Preventing Banking Sector Distress and Crises in Latin America

Proceedings of a Conference held in Washington, D.C., April 15-16, 1996

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Edited by
Suman K. Bery
Valeriano F. Garcia

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Over the past two decades countries in Latin America and the Caribbean have continually suffered the blows of financial market volatility, producing repeated and acute systemic banking crises. Despite significant support from the World Bank through structural adjustment and financial sector adjustment loans, many of the region's banking systems continue to be weak and subject to recurrent distress.

In an attempt to solve this pressing problem, the Technical Department of the Bank's Latin America and the Caribbean Regional Office organized this conference to discuss topics relevant to the prevention of banking crises in these countries. The main objective of the conference was to present in one place the varying prescriptions at hand and ultimately devise a common framework that would render the systems less vulnerable to systemic shocks.

It is hoped that the compendium of ideas and analyses in this volume will prove of value to future policy reform decisions.

Sri-Ram Aiyer, Director
Latin American and the Caribbean
Technical Department
Abstract

The following pages are a collection of discussions on banking crises in Latin America—their origins and remedies—as seen through the eyes of bankers, practitioners, and scholars.

This cross-sharing of experience should prove instrumental to policymakers in designing future programs geared at preventing banking sector crises throughout the region.
Acknowledgments

The collaborative efforts of the following people were instrumental in the preparation of this conference and the publication of this volume: Valeriano Garcia for planning the conference, Suman Bery for his guidance, the Research Committee for its support, Elizabeth Minoso and Patricia Mendez for coordinating the conference, and Jorge Forgues for his timely support.

Thanks must also be extended to the office of the Director of the Technical Department and the office of the Vice President of the Latin America and the Caribbean Regional Office, whose support was essential in the administration of this event.
The Conference Proceedings

Suman K. Bery and Valeriano F. Garcia

The conference on Preventing Banking Sector Crises in Latin America, sponsored by the Economic Adviser's Unit in the Technical Department of the World Bank's Latin America and the Caribbean Regional Office, took place in Washington, D.C. on April 15-16, 1996. About 160 attendees included heads of central banks, private bankers, policymakers, public officials, and academics. The three conference sessions focused on narrow banking, deposit insurance, and market-based supervision and regulation. In addition, the conference closed with a roundtable discussion on systemic banking crises.

Opening Remarks

In welcoming the conference participants, Sri-Ram Aiyer said that it was well-known that Latin American countries have had long-standing and stubborn problems with banking distress, often threatening entire banking systems. Although the management of banking crises has been extensively analyzed in many forums—including work done by the Bank’s Latin America and the Caribbean Technical Department—Aiyer had thought it was time to discuss issues related to crisis prevention in commercial banking. Thus he had asked the Economic Adviser’s Unit in his department to bring together academics, bankers, and practitioners to discuss issues in three pertinent areas: reserve requirements and narrow banking, deposit insurance, and market-based regulation.

In selecting these topics Aiyer noted that reserve requirements in the region vary from very high to zero—and opinions regarding how high they should be also vary from 100 percent on demand deposits (narrow banking) to zero. What principles should be followed in establishing reserve requirements? Deposit insurance is another vexing problem. Is insurance necessary to prevent liquidity problems at one or a few banks from turning into a panic? Or is the price paid—in terms of the resource misallocation that results from the moral hazard created by such insurance—unacceptably high? Are there good and bad types of deposit insurance? Prudential regulation has been thoroughly discussed in other forums, said Aiyer, but market-based regulation is a new weapon. Do such regulations substitute for or complement conventional on-site supervision? If so, in what way? And in countries that have market-based regulation (Chile, New Zealand), has the system been tested?

Prologue

In his prologue Sir Alan Walters suggested that Latin America’s inflationary past made its search for monetary credibility especially difficult, since economies in transition from hyper- or high inflation are particularly susceptible to crises. In such countries an institutionally fixed exchange rate (through some type of currency board) is a tempting means by which to gain credibility. But such a move also carries collateral difficulties—as Argentina’s recent experience had vividly illustrated. Since a currency board arrangement does not guarantee prudent banking but does eliminate the lender of last resort, banking crises, if they occur, will threaten the peg.

Thus narrow banking may seem like an attractive solution for such countries, since it nips the problem of portfolio quality in the bud. Despite this appeal, however, Walters advised countries to avoid narrow banking. In his view narrow banking would necessarily drive business out of the banking system and

Suman K. Bery is chief and Valeriano F. Garcia is principal economist of the Economic Adviser’s Unit in the Latin America and the Caribbean Technical Department at the World Bank.
into the equity market, the debenture market, and other credit-creating institutions. Although this move would shuffle credit risks out of the banking system—thus insulating banks and the payment system from the vagaries of the credit market—shifting risk to the nonbank capital market would transfer business to much less transparent institutions, with greater insider trading. As a result the government would still be tempted to intervene, as it routinely has in the banking sector.

To avoid bank runs, Walters recommended strict adherence to the capital requirements of the Basle agreements, good regulation, and tight supervision. In his view the government should, above all, act to preserve the payments system, even in the event of banking fraud. Only after the payments system is secured should the government or central bank deal with fraud or any other issue.

Walters insisted that one important element suggesting that banks require special supervision, as distinct from the supervision of nonbanks, is that banks are susceptible to large-scale fraud. The massive losses run up by Banco de Intercambio Regional in Argentina during the early 1980s and, more recently, by Banco Economico in Brazil and Banco Latino in Venezuela, give force to Walters’s insistence on the importance of fraud.

Walters concluded by stating that it is difficult to avoid deposit insurance either formally or informally. Still, he said, the best solution is to leave insurance to the private sector in order to avoid moral hazard as much as possible.

**Narrow Banking**

The conference continued with the presentation and discussion of the background paper written by Roque Fernandez, then-president of the Central Bank of Argentina, and Liliana Schumacher, then-principal economist at that bank. The topic of the paper was “narrow banking”—the proposal that demand deposits be backed entirely by safe, highly liquid assets.

Fernandez and Schumacher favor narrow banking for Argentina. They claim that Argentina was able to weather the “tequila effect” that followed Mexico’s 1994–95 crisis because of the high reserve requirements (43 percent) imposed on demand deposits. This requirement implied a very low deposit multiplier and gave the Central Bank excellent leverage to deal with the crises by reducing reserve requirements. The authors asserted that because of the convertibility plan, which precludes the Central Bank from acting as a lender of last resort, and because of the reluctance of political leaders and ordinary citizens to use taxpayers’ money to bail out banks, Argentina should aim to evolve in the direction of narrow banking.

The authors posed two main questions: Is Argentina’s banking system in a transition toward narrow banking? And is narrow banking a better banking framework for Argentina, given the constraints imposed by its monetary constitution on the traditional role of the Central Bank as lender of last resort? To answer these questions the authors first reviewed the history of narrow banking proposals—the so-called Chicago plan of 1933 and its subsequent variations. Fernandez and Schumacher noted that the main appeal of a 100 percent reserve requirement is its ability to restore control over the money stock to the central bank while removing incentives for excessive government intervention in the asset decisions of banks, and in asset markets more broadly. The intrusiveness of the monetary authorities in turn is linked to two characteristics of fractional reserve banking: deposit insurance and the dependence of the money stock on the independent portfolio decisions of banks and the nonbank public, which force the authorities to pursue continuous offsetting (and potentially destabilizing) intervention in asset markets. Since the U.S. savings and loan debacle of the 1980s, the debate on narrow banking has shifted to a different concern: how to design an institutional framework that allows banks to develop in a competitive environment.

After reviewing the institutional expression of a hypothetical “pure” narrow banking system, the authors turned to an assessment of the recent evolution of the Argentine banking system. Characteristics of the Argentine regulatory framework included:

- A minimum ratio of risk assets to capital of 11.5 percent, following Basle conventions.
- Freedom to engage in both banking and securities activities, subject to conventional concentration limits on banking activities, and capital-associated restrictions on equity holdings in nonfinancial corporations (which cannot be funded with deposits).
- High reserve requirements—initially 43 percent on checking accounts and 3 percent for term deposits, although after the 1995 panic these were replaced by a unified liquidity requirement of 15 percent.
- No publicly provided deposit insurance; instead deposit insurance is fully funded by the banks themselves for small depositors. In addition, there is legal recognition of the seniority of small depositors’ claims in a liquidation.
The regulatory framework for commercial banks in Argentina is closely related to the country's monetary constitution, as embodied in the 1991 Convertibility Law. Fernandez and Schumacher described this framework as a regime based on a fixed exchange rate with full convertibility of the domestic currency into U.S. dollars, and bimonetarism. Under this regime 100 percent of the monetary base must be backed by international reserves, although as much as 33 percent of these reserves can be Argentine government obligations (assessed at market values) denominated in foreign currency. The authors emphasized two implications of this monetary constitution:

- The (domestic) money stock is highly endogenously determined by the behavior of the nonbank public; any attempt to issue money in excess of what is voluntarily held would threaten the pegged rate.
- As a result banks and the public recognize that the Central Bank cannot act as a lender of last resort based on its monetary expansion powers.

Fernandez and Schumacher then explored two further questions: Are the Argentine monetary arrangements well-suited to deal with shocks, particularly those arising from capital movements, and would a stronger move toward narrow banking be desirable?

On the first point, Fernandez and Schumacher argued that the main problem posed by volatile capital flows is the relative illiquidity of bank loans as an asset. In their view Argentina has solved this problem by maintaining a high ratio of capital to risk assets. This approach ensures that temporary surges in bank deposits do not immediately translate into hard-to-reverse loan commitments. As proof that this mechanism works in practice, the authors pointed out that in the Argentine panic of 1995 only 13 percent of the reduction in deposits needed to be matched by a reduction in bank credit—representing a reduction of only 2.3 percent of credit outstanding prior to the crisis.

In Fernandez and Schumacher’s view the combination of high (risk-adjusted) capital requirements, bank-funded deposit insurance, mandated liquidity requirements, and the absence of a lender of last resort function on the part of the Central Bank makes for a monetary and banking regime with relatively few means by which private banks can transfer risk to their depositors or onto public finances. To further protect public finances (and the interests of depositors) given the experience gained during the 1995 crisis, the Central Bank was given additional powers to sell or partly liquidate a bank in trouble in order to protect the interests of small depositors.

On the second point, the authors concluded that a further shift in bank asset holdings away from loans and toward highly marketable securities would, in principle, be desirable—provided well-developed capital markets existed to fund riskier investments in the economy, as well as to provide banks with liquidity (and derivative products) in order to reduce the market risk associated with such securities. The authors recognized that, as nonbanks become more important in risk financing, implicit government guarantees might also come to be provided to them based on the too-big-to-fail principal. They feel that these risks could be managed, however.

Fernandez and Schumacher concluded that narrow banking is the best approach for Argentina. Under the alternative, fractional reserve banking, even if the money supply is equally endogenous, exogenous changes in capital flows will be “multiplied” because of the fractional reserve feature, making the monetary system less stable. Fernandez and Schumacher acknowledged that under a narrow banking system risky assets would be transferred to other markets. They believed that such a shift would be advantageous, however, because the payments system would be shielded from those risks. At present Argentina has only 15 percent reserve requirements on all checking and deposits for less than ninety days. Thus the system still has a long way to go before it can be considered even near to narrow banking.

