INCENTIVES AND THE RESOLUTION OF BANK DISTRESS

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Unlike prudential regulations that are put in place prospectively to develop banks, procedures for dealing with banks in distress are generally determined on an ad hoc basis. Often the lack of clarity in the policy framework creates incentives for bank managers, shareholders, depositors, and regulators that undercut prompt resolution of financial distress. The result is often inaction, the accumulation of bad debts, and ultimately the assumption of losses by the state. This article argues that government intervention to relieve financial distress should be institutionalized in a set of regulations that forces the authorities to comply with reporting and decisionmaking processes. Only in this way can inherent disincentives for dealing with distress be curtailed.

Insolvent banks have precipitated recurring problems in many developing countries. In Latin America these problems have often been protracted and systemic; some countries, such as Argentina, Chile, and Uruguay, have experienced systemwide crises, while others, such as Bolivia, Brazil, Ecuador, Peru, and Venezuela, have managed to defer or contain the problem, often at a high potential cost or in an unsustainable fashion. In many cases, policymakers have implemented preventive measures designed to avert distress rather than remedial measures intended to resolve crises once they occur. In others, institutional arrangements and legal processes have had a negative effect on efforts to resolve financial distress, reducing the incentives of regulators, managers, shareholders, depositors, employees, and borrowers to take the necessary actions. Although remedial measures are designed to take effect once the bank is in distress, the framework for their execution must be adopted beforehand.

To be efficient, reliable, and credible, a policy framework for resolving bank distress must establish incentives for all concerned parties; incentives that preserve financial discipline, induce cooperative solutions, and protect the rights of claimants (by differentiating liability holders according to their seniority and the

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The framework for resolving bank failures should be insulated from political influence and vested in an appropriate regulatory group with professional trained staff who can identify problems before they get out of hand. Policy decisions should be based on the principle of minimum long-term costs, and financial support from the states should be both transparent and clearly targeted. The legal framework should force regulators to act in a timely fashion by assigning them responsibilities and giving them strong legal backing and protection against pressures from political or other special interest groups. It should specify the policies and procedures to be pursued under a range of possible scenarios.

In sum, bank failures can be resolved much more effectively and in ways that strengthen, rather than weaken, financial discipline if governments reduce discretionary supervision and require authorities to enforce laws concerning collateral and foreclosure. Governments must also address the underlying causes of bank insolvency. Mechanisms for resolving bank failure constitute only one part of a well-coordinated strategy for the financial sector and will not succeed unless structural adjustments are made in other government financial policies, including banking-sector competition and confiscatory reserve requirements or other forms of explicit or implicit taxation.

The discussion that follows focuses first on the incentive structure to show why liquidating or restructuring insolvent banks is so difficult. It then goes on to show how countries typically handle bank failure and reviews the processes for rehabilitating and liquidating troubled banks. The third section examines the causes of regulatory failure and shows why the discretionary approach leads to inaction on the part of regulators and to a bias favoring rehabilitation rather than liquidation. The final sections address the design of new mechanisms to resolve bank failure.

This article focuses on private commercial banks. Although the role and size of government-controlled banks are likely to induce fiscal and banking system instability in many developing countries, public banks present special issues that are beyond the scope of this study. Because we are examining bank insolvency, rather than temporary liquidity crises, we are not concerned with the central bank's lender-of-last-resort policy nor with deposit insurance per se, but rather with the restructuring and exit mechanisms frequently used to implement deposit insurance. (For a good treatment of the lender-of-last-resort policy, see Todd and Thomson 1990; for a discussion of deposit insurance, see Mas and Talley 1992.) Instead, the objective is to develop principles for reforming remedial processes and to recommend specific institutional and legal reforms that can help to avert or resolve bank distress. Although the specific illustrations tend to be drawn from Latin America, the analysis here is generally applicable to all developing countries.

**Defining and Measuring Solvency**

Determining whether a financial institution is solvent is an obstacle to prompt action. Financial distress may not be apparent. A financial institution is consid-
ered to be viable as long as it can meet all of its obligations out of income over
the long run. Calculating the net present value of expected cash flows provides
an economic measure of solvency. In the case of banks, economic value is related
to overall economic conditions in the private sector because substantial propor-
tions of banks' portfolios are concentrated in commercial loans. An institution
may have a temporary shortfall but still have a positive net present value, in
which case it is economically solvent but illiquid. Illiquidity, if unassisted by
monetary authorities, can turn into insolvency if the institution has to sell its
assets at distressed prices or pay above-market rates on deposits in a desperate
scramble for liquidity.

Measuring economic solvency requires information about the stream of cash
flows under every possible circumstance; estimating economic solvency is there-
fore extremely difficult and subjective at best. Alternatively, one can use market-
value solvency, or the market value of the institution (or of its underlying assets),
as a proxy for net present value. Although this measure requires certain strong
assumptions to hold at a theoretical level (namely, that the market value of assets
and liabilities reflects the net present value of their expected cash flows), its
advantage is that solvency is defined in terms of current stocks rather than
anticipated cash flows. But the definition is problematic for other reasons. First,
unless there is a market for the shares of the bank (or for its assets), market value
is not a meaningful measure. This is true of financial assets, whose value de-
pends intrinsically on the creditworthiness of the issuer (loans, for example),
and with real assets such as property, whose replacement cost is hard to deter-
mine. Second, commercial banks, like other businesses, have intrinsic value—or
goodwill—as going concerns, and the value of this goodwill can be particularly
difficult to estimate even when there is a market for trading bank assets.

