) A final set of reforms relates to changes in the banking law or other laws (e.g., penal code) to:

(i) impose severe punishment for conflict of interest on behalf of regulators and design employment contracts that will create better incentives not to engage in this type of behavior;

(ii) greater information disclosure relating to ex-post performance of regulatory agencies;

(iii) limit overlaps of functions among agencies that have a role in the crisis resolution at each step noted in paras. (a)-(e) above; and

(iv) insist that assistance provided by relevant agencies in support of FIC resolution reflect market rates and appear in the budget.

B. **Provisos**

2. Several important provisos should be borne in mind when applying the principles or the set of more specific reforms in specific country circumstances.

3. First, the effectiveness of reforms in this area will not be independent of other government policies (e.g., reserve requirements, forms of explicit or implicit taxes on banks, extent of entry permitted to domestic or foreign banks) relating to the financial sector. For example, increases in reserve requirements that occur at the same time as a bank is being rehabilitated can...
undermine the process. Thus, reforms in the types of curative measures for handling FICs constitute only one part of a well coordinated financial sector strategy.

4. Second, in many LAC countries a major source of fiscal and banking system problems relates to the role and size of government-controlled banks (e.g., federal or state owned). The value of these institutions as going concerns in countries with developed private banking systems can often be questioned. Moreover, by law these banks can be made "solvent" through constant injections of government resources. Thus, resolving crises of public banks and defining their appropriate role presents special issues that are often not independent of FICs experienced by the private banking system. Thus, these issues must be tackled as part of developing an overall financial sector strategy.

5. Third, experience teaches that technical assistance to train staff and modernize information systems in relevant agencies must also be provided. This assistance must support efforts to restructure key agencies (Superintendency of Banks, Central Bank, Deposit Insurance Corporation, etc.) inclusive of actions to pay competitive wages to attract technically competent staff. Without this type of support in LAC countries the capacity will not exist properly to enforce the curative measures spelled out in a revised banking law.

6. Finally, the effectiveness of a large number of the reforms outlined depends on improvements in the quality of information available about the financial condition of FIs and regulatory activities. In large part improvements in this area depend importantly upon greater development of organized "markets" in developing countries for trading the assets and liabilities of commercial banks (inclusive of equity). Thus, reforms that remove legal or regulatory impediments to development of domestic securities markets can complement efforts to create an environment where financial institution distress can be resolved with speed and in a less costly manner. Similarly, the development of private rating agencies and professional standards in undertaking financial analysis so that debt issued by commercial banks is rated will help to alleviate some of the problems associated with the lack of information about the condition of FIs.
INCENTIVE STRUCTURE AND RESOLUTION OF FINANCIAL INSTITUTION DISTRESS:
LATIN AMERICAN EXPERIENCE

Implementing the Principles for Handling Commercial Bank Distress:
The Bolivian Experience

I. Introduction

1. This annex provides an illustration of how many of the principles for resolving bank crises developed in Section III of this paper can be practically implemented as part of financial sector reforms. Country specificity must certainly be taken into account when designing a package of legal and institutional reforms to create proper ex-ante incentives to resolve financial distress quickly. The key in designing reforms is to clearly specify the situations that may require action on the part of banking authorities, and the nature of the actions that will be prompted in those cases. To illustrate how the principles outlined in the study can be translated into country-specific sets of reforms section II first illustrates the sequence of steps that need to be incorporated in the banking law and in implementing regulations relating to the process for (i) intervening; (ii) rehabilitating or (iii) liquidating a financial institution experiencing financial distress. Section III, provides an example of how these steps are being incorporated in the legal and regulatory framework defining "curative processes" in Bolivia. This specific case illustrates the importance of properly understanding the existing institutional set-up and relationships among banking authorities such as the Central Bank (CB), Superintendency of Banks (SB) and in some countries the Deposit Insurance Corporation (DIC), in designing policy reforms. Finally section IV indicates a few caveats to keep in mind in implementation of these principles based on experience in other LAC countries besides Bolivia.

II. Sequence of Steps in the Banking Law

2. The sequence of steps that should be envisioned in a Banking law and the roles of different agencies -- the CB, SB, and DIC can be illustrated schematically as in chart 1 attached. The chart shows the nature of the decision-tree that needs to be developed in legal frameworks to permit better management of the failure-resolution process for financial institutions experiencing distress. The subsections below briefly describe each case that has to be envisioned in the banking law following the schema in chart 1.