Gerard Caprio Jr. criticized the Basle capital adequacy rules and commended Fernandez and Schumacher for developing alternative models. In Caprio’s opinion the recommended Basle framework—a ratio of capital to risk-adjusted assets of 8 percent—is fundamentally flawed, probably for industrial countries and certainly for developing countries given the greater concentrations in the asset portfolios of their banks. Caprio also highlighted the role of terms of trade volatility in systemic banking crises in developing countries. In his view an alternative regulatory model is needed to satisfy certain characteristics. First, there should not be inordinate reliance on a “world class” supervisory system. Second, bankers should have better incentives to engage in prudent risk taking.

In assessing narrow banking, Caprio argued that the first-round effect would be to bid down the yield on riskless assets to the point that many depositors would migrate to nonbanks. Concurring with Walters, Caprio was skeptical that the implicit government guarantee of banks could be prevented from migrating to nonbanks. And if it did migrate, most of the benefits of narrow banking would be lost. Whether the guarantee can be limited in practice lies in the domain of political economy.
Rather than pursue narrow banking, Caprio recommended increasing banks' required capitalization and owners' liabilities and demanding better financial information and disclosure. These alternatives to the current OECD banking model have the advantage over narrow banking of preserving lending and deposit-taking activities. Caprio also noted that high reserve requirements have a perverse consequence: they amplify the impact of changes in world interest rates on domestic loan rates.

George Benston emphatically disagreed with Fernandez and Schumacher on the superiority of narrow banking over traditional commercial banking. Fernandez and Schumacher, he said, greatly understated the benefits of traditional commercial banking, and the putative solutions offered by narrow banking are either illusory or can be achieved by other means. Benston challenged the authors' evidence that the economies of scope in banking are low. Customers do benefit from using a single account for all their business (payments, investments, loans), which reduces transactions costs and the costs of dealing with variability and uncertainty in cash flows. In Benston's view the fact that no bank operating in the United States or elsewhere offered only depository services—despite being legally free to do so—was a powerful indication that there are substantial efficiency gains from the joint offering of deposit and lending products.

Benston was also dubious of the potential gains from shuffling risky assets to nonbanks. Like Alan Walters, he was skeptical of the claim that, in the case of failure, nondepository institutions would remain free of state intervention. Benston cited the case of Australia, where the authorities bailed out the "depositors" in a large real estate investment company. The state, he claimed, would not remain indifferent when facing the possibility of a stock market crash.

Regarding money supply control, Benston said that "broad" banking does not cause problems because the central bank has the tools to control money through open market operations. In fact, he alleged, narrow banks would make it more difficult to control the money supply. Nonbank intermediaries in a narrow banking context would be tempted to offer transactions balances (perhaps using electronic transfers or check-like instruments) at a lower cost and consequently would be managing some portion of the payments mechanism beyond the direct control of the central bank.

Narrow banking would prevent bank runs, acknowledged Benston, but so does deposit insurance. And the moral hazard problem of deposit insurance can be solved by requiring banks to hold sufficient capital or debt that is not guaranteed by the government to absorb any losses they might incur. The central bank's role as lender of last resort also could eliminate concerns about systemic risk. There is little reason to fear a financial panic or systemic failure as long as the central bank does not permit the money supply to decline precipitously.

Fernando de Santibañes was critical of narrow banking as a desirable objective for the Argentine system. Santibañes also said it was wrong to categorize Argentina's system in 1994 as close to narrow banking; there is a fundamental difference, he said, between fractional reserve banking (even with high reserve requirements) and narrow banking. The main feature of narrow banking is that it separates lending from depository functions. Santibañes further asserted that, far from being a source of vulnerability, it was because Argentina had fractional reserve banking that the authorities were able to help banks cope with the 1995 panic.

Santibañes said that even though narrow banking might make the payments mechanism more stable, under no circumstances would it increase the stability of overall credit provision during a crisis. That would be true regardless of whether nonbanks were funded by issues of debt liabilities or by issues of shares. Santibañes also claimed that nonbanks funded with liabilities would be subject to the same contagion effect as conventional banks. In his opinion nonbanks could also incur maturity mismatches that would lead to liquidity crises and to contagion.

Santibañes alleged that the transition from conventional to narrow banking would force a decline in credit because most depositors would be unwilling to invest in volatile capital market products. Uninformed small depositors would have fewer options under narrow banking because it is easier for them to assess banks than nonbanks. Santibañes shared Caprio's concern on the paucity of safe instruments in the domestic markets of developing countries. The likely outcome, he said, was that narrow banks would have to start investing abroad. Since it is unlikely that these funds would return to the country through international banks, there would be less funding for domestic credit. Santibañes further asserted that narrow banks would probably have to charge a fee for handling demand deposits, limiting the benefits of extending the payments mechanism to a larger share of the population. He shared Benston and Caprio's view that the joint provision of deposit and credit services by banks is efficient, and that separating the services among specialized institutions would be welfare reducing.
Deposit Insurance

In his paper on deposit insurance Larry Sjaastad drew a direct link to the previous topic of narrow banking, defending the narrow banking idea and saying that deposit insurance is needed only because narrow banking does not exist. Fractional reserve banking, he asserted, is an irrational system that came into being by historical accident. As long as fractional reserve banking persists, so will the risk of bank runs, and with it, the need for a facility to reduce that risk. According to Sjaastad, a well-designed 100 percent reserve system would eliminate the need for both deposit insurance and the lender of last resort facility.

Fractional reserve requirements, said Sjaastad, introduce an externality into the banking system. In the same way that a car entering a highway produces a marginal delay for all other cars on the highway, the withdrawal of one depositor reduces liquidity for all depositors, if only by a small amount. Even though deposit insurance cannot increase the liquidity of the system—that requires a lender of last resort—it reassures depositors that their money is safe even if they are last in line to withdraw.

When banks are forbidden from paying interest on demand deposits, fractional reserve requirements force them to invest in nonprice competition. This situation, Sjaastad contends, is particularly serious in an inflationary environment. In a high-inflation environment the banking system expands over the social optimum because of the rents generated by inflationary revenues (the inflation tax). These often take the form of services (such as excessive branch banking, as seen in Brazil) that cost banks much more to provide than their value to customers, at least at the margin.

If required reserves on demand deposits were 100 percent and if the central bank paid no interest on those reserves, the issue of prohibiting interest on demand deposits would never arise. In that case banks would have no choice but to charge for their services, and the inefficiency argument would be irrelevant.

According to Sjaastad, even though deposit insurance and the lender of last resort facility complement one another, they are conceptually quite different. Deposit insurance is used to protect depositors against bank insolvency, while the lender of last resort is a response to illiquidity problems. In practice, Sjaastad acknowledged, it may be difficult to distinguish between the two. He also noted that the effectiveness of the lender of last resort may be reduced or disappear altogether when the monetary authorities pursue an exchange rate rule. In that case when a panic hits, as in Argentina in 1995, the central bank has only one instrument (international reserves) to serve two targets: maintaining the exchange rate rule and saving the commercial banks.

Sjaastad offered several important clarifications on deposit insurance. He pointed out that the term is a misnomer. By pooling risks, conventional insurance (fire, auto, and so on) aims to protect the net worth of an individual policyholder against specific risks but does not attempt, through the act of insurance, to diminish the designated risk. By contrast, deposit insurance, although nominally an instrument for dealing with bank insolvency, is used to reduce the risk of bank runs (that is, bank illiquidity) by reassuring depositors that their interests will be taken care of regardless of when they present their withdrawal claims. As such, deposit insurance offsets the externality associated with fractional reserve banking referred to earlier.

But even though deposit insurance may reduce the probability of bank illiquidity, Sjaastad argued that it does not in fact protect depositors from bank insolvency. Instead, it simply redistributes losses to other parties. As he put it, "from a social point of view [such losses are] real and inevitable ... in this context deposit insurance merely redistributes losses to other parties." Sjaastad stressed the potential for deposit insurance to increase the probability of insolvency through moral hazard, encouraging excessive risk taking by bank managers and reduced monitoring by bank depositors. Sjaastad further noted that for deposit insurance to be effective at preventing panics, it must so totally protect depositors from the risk of loss that they have no incentive to monitor the portfolio or even the solvency of the deposit-taking institution. Thus deposit insurance creates an indispensable role for supervision and regulation, however intrusive and unsuccessful they often may be.

If deposit insurance is an unavoidable requirement of fractional reserve banking, what are the least damaging ways in which it might be provided? Sjaastad suggested that the moral hazard consequences (particularly to the public treasury) of deposit insurance are reduced if deposit insurance is private, risk adjusted, limited by a cap, and paid for by the insured. Sjaastad also recommended substantially higher capital ratios and reserve requirements along with multiple or even unlimited liability on the part of shareholders in deposit institutions. This move would shift monitoring from depositors (in the absence of deposit insurance) or regulators (where there is deposit insurance) to shareholders. In this respect Sjaastad was in complete agreement with a
shift to self-discipline by imposing strict accountability on directors and shareholders. Private insurance companies would be important in setting up eligibility requirements for depositors wanting to buy insurance. The banks where they elect to have their deposits insured would have to meet strict criteria regarding capital, rating, and general risk management.

Paul Horvitz agreed with John Kareken’s argument against narrow banking, that if there were a demand for a safe bank, the market would have provided it. Like Santibañes, he was also concerned about the trauma and costs implicit in the transition from broad to narrow banking.

Horvitz agreed with Sjaastad that deposit insurance is not simply insurance; that its appeal is that it can actually reduce the risk being insured against. He cited several legitimate public policy justifications for government provision of deposit insurance, including insurance’s ability to avoid the macroeconomic policies needed to prevent a decline in the money supply in the face of a banking panic and the positive externalities associated with the spread of the check payments system, which requires full confidence in the safety of deposits.

Horvitz agreed with Sjaastad that the moral hazard generated by deposit insurance increases the potential cost of bank failure and that deposit insurance’s appeal—preventing failures by its mere existence—might indeed be deceptive. He also agreed that it is difficult to limit the government’s exposure when large banks are involved, but he thought that the benefits of deposit insurance—namely, reducing the instability of the financial system—were too valuable to lose.

Horvitz said that recent changes in U.S. banking laws had incorporated lessons from the savings and loan debacle of the 1980s. Structured early intervention (that is, mandatory intervention well before shareholders’ equity has been reduced to zero), as established in the Federal Deposit Insurance Corporation Improvement Act (FDICIA), is a way to limit the exposure created by publicly provided deposit insurance. Horvitz also claimed that the recent legislated preference for depositors over other bank creditors also could reduce moral hazard, since these other (presumably more sophisticated) creditors now have more incentive to monitor banks.

Horvitz agreed that narrow banking would eliminate the need for deposit insurance but, echoing Benston and Santibañes, said that no country with a reasonably well-developed banking sector would choose to endure the painful transition to narrow banking. In terms of whether deposit insurance should be public or private, Horvitz said that work by Bert Ely and Panos Konstas had convinced him that private insurance was feasible. Nevertheless, he was not persuaded that private insurance had important advantages over public insurance.