To overcome these practical difficulties, a book-value measure of solvency
based on the nominal or historic cost of assets (net of depreciation) is sometimes
used. Because of the arbitrary nature of book values, however, and the possi-
bility that the bank can manipulate the way in which such statistics are pre-
sented, book value does not tend to conform to market values. Thus book-value
solvency is a very imperfect measure of economic solvency.

A better approximation can be achieved by adjusting the book value of value-
impaircd assets according to established but somewhat arbitrary rules. Through
provisioning for probable losses, write-offs, revaluations, and adequate treat-
ment of off-balance-sheet commitments, the net book values of certain asset
categories can more closely reflect underlying market values. In addition, rules
can be adopted that require valuing assets whose market value can be ascer-
tained at whichever is lower—market or replacement cost. The resulting mea-
sure of solvency, known as technical solvency, is the one bank supervisors use.
Technical solvency represents a compromise between the theoretically correct
concept of economic solvency and the readily observable book-value solvency,
effectively supplementing generally accepted accounting principles with specific
guidelines for banks.
Economic insolvency need not be synonymous with bank failure, however. Failure occurs only when insolvency is officially recognized and the bank is closed. At that point the government has several options, which run the gamut from outright liquidation to rehabilitation. In this article, a bank is considered distressed when it is technically insolvent. Such a bank may not fail immediately either because it may still be liquid or because government actions may be keeping it afloat.

What Is Unique about Commercial Bank Distress?

In most—if not all—countries, resolving commercial bank distress involves special procedures that do not apply to other enterprises. Three characteristics that distinguish commercial banks from nonfinancial corporations create or support disincentives that make resolution difficult:

- A liability structure characterized by deposits withdrawable on demand
- Substantial leverage as measured by total liabilities (including debt and deposit contracts) relative to the value of the institution’s own capital
- A smaller proportion of nonmarketable assets than most corporations, but a larger amount than such institutions as money-market mutual funds.

The real or perceived threat of contagion across banks and the potential for high macroeconomic costs resulting from financial distress has often led governments to adopt deposit insurance to prevent these outcomes. (See box 1 for some examples of commercial bank distress.)

Structural Characteristics of Commercial Banks

The financial structure of commercial banks creates perverse incentives for dealing with bank distress. Liquidity problems—the institution’s ability to meet

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Box 1. Examples of Commercial Bank Distress in Latin America

Financial distress, defined as a situation in which a large number of financial institutions are insolvent, has been recurrent in Latin America.

- **Argentina.** In the past fifteen years more than two hundred banks have had to be liquidated, and the central bank was required to intervene in almost a hundred more.
- **Uruguay.** In the 1980s the government tried to prevent all bank failures by transferring problem institutions to the public domain. A dominant public bank, which accounted for a third of the total deposits in the banking system, absorbed four ailing banks (whose combined assets were almost 30 percent of total bank deposits).
- **Chile.** Following a vigorous privatization and liberalization of the banking system in the mid-1970s, the government was forced to assume control of a significant number of financial institutions in 1981 and 1983. In both years, the loan portfolio of the failing banks was about 40 percent of the total system’s loan portfolios.
demands for payment—can lead to insolvency if a bank's liabilities are more liquid than its assets (liquid liabilities include money and money substitutes, such as savings deposits). The problem is compounded when the institution is highly leveraged (that is, when the ratio of debt to capital is high). High leverage induces owners and managers to engage in riskier activities (moral hazard) as the bank's financial condition deteriorates. This behavior can be aggravated by a lack of financial transparency that is more likely to arise in countries where banking powers have been expanded or where companies are organized as financial conglomerates. The difficulty of interpreting accounting information reduces the possibility of monitoring the bank's actions and inhibits the ability of claimants and depositors to take action to avert financial distress. Uncertainty over the valuation of the bank's assets encourages regulatory inaction when regulators already have incentives to avoid showing losses by actually closing the bank. Because of interbank accounts and contagion associated with bank runs, distress at one bank can infect other, fundamentally solvent, institutions.

The losses thus sustained and the lack of confidence engendered lead to real output costs because banks are forced to liquidate loans that, from an economywide vantage point, should be continued. More broadly, such crises make it difficult for the financial system to act as a buffer in response to real shocks. Concern over the stability of the monetary regime has served as a "public good" justification for government intervention to provide a safety net in the form of deposit insurance for depositors. Despite the obvious advantage of averting bank runs, deposit insurance introduces a further set of disincentives that affects the behavior of bankers, depositors, and regulators.

**Deposit Insurance**

Governments frequently intervene in cases of bank distress to ensure the stability of the financial system. Because stability can be maintained only if depositors have confidence in the bank, governments typically take action to insure the value of deposits, either explicitly through formal deposit insurance or through ad hoc measures to prevent bank failures. Such measures alter the distribution of costs associated with financial distress but may also increase the total cost (and the probability) of distress. Thus, to minimize costs, government deposit insurance must rely on, rather than substitute for, preventive measures as well as on an effective process to ensure that insolvent financial institutions are closed promptly (Benston and Kaufman 1988, Kane 1988).