A. Gradual Decapitalization

3. This case arises when an institution ceases to comply with the capital requirements because: (i) the institution has, through steady overborrowing, surpassed the permissible leverage ratio for more than 30 days;

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/26/ This technical annex was written by Thomas Glaessner (LATTF), Ignacio Mas (TREFOD) and Mark Dorfman (Consultant/LATTF).

/27/ Readers interested in examples of where these principles have been applied in designing policy reforms in other countries (e.g. Argentina and Venezuela) are referred to the Bibliography.
Chart 1: DECISION TREE OF RECOMMENDED MECHANISMS FOR MANAGING FINANCIAL INSTITUTION DISTRESS

- Gradual Decapitalization
- Imposition of Preventive Surveillance Regime
- Recovery
- Imposition of Capital Replenishment Regime
- Deterioration

- Detection of Problems or Crisis in Financial Institution
- Acute Decapitalization
- Imposition of Capital Replenishment Regime
- Recovery
- Imposition of Preventive Surveillance Regime
- Recovery
- Intervention
- Liquidation

- Involvement of the Inspector for Other Reasons
- Imposition of Special Surveillance Regime
- Recovery
- Imposition of Preventive Surveillance Regime
- Partial Recovery
- Imposition of Capital Replenishment Regime
- Rehabilitation
- Liquidation

A = action or result.
D = action requiring specific decision.
or (ii) the financial institution incurs losses, or the SB detects the existence of losses, that would reduce its equity by less than 50%. When the SB determines that such a case has occurred, it will apply a preventive surveillance regime under which institutions will be subject to the following measures:

(a) Neutralization of the lending capacity of the institution until it reaches the required capital ratio. This will be achieved with the imposition of a special non-remunerated reserve requirement held at the CB in an amount given by: (i) the increase in the level of deposits or other obligations by the bank over and above their level on the date on which the regime was imposed; and (ii) any loan recoveries obtained after that date.

(b) SB authorization will be required in order to use the CB's rediscounting facilities.

(c) Depending on the nature of the problems and the prospects for their solution, the SB can impose a special surveillance regime under which the supervisor retains veto power over all Board decisions.

If the capital position of the bank deteriorates further, the SB's actions will revert, depending on the case, to those for cases of either acute decapitalization (para. 4 below) or continued noncompliance with the SB's orders and regulations (para. 8(c) below).

B. Acute Decapitalization

4. When the SB detects losses in a financial institution that would drive the institution into noncompliance with the minimum capital ratio and reduce its equity by more than 50%, it will apply a capital replenishment regime for a period not to exceed 90 days. The SB will summon shareholders to replenish capital within this period, and will subject the institution to the following measures:

(a) Neutralization of the lending capacity through an order requiring cessation of all new lending and imposition of a special non-remunerated reserve requirement to be held at the CB in an amount given by: (i) the increase in the level of deposits or other obligations by the bank over and above their level on the date on which the regime was imposed; and (ii) any loan recoveries obtained after that date.

(b) No access to CB rediscounts.

(c) Special surveillance by the SB. The supervisor, appointed by the SB, has veto power over all Board decisions or operations of the bank.

During this 90-day period, the SB and the DIC will analyze the viability of the institution. If any more losses are detected that would further undermine the institution's net worth, SB will require shareholders to put up the additional capital during this period.

C. Intervention by SB
5. If existing shareholders fail to satisfy the SB's request for additional capital in the prescribed period, the SB and the DIC will jointly determine whether the institution will be rehabilitated or liquidated. The minimum cost alternative will be chosen, taking into account the guaranteed deposit payments required of the DIC in the case of liquidation (para. 7 below). If the rehabilitation option is chosen, the SB will adopt the following measures simultaneously:

(a) Intervention of the institution, with displacement of the general assembly of shareholders.

(b) Removal of directors.

(c) Charge-off of losses against old equity-holders.

(d) Cessation of all bank operations inclusive of new loans or issuance of net new deposits until actions (a)-(c) are taken.

(e) Capital subscription offering to the DIC in the amount necessary to consolidate the institution's capital position.