Horvitz agreed with Sjaastad (and with Caprio) that for publicly provided deposit insurance to work better, capital requirements would have to be substantially higher than the levels agreed under the Basle conventions. In this regard it would be crucial to use appropriate monitoring and market value accounting rather than historical cost accounting. Good monitoring is also essential. With good monitoring and effective early intervention the insurer is adequately protected and risk-adjusted premiums are not essential. For such a strategy to work it is essential that regulators be able to take over a bank well before its net worth is negative. Horvitz would prefer a higher obligatory intervention ratio than the 2 percent of risk-adjusted capital mandated by the U.S. Federal Deposit Insurance Corporation, and referred approvingly to the remedies available to New Zealand authorities once capital drops below 8 percent. Insolvent banks have every incentive to take great risks, and in this case moral hazard could wreak havoc on the banking system. Horvitz disagreed, however, with Sjaastad’s claim that liquidation is almost always preferable to merger, though he agreed that stockholders of a failed bank should be wiped out. Horvitz also agreed with Sjaastad that there should be double liability for stockholders.

Horvitz favored rules over discretion when enforcing regulations. The FDICIA took the right approach, he said, in relying on rules rather than on the discretion of regulatory authorities. Under the act prompt action is required when net worth drops to 2 percent of assets. Horvitz concluded that with appropriate safeguards, government deposit insurance can be the best solution to dealing with the inherent instability of fractional reserve banking.

Roberto Junguito emphasized the need for coordination when central banks are independent of governments, bank supervisors and regulators are independent of central banks (the norm in Latin America), and deposit insurance is managed outside the central bank. Coordination between these entities is important because it can sometimes be very difficult to distinguish between illiquidity and insolvency. In Colombia, for example, the Central Bank is responsible for solving illiquidity problems (through a lender of last resort facility), while the government oversees deposit insurance. This division of responsibilities has created conflict between the (independent) Central Bank and the government, with each
trying to decide whether a bank failure (or more commonly, bank failures) should be handled by monetary or fiscal policy.

Regarding the too big to fail principle and its implicit moral hazard, Junguito believed that during the debt crisis many bailouts were the result of pressures applied by foreign banks. He also noted that during periods of structural adjustment banks are in a particularly difficult position because of the opening of the capital account and competition from foreign banks.

The potential for contagion and propagation of a financial crisis, Junguito affirmed, depends on a country's macroeconomic framework. Moreover, he concluded, deposit insurance is not necessary when macroeconomic fundamentals are in place.

Allan Meltzer thought it unlikely that narrow banking would prevail, since depositors and banks have a joint interest in leveraging a given stock of reserves. He agreed with Sjaastad that eliminating deposit insurance without institutional change would not be credible. Such a policy, he said, would be seen as time inconsistent because it is tempting to spread costs over taxpayers rather than concentrate them on depositors. The pressure for bailouts is not only domestic. In Uruguay and Chile in the early 1980s, Meltzer noted, foreign lenders pressured the government to underwrite bank losses—and the government did.

Thus the challenge is to improve existing systems whose major defects are weak information and a powerful tendency toward regulatory forbearance. Regulation, supervision, and examination are neither necessary nor sufficient to prevent banking panics and losses. Supervision and regulation, usually enforced by audits and examinations, often fail to identify problems in a timely fashion. And even if problems are identified, supervisors and regulators are likely to be pressured by politicians to engage in forbearance.

Meltzer claimed that better rules, coupled with market-based regulation, were the way to address these regulatory issues. By imposing rules that require banks to close before all capital has been lost (assuming that capital can be correctly accounted), market-based regulation tries to maintain the benefits that come from widespread use of banking services while avoiding some of the social costs. Chile and New Zealand, he said, have combined market pricing of risk with rules requiring public disclosure of prospective losses, and examiners' ratings are published in the press.

Meltzer highlighted three types of risk that would remain even in a pure narrow banking system. First, the system does not eliminate the possibility, under a fixed exchange rate regime, of a generalized run from domestic to foreign currency, as happened in the Mexican crisis. Second, narrow banking does not prevent gross claims from exceeding reserves. Third, small countries might have to choose between insufficient diversification and foreign exchange risk.

To protect the financial system, Meltzer proposed a modern analog of Bagehot's (1873) proposal: the central bank should announce the range of collateral against which it will provide loans, at a penalty rate higher than the market rate. At this rate borrowing from the central bank is a right so long as borrowers offer acceptable collateral.

Meltzer emphasized that no system of regulation, supervision, or market pricing can eliminate risk, and that macroeconomic stability is a necessary condition for financial stability. He agreed with Sjaastad on the need to eliminate deposit insurance, with the caveat that there should be changes to get rid of time inconsistency and to protect small depositors who cannot be expected to monitor banks.

In closing, Meltzer proposed a system that would do away with deposit insurance in the United States: lifting restrictions on the number and size of checks that can be written on money market funds that hold only Treasury bills. In this way the United States would have narrow banking as an option, with 100 percent reserves and no deposit insurance. This system would compete with banks that are now covered by the FDICIA. The public could choose between placing their demand deposits in money market funds with no insurance and 100 percent reserves or in conventional banks with no insurance to be regulated by the FDICIA. This model, Meltzer claimed, could be applied to most countries.

Market-Based Supervision and Regulation

Although many countries have considerable experience with command regulation in the financial sector, in many instances such regulation has failed to prevent systemic crises. Thus there is growing interest in market-imposed discipline (also called self-discipline). Peter Nicholl, a former deputy governor of the Central Bank of New Zealand and currently an executive director at the World Bank, prepared the background paper on this issue. Nicholl was active in the discussions in New Zealand when the new banking law was being designed.

Nicholl said that policy interventions in the financial sector are justified only if they are likely to improve the soundness and efficiency of the banking system relative to a situation in which there is no pol-
icy intrusion. Nicholl made clear, however, that in New Zealand there is still an important role for public policy because of the following externalities:

- the information problem depositors face in assessing portfolio quality
- the importance of protecting the payments system
- the potential withdrawal of credit lines from all banks, not just those that have been mismanaged
- the freezing of transaction balances
- the possibility of contagion.

The current regulatory environment in New Zealand is based on four general principles: some mandated, standard regulation; significant disclosure to the market of banks' financial position; greater responsibility for directors and managers; and automatic—rather than discretionary—intervention (also referred to as structured intervention) to breaches in capital requirements. In addition, all on-site inspection of banks has been eliminated.

The difference between New Zealand's current market approach and that of most Latin American countries, said Nicholl, is a matter of degree. New Zealand has fewer mandated regulations, but several measures have been introduced to compensate for this, including greater disclosure and responsibility for shareholders and managers and automatic intervention.

The new disclosure rules require banks to publish key information each quarter and to display a summary of this information at all branches. Disclosure requirements are comprehensive and include detailed information on exposures to related parties and specific sectors, capital adequacy, asset quality and provisioning, interest rate risk, and so on. Ratings are not mandatory, but banks with a credit rating applicable to long-term senior unsecured debt are required to disclose the rating prominently. Banks that do not have a rating are required to disclose that fact.

The new arrangements for director responsibilities mandate that false or misleading statements can lead to fines and ultimately to imprisonment. Moreover, if creditors are injured by false or misleading disclosure, directors can face unlimited personal liability.

Structured, automatic intervention is intended (as in the United States) to reduce regulatory forbearance. If a bank's tier one capital falls below 4 percent of risk-weighted exposure or total capital falls below 8 percent, the bank is required to immediately submit a restructuring plan. In addition, no profits can be distributed until capital requirements have been restored, the bank's exposure to a related party cannot increase from the level that prevailed at the time of the breach, and credit exposure is frozen if tier one capital falls below 3 percent.

Nicholl explained that the system is in its infancy and has yet to be tested. Most academics, consumer groups, and politicians favor the new system. Bankers' reactions have been somewhat mixed, with some fearing that the new system will be even tougher than its predecessor. The two biggest criticisms of the new system, Nicholl said, are that directors may be unaware of the complexities involved in their bank, and that New Zealand is free riding on overseas supervisors because 90 percent of its banks are foreign-owned.

Nicholl agreed that there may be some validity to the second point. In terms of the first issue, however, he said that directors should not find themselves at a disadvantage in understanding the nature and state of their business. Under the new law directors have incentives to hire internal supervisors, who will probably be much more helpful than the occasional on-site supervisors of the past, who were not held personally responsible for their eventual inaction.

Noting that moral hazard and asymmetric information are more important in the financial sector than in other businesses, Rolf Lüders said that these peculiarities have been the cause of many costly banking failures. According to Lüders, macroeconomic weaknesses were responsible for many financial crises in Latin America, including those in Argentina (1981), Chile (1981–82), Colombia (1982), Uruguay (1982), and Venezuela (1994). Lüders claimed that these crises have led to more regulation—despite the fact that bad regulation did not cause the crises. More recently, as deregulation has become popular, market-based regulation has gained attention.

According to Lüders, mandated regulation and market regulation have similar aims: reducing systemic risk and limiting bailout costs to government. Each approach has different costs, and consequently different efficiency. Lüders pointed out that the cost of mandated regulation could be quite large, with some studies placing the cost to financial institutions at 6–14 percent of noninterest operational costs.

Lüders alleged that government-funded deposit insurance exacerbates the moral hazard problem that is endemic to the financial sector. This, in turn, increases the complexity and cost of prudential regulation. On the other hand deposit insurance generally has been effective at preventing isolated bank failures from becoming systemic.

According to Lüders, the high cost of prudential regulations has inspired the search for alternative mechanisms to achieve the same goals. Market-based regulation, an alternative that has the same
objectives as prudential regulation, is based on the elimination of deposit insurance and the disclosure of financial information that currently is only made available to regulatory agencies.

Lüders claimed that market-based regulation probably would cost less than standard prudential regulation and, in principle, eliminate costly bailouts. It could also, in principle, eliminate the agency problem and—because of the elimination of deposit insurance—reduce moral hazard. It is still conceivable, however, that a bank failure in a market-based system could "force" the government to provide an expensive bailout despite the lack of deposit insurance.

Lüders explained that Chile's banking sector also has important elements of market-based regulation, although they are mixed with a number of mandated regulations: minimum capital requirements (following Basle guidelines), strict restrictions on entry, restrictions on portfolio concentration, restrictions on foreign currency exposure, restrictions on asset and liability term mismatches, and obligatory liquidity reserves (linked to the size of the loan portfolio). Chile also has full deposit insurance on all sight deposits and coverage of up to $4,000 on time deposits; as a result Chile has maintained more mandated regulation than has New Zealand.

Public disclosure exists in both Chile and New Zealand but is more comprehensive in New Zealand. In Chile banks must disclose their income and balance sheet information, the composition of the board of directors, and the quality of banking assets. In addition, every month deposits are classified for risk by independent risk classification firms. Bank directors are responsible for providing correct information and cannot claim ignorance; penalties include fines and possibly prison. Directors also can be held personally responsible for depositor losses.

Paul Bydalek noted the similarities and differences between New Zealand's market-based regulatory system and that of Brazil. In New Zealand 90 percent of banking assets are held by foreign-owned banks. Brazil retains 90 percent its banking assets in banks owned by local investors. But despite obvious differences in size and culture, Bydalek said, good business principles transcend these distinctions.

In New Zealand shareholders do not share direct responsibility for their banks; only managers and directors have that responsibility. In Brazil voting control over most banks resides in the hands of a few families active in management. Thus shareholders and managers are the same people, even for publicly listed banks with substantial minority participation. Bydalek advised that responsibility for banking distress be extended to controlling shareholders, who should be sanctioned for improprieties. According to Bydalek, shareholders and managers are jointly responsible for distress at a bank.