Figure 1 shows the effect of deposit protection on the total size and distribution of the losses associated with financial distress under four different assumptions. For the sake of simplicity, this cost is distributed among three types of bank stakeholders: depositors (D), shareholders (S), and governments (G). At one extreme, the government offers little protection, and insolvent banks are allowed to fail systematically; the government has a stake in the bank to the extent of deferred taxes, public sector deposits, and outstanding central bank
credit. At the other extreme, the government provides full deposit insurance (whether through systematic bank bailouts or depositor payouts).

Panel A of figure 1 shows that as deposit protection increases, the losses accruing to depositors are gradually transferred to the government. The costs accruing to shareholders depend on whether the shareholders are repaid. This example shows the case in which they are not—either because depositors are paid off upon liquidation or because old equity is written off before rehabilitation.
In panel B the total cost of distress falls as protection increases. With increased confidence in the banking system, the probability of bank runs falls, and consequently fewer banks fail. The government’s contingent liability stemming from deposit insurance may also create incentives for regulators to intervene in troubled banks early and decisively because government and taxpayer funds are at risk.

Panel C shows the opposite case: the total cost of distress increases with protection because of the destabilizing effects of moral hazard on each of the three stakeholders. Here, shareholders are indifferent to risk because deposit protection can make them whole (if the form of deposit insurance is such that the government prevents bank failures and assumes the losses). Depositors’ lack of concern about the soundness of the bank removes the discipline associated with the threat of bankruptcy, and regulators delay closing down insolvent banks because of the potential financial burden to the insurer.

Panel D presents a likely scenario. At high levels of protection, moral hazard is likely to be pervasive, but, at lower levels, the benefits from the sense of confidence imparted by protection may outweigh the problem of moral hazard. Thus the total cost is assumed to decrease (as in panel B) until the optimal level of deposit insurance is reached and then to increase explosively when protection goes above the optimum level (as in panel C). At this point consumer confidence and a reduction in the probability of depositor runs on the bank are more than offset by the moral hazard problem associated with high levels of protection. The implication, then, is that authorities should seek to target protection at a level that minimizes the total costs. The exact location of this point on the protection scale depends on the quality of prudential regulation and supervision, the nature of the threats to the banking system (micro versus systemic), the degree of concentration in the banking industry and in the economy, the credibility of the government’s commitment, and the history of financial distress in the country.

Mechanisms for Handling Bank Distress

Throughout the 1980s governments emphasized the importance of mechanisms and procedures to promote the stability of the financial system. The institutional arrangements put into place fall into two categories: those designed to avert distress, and those designed to mitigate the consequences of distress once it occurs.

Preventive measures include specifying the rules of the game by instituting regulations that curb risk-taking and protect the interests of depositors. A corollary action involves monitoring the banking system through government supervision and external (as well as internal) auditing procedures that enforce compliance with the regulations, reveal the financial condition of the banks, improve management, and prevent fraud. Remedial measures include deposit insurance; government intervention in troubled banks, either through conservatorship or
assumption of ownership; use of the central bank's function as lender of last resort to improve liquidity; and liquidation or recapitalization procedures.

By its very nature, the framework for preventive measures must be established before financial crises occur and must be clear, consistent, and credible. (For a good review of preventive measures, see Polizatto 1990). Accordingly, preventive measures tend to be embodied (with various degrees of efficacy) in existing legal and institutional structures, while remedial measures are often ad hoc, both in the nature of the actions taken and in the timing. There are several reasons for the ad hoc nature of remedial measures. First, the authorities may view the fiscal implications of recognizing and allocating huge losses as politically unpalatable. Moreover, these remedial measures are implemented only in the event of distress, which, it is hoped, may actually not occur. And finally, the event that triggers these measures—insolvency (threatened or actual)—is, as noted earlier, hard to define and measure precisely because of the lack of timely and accurate accounting information and the difficulty of valuing certain assets. Thus developing countries generally lack the legal and institutional mechanisms for dealing with distress once it occurs.

Often the path of least resistance is to do nothing—to hope for spontaneous improvement and avoid taking action in the meantime. This results in political interference in decisionmaking and a loss of the banking authorities' credibility. Inaction almost inevitably increases the cost of the cleanup. Even if the authorities do take decisive action, the absence of clear policy procedures may lead to restructuring rather than liquidation. If restructuring involves compensating the shareholders of failed banks, perverse incentives can be created that can lead to a loss of financial discipline and to the taxpayers' assumption of the losses.

The importance of establishing well-defined procedures for intervening in cases of financial distress in developing countries is heightened by the characteristics of the financial systems of commercial banks. In many countries the lack of substantial debt and equity markets or credit-rating agencies makes it difficult to ascertain the market value of banks. In some countries the existence of financial groups, in which there is little separation among banking, commerce, and other types of financial services, can further complicate the valuation of assets and liabilities. Volatile asset prices such as interest rates tend to exacerbate financial distress and further complicate the rehabilitation or liquidation process. Finally, the scarcity of motivated, well-paid, and technically competent civil servants in the agencies charged with managing bank distress can undermine regulatory intervention.