These measures are designed to recognize losses and inject new capital without undermining the public's confidence in the bank. They should be taken simultaneously so that the SB's administration of the troubled bank does not exceed 24 hours. Once the DIC has subscribed the new capital, the institution ceases to be under intervention, as the DIC then acts as majority owner of the institution (para. 6 below).

D. Financial Assistance by the DIC.

6. DIC's financial assistance will occur mostly through capital injections into ailing institutions. DIC's actions must be initiated with the purchase of at least 51% of the bank's equity (satisfied by subscribing the capital offered by the SB as conservator). If necessary, the DIC can request the endorsement to it of all the shares of other shareholders. If larger than expected losses become apparent later on, the DIC can subscribe additional capital only if the volume of additional capital required is less than the cost to the DIC of satisfying the deposit guarantee. As the majority owner of the bank, the DIC will assume the management of the bank. It will be allowed to increase, diminish, restructure or change the value of the bank's stock. Likewise, it will be authorized to restructure the bank's operations, personnel and internal policies and procedures. To this effect, the DIC can purchase any assets from the bank at market value. Liquidity support to the institution will be provided by the DIC rather than the CB, but only under market conditions. Explicit time limits should be specified for sale of the bank. For example, within a period of one year, the DIC must sell its entire ownership participation in the bank.

E. Liquidation.

7. All forced liquidations must be handled by the DIC or in some cases a special liquidation agency where no explicit deposit insurance agency is in place. The DIC will pay off guaranteed deposits, and will assume the claim on those deposits. DIC's claims on liquidation proceeds will have the same priority as any claims by the Treasury. DIC, as the receiver of the liquidated bank, should be authorized to sell any assets individually or in bundles, or to set up trusteeships holding those assets under litigation. Consideration should be given to granting the DIC
special coercive powers to recover assets, and to requiring the DIC to subcontract all asset recovery and sale procedures. DIC should strive to complete liquidation procedures within two years.

F. Intervention by the SB for Other Reasons.

8. The following occurrences should prompt an intervention or special surveillance by SB, depending on the nature of the case:

   (a) Administrative or managerial instability, where serious disputes among managers and/or directors undermine the normal operation of the bank.

   (b) Acute and persistent liquidity crisis, with rediscounts at the CB in excess of the banks' equity.

   (c) Recurring noncompliance with the SB's orders, especially in the areas of loan classification and provisioning, loan concentration, or the special reserve requirement imposed in cases of decapitalization.

   (d) When there are reasons to doubt that the bank's accounts reflect its true financial position.

In any of these cases, the actions taken by the SB will be geared towards solving the particular problems detected in a period of less than six months. To accomplish this, the SB will be authorized to remove directors, replace management, and implement changes in the bank's policies, procedures and operations. This corresponds to what is described in chart 1 as a special surveillance regime. If the problem deteriorates into, or makes apparent, a process of decapitalization, the SB will impose the pertinent regime as described above (see section II. B. above).

III. Bolivia

A. Background

9. Public confidence in the Bolivian banking system and efficient regulation require an effective and expeditious method for resolving banking crises. Past procedures had provided regulators considerable discretion in bank intervention and liquidation. The Financial Sector Adjustment Credit (1925-B) assisted the Central Bank (BCB) in establishing an administrative unit (Gerencia de Sistema Financiero, or GSF) to manage banking crises, and also established guidelines for the rehabilitation or liquidation of banks. However, the GSF failed to act effectively to rehabilitate or liquidate banks in crisis. As a result the need for more precise mechanisms for

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28 Existing rules permitted the Superintendency to initiate liquidation procedures when the bank was not complying with the solvency and operating criteria defined in the General Law of Banks of 1928. Banks that violated minimum capital requirements were cut off from any new Central Bank support and had for 90 days to place all new public deposits in Central Bank Certificates of Deposit. If at the end of 90 days the bank was not in compliance with capital requirements, all new deposits and receipts from loans were placed in a special unremunerated reserve account at the Central bank. The Superintendency could exact further measures, including seizure of any excess reserve requirement balances held.
intervention and the importance of reinforcing these mechanisms through provisions in a revised banking law were recognized. In the financial sector component of a recent SAL for Bolivia, changes in the banking law were supported to specify the means for managing and resolving financial institution distress. The new law defines precise responsibilities for the Superintendency of Banks and Financial Institutions (SBEF) and the Central Bank.  