Unlike New Zealand's system, which has eliminated on-site inspections, Brazil's regulatory environment is rigid and detailed. In addition to the Central Bank, Brazilian banks are subject to scrutiny from the Security Commission, the Insurance Commission, the Pension Fund Commission, the tax authorities, and others.

All banks in Brazil undergo semiannual full audits that include auditor opinions, balance sheet data, an income statement, reconciliation of net worth, and a source and application of funds statement, with notes and explanations. This information is then published in local newspapers, typically within two to three months of the cut-off date. Unlike in New Zealand, there is no requirement to report asset concentrations, sector exposures, peak market risk exposures during the period, or conflicts of interest by board members.

In Brazil, Bydalek said, directors do not attest to the accuracy of disclosure or adequacy of risk management systems. He found worrisome the provision for New Zealand that thrust the responsibility for compliance and disclosure on bank directors and managers. In a large, segmented institution, he said, it is difficult or even impossible for all executives to be aware of the risks assumed throughout the bank.

Bydalek said that the main advantage of New Zealand's system is the stream of quarterly data and performance interpretations. Early and full disclosure by Brazilian banks, as called for in New Zealand, would have attenuated Brazil's recent banking problems.

Jacques Trigo Loubiere affirmed that foreign banks play a much smaller role in Bolivia's financial sector than in New Zealand's. In addition, Bolivia's national banking system has a much higher concentration of property confined to privileged economic power centers. This situation, the superintendent claimed, reflects distortions in financial market operations and impedes adequate application of market-based regulation.

Trigo said that greater disclosure requirements, a fundamental element of market-based regulation, would pose a problem in countries like Bolivia, where illiteracy is high and many depositors would not be able to understand such information. Moreover, no institutions or public communication channels exist to inform the public about the banking sector. In addition, willful or political misuse of information may distort public perceptions of financial services.
According to Trigo, arm's length supervision can inhibit the detection of important deficiencies in the banking system and so facilitate fraudulent behavior. Thus Trigo encouraged the use of on-site inspection, which enables the detection of irregularities and their subsequent correction and ultimately has improved the quality of disclosed information from financial entities and banks. Like other models of supervision, market-based regulation relies on external auditors. But in many countries, Trigo said, banks have been closed or required government intervention despite having received a clean bill of health from reputable auditing firms.

According to Trigo, director and managerial responsibility is a crucial aspect in the supervisory process. Bolivia's Superintendency of Banks and Financial Entities, for example, has prescribed sanctions against administrative negligence following a judicial process against directors and managers engaged in fraud. Like New Zealand, Bolivia has established predetermined responses to infractions or unfulfilled prudential requirements. But even though the supervisory framework includes the basic principles of the market-based philosophy (disclosure, director responsibility, predetermined responses), it also assigns an important role to on-site supervision—unlike in New Zealand, where on-site inspection does not exist.

Trigo alleged that many countries are plagued by problems that constrain the introduction of market-based regulation and supervision: uninformed or uneducated depositors, an absence of private institutions capable of economic and financial analysis of the banking system, and a media that do not press bankers for adequate disclosure. In addition, most of the judiciaries in Latin America and the Caribbean are too weak to impose fines or penalties on directors that provide false or misleading information. Hence, Trigo concluded, many such penalties would go unpunished. According to Trigo, the New Zealand model can be applied with relative ease in stable and consolidated financial systems. Doing so would present greater challenges in systems undergoing reform and adjustment, where stability is still frail and vulnerable to internal and external shocks.

Roundtable Discussion on Systemic Banking Crises

Robert Eisenbeis said that financial crises are rooted in monetary and fiscal policies that are not viewed as credibly contributing to economic stability and low inflation. Moreover, credible monetary and fiscal policies are harder to maintain and the potential for financial crises increases when government attempts, through direct ownership, to operate financial intermediaries.

Eisenbeis also asserted that regulatory forbearance and a lack of credible policies on the closure of troubled institutions increase the potential for financial crises. Moreover, the link between supervision and intervention in individual institutions and the likelihood of financial crises should be emphasized. The goal of supervision and intervention should not be to prevent failures or reduce the attendant costs to liability holders, he said, but rather to make failures independent events. Eisenbeis also said that a lack of transparency in the accounting of market values of on- and off-balance sheet activities can exacerbate the potential for financial crises, whether in private or public entities.

Eisenbeis disagreed with the narrow banking proposal. In today's financial markets, he said, such proposals miss the point completely. There are clear externalities to a well-functioning financial system: It enables the separation of real savings decisions from real investment. It facilities intertemporal transfer of consumption and investment. It enables all the types of risk shifting that characterize modern financial institutions and markets. Promotion of economic efficiency and specialization of labor are what distinguish modern economies from barter economies, and achieving these benefits requires a well-functioning financial system. Eisenbeis argued that threats to these positive externalities would trigger calls for governmental intervention during crises even in the absence of direct involvement in the payments system. Narrow banking solves no important problem in today's financial system, nor does it remove the possibility that taxpayers will be put on the spot should a crisis occur. In fact, Eisenbeis said, narrow banking may create an entire system of implicit guarantees in which there is no monitoring to limit taxpayer exposure to risks.

Valeriano Garcia asserted that macroeconomic factors are the main cause of financial distress and crises. In some cases bad macroeconomic policies are at the root of the problem, but at other times going from bad to good policies implies significant changes in relative prices and the disappearance of important banks' inflation-related profits—setting up the right environment for crisis. Changes in relative prices—especially real exchange rates and real interest rates—can transform sound bank portfolios into troubled, weak assets. Both types of situations exist in Latin America, according to Garcia. If a banking system has become distorted because of inflation, it is crucial that it be adjusted to cope with a noninflationary environment.
Garcia affirmed that the banking sector could have features to make it more resilient to macroeconomic shocks. The three most important safeguards, he said, are regulation, supervision, and enforcement. In most Latin American countries regulation and supervision are relatively good. The problem, he asserted, is enforcement—particularly when it comes to enforcing the rules that require intervention or liquidation. Regulators try to hide the truth from the market in order to prevent panics. But troubled banks require early resolution, said Garcia. Early information made available to the market could smooth out problems or prevent them from developing.

Most banking crises, Garcia continued, involve a run-out of the system (reduction in the real quantity of money) and a liquidity crisis (increase in the ratio of liquid to illiquid money). Narrow banking would prevent liquidity crises and might prevent run-outs. In early 1995 Argentina experienced both a liquidity crisis and a run-out crisis, resulting in a 20 percent reduction in the nominal supply of money. Argentina’s system survived because it was buffered by reserve requirements, and many large banks avoided great suffering.

Deposit insurance, said Garcia, is a double-edged sword. When countries have it, it is bad. When countries do not have it, it is worse. For example, when Argentina suffered a severe banking crisis in the early 1980s it had almost unrestricted deposit insurance. Deposit insurance was responsible for much of the crisis because it had increased moral hazard, which made banks behave irresponsibly. As a result deposit insurance was drastically reduced.

During the 1990s, with a currency board in place and a near-panic in the banking system, Argentina reinstated deposit insurance. Although the new insurance incorporates features to reduce moral hazard, the problem remains because limited insurance cannot prevent a panic. Garcia agreed with Sjaastad and Fernandez and Schumacher that narrow banking is the solution. Narrow banking separates two products that are of a different nature—credit and money. In doing so, it enhances the efficiency of capital markets, does away with deposit insurance and its associated moral hazard, improves monetary control in floating exchange rate regimes, damps the effect of exogenous capital flows in fixed exchange rate regimes, prevents taxpayers’ money from being used to bail out banks, and ensures more equitable outcomes, since the people who lose (or win) are the same people who took the risk.

Sergio Ghigliazza disagreed with the emphasis on macroeconomic factors as the main determinants of banking crises. He alleged that microeconomic factors are equally important and that market inefficiencies are responsible for many of the problems banking supervisors face. Moral hazard is also a big problem for bank regulators. In many instances of financial sector liberalization interest rates are freed, banks are allowed to freely allocate credit, and reserve requirements are eliminated. Having made these moves, regulators assume that the market will act wisely and allocate resources efficiently. But even where markets are free, the conditions for efficiency must be properly set. Ghigliazza also said that in countries where there is macroeconomic stability, economic growth, and no major uncertainty regarding the exchange rate and other policies, financial systems generally have developed and thrived—even when facing serious market imperfections.

Allan Meltzer emphasized the need for rules in the resolution of banking problems. He believed that market enforcement of those rules is crucial so that the opportunity for discretion is minimized.

The aim of regulation should not be to subsidize risk-taking activities, Meltzer said, but it should also be careful not to penalize them. Some of the suggestions made in the literature, such as unlimited liability for bank managers, would penalize risk excessively and hence could make the entire banking system totally risk averse. Such a move could end up moving risk-taking activities to other parts of the system (such as informal markets). Thus there is a need to balance too much risk and too little. More research is needed to learn which risks are being removed and which ones are simply being shifted.

According to Meltzer, many banking problems arise because banks and other financial institutions acquire assets that trade infrequently, if at all. It is the bankers’ function to make judgments about interest rates, the strength of firms and sectors, and so on. Regulators cannot make these judgments. As a result the value of a portfolio tends to become politicized, resulting in forbearance.

Even though most of the participants at the conference had praised the Basle guidelines, in Meltzer’s view they are seriously flawed. They do not take into account modern portfolio theory. They assign risk to individual assets rather than to the portfolio. The risk structure of a given portfolio can change radically with the use of derivatives. Regulators can look at a bank’s portfolio at one minute and apply the Basle criteria, but within twenty minutes the whole exercise could be irrelevant.

Meltzer insisted on the importance of avoiding systemic risk but not necessarily individual bank failure. In this regard deposit insurance is not necessarily a bad thing, since it tends to make the financial system
more readily acceptable and broader. In addition, Meltzer urged that banking systems have a lender of last resort, contending that it is a public good that the central bank can supply at a low cost. Still, the lender of last resort should lend only at a penalty rate. The rediscount window should be open against a wide range of specific marketable assets, and the interest rate should always be higher than the market rate. Moreover, the window should be open not just to banks but to nonfinancial enterprises as well.

José Evenor Taboada asserted that there is a tight relationship between banking system soundness and microeconomic policy, and that it is necessary to take the condition of the banking system into account when formulating economic policies, both as a key objective and as a constraint.

Although stabilization has been very successful in Nicaragua, he continued, there are severe difficulties in the state-owned banking system. Until 1991 the banking system was entirely state-controlled, and under Nicaragua's old constitution all banking systems and insurance were in government hands. Since then the new economic program has promoted the liberalization of the financial sector. Interest rates have been freed, legal reserve requirements have been substantially reduced, and directed credit policies have been eliminated. In addition, a Superintendency of Banks was created and private banks were authorized. New banking and financial regulations are in keeping with a modern, market-oriented financial system.

How did the financial sector respond to these new policies? According to Taboada, the reaction has been asymmetrical. Private banks have emerged as healthy structures within the free financial framework. State-owned banks, on the other hand, have been experiencing financial deterioration because they are unable to cope without state subsidies, easy central bank credit, and a noncompetitive environment. Nicaragua will try to avoid using radical “surgery” to cope with the problems of the state banks, preferring to dramatically reduce their size and transfer their nonperforming assets to a collection agency.