Bank Rehabilitation

Rehabilitating insolvent banks entails three types of actions: restoring solvency through a recapitalization scheme that covers all existing losses and provides the institution with an adequate level of capital; restoring profitability by restructuring the institution's staff, operations, cost structure, and physical in-
rastructure; and upgrading management in the hope that new staff will improve decisionmaking, risk management, and control systems and procedures.

Quick and successful bank rehabilitation requires that these actions occur simultaneously. Of the three, recapitalization is probably the most sensitive and hence should be handled particularly carefully. The authorities must decide how to allocate the financial losses among the government and new and old depositors and shareholders. Because rehabilitation usually takes the form of explicit or implicit deposit protection, depositors are rarely forced to incur losses. Existing shareholders will lose the value of their investments to the extent that “old” capital is reduced (through write-offs or provisions for bad loans). Until existing losses are allocated, an insolvent bank is unlikely to attract new capital. Therefore, the government typically absorbs any residual losses (after writing off old capital) and then solicits new capital.

The primary difference from one recapitalization scheme to the next is the source of new capital, which can come from former shareholders, new shareholders (say, other banks), the government, or a combination of these. The most common schemes involve bailouts, nationalizations, assisted mergers, and purchases and assumptions.

- In a bailout the bank is kept afloat, with its operations and ownership intact. The government covers all the losses.
- If the government decides to nationalize the bank, the losses again are borne entirely by the government, which provides enough capital to cover not only the losses but also additional outlays to keep the institution viable and to allow it to meet legal capital requirements.
- In an assisted merger the government covers all losses, restores the institution to solvency, and provides sufficient resources to induce other institutions to invest. At this point outside investors may become interested in purchasing the bank. Assisted mergers probably entail smaller losses for the government than either of the first two options because competing bids can be sought.
- Finally, in a purchase and assumption, which operates under the same principle as an assisted merger, the government replaces bad assets with good ones, but it must put in more fresh resources than it does in an assisted merger to compensate for the assets that were removed. Acquiring banks prefer this option to an assisted merger if they are unable to ascertain the extent of losses in the loan portfolio or in other contingent obligations of the failed bank or if they are convinced that the government is likely to be more successful in recovering the bank’s nonperforming assets.

The implementation as well as the choice of a recapitalization scheme is subject to a formal process in all countries, but often the need for rapid action results in extrajudicial intervention. In some cases, ownership of the troubled bank is actually transferred to the government. In developing countries the acquiring institution is typically the central bank or a public bank. In Venezuela,
for example, the central bank has assumed majority ownership of three distressed commercial banks. In Uruguay, between 1985 and 1987, the state-owned Banco de la República bailed out four of the largest banks in the system, which accounted for about 31 percent of total banking deposits. And in Peru the state-owned Banco de la Nación has directly or indirectly bailed out all the failing banks that the authorities have decided to keep operating.

Once the government has taken over, however, it is not likely to have the technical expertise to turn around a commercial bank. Moreover, by drawing it into the public sector, the government politicizes the process and makes reprivatization difficult, which effectively leads to a de facto nationalization. This could occur if the public agency that acquires the bank finds that it is profitable but is even more likely where the troubled bank becomes a financial and administrative burden and the government has to shoulder additional losses.

In some countries ownership of the insolvent bank is transferred to a specialized institution such as a deposit insurance agency or a special-purpose corporation or trust. This concentration of government activities in a single agency may help to turn around the bank and to shield the process from political intervention, especially if the agency is required by law to reprivatize or liquidate the institution within a specified time. In the United States the Federal Deposit Insurance Corporation (FDIC) can acquire a problem bank and operate it as a subsidiary "bridge bank." By law the FDIC must divest itself of the bridge bank within two years.

In other countries government intervention in the troubled institution entails a shift in the control, but not the ownership, of the bank. As in corporate reorganizations, legal control over the bank’s assets may be vested in a conservator (usually the bank supervisory agency, such as the FDIC in the United States, or the central bank in Argentina). The conditions that prompt the appointment of a conservator can include technical insolvency, actions by management that violate the bank’s charter, inability to cover maturing obligations, or the presumption of fraud or mismanagement on the part of bank officials or directors. The conservator is charged with operating the bank as a going concern and with investigating its financial condition. Once the investigation is complete, the conservator evaluates the various options for recapitalization and decides which one to pursue. In this role the conservator makes an offer to each class of creditor and typically has discretion to issue new equity and deposits or to initiate liquidation procedures.

**Bank Liquidation**

Liquidation involves the forced sale of bank assets once operations have been permanently terminated. A bank regulator must decree the suspension of operations, although a judge may also have to issue a cease-and-desist order. Liquidation typically involves the appointment of a receiver, which in most countries
will be the central bank or a deposit insurance agency, but may also be a judge. All operations of the bank are suspended, and management and board members are displaced. The receiver takes over the bank's assets and disposes of them, paying each class of creditor according to a hierarchy defined by the laws governing extrajudicial liquidations or by the commercial or bankruptcy code.