10. The program for handling bank crises that has been discussed with the Government would require that the same requirements and sanctions apply to all institutions that receive public deposits. The program would contain the following elements:

   a. A preventive surveillance regime for banks that violate discrete objective criteria after being provided with a reasonable period of time to take corrective action (no more than 90 days).
   b. Intervention of banks that do not comply with a rehabilitation plan agreed to following imposition of a preventive surveillance regime, have lost more than 50% of their capital, or have committed egregious violations of prudential regulations.
   c. Rehabilitation or liquidation of intervened banks, at the discretion of the Central Bank (GSF), with the Central Bank providing the capital required to allow the bank to meet the capital requirements established by SBEF. This capital infusion will occur by acquiring shares of the bank. Since intervention due to capital deficiencies will only occur after an institution has lost more than 50% of its capital, this implies that the Central Bank becomes the majority owner of the institution and can take any step it finds necessary to rehabilitate and sell the bank.
   d. Rules for the provision of short-term liquidity support by the Central Bank.
   e. Rules for the limited compensation of certain deposits.

B. Preventive Surveillance Regime

11. The SBEF would impose a preventive surveillance regime for an institution that:

   a. Has failed to meet reserve requirements for more than 30 days;
   b. Has violated leverage requirements for 60 days (but has not lost more than 50% of its capital and reserves or its net worth is not below 3% of total assets);
   c. Has violated other prudential regulations and not taken corrective measures (in this the SBEF will have a degree of discretion, including provision for intervention); or

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\(^{29}\) These functions of the Central Bank could be carried out by a well functioning GSF which will be supported by technical assistance funds.

\(^{30}\) As a practical matter, the SBEF does not to date fully supervise all deposit-taking institutions. In this way, extension of these requirements to these institutions will take place gradually as the capacity and penetration of the SBEF continues to improve.
d. Requires a rollover or expansion of liquidity support from the BCB after more than 60 days.

12. An institution under a preventive surveillance regime would be subject to the following requirements:

(a) The institution would be forced to deposit all net proceeds into a special non-remunerated reserve account at the BCB. Such an account would be constituted by: (i) the increase in the level of deposits or other obligations by the bank over and above their level on the date in which the regime was imposed; and (ii) any loan recoveries after that date.[31]

(b) The institution would be rendered temporarily ineligible for development credit.

c. The institution would be required to submit a financial rehabilitation plan acceptable to the SBEF within 10 days following the imposition of the preventive surveillance regime, and demonstrate recuperation at agreed upon intervals during the 60 days following agreement on the recuperation plan.

d. The rehabilitation plan may require additional capital to be provided during the 60 day period. Similarly, if further losses are detected which would undermine the institution during the 60 day period, the SBEF will require shareholders to put up the additional capital required.

(i) The required capital can be put up by another bank with the authorization of the SBEF in the form of a subscription of shares or a subordinated loan convertible to shares in one-year. This capital subscription or support cannot exceed 40% of the net worth of the assisting bank, and must be sold to a non-related third party in a period not to exceed 15 months, otherwise the two banks will have to be merged.

(ii) If additional capital is required, the BCB will have limited discretion to provide bridge financing in order to facilitate either a merger of banks or entry of a new shareholder. Such financing will be limited in that: (i) as above, it cannot exceed 40% of the net worth of the assisting bank, (ii) it must be repaid before the end of the 60 day rehabilitation plan period, (iii) it cannot exceed the amount of the additional capital requirement specified by the SBEF, (iv) it must be fully secured by bank paper or real assets, (v) it cannot be used to repay liquidity support, and, (vi) it must be financed at a rate no less than CEDES.

e. Depending on the nature of the problems and the prospects for their solution, SBEF can retain veto power over decisions by bank directors during this period.

C. **Intervention**

[31] Institutions exceeding their leverage limits will be obliged to deposit any new deposits in a non-remunerated account in the BCB from the time they are notified by the SBEF even prior to being placed under preventive surveillance.
13. The SBEF would intervene an institution that:

(a) Has not complied with the capital requirements, reserve requirements or prudential regulations provided for in the rehabilitation plan agreed to with the SBEF by 60 days following imposition of a preventive surveillance scheme;

(b) Has not repaid BCB liquidity support 60 days after agreement on a rehabilitation plan;

(c) Has lost more than 50% of its capital;

(d) Has not repaid the interim BCB bridge financing; or

(e) Has committed egregious and recurring violations of prudential regulations, or when strong reasons exist to suspect fraud or significant modifications to the institution's financial position.