Taboada said that in the future state-owned banks as well as private banks will depend exclusively on their ability to operate effectively and to attract deposits. Only time will tell whether Nicaragua’s financial system will be able to survive the asymmetry between state and private banking, or whether state banks are incompatible with free-market conditions.

Taboada recommended a conservative approach to banking: independent and effective supervision, internal supervision, high capital requirements, stringent rules for evaluating assets, high capital ratio requirements, early exit and intervention strategies for banks in deep distress, greater transparency to foster market discipline, direct intervention mechanisms (such as reserve requirements), and in some cases contingent and transparent government liability and personal accountability for directors and managers. Given the need to maintain public confidence—as well as the catastrophic effects banking crises can have on an economy—Taboada proposed that central banks use the different mechanisms and tools outlined at the conference.

Roberto Zahler based his comments on Chile’s experience over the past twenty years. He said that banking sector problems result from the asymmetry of forces affecting the value of assets and the value of liabilities. The economic value of assets is essentially variable and market-determined, while the economic value of liabilities is rigid and fixed.

When there are shocks that increase the difference between the value of assets and the value of liabilities, solvency problems and financial system failure can result. To minimize the mismatch between assets and liabilities it is important to reduce the amplitude of economic cycles. In Zahler’s opinion, fine-tuning monetary policy is the right approach. An example is to try to reduce the amplitude of economic cycles that affect the values of assets and liabilities.

Zahler’s second suggestion was that, given that economic policy also has a major influence on key prices in the economy—including interest rates, exchange rates, wages, and asset prices—whenever the trend in these prices is divorced from their fundamentals, there should be a macroeconomic policy response. In Zahler’s opinion there is a need for policy flexibility rather than rules, so that shocks to the system can be distributed among different markets, rather than putting the bulk of the pressure in a particular market. Thus policymakers should take heed whenever wide asset movements develop. He believed that the timing and sequencing of financial reform are irrelevant, and supported his contention with three examples from Chile.

Zahler recounted a conversation he had had with a prominent economist working on financial liberalization in Chile. At that time real interest rates on deposits were, for the second year in a row, on the order of 45–50 percent. The economist had argued that because the rates were “market determined,” they should be left alone. Zahler disagreed. Just because the rates were market determined did not mean they were right. It is always possible that the market is not working properly; the problem could lie with regulations, bank owners or directors, or
somewhere else in the system. Whatever the cause, it
must be corrected or the financial system is flawed.

Zahler mentioned a second example from the
period when Chile fixed its currency to the U.S. dol-
lar. During that time domestic inflation was 35–40
percent a year and international inflation was 4–5
percent a year. The exchange rate policy and wage
policy were clearly incompatible, yet many experts
believed that Chile could quickly and smoothly
bring its domestic inflation in line with international
inflation. There was no fiscal deficit and monetary
policy was working well, but domestic spending was
very high, causing a chronic current account deficit
that reached 14 percent of GDP in 1981. But since
there was no fiscal deficit, many observers believed
that there was no problem. Soon thereafter, the entire
system collapsed.

Zahler concluded with a review of the challenges
facing Chile's efforts at consolidated supervision.
Although Chile lacks consolidated supervision, this
has not posed a major problem because most banking
activities are domestic. A law being considered, how-
ever, would allow domestic banks to invest in foreign
banks. Zahler urged Chile to assess how foreign banks
carry out supervision and suggested that domestic
banks coordinate with their foreign counterparts.

Rodrigo Bolaños Zamora began by identifying sev-
deral important weaknesses of Costa Rica's state
banks: bad portfolios, insufficient capital, and
spreads of up to 16 percent between average loan and
deposit rates. Although the large share of deposits
these banks hold is declining, they are still highly
protected. Costa Rica, however, is starting to elimi-
nate some of these state warranties (such as unre-
stricted deposit insurance on all types of deposits).

Until recently state banks held a monopoly on
sight deposits and had exclusive access to the Central
Bank's discount window. These privileges ultimately
will be taken away. Moreover, over the past eight to
ten years Costa Rica has been strengthening its
prudential supervision. One of the biggest problems,
according to Bolaños, is offshore banks. Because the
capital account is relatively open and the authorities
lack adequate legal and economic resources, it is
somewhat difficult to control the activities of off-
shore banks.

On the issue of narrow banking, Bolaños said that
Costa Rica is moving in the opposite direction. The
Central Bank has lowered reserve requirements to
reduce costs and intermediation margins. It has been
preoccupied with dealing with the problems created
by new financial instruments that are close substitu-
tes for sight deposits and with the dilemmas cre-
ated by fiscal and electoral cycles, which tend to
increase the fiscal deficit during election periods.
Costa Rica is considering a constitutional amend-
ment to limit the fiscal deficit (including the Central
Bank deficit) to no more than 1 percent of GDP.

In addition, the Central Bank is considering intro-
ducing deposit insurance as a way to induce depos-
itors to shift toward domestic banks and away from
parallel or offshore banks, though Bolaños was not
convinced that this was the best approach. In terms
of banking supervision, he said that the state banks
needed the most help. Market-based supervision is
an interesting way of improving the overall situa-
tion, Bolaños said, because more information should
be available to the market, particularly relative to off-
shore banking.

In conclusion, Bolaños assured the audience that
Costa Rica is working to make its banking supervision
comparable to international standards within the next
decade. Moreover, he contended, this objective is
shared by the rest of the Central American countries
as they try to reduce banking fraud, improve supervi-
sion, and solve the problem of state banks.

Note

1. This institutional arrangement, known as a currency
board, is quite different from that of a standard pegged rate
(as in Mexico until December 1994) in the sense that the
central bank has little leverage to exercise monetary policy.
In particular, it cannot "sterilize" capital flows, as is done
by other countries (for example, Brazil) with fixed
(pegged) rates.
Banking crises have become common in many parts of the world. They are costly. They are a threat to monetary and fiscal discipline. They surely affect financial savings. More important, they hurt economic growth through a slump in confidence, as we have seen in Mexico and Venezuela. Sometimes they even affect political stability.

The origins of banking crises may be exogenous, as when there are large changes in relative prices caused by factors such as devaluation or a lack of fiscal and monetary discipline. Often they are also endogenous: microeconomic weaknesses, inadequate regulation, poor supervision, lack of enforcement, and fraud. The problem with traditional supervision is that these failings invariably are discovered only after the event. Thus the costs of resolving these problems are usually very high.

This conference focuses on Latin America and the Caribbean because many of the region’s countries have had continuing problems with banking distress—sometimes systemic, sometimes individual—that often threaten the entire banking system. Almost every month of the past year has seen headlines about a new problem. And when one considers the magnitude of the problem, most recently in the case of a bank in Brazil, for example, it is shocking. Hence the need for prevention.

Another reason for analyzing Latin American countries is the continent’s considerable experimentation in dealing with banking systems, sometimes with more boldness than in industrial countries. Chile’s experiment with market-based regulation is one example.

Prevention is always cheaper than a cure—and surely it must be so for banking distress. In considering any set of measures to prevent crises, many issues need to be considered. What should be the guiding principles in establishing reserve requirements? How best to cope with the moral hazard problem that deposit insurance introduces? Does market-based regulation substitute for or compliment supervision, and in what way? Even in countries that have market-based regulation, one could argue that it has not really been tested, and so what is the proper combination? By asking the experts and analysts attending this conference to address these issues, we hope to answer some of the pressing questions and to derive a framework for preventing banking crises.

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Banking Crises—A Prologue

Alan Walters

In the years since World War II industrial countries have been notable for their absence of any financial panic and collapse—certainly nothing like the massive bank failures that occurred in the United States and Europe in 1930–31. Nor have they experienced any outbreak of hyperinflation. During the 1970s there was sufficient inflation to undermine the U.S. savings and loan institutions, with their borrowing at high short and lending at fixed long. Although this situation was bad, it was manageable and did not cause a crash. Not so in the developing world, and certainly not in Latin America.

The pathology of Latin American crises and panics is well known. Politicians' attempts to gain power by looting the treasury and the fleeing tax base give rise to large public sector deficits that are financed by printing currency and by borrowing from domestic banks. Once expectations of high inflation are ingrained, it is difficult and costly to change them. Reform has had to focus on establishing credibility for low-inflation regimes. Economies in transition from hyper or high inflation to financially stable regimes are particularly subject to crises. Governments and central banks promise a lot, and it is natural that their credibility should be questioned and discounted when the pressures are on.

Monetary and Exchange Rate Regimes

A number of reforming authorities in Latin America have decided that the way to achieve credibility was to fix or peg their currencies to the U.S. dollar. An absolute fix implied a sort of monetary union. But a true union, with the same nominal interest rates, required complete credibility, which certainly was not present in most Latin American economies.

Indeed, complete credibility is a theoretical concept and has little to do with the realities of Latin American politics.

A fixed exchange rate does not mean that a country is immune to credit and banking crises. With free trade and capital movements a fixed exchange rate guarantees only that tradable goods will have the same prices and rates of inflation. It does not guarantee prudent credit policies by the banking and financial sectors. A currency board arrangement ensures only that notes are exchanged at a specified parity and that there is no monetary financing of deficits. It does not guarantee that speculative and excessive credit pyramids will not be built on this base of high-powered money. But more important in this context is that, as seen most recently in Argentina, a banking crisis always threatens the peg, reducing credibility and causing high real interest rates that induce slumps and erode political credibility. A credit crisis and currency crisis feed on one another, threatening the payments system and the currency fix. It takes courage and ingenuity to manage such a crisis. Argentina has held—so far—and is likely to continue with the fix. In 1979–82 Chile succumbed and the peso went into a dirty float, eventually to be rescued as a sort of target real exchange rate.

The Chicago Plan

This combination of credit crisis, bank runs, and collapse of credibility puts an economy on the rack. What can be done to safeguard against such a devilish alliance? The natural response is to try to separate the credit process from the payments deposit system—the 100 percent solution or Chicago Plan put forth by Henry Simon. Abolish fractional reserve banking.
Institute narrow banking. Indeed, during the recent crisis in Argentina it was suggested that the problems would not have arisen if the Central Bank had held reserves against all of its deposit obligations. But such narrow banking solutions would necessarily drive a lot of loan business out of the banking system and into the arms of equity markets, debenture markets, and other credit-creating institutions. The credit risks would be shuffled out of the banking system and so insulate the banking system and in particular the payments system from the vagaries of the credit market. A 100 percent solution would give rise to an ultrasafe but much smaller banking sector. Would the underlying risks, shuffled out of the banks to equity holders, be better borne by the equity markets than by banks? Could the government stand by while stock markets took a beating that had been hitherto contained in the banking system? Many equity markets are far from transparent, subject to manipulation and insider trading, and rarely carry substantial liquidity. For these reasons it is unlikely that there will be any reform that follows Simon's path. Among imperfect options, the fractional reserve system is the best choice.

Credibility and Banking

The main trouble with banks is that they borrow short and lend long. Bank liabilities are predominantly demand deposits that are redeemable on demand, whereas bank assets are typically illiquid. If all depositors demand redemption, then the system cannot pay—and the stability of any banking system depends critically on the confidence of depositors. When confidence sinks, there are likely to be runs on banks. And unless they are stemmed by action by the central bank or another monetary authority, runs can lead to panic and a breakdown of the payments system. This threat is obviously an externality of great importance. Thus we must be wary of systemic effects that threaten the usually smooth process of clearing accounts.