Assets can be liquidated through market sales (if a ready market exists for the asset and the sale is not so large that it adversely affects prices), public auctions, and private placements. When a particular asset does not have the benefit of a deep market or when the government, for political reasons, does not wish to sell assets publicly, private placements are preferred because they are less transparent.1

Causes of Regulatory Failure

Despite the need to resolve financial distress quickly, the authorities tend to delay the decision. A growing body of literature stresses the importance of incentives that encourage the parties to bank distress to ignore the problems as long as they can, delaying recovery, and leading to four types of regulatory failures: inaction, which permits losses of insolvent banks to mount; a bias favoring rehabilitation over liquidation; the adoption of policies that are designed to prevent actual failure but that undermine financial discipline; and a loss in the authority of regulators. Two groups of incentive problems must be solved: those of regulators and those of bank managers and various claimants.

Incentives of Regulators

In analyzing the savings and loan crisis in the United States, Demirgüç-Kunt (1989), Kane (1988), and Silverberg (1990) have each examined a model of regulatory behavior and decisionmaking in which the relationship of regulators to political interests (see also Buchanan 1967) and the potential capture of regulators by the banks (see Peltzman 1989; Stigler 1971) create incentives that make regulators unwilling or unable to let banks fail. These incentives can be grouped under three headings: political, personal, and bureaucratic.

- **Political obstacles.** Regulators are reluctant to alienate the politicians who appoint and oversee them. Closing down a commercial bank is likely to have costly budgetary consequences for taxpayers, with attendant implications for the reelection of politicians. This argument assumes that a problem between the principal and the agent exists in which the principals (taxpayers) find it difficult to monitor the actions of the agent (regulators and government) who represents their interests in resolving financial distress quickly.

- **Personal relationships.** Regulators also must satisfy another clientele: the banks they regulate. A regulator's interests tend to be increasingly coinci-
dent with those of the banks it regulates, particularly if salary differentials between the government and the private sector are large. In developing countries, where bankers and regulators are drawn from a small set of well-educated, economically powerful, and politically connected people, personal relationships can be very important. Regulators may see their role as providing comfort to the banks they are charged with regulating. Under these conditions they are unlikely to move quickly to resolve financial distress, whether by closing, rehabilitating, or liquidating a bank. In fact, distress can increase the incentives to compensate bank managers and even shareholders in return for future benefits.

- **Bureaucratic difficulties.** A third factor relates to intragovernmental jurisdiction, particularly in countries that have regulatory institutions with overlapping functions and responsibilities. Instead of creating checks and balances on regulators through a form of competition, such a structure often leads to bureaucratic inertia. If each agency acts to protect its mandate and husband scarce information, the outcome is unlikely to advance the resolution of financial distress.

When regulatory and supervisory functions are decentralized, the compatibility of the objectives and authority of each agency must be carefully balanced. Each agency should be permitted to issue those threats (fines, liquidation, intervention, and so on) that it is able to implement and enforce unilaterally. If the agency is unable to enforce its own threats, both its credibility and the morale of its officials will deteriorate, undermining effectiveness.

Examples of the institutional structure distorting the incentives of regulators to resolve cases of financial distress are numerous. In the United States regulatory arbitrage among competing agencies acts to weaken the enforcement of regulations. In Brazil and Mexico, where financial conglomerates are important, bank brokerage and investment banking operations can fall under the scrutiny of several regulatory agencies, including the central bank, the securities exchange commission, and even agencies that regulate insurance and pension funds. In Brazil the confusion has resulted in numerous conflicts. The liquidation of several brokerage firms in 1989 in the aftermath of that country’s stock exchange crisis was coupled with reports that regulatory agencies had not acted promptly.

In Venezuela bank insolvency problems fall under the jurisdiction of the superintendency of banks (through its power of conservatorship) or of the deposit insurance corporation (through its recapitalization instruments). The laws and procedures do not clearly spell out who should initiate actions or how each agency can support the other. In Nicaragua the national comptroller is charged with supervising banks’ compliance with reserve requirements and assessing the corresponding fines, which it does only after significant delays. Collecting the fines is the responsibility of the central bank, although it rarely does so. Because
the responsibility is shared, each agency sees the other’s inaction as a reason for delaying its own efforts.

The lack of coordination among regulatory agencies means that decisions to rehabilitate or liquidate troubled banks may not be based on the full budgetary cost to the government, either because the authorities fail to take relevant costs into account or because they apply a distorted opportunity cost of funds. In most cases the agency in charge of rehabilitation is responsible for paying off the depositors (if it happens to be a deposit insurance corporation), injecting fresh capital, and covering the bank’s losses by purchasing the value-impaired assets at less than market value. But other government agencies also incur costs. The central bank generally gives rediscounts or credit to insolvent banks to provide liquidity, but this support may contain elements of recapitalization (if it is granted at below-market rates or is continually rolled over and effectively capitalized) or deposit guarantees (if it funds deposit withdrawals). Central bank support is often indistinguishable from the rehabilitation support advanced by the supervising agency. In fact, the central bank may subsidize the insolvent bank’s funds (implicitly capitalizing the bank) and may permit continual, unsecured intraday or overnight overdrafts without limit.

Regulatory failure may also stem from the regulator’s lack of information about the bank’s financial condition. The authorities may be hard pressed to prove beyond reasonable doubt that intervention is justified and not confiscatory. Timely and reliable accounting information is essential to shield against lawsuits brought by owners. Moreover, uncertainty about the potential costs of the various alternatives leaves the authorities vulnerable to charges of mismanagement, particularly when information supplied at a later date casts the appropriateness of the decision in a new light.