14. While the SBEF intervention is essentially automatic because of the objective conditions indicated above (except "e"), the Superintendent nevertheless should consult with leaders in the BCB prior to an intervention. In this way, the financial implication for the BCB can be better accommodated.

15. An intervened institution would be subject to the following measures:

(a) Displacement of owners or shareholders and removal of directors, with the SBEF assuming temporarily the management of the institution;

(b) Charge-off of losses against equity; and

(c) Transfer to the Central Bank (GSF) for rehabilitation or liquidation after a period not exceeding 48 hours. Interventions are only temporary mechanisms, used to displace owners or shareholders in order to force final resolution of the problems.

D. Rehabilitation/Recapitalization or Liquidation

16. The SBEF and the BCB would determine whether to rehabilitate or liquidate an institution based on: (i) a comparison of the estimated cost of capitalization to put the institution into a positive equity position with the cost of compensating insured deposits, and (ii) the feasibility of rehabilitation based on the circumstances that led to the intervention.

17. If the rehabilitation option is chosen, the BCB will be provided a capital subscription to provide a positive capital position for the institution. It will have subscribed the new capital and

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\text{\textsuperscript{22}}\text{Once intervened, the SBEF would take a full inventory of all assets and liabilities of the institution, including portfolio folder labeling and restate the institution's balance sheet to reflect a revised valuation.}

\text{\textsuperscript{23}}\text{While the restatement of the balance sheet would take more than 48 hours, the SBEF would continue such work under the ownership of the Central Bank once the transfer had occurred.}
taken control of the institution within 48 hours after the SBEF’s intervention. Once the BCB has subscribed the new capital, the institution ceases to be under intervention as the BCB then acts as the majority owner of the institution. If larger than expected losses become apparent later on, the BCB can subscribe additional capital. This procedure is designed to recognize losses and inject new capital without undermining public confidence. As owner of the institution, the BCB can increase, diminish, restructure or change the value of the bank’s stock, and can restructure the bank’s operations, personnel and internal policies and procedures. Within a period of one year, the BCB must sell its entire ownership participation.

18. If the institution is to be liquidated, the BCB would pay off guaranteed deposits and assume the claim on those deposits. Such compensation will be limited to the equivalent of SDR 4,200 per account holder, with the exception of non-remunerated current accounts that would be fully covered. The BCB’s claims on liquidation proceeds will have the same priority as any other depositor. The BCB, as the receiver of the liquidated bank, would be authorized to sell any assets individually or in bundles, or to set up trusteeships (fideicomisos) holding those assets under litigation. The BCB would appoint a Liquidator who, working in direct consultation with authorization of a judge, would be in charge of liquidating the assets of the institution and appropriating the proceeds to liability claimants. Consideration should be given to granting the BCB special coercive powers to recover assets. The BCB should strive to complete liquidation procedures within two years.

E. Deposit Insurance in Case of Bank Liquidation

19. A Deposit Guarantee Fund will not be set up because it seems that it is not justified to establish another institution considering the small size of the financial system. Nonetheless, considering the high cost of financial information to small depositors the Government has decided to provide deposit insurance up to SDR 4,200 per person per financial institution (excluding children of insured account holder). It is estimated that this insurance will cover 12% of the total value of deposits and 90% of depositors. Furthermore, to minimize the negative impact of a bank liquidation on the payments system, all non-remunerated checking accounts will also be fully insured. Financial institutions will pay a small fee (to be determined) for this insurance. The fees will be collected by the Central Bank which will hold them in a special separate account. The Central Bank will provide the Liquidator with the funds to pay off insured depositors in the name of the Treasury, which is then expected to reimburse the BCB if funds provided exceed the balance in the deposit insurance account.

20. No person will be entitled to receive the equivalent of more than SDR 12,600 per year due from the system as a whole, due to the failure of various financial institutions. The precise mechanisms for compensating depositors have been included in the Draft Bank Law to be presented to Congress. The liquidator will have 30 days from the time the institution is liquidated to payoff insured depositors. Depositors are not entitled to any interest if they are reimbursed within the 30 day period.