Supervision and Regulation

Banks have a natural incentive to avoid runs and crises. But they are also driven by the need to make profits or at least to cover costs. And the cost implications of crises—and in particular, of breakdowns in the payments mechanism—far exceed the private costs of the banks. A break in the payments chain may spread like a plague. For these reasons alone it is worth seeing if regulation can help avoid such contingencies.

Bank supervision is usually done through the awarding of a charter or similar authorization by a state or local government. Thus the state controls entry into the banking system and can dictate its regulatory framework. But it would be foolish to pretend that the government has unlimited license. If controls are too onerous, another country can supply financial services that a domestic government has made too expensive—thus Hong Kong is essentially the banking system for southern China. It is, however, in everyone's interest to have a sound and efficient payments system.

The prime job of banking supervision and regulation is to ensure that the payments system functions smoothly. This outcome is possible only if there is confidence in banks and their institutional structure. The golden rule is, when depositors are convinced that they can get their money out they will leave it in; only if they fear that they will not be able to get it out will they want it out.

In fractional reserve banking the central role of supervisors is to see that the bank maintains adequate capital reserves to meet its normal redemptions. The multilayered capital requirements of the Basle agreement are an important aspect of supervision. The government or central bank usually comes to the rescue of any bank on which a run, threatening the payments system, has developed. This is generally true even if there is suspicion of fraud or criminality; the sanctity of the payments system overrides such reservations. Fraud must be dealt with later.

Deposit Insurance and Too Big to Fail

The effects of deposit insurance are still debatable. Friedman and Schwartz have credited deposit insurance with preventing runs and stabilizing the U.S. banking system. But there has been no rash of runs in countries that lack such formal insurance. In any case deposit insurance is a double-edged sword. With the U.S. savings and loan institutions it gave rise to extremely speculative investments because owners were secure in the knowledge that if the investments fell flat the insurance would meet the deposit liabilities, and if the speculation was successful the owners could pocket the winnings.

In any situation involving a government guarantee—explicit or implicit—regulators must closely supervise the assets of banks. The value of many assets is often extraordinarily difficult to assess. Many have no ready market, and regulators tend to value at cost. In the United States in 1931 this weakness had the paradoxical effect of valuing loans to farmers secured on their property at cost whereas government bonds were valued at their very depressed market value. Similar problems are occurring now with respect to the collapse of property prices from their peaks in
The loans that Chilean banks made to grupos in 1978–80 are another example. In the past most bank assets have been loans to industry rather than marketable assets. This pattern is gradually changing with the onset of securitization. Although not all securities have suitably deep secondary markets, securitization increases the liquidity of assets and provides banks with a basis for valuation. To the extent that these securities are sold outside the banking sector, the risks are spread. Securitization, however, invites off-balance sheet passthrough and all the problems that the valuation of partial liability holds.

Nationalized Banks and Intervention

One might think that government ownership, or perhaps management, of banks would ensure effective supervision. But this is not so. As the provincial banks in Argentina showed, government ownership often creates pressures to make loans to politically important people or other entities, almost regardless of their viability. Even in France the great nationalized banks, such as Credit Lyonnais, have been subject to political malleability and disastrous management.

It is important to distinguish between the permanent politicization of state-owned banks and the transitory intervention by authorities when a bank needs winding up, takeover by a stronger bank, or restructuring and capitalization. Restructuring and capitalization are forms of bank doctoring. The U.S. Resolution Trust Corporation has been a remarkably successful example of such doctoring. At the cost of hundreds of millions of dollars, it averted a panic, disposed of or wrote off dubious assets, and capitalized savings and loan banks in just two years. The pall of uncertainty was soon dissipated and the savings and loan banks—at least those that were left—could start functioning again.

In the long run, after intervention and recapitalization, the general solution has been to privatize banks and, it is hoped, eliminate the politicization that so distorts their behavior. This has been the main solution in Argentina. But banks must be truly privatized, unlike, for example, the French banks that were nominally privately owned but were under close government control. Privatization must be substantive, not superficial.

Supervision and Fraud

One argument for special supervision for banks is that they are particularly susceptible to large-scale fraud. Bank operations in which large flows of money are speeding around can make fraud both inviting to fraudsters and challenging for supervisors. I suspect that only a small fraction of frauds are actually prosecuted. Political coverups and the costs of bringing cases to trial are powerful deterrents. The various solutions (closer supervision of day-to-day transactions, requirements to report open positions, and so on) are not very attractive in a liberal society.

Deregulate and Be Damned?

Regulation is often rightly pilloried for being the cause of bank crises, even panics, and there is no doubt that it has much to answer for. In particular, regulated interest rates—as in the infamous regulation Q—have caused untold damage to capital markets and shifted many offshore. Specification and limitations on the loan book, often paraded as a prudential regulation, have caused many banks to fail. The geographical restrictions in the United States are a common source of weakness.

Why can we not set the banks free and ensure that if they make a mistake they will pay for it? At first this seems a rash recommendation. But protagonists point out that when Scottish banking was free (until 1844) and there was no restriction on the issuance of currency, competitive banking appeared to work well and, according to scholars such as White and Selgin, there was no evidence of a crisis—let alone a panic.

Of course, that was before the development of checking and the system of transfers that we have today. But there are other examples of deregulated banking systems. The best known is London’s Eurocurrency market. Since its inception in the 1960s and following the convertibility of the major currencies in 1973, the Euromarkets have been subject to only the lightest regulation. There are no reserve requirements and no restrictions on the types of business that can be pursued. Broadly speaking, the Bank of England’s attitude has been that the authorities do not mind what transpires so long as it is not in sterling. The Euromarkets have flourished, growing from $100 billion in 1969 to several trillion dollars today. Yet there has not been a single case of substantial failure causing systemic problems.

No doubt the Euromarket is special in many respects. Above all, it is wholesale, not retail, banking. The Eurobanks are mostly branches or subsidiaries of foreign banks; thus lender of last resort facilities go through the parent to the appropriate central bank. Many similar considerations show that the Euromarket is a rather special variation of the
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standard fractional reserve banking model. Still, the success of the Eurobanks suggests that so-called “command” regulation is not the way forward: the regulatory system somehow must be developed to complement banks’ natural proclivity to maximize profits. Regulation should be light and, as far as possible, flow from banks’ normal risk management operations.

Incentive-Based Regulation

One promising approach to regulation, known as the “internal models” approach, has been explored by the Basle committee and endorsed by the G-10 governors. Each bank would use its internal risk assessment arrangements to calculate the maximum loss it might sustain, with 99 percent confidence, over the next ten days. Regulators would base their capital charge partly on this maximum loss and partly on the bank’s historical performance in containing these risks. The basic argument for internal models is that banks know far more than regulators about the risks they are running and the subtle distinctions between one asset and another. But, notwithstanding the advantages of this approach, the command features of regulation are still present.

An alternative is a “pre-commitment” system. As in the internal models approach, the bank uses its own models to assess risks in the ten days ahead. It calculates its maximum loss, choosing its own confidence level. Regulators fix the capital charge for market risk (ignoring fraud and so on) at this maximum loss. If the bank exceeds this maximum loss the regulator exacts a suitably high penalty in the form of a high fine or restrictions on trading and dividend distributions, or both.

The pre-commitment approach is also analogous to the decisions banks make when weighing the possibility of having to borrow at penal rates to meet liquidity requirements. Banks run their cash position such that the expected cost of being caught without cash and having to borrow at penal rates is balanced by the advantages of having marginal, nonliquid assets.

In other words, the basic decisionmaking process in the pre-commitment approach is well known in banking circles, and although it seems to be a radical departure from the traditional systems of bank regulation, it uses techniques that are familiar to bank managers.

Conclusion

From all quarters there have been calls for closer supervision of banking systems to prevent the sort of collapses recently seen in Latin America. U.S. deputy secretary of the Treasury Lawrence Summers recently called for the International Monetary Fund (IMF) to adopt a “more assertive role in monitoring banking systems to help avoid such destabilizing banking crises as those experienced in Latin America over the last two years” (26 March 1996, Financial Times). I have my doubts about this proposal, but:

- There is a need for greater transparency—banks should tell the truth and tell it quickly. I have little sympathy for the need for commercial secrecy, so beloved because it is thought to fool depositors.
- Some regulation is needed to ensure a minimum capital requirement. Mandatory reserves are more dubious and appear to be unnecessary, as in the United Kingdom and Switzerland. The best solution is to harness bank’s own incentives to control risk. A bank’s choice of a pre-commitment based on its assessment of market risk, with suitable penalties if it loses more than the sum pre-committed, seems to be the best approach.
- It is difficult to avoid deposit insurance, formal or informal. The best solution is to leave the job to the private sector to avoid as much moral hazard as possible. Thus the authorities would require banks to insure (small) deposits but they would not supply the cover.
- Lender of last resort facilities can be associated with currency boards and a temporary departure from convertibility provided there is a widespread belief that the authorities will return to the same parity once the crisis ends.
- Finally, wise macroeconomic policies (moderate monetary expansion, manageable budget and current deficits, low tax rates, and so on) will not prevent a credit and banking crisis, but they will make it less severe and more manageable.
Broadly speaking, narrow banking requires that demand deposits be backed entirely by safe short-term assets. On two occasions narrow banking has been part of recommendations for radical changes in the regulation of U.S. banks—in the 1930s with the Chicago Plan for Monetary Reform and in the 1980s as part of the debate that followed the savings and loan crisis.

Argentine banking has some features that raise the question of whether it is in a transition toward narrow banking. Although it is far from having carried out such a transformation, is narrow banking a better banking framework for Argentina, given the constraints imposed by the country’s monetary policy on the Central Bank’s traditional role as lender of last resort?

Narrow Banking Proposals

Proponents of narrow banking have several objectives:

- To achieve full control over the monetary supply.
- To allow deposit insurance to prevent runs without creating moral hazard and thus to allow financial institutions to break the wall between classic intermediation and securities business.
- To eliminate runs in a regime with no deposit insurance, since liquid (narrow) banks are not susceptible to runs.

The original proposal for narrow banking in the United States was a response by members of the University of Chicago faculty to the banking crisis of the early 1930s. In a memorandum sent to the secretary of agriculture on March 16, 1933, immediately after the Emergency Banking Act was passed, they proposed:

- that the federal government immediately take over actual ownership and management of the Federal Reserve Banks; that the Federal Reserve Banks should guarantee the deposits of all Member Banks ... that the Federal Reserve Banks be instructed ... to dispose of all assets of the Member Banks, to pay off deposit liabilities and ... declare the corporations dissolved; that banking legislation be enacted providing for incorporation of a new kind of institution which a) alone shall be entitled to accept funds subject to check or to payment on demand; b) which shall be required to maintain reserves of 100 percent in lawful money and/or deposits with the Reserve Bank; c) which shall serve exclusively as institutions for deposits and transfer of funds; ... that additional legislation be enacted providing incorporation of a distinct class of institutions in the general form of investment trusts which ... shall perform the functions of existing banks with respect to savings deposits. (cited in Phillips 1995, pp. 193–98)

After World War II financial problems seemed to be relics of the past. But Chicago economists never abandoned the “100 percent” bank reserve proposal. Some were in favor of equity over bank debt as a preferred financial arrangement. For example, Simons (1948) stated that:

a second long-term issue concerns the future of banks as sources of capital funds for private business. A 100 percent reserves requirement would leave banks free to provide such funds out of their own capital ... If banks as lender-investors were dissociated from banks as

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depositary-clearing agencies, the lender-investor enterprises might then focus upon a vital and essential function of providing long-term capital and, at best, of providing it in an equity form.