When information is deficient, the status quo will always look more attractive than other alternatives. This has been the case in Argentina, where bank interventions are invariably decreed only after the prospects for recovery are all but gone, and Bolivia, where a fundamentally insolvent bank continued to function for five years.

Incentives of Bank Stakeholders

Two strands of theoretical research, contingent claims analysis (Altman and Subrahmanyam 1985) and agency theory (Copeland and Weston 1988), shed light on the incentives stakeholders have when a bank is in distress. All forms of claims on the bank can be viewed as combinations of options contracts, whose value depends on the volatility of the return on the bank's assets. When a bank is in distress, owner-managers have an incentive to expropriate the wealth of the bondholders by engaging in highly leveraged and risky operations. To prevent this behavior, bondholders try to monitor the actions of bank officials by incorporating covenants in their contracts that restrict dividend payments and the disposition of the bank’s assets or that limit the amount of leverage the bank
may assume. These so-called agency costs (of monitoring and enforcement) tend
to rise as the proportion of debt to equity rises. In addition, conflicts can also
occur between managers and shareholders. Those who hold equity in the bank
but who do not participate in its daily management or control also have to
monitor managers or devise a compensation package that aligns their interests
with those of the shareholders (see Jensen and Meckling 1976).

Sheng (1990) suggests that the conflicts among different claimants upon the
future cash flows of the bank and the contractual arrangements adopted for
protecting the value of these claims affect the bank's decisions on the allocation
of assets and capital structure. Each of the three types of claimants—equity
holders (or managers), depositors, and senior and subordinated debt holders—faces different incentives. Equity holders have an incentive to encourage
managers to undertake risky asset-allocation decisions to maximize their profits.
Depositors, if not subject to some form of credible de jure or de facto deposit
insurance, have an incentive to monitor management and move their funds to
"safe" banks—imposing a certain degree of market discipline. Finally, various
classes of subordinated debt holders cannot withdraw funds on demand, are not
provided with ex post insurance, and do not share in the profits derived from
risk-taking. This group of claimants has an incentive to limit the riskiness of
commercial bank activities by incorporating explicit limitations on risk-taking in
legal bond covenants associated with subordinated debt offerings.

Incentive Compatibility

All this suggests that two aspects of the rehabilitation (or liquidation) process
will also introduce important incentive problems: ill-defined property rights,
and the lack of segregation of new and old claims in distressed banks.

• Ill-defined property rights. When the legal rights and standing of bank
claimants are unclear, this can slow the efforts of officials to resolve an
existing crisis. If the rehabilitation process permits existing shareholders to
recover their losses, shareholders have an incentive to press for risky asset
selection but little incentive to avert a crisis by replacing management. At
the same time, if depositors, bondholders, and employees perceive that
existing shareholders will not incur losses or that the loss-allocation process
will be arbitrary, any incentive they might have to monitor bank manage-
ment and avert crises evaporates. The very process of crisis resolution is
slowed if claimants bring court actions to dispute the decisions of the con-
servator or receiver.

The incentive for employees (as well as for potential new equity holders)
to cooperate in a bank rehabilitation or liquidation depends in large part on
whether pension, severance payments, and other employee benefits are
clearly delineated relative to the claims of other creditors. When employ-
ment contracts permit profit sharing, or when other benefits such as pen-
sions or severance payments are linked to the continued existence of the
bank, employees have a greater incentive to police management. If the pension plan is not company-related, employees, like other shareholders, may encourage management to take greater risks to maximize the value of the bank. Borrowers, by contrast, will have an incentive to slow down the process of rehabilitation or liquidation—particularly when it is clear that the bank will be foreclosed.

- **Segregation of new and old claims.** In rehabilitations that permit the conservator to take net new deposits or issue new equity, new funds might be used to pay off old (pre-intervention) equity holders or other creditors. This type of intermingling does not occur in standard corporate reorganizations, in which existing creditors of the bank are blocked from access to their assets and pre-intervention equity holders suffer losses. Intermingling will obstruct rehabilitation plans and increase the costs to the government. If new shareholders must share future returns with old creditors or shareholders, they will not invest in the bank.

To avoid these problems, existing shareholders should be the first to assume losses in rehabilitations and liquidations. The particular risk-reward structure built into equity gives it a vital role in all corporate structures: because payoffs are linked to company performance, equity holders should have a strong incentive to monitor management’s actions. Rehabilitation operations that do not preserve this incentive for equity holders will weaken market discipline.

There are several ways to make equity holders shoulder the losses of banks to the extent that limited liability permits. The cleanest option is to charge losses immediately against bank capital by provisioning or writing off the bank’s assets before restructuring. Once this has been done, government agencies can inject capital to replace the lost capital and cover any additional losses. This is the method that the Spanish deposit insurance fund applied. Chile followed an alternative approach in 1984 that preserved old equity but modified the payoff structure to extract the upside potential until the government was compensated for the cost of rescuing the bank. This process, which requires strict segregation of old and new capital, called for the central bank to purchase (in cash) the risky portfolios of commercial banks. Each portfolio was priced at face value and could not exceed 150 percent of the institution’s capital and reserves. The value of the portfolio was capitalized into a loan, was indexed to the price level, and accumulated 5 percent annual interest. Commercial banks continued to manage their loan portfolios on behalf of the central bank. Dividends were paid to new equity, but old equity did not receive dividends until the entire portfolio had been repurchased. The share of dividend payments that would have normally accrued to old equity went toward repaying the loan.