21. The Superintendency will regulate the advertisement which institutions will make of the availability of deposit insurance, highlighting the existing limits.

F. Short-term Liquidity Support

22. Currently, liquidity support from the BCB potentially can be used to hide bank solvency problems, which would expose the BCB to losses in the event of a bank failure.
Furthermore, the procedures to grant liquidity support are very cumbersome which sometimes result in long delays in the granting of credit thus rendering it useless. Rules would be proposed under the Credit to limit this exposure and link such support with solvency surveillance and intervention, and to establish the automaticity of access to limited rediscount facilities. These measures would include:

(a) Access to liquidity rediscounts that will be provided in tranches. The first tranche will involve an automatic rediscount line which will allow to solve small liquidity deficiencies which were not covered by the interbank market. The first tranche would be given for amounts no greater than 30% of the bank’s net worth, would not exceed 15 days, and would carry an interest rate not lower than the CD rate. Further tranches would imply: (i) less automaticity, (ii) lower maturities, and (iii) higher rediscount rates.

(b) In no case would the BCB provide liquidity support to institutions which are known to have an estimated capital deficiency of more the 15% of its required net worth.

(c) Rediscount credit would be provided for a period of up to 15 days, (as presently), and could be rolled over once without penalty.

(d) A rollover or expansion of such credit after 30 days would require an even higher premium interest rate and certification by the SBEF that the institution is fully complying with prudential regulations including capital requirements. If the institution is not in compliance, it will enter into a preventive surveillance regime (see above) under which it will be required to establish a financial recovery program with the SBEF.

(e) A further rollover or expansion of such credit after 60 days would require the approval of the SBEF, would cost an additional premium and automatically would place the institution under a preventive surveillance regime.

(f) A rollover or expansion of such credit after 120 days would be available only if the institution has complied with the provisions in the financial rehabilitation plan under the preventive surveillance regime.

IV. Some Caveats

23. There are a number of caveats associated with the application of these principles in designing reforms to law and institutional processes relating to intervention and rehabilitation/liquidation of commercial banks.

A. Division of Functions Across Agencies

24. The functions of providing: (i) deposit insurance, (ii) rehabilitating or liquidating banks, (iii) intervention of banks, (iv) supervising and regulating banks, (v) emergency liquidity through discount window operations, (vi) lender of last resort and (vii) monetary control should generally not reside in one public agency. However, in small countries with scarce human capital or resources to devote to Bank supervision it may make sense to have these functions reside in two institutions (i.e., the Central Bank and Superintendency of Bank).

25. For example in Bolivia, the Central Bank undertakes functions (i), (ii), (v), (vi) and (vii) while the Banking Superintendency is charged with (iii) and (iv). This division of responsibilities
permits the banking superintendency to pay a key role in the determination of when to close an FI and intervene an institution given that it supervises and inspects all FI's in the country. By contrast the Central Bank ultimately has responsibility for liquidating or rehabilitating the Bank in close consultation with the Banking Superintendency.

26. In larger countries such as Argentina or Venezuela other approaches have been considered. In Argentina, reforms may include the creation of a deposit insurance agency and a special agency charged with liquidating and rehabilitating banks. This would be combined with a strengthening of the superintendency of banks and the Central Bank. By contrast in Venezuela only the Central Bank, the superintendency of banks and the deposit insurance corporation carry out these functions. Experience, suggests that the exact number of regulatory agencies is less important than a careful delineation of functions that minimizes overlaps. However, the existence of too many agencies could in fact slow the failure resolution process -- a factor that could be of importance in the Argentina reforms now being discussed.

B. Other Considerations

27. Reforms to the banking law of the type above address the incentive problems created by inadequately defined "curative" measures. However, in many cases reforms must go beyond the careful delineation of the roles of different government agencies and processes to be followed. They must also assure that the "incentives" of the agencies charged with carrying out different curative functions will result in speedy resolution. For example, it may be necessary to assure that different agencies exist or that some model of organization is found that gives these agencies or the relevant agency sufficient managerial independence while making them accountable to general taxpayers.