The 100 percent bank reserve was seen as a system that could restore to the monetary authority control over the effective quantity of money while at the same time removing reasons for excessive government intervention. Friedman (1959) also became a strong supporter. His point of view was that "the central problem is not to construct a highly sensitive instrument that can continuously offset instability introduced by other factors, but rather to prevent monetary arrangements from themselves becoming a primary source of instability" (p. 23). He further explained that:

our present fractional reserve banking system has two major defects. First, it involves extensive governmental intervention into lending and investing activities that should preferably be left to the market. Second, decisions by holders of money about the form in which they want to hold money and by banks about the structure of their assets tend to affect the amount available to be held. This has often been referred to as the inherent instability of a fractional reserve system. (p. 66)

When referring to government intervention, Friedman had in mind deposit insurance, among other arrangements. "Concern about [deposits] has led to an ever widening degree of control over the operations of commercial banks, of which the most recent and extensive is perhaps associated with the federal insurance of deposits" (p. 67).

Thus Friedman proposed a system of 100 percent reserves that would require banks to split into two separate institutions.

One would be a pure depositary institution, a literal warehouse for money.... The other institution that would be formed would be an investment trust or brokerage firm. It would acquire capital by selling shares or debentures and would use the capital to make loans or acquire investments. Since it would have no power to create or destroy money, monetary considerations would not demand any special control over these activities. Hence, it need be subject to no more governmental supervision than other financial institutions. (pp. 69-70)

With respect to the bank failures in the Great Depression, Friedman and Schwartz (1963) noted:

As a fraction of total wealth the losses produced by bank failures were minor.... If the bank failures deserve special attention, it is clearly because they were the mechanism through which the drastic decline in the stock of money was produced and because the stock of money plays an important role in economic developments. The bank failures were important not primarily in their own right but because of their indirect effect.

Friedman departed in one respect from the original Chicago plan: he proposed that interest be paid on the 100 percent reserves.

During the 1980s narrow banking was brought again into policy debates after deregulation and competition ended in the massive failure of savings and loan institutions and the reduction of banks' interest margins (Phillips 1995; Bryant 1988). But the motivations here were different. There were no monetary considerations; instead the debate focused on how to design an institutional framework that would allow banks to develop in a competitive environment. In particular, what were the legal conditions under which financial product diversification could best proceed?

One of the earliest proposals was made by Litan (1987). His approach called for the creation of "financial holding companies" (FHCs), which would be free to engage through separate subsidiaries in any activity, financial or nonfinancial, subject to the following restrictions:

- The 'banks' in FHCs would be required to operate as (insured) money market mutual funds, accepting deposits and investing only in highly liquid safe securities.
- FHC could extend loans but only through separately incorporated lending subsidiaries wholly funded by uninsured liabilities ... and equity, issued directly or by the parent FHC itself" (p. 165).

This approach focuses on two problems: moral hazard and the optimal way to achieve financial diversification. Prevention of runs is not a concern because Litan assumes at all times that there is deposit insurance. Thus his proposal is a way to reduce moral hazard behavior in (proposed) fully diversified financial institutions, that is, those that can take part in both lending and securities activities. Full control of money supply is not part of this proposal either. In fact, the proposal's effect on the
money supply is the same as with a conventional bank because Litan's narrow banks are not required to hold 100 percent of deposits as interest-bearing reserves with the central bank, but to invest in safe assets, such as treasury securities:

Divorcing deposit-taking from risk-bearing activities performed by banks ... would eliminate the concern that in a fully deregulated environment depositors’ funds either would be used to bail out ‘risky’ nonbank activities or unfairly channeled to customers of nonbank affiliates ... The proposal would also address concerns that highly diversified financial organizations would accumulate or control excessive amounts of economic resources. Fear of both conflict of interest and undue concentration primarily stems from the fact that deposit insurance allows banks to gather large pools of funds and thereby to exercise significant control over the allocation of credit. If banks in highly diversified organizations could not fund their loans with insured deposits, these fears would not be guaranteed.” (Litan 1987, p. 6)

Some supporters of narrow banking have also focused on structured securitized credit as a new technology that “can help make the transition to a fundamentally different and better financial system” (Bryant 1988). Summing up, these are the main contents and foundations of narrow banking proposals.

Risk-free depository institutions and payments system

Narrow banking allows banks to issue demand deposits (and eventually savings accounts or short-term deposits in small denominations) if their proceeds are invested in assets with low credit risk (mainly treasury instruments) and low interest rate risk (short-term or floating-rate instruments). These institutions can have insurance, although it is not necessary for liquidity considerations since narrow banks are not susceptible to runs. Insurance removes the remaining risk in banks' liabilities due to fraud, for example. Moral hazard behavior is precluded by the limitations on investment and by the separation of the two types of institutions. One consequence of these features is that the interest paid on term deposits is low. But these “banks” require limited capital because risk is low, too. Thus returns on banks' equity would be enough to make this alternative profitable. Institutions that provide all types of financial services (except those relating to the payments system)

These institutions basically seek funds for long-term projects through uninsured liabilities: commercial paper, bonds, or other types of securities.

Criticisms

Two main criticisms have been leveled at narrow banking proposals:

- Because narrow banks are totally liquid, they destroy the optimal risk sharing that is achieved when banks provide contracts that allow agents to insure liquidity risk (Wallace 1988, 1996)
- Narrow banking is inefficient because it separates bank deposit and loan services. Thus it gives up economies of scope (Ely 1991).

With respect to the first criticism, the optimality of illiquid banking has an important limitation since, in the models cited above, bank portfolios are illiquid but riskless. With riskless portfolios, bad equilibria can be avoided with government deposit insurance because insurance in such a setting cannot create moral hazard.

Another interesting point is that in these models banks’ raison d’etre is to insure agents against liquidity risk since private information about the true liquidity needs of the agents makes the optimal insurance contract unavailable in the market. But under the assumption that the proportion of agents with liquidity needs is known at the time contracts are written (even if information about individual agents’ state is not public information), the optimal allocation could be achieved with a liquid or narrow bank plus an insurance contract (see appendix). Such a contract would provide the insurer with access to a kind of suspension mechanism that allows him to pay up to the known proportion of agents that will turn out to be in need of liquidity.

With respect to the second criticism, it has been argued that economies of scope would result from the spreading of fixed costs over an expanded product mix. They could also result from cost complementarities among product categories when account and credit information (used to develop deposits products) is used to reduce the credit information and monitoring requirements for loan products for the same customers (Ely 1991).

But empirical studies have found that large U.S. banks have not seen significant cost complementarities between deposit and loan products, although there may be significant benefits from sharing fixed
costs—maybe 4–5 percent between these two classes of products. But it is also argued that, when compared with the cost reduction from the virtual elimination of deposit insurance premiums that would be possible when insured deposits are backed with safe assets, the net cost of narrow banking is low (Pulley and Humphrey 1993).

Argentina's Banking Regime

Argentina's banking regime already has some features that make it close to narrow banking—in particular, high reserve requirements and high capital requirements. The association between high capital requirements and narrow banking stems from the fact that capital-asset ratio regulations indirectly determine reserves.

Main features

Argentine banks are free to engage in both classic banking activities and securities activities but are limited in their equity holdings in nonfinancial corporations (up to 15 percent of bank capital, which cannot be funded with deposits). There are also restrictions on lending to affiliates (up to 5 percent of bank capital to each affiliate with a maximum total of 20 percent for all affiliates) and client diversification (lending limits up to 15 percent of bank capital per client without collateral and 25 percent per client with collateral). Securities activities basically refer to trading, mutual fund management, and some (not too well-developed) underwriting activities. Except for these restrictions there are no limitations on the amount of risk that banks can undertake. There is, however, a required capital-asset ratio of 11.5 percent, with assets adjusted by risk based on the suggestions of the Basle Committee for Bank Supervision and Regulation. Deposit insurance was eliminated in 1991.

Argentina also has strong limitations on the Central Bank's ability to act as a lender of last resort. To stop hyperinflation, in 1991 the government adopted a monetary regime based on a fixed exchange rate with full convertibility of the domestic currency into U.S. dollars and bimonetaryism. Under this regime 100 percent of the monetary base has to be backed by international reserves, 33 percent of which can be Argentine public bonds denominated in foreign currency. Thus the money supply in Argentina is highly endogenously determined, and any attempt to issue currency above this amount would cause a loss of reserves and threaten the convertibility of the domestic currency. This has two implications for the banks: the Central Bank cannot play an active role as the lender of last resort and, in case of trouble, the Central Bank cannot bail out banks by printing money.

Given the constraints imposed by the monetary regime, the Central Bank established high reserve requirements to preserve a mass of liquidity that could be released in case of a systemic run. Since those reserves were a tax on the financial system, the optimal structure was to levy a higher rate on the most inelastic deposits. Hence the rates were set at 43 percent for checking accounts and 3 percent for term deposits. After the panic these rates were made uniform for all liabilities—15 percent. Even so, this is still high and could provide a significant supply of liquidity to the system if necessary.

Procedures for closure and liquidation of institutions in trouble were established in 1991 by the Argentine Congress in an amendment to the Financial Institutions Act, although some changes were introduced later. According to that amendment the Central Bank could suspend a troubled bank for thirty days and request a capitalization proposal. After receiving the proposal the Central Bank could do one of two things: reopen the bank or remove its charter. If the charter was removed, the bank became subject to the laws governing corporations and it was up to the courts to deal with bankruptcy, to liquidate assets, and to pay depositors and other claimants. In the years before the amendment there had been a combination of deposit insurance and Central Bank intervention that, in practice, insured all bank liabilities. This strategy was funded with money creation and made a substantial contribution to the hyperinflation of the late 1980s (Femandez 1990). As a result deposit insurance and bank bailouts with public resources were firmly rejected by both citizens and politicians.

When the Central Bank faced the consequences of the 1991 amendment for the first time, after the Mexican devaluation, it realized that an early court intervention probably would not minimize the costs involved in liquidation, in particular depositor losses. Thus in April 1995 Congress passed another amendment that extended to ninety days the period during which an institution could be suspended and augmented the Central Bank's ability to liquidate an institution without committing fiscal resources. The Central Bank can now arrange the sale of any bank in trouble. If the bank cannot be sold, the Central Bank can split the banks' assets before court intervention and sell them to pay depositors and other senior debt (salaries, Central Bank loans). The remaining assets and liabilities follow the usual bankruptcy procedure. The Central Bank used this power five times during the recent crisis.
The rejection of deposit insurance and bank bailouts with fiscal resources does not mean that Argentine laws do not protect small, uninformed depositors. The 1991 amendment made deposits senior to all other bank liabilities (up to $3,000) and the 1995 amendment raised that limit (to $5,000) and created deposit insurance fully funded by the banks that covers deposits up to $10,000 or $20,000, depending on maturity.

Summing up, how did Argentina address the main issues regarding banking regulation? With full information and no deposit insurance, moral hazard should not have been an issue. Because information is asymmetric, however, restrictions were established with respect to lending to affiliates. The April 1995 deposit insurance law took moral hazard explicitly into consideration and established specific limitations in coverage to avoid it.