A related point is that using capital assistance to cover negative net worth is better than using income enhancement assistance. Insolvency is a problem of stocks: it occurs when the stock value of liabilities exceeds the stock value of assets. The insolvency may result from a lack of profitability that gradually
erodes capital, but whatever the source of the insolvency, at a particular point it becomes a stock problem.

**REPLENISHING CAPITAL.** An insolvent bank can be returned to solvency either by replenishing its capital (the stock solution) or by providing a steady subsidy that can be capitalized over time (the flow solution). The flow solution is frequently adopted because it allows the government to spread out the costs of recapitalization. The same result can be achieved under the stock solution if the capital injection provided by the government is in the form of government bonds. The government acknowledges the total future cost at the time it issues the bonds; the cost is equal to the cumulative annual debt service on the bonds. Even though the cost is spread out, it represents a stock assistance to the bank if 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. Although the bank continues to operate, it remains insolvent for some period. This situation is problematic for two reasons. First, the bank is especially vulnerable to any economic or financial shocks that might occur. Without the robustness conferred by capital, the probability that the bank will not recover is higher, and, ultimately, the government's efforts and resources may be wasted. Second, the moral hazard problem is exacerbated because existing shareholders continue to run the bank without having any financial stake in it.

**THE INCOME SOLUTION.** Income enhancement is often used to prevent the actual failure of financial institutions. Although countries have found creative ways to package and justify such assistance, the end result in terms of fiscal costs and incentives is the same. In 1989 Venezuela's deposit insurance corporation (FOGARDE) made loans at 6 percent to insolvent banks under its auspices to purchase Treasury bonds at face value paying around 15 percent. In effect, the troubled institutions were given a 9 percent annual flow subsidy for about seven years. In 1982 Chile's central bank purchased the risky or nonperforming portfolios of eligible banks by issuing a ten-year note to the institution, effectively guaranteeing a return on the portfolio equal to the interest rate on the note. In the United States in the early 1980s, the Federal Savings and Loan Insurance Corporation routinely compensated ailing S&Ls for the negative spread between their cost of funds and the yield on fixed-rate mortgages, essentially assuming the interest rate risk on the S&Ls' long-term mortgage obligations.

**Allocating Losses**

The principle of preserving shareholder discipline throughout the rehabilitation or liquidation process can be extended to other stakeholders. For instance, the blame for an institution's distress usually does not lie exclusively with its owners or managers. Several types of depositors could be held responsible in
varying degrees: bank insiders and related parties who may have benefited from excessive lending or preferential treatment; clients with deposit balances and overdue loans; official or institutional depositors that influenced lending decisions (because they had a stake in the activities in which the distressed institution concentrated its portfolio); recent depositors attracted by high interest rates, who should accept the risks implicit in those returns; or very large, informed depositors who should have exercised some market discipline.

These depositors should be forced to assume their losses unless they are explicitly covered by deposit insurance. Short of canceling the bank’s obligations to them, their stake could be converted into equity. In a liquidation, their positions in the hierarchy for distribution of proceeds would be reduced, and in the case of a rehabilitation, their payoff would be contingent on the bank’s recovery.

Wholesale debt rescheduling and other such measures that undermine market discipline are counterproductive. Government-decreed reprogrammings have been common in Latin America; they have been instituted for social or political reasons (Nicaragua), to promote investment and growth (Bolivia), or to buy time for the resolution of generalized banking crises (Argentina, Chile, and Uruguay). Typically, the government specifies the range of eligible debtors—by economic sector, geographic location, or income level—and compensates financial institutions for the income foregone. Reschedulings and debt workouts are also performed in the context of corporate reorganizations. Filing for reorganization often allows firms to avoid repaying their debts, particularly if no penalties (in terms of future access to credit) are involved.

From the bank’s point of view, it is always more profitable to reschedule nonperforming loans that are unlikely to be repaid. Lower interest rates will not hurt the bank’s income (as these loans may never be collected), and rescheduling makes overdue loans current, thereby allowing the bank to return funds put aside to cover the anticipated loss. This incentive to reschedule makes the exercise a cosmetic one that simply defers problems into the future. Furthermore, to the extent that debtors understand this bias, they have an incentive to let their loans become overdue so that they become prime candidates for reprogramming. As a result, portfolios may worsen in the short run, and credit discipline is certain to be undermined in the medium term. In addition such schemes become a source of uncontrolled quasi-fiscal losses for the central bank and confirm the public’s view of the government as the residual absorber of all losses and risks.⁴

Resolving Bank Crises: More Rules, Less Discretion

Many laws relating to the procedures for handling bank crises grant regulators and supervisors as much discretion and as many policy instruments as possible so that they can pick the appropriate procedure in each case. This
approach has not been satisfactory, especially in developing countries, for several reasons. The lack of clear procedures clouds the "rules of the game," and regulatory discretion often translates into unpredictability. Although discretion may be appropriate in a particular case, the deterrent effect on other banks may be lost. Moreover, unless regulators have the technical expertise and managerial skills essential in financial transactions, the benefits of discretion may not accrue. The use of rules may preclude better outcomes in some cases, but the downside risks are more limited. And finally, too much discretion opens policymakers to charges of abuse of power and permits inaction at each stage in the remedial process. The law, initially conceived as a tool at the disposal of authorities, can be turned into a weapon against them. Resolution of bank crises is often paralyzed when discretion leads to charges of financial impropriety or legal challenges to the adopted procedures.