28. Other important reforms can include:

(a) Revisions to employment contracts of regulators or in the criminal code so that "conflict of interest" on the part of regulators is punished through immediate firing and can be linked to separate criminal actions; and

(b) Greater emphasis on information disclosure related to regulatory performance through spot audits of the intervention process by government auditors or independently contracted auditing firms.
INCENTIVE STRUCTURE AND RESOLUTION OF FINANCIAL INSTITUTION CRISSES:
LATIN AMERICAN EXPERIENCE

Summary of Principles in Support of a Framework
for Resolving FICs in Latin America

The principles for developing a framework of curative measures fall under three headings: (a) incentives of regulatory agencies; (b) incentives for financial discipline and of bank management; and (c) incentives induced by liability and ownership structure of FI. Below the principles developed in Section III of the text are summarized under each heading.

(a) Incentives of Regulatory Agencies

(i) The governments' full opportunity costs should be felt by the agency effecting bank rehabilitations.

(ii) Well-defined rules should be adopted in the rehabilitation or liquidation process that define circumstances that warrant liquidation or rehabilitation, the range of powers or rights given to the conservator or receiver and time limits associated with such actions.

(iii) Rules embodied in the law that govern resolution of FICs must be realistic so that they can be enforced under a sufficiently wide set of conditions. If this is not the case confidence in the law and in regulators is undermined.

(iv) Bank rehabilitations should not be a vehicle for governments to nationalize all or some portion of the banking system. To assure this statutes should bind institutions charged with FI rehabilitations to a fixed divestment schedule.

(v) The institutional and legal arrangements governing the roles of different regulatory agencies should create incentives for the timely resolution of FICs. In many LACs this will require matching duties with responsibilities, assuring that the roles of different agencies are properly delineated in a sequential manner in the process of intervening or rehabilitating FIs, and assuring that agencies issue threats that they can credibly enforce.

(vi) The capacity to collect and analyze information on the condition of FIs needs to be improved, so that lack of information can not be used as an excuse not to act.

(vii) Periodic audits of regulatory processes should be undertaken and employment contracts and criminal statutes should be implemented that impose severe penalties in cases of conflict of interest by regulators. This will create disincentives for corruption and capture of regulators by the clientele (FIs) they regulate.
(b) **Incentives for Financial Discipline and Bank Management**

(i) In the case of rehabilitations, insolvent FIs should be provided with capital (stock) as opposed to income (flow) assistance. This will make the restructured bank less vulnerable to economic and financial shocks during rehabilitations. It also lessens the moral hazard problem that occurs when existing shareholders operate the bank without any personal stake in it—a situation that can occur for a longer period if flow assistance is provided.

(ii) Insolvent FIs should not be made contemporaneously to recompense the government for its costs of rehabilitation through imposition of various forms of implicit government taxes (e.g., reserve requirements, forced lending to government, etc.).

(iii) Wholesale debt reprogramming for bank loans or corporate reorganization processes that do not index the liabilities of corporate borrowers (i.e., from FIs) to inflation undermine credit discipline and should be either avoided or very selectively applied.

(iv) Regulatory standards should be tougher not weaker during a FIC and the context and circumstances in which regulatory forbearance should be used carefully delineated.

(v) Announcement effects of FIC resolution mechanisms can substantially change the behavior of economic agents since the positive effect on confidence will often be undermined by other incentive effects (e.g., moral hazard associated with implicit deposit protection, deposit runs in LACs where such announcement is viewed as a leading indicator of eventual liquidation).

(c) **Incentives Induced by Liability and Ownership Structure**

(i) Existing shareholders should be the first to assume losses in FI rehabilitations as this will assure that incentives to control "managers" continue to exist for shareholders of technically solvent banks. In addition, this practice will assure that new shareholders will not have to share the returns from rehabilitating the FI with old shareholders, thereby increasing the possibility that they will want to make capital contributions.

(ii) Existing depositors (if uncovered by explicit deposit insurance) who can be construed to share some responsibility for an institution's distress (e.g., depositors who have overdue loans or represent a significant portion of the FI's loan portfolio) should be forced to assume some losses in rehabilitation operations.
(iii) Clear rules should be established regarding the rights of different classes of creditors in the context of different types of government-administered rehabilitation options or in liquidations. Distinctions should be made not only among different classes of creditors, but also between old (i.e., before intervention) and new creditors (i.e., after intervention). This will preserve incentives for new claimants on the restructured FI to participate in the rehabilitation process because they will not have to share the expected return from investing or lending to the FI with old claimants.
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