With respect to diversification, banks were allowed to carry out both classic banking and securities activities. Limits were set on ownership of non-financial affiliates, however.

There is no explicit device to prevent panics, but Argentina's regime, with limited or no deposit insurance, is expected to create sufficient depositor discipline to set a price to banks' portfolio risk in normal times and punish them selectively if there is a panic. High reserve requirements are also seen as a way to reduce financial instability caused by capital outflows (or highly volatile deposits in general). To make this point clear, the next section develops a simple framework. It also shows how Argentine regulations could produce results similar to a pure narrow banking strategy.

Reserve requirements and capital flows

The problem of capital flows reflects the closed economy conventional wisdom of the money multiplier and banking multiplier. A fractional reserve banking system would never have enough liquid reserves to deal with massive capital outflows (or bank runs). And a fixed exchange rate or convertibility commitment (by limiting the lender of last resort capability of the Central Bank) would convert a balance of payments problem into a banking problem.

Powerful and simple, the money and banking multiplier is perhaps the most widely used instrument for monetary targeting and financial programming (under the assumption that the Central Bank controls the monetary base). In an open economy simple multiplier effects must be carefully analyzed to understand the role of capital flows. A backward determination of the money multiplier can be worked out from monetary aggregates to monetary base to deal with the exogeneity of foreign investors' mood toward emerging economies.

From the definitions of money $M$ and monetary base $B$ in terms of currency $C$, deposits $D$, and reserve requirements $R$, a linear system can be determined with five unknowns in two equations:

\begin{align}
(1) & \quad M = C + D \\
(2) & \quad B = C + R. 
\end{align}

The closed economy multiplier results from solving the system under the assumption that $B$ is exogenous and adding the equations $C = cD$ and $R = rD$ where $c$ is a constant and $r$ is a binding legal reserve requirement. The solution is represented by $M = mB$, where

\begin{align}
(3) & \quad m = \left( 1 + c / (c + r) \right). 
\end{align}

A tequila effect for an emerging open economy producing capital outflows implies that $M$ is exogenously determined by foreign investor confidence and the multiplier determines the endogenous value of the monetary base ($B$).

To illustrate the financial vulnerability that arises from a tequila effect, subtract equation 2 from equation 1 to obtain

\begin{align}
(4) & \quad M - B = D - R = L, 
\end{align}

where $L$ represents the loanable capacity generated by deposits. If $m > 1$, a change in foreign investors' mood producing capital outflows and reducing $M$ implies a credit contraction. That is, the comparative static of the system gives

\begin{align}
(5) & \quad dL/dM = (m - 1) / m > 0. 
\end{align}

Because loans cannot be immediately recalled, the capital outflows caused by reducing $M$ produces a banking crisis. Thus high reserve requirements can help reduce financial vulnerability because, when

\begin{align}
(6) & \quad r \to 1, m \to 1 \text{ and } dL/dM \to 0. 
\end{align}

Simple and powerful as it is, the multiplier can be misleading if used to argue that capital outflows generally will produce a crisis. As emphasized in Fernandez and Guidotti (1995), reserve requirements and capital requirements jointly determine
the structure of the financial system and, under some conditions explicitly considered in standard prudential banking regulation, capital flows could be irrelevant to the stability of the banking system.

Capital requirements establish a minimum amount of capital as a proportion $k$ of risky assets $A$. (This is a Basle constraint of the form $K \leq kA$.) The balance sheet of the consolidated commercial banking system is

$$A + R = D + K.$$  

(7)

Taking $K$ as a predetermined variable (given that commercial banks are not free to change it at will without the consent of the Central Bank) when legal reserve requirements are zero, banks are free to determine the technical level for $R$ and, assuming that the Basle constraint holds as strict equality, then

$$D - R = K \left[ \frac{1 - k}{k} \right].$$  

(8)

This means that the loanable capacity out of deposits is independent of $M$ (that is, $dL/dM = 0$), implying that capital outflows cannot produce a banking crisis if the Basle constraint (and not legal reserve requirements) dominates the expansion and contraction dynamics of banks. This ability to smooth the impact of capital flows comes from the fact that excess supply of international short-run capital cannot be immediately converted into deposits because the commercial bank capital will first have to increase. This takes time, thus insulating the domestic system from externally generated financial volatility.

How Argentina's Banking Regime Helped Minimize the Social Costs of the Panic

The social cost of panics is measured mainly by the fall in the amount of outstanding credit, especially if healthy institutions fail. When the shock hit the Argentine economy, banks had:

- An average nominal capital-asset ratio of 13.4 percent (18.2 percent when assets are adjusted by risk). That served as a buffer against the losses suffered by banks, and there was enough depositor discipline to ensure that depositors punished more heavily those institutions that were perceived ex ante as being weaker and thus less likely to survive.

A study of banks that merged or failed because of the panic shows that these banks suffered higher withdrawals than surviving banks in general and than surviving banks with similar characteristics in particular. The study also shows that a set of variables representing risk and efficiency measured as of November 1994 defines the (future) classes of failing, merging, and surviving banks. Failing banks were among the worst (riskiest) banks, and merging banks were high-risk, inefficient banks with possible diseconomies of scope and scale. This finding suggests that there was depositor discipline during the panic—that is, depositors punished more heavily institutions that were seen as being less able to survive the confidence shock (Schumacher 1996).

- Some $9.4 billion in liquid resources (about 20 percent of total deposits) invested in deposits at the Central Bank. This mass of liquidity was helpful in two ways. It helped control credit growth in the pre-panic period, when deposits grew 450 percent between April 1991 and December 1994. It was also used to compensate for the fall in total deposits during the panic and thus minimized the total fall in credit and bank losses.

By mid-May 1995 the total loss in deposits was $8 billion, or about 18 percent of total deposits (table 1). Of this, $3.4 billion was compensated by releasing reserve requirements, $2.3 billion in repos and Central Bank loans to banks and $1 billion in credit reduction—that is, 41 percent of the total fall was compensated with reserve requirements and only 13 percent with a credit cut. This cut represented 2.3 percent of credit outstanding on December 21, 1994.

Thus Argentina's banking regime—with no deposit insurance and a limited role for the Central Bank as lender of last resort—appears to have created sufficient depositor discipline without exposing the system to high social costs.

Changes Introduced after the Panic

Although the crisis was managed successfully, in its wake attention was given to a more efficient allocation of resources that could also preserve the necessary amount of liquidity. Thus important changes in regulations were introduced, in particular:

- Reserve requirements were replaced by liquidity requirements, and uniform rates were established for checking accounts and term deposits.
- Liquidity requirements were extended to other liabilities.
- New rules on information disclosure.
- More power to the Central Bank to impose penalties.
Liquidity requirements. The panic showed that reserve requirements gave the Central Bank the tools it needed to fight the crisis. But reserve requirements also affected the cost of credit. Thus the Central Bank decided to preserve the amount of liquidity in the system while minimizing its cost, and banks were allowed to invest their reserves in low-risk assets such as bonds issued by OECD countries or repo transactions with the Central Bank. More important, banks can now invest reserves in bonds issued by the Argentine government or mortgage-backed securities when their prices are protected by a put option. Rates were set at 15 percent for checking accounts and deposits up to 90 days, 10 percent for deposits between 90 and 179 days, and 5 percent for deposits between 180 days and a year.

Extension of liquidity requirements to nondeposit liabilities. Banks for which deposits were a lower share of total liabilities (that is, wholesale banks oriented to trading activities) suffered higher withdrawals. This suggested that the contribution of each bank to systemic liquidity should depend on all liabilities, not just deposits. Consequently, banks were made to invest a share of their liabilities (5 to 15 percent, depending on maturity) in risk-free assets.

Information disclosure. The panic showed that depositors used the information available about banks’ portfolio quality. To improve the assessment of risk made by depositors, in September 1995 the Central Bank required that all financial institutions be rated by one or two agencies (depending on the bank’s size). Moreover, after being approved by the Superintendency, the rating must be advertised together with the interest rates offered for different types of deposits and included in certificates and checking account statements to clients. This regulation goes into effect in September 1997.

More power to the Central Bank to impose penalties. The 1995 amendment to the Financial Institutions Act extended Central Bank power to impose penalties on bankers who violate regulations. The Central Bank can impose monetary penalties and ban people (temporarily or permanently) from becoming managers, board members, or shareholders in another financial institution. A law recently passed by Congress extended the Central Bank’s authority to impose the same type of penalties on risk agencies and external auditors when they break Central Bank or professional regulations. The Central Bank also has the power to remove their licenses. Such punishments increase dramatically the cost of irresponsible or criminal action and thus act as a powerful deterrent to such action. Increasing personal accountability also increases the transparency of decisionmaking within the banks and the relationship between an institution and its clients.

Is Narrow Banking the Answer for Argentina?

Narrow banking has been proposed at various times and places with different goals, in particular to restore to monetary authorities control over money supply and to prevent panics or, if there is deposit insurance, to prevent it from inducing moral hazard behavior. Does narrow banking offer a better alternative to the current Argentine regime?

---

Table 1 Changes in the Argentine banking system, December 1994–July 1995 (millions of pesos)

<table>
<thead>
<tr>
<th>Period</th>
<th>Total deposits</th>
<th>Credit to private sector</th>
<th>New liquidity created by the Central Bank</th>
<th>New Central Bank liquidity/ change in deposits (percent)</th>
<th>Credit to private sector/ change in deposits (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stock, December 21</td>
<td>45,367</td>
<td>48,221</td>
<td>0</td>
<td>58</td>
<td>9,416</td>
</tr>
<tr>
<td>December 21–February 28</td>
<td>–324</td>
<td>304</td>
<td>369</td>
<td>256</td>
<td>2,400</td>
</tr>
<tr>
<td>March 1–March 31</td>
<td>–4170</td>
<td>–1424</td>
<td>436</td>
<td>842</td>
<td>54.63</td>
</tr>
<tr>
<td>April 1–May 14</td>
<td>–948</td>
<td>9</td>
<td>15</td>
<td>439</td>
<td>0</td>
</tr>
<tr>
<td>May 15–July 31</td>
<td>3,357</td>
<td>110</td>
<td>–431</td>
<td>16</td>
<td>–200</td>
</tr>
<tr>
<td>December 21–May 14</td>
<td>–5,003</td>
<td>–1,001</td>
<td>820</td>
<td>1,537</td>
<td>3,400</td>
</tr>
<tr>
<td>December 21–July 31</td>
<td>–8,360</td>
<td>–1,111</td>
<td>389</td>
<td>1,553</td>
<td>3,200</td>
</tr>
</tbody>
</table>

Note: New liquidity created by the Central Bank and change in credit to the private sector do not equal total deposits because of other sources of liquidity (such as external credit lines).

a. Unofficial estimate based on banks’ balance sheet data and daily survey conducted by the Central Bank.
b. Includes reserves in Central Bank accounts, reserves for dollar deposits, and cash in vault as of December 21, 1994.

Does Argentina Provide a Case for Narrow Banking?

Given a fixed exchange rate, narrow banking alone would be insufficient to achieve the first goal, since under a fixed exchange rate regime the money supply is endogenously determined. It could, however, make a contribution because narrow banks, by discouraging highly volatile investors with their lower returns, will transfer to the capital market most of the instability that is borne by the banking sector and the payments system.

With a constant real demand for domestic money, the main source of instability in a fixed exchange rate regime is from external capital flows. Many proposals have