In a crisis, regulatory discretion often deteriorates into forbearance. Regulators and insurers are anxious to avoid responsibility for closing down the bank. If the financial condition of the (de jure or de facto) insurer is weak, it will try to defer the closure to protect itself. Because rehabilitation is a costly venture, the path of least resistance may be to turn a blind eye to insolvent institutions and provide implicit subsidies through exemptions from regulations.

Forbearance may be justified when it does not seek to cover up problems but rather is intended as a respite for institutions that face a financial crisis as well as tough new regulatory standards; if accompanied by more stringent supervision, forbearance may add a touch of pragmatism. But as a rule, regulatory and accounting standards should be tougher, not weaker, during bank crises, when adverse incentives may add to the costs of distress. Strict regulatory standards based on rules can mitigate the extent of regulatory forbearance.

For these reasons, an effective legal framework is needed to protect authorities, to provide clear signals to the private sector, and to force policymakers to act promptly. The legal system should clearly specify the circumstances that warrant liquidation, conservatorship, or rehabilitation; the range of the receiver's or conservator's actions, powers, and rights; and the timing of these actions.

The laws regulating banking activity should be tough, but realistic. When requirements are too demanding or costly, the laws are frequently transgressed, undermining confidence in the laws as well as in the regulators who are supposed to enforce them. Because regulators would almost always prefer to rehabilitate a bank than to liquidate it, the legal system should spell out the conditions that would require liquidation. For example, the law can bind authorities to initiate the liquidation process before a bank becomes technically insolvent. Such a rule would apply only to banks with a large proportion of assets that are tradable in active markets. Where these conditions are satisfied, in countries, such as Brazil, with well-developed capital markets and a significant set of nonbanks or in countries, such as Mexico, that permit banks to buy
and sell securities, rules can lay out the mechanisms for asset disposal and the hierarchy of claims against liquidated assets.

Simply announcing the framework that has been adopted for resolving bank failures is likely to affect the future behavior of economic agents and thus have long-term effects on government policies. Systematically rehabilitating banks to prevent failure implies full deposit protection and compromises market discipline. Bailing out large banks while allowing smaller banks to fail (as the United States has done) confers a competitive advantage on large banks. When the public perceives that rehabilitation is seldom successful, placing banks under conservatorship will be tantamount to a public announcement that the bank is about to fail and, unless deposits are insured, is likely to trigger a bank run that will only accelerate insolvency. The move thus becomes a self-fulfilling prophecy that entirely undermines the use of conservatorship as a policy tool. Argentina suffered from this experience in the 1980s, when interventions occurred only after the banks’ equity and profitability positions were severely undermined and the chances that the bank could be successfully turned around were very small. It is precisely these announcement effects that rules-based mechanisms can exploit to improve financial discipline.

Some Provisos

This article has outlined a set of principles that can guide decisionmakers in choosing the right mechanism for resolving bank distress, but several provisos should be borne in mind in applying these principles in a particular country. First, technological change (particularly in telecommunications) is redefining the very meaning of banking versus securities transactions. Systemic risks that originate through the operation of interbank markets can cause contagion when one bank or securities subsidiary fails. As the link between regulating the form of payments system and financial distress of counterparties becomes more pronounced, the restructuring and exit processes for financial institutions need to be flexible enough to permit adequate unwinding. Complex linkages between financial system policies and institutions temper the scope of rules over discretion.

Second, specific mechanisms to resolve bank failure are only one element in a consistent package of financial reforms and must be complemented by appropriate financial reforms in the lender-of-last-resort function, the form of deposit insurance, the payments system, prudential regulation, and the legal framework for delivering financial services.

Finally, in designing more effective financial policies, several criteria need to be used to deal with tradeoffs. As noted in work by Stiglitz (1985) and Merton (1994), it is important to consider how a particular financial policy or reform may affect the degree of financial stability, the incentives for monitoring financial institutions (by stakeholders or regulators), the degree of competition in [Thomas Glassner and Ignacio Mas]
the provision of financial services, and the set of financial contracts available
to consumers of financial services.

This article addresses only one set of criteria—incentive effects. The desir-
ability of some of the mechanisms recommended in this paper might be altered
if all the above criteria were applied; integrating them provides a rich research
agenda.

Notes

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1. Few developing countries have set up public entities like the Resolution Trust Corpora-
tion in the United States to take over the assets of troubled banks.

2. For instance, one can think of the equity owner as selling the assets of the firm to
bondholders in return for cash and a call option on the value of the firm. The shareholder
will exercise the call option (that is, pay off the bondholders) if the value of the firm exceeds
the value of the bond.

3. Both high bankruptcy costs and taxes can invalidate the Modigliani-Miller proposition
for the individual firm.

4. In many Latin American countries, this phenomenon is referred to as the privatization
of gains and socialization of losses.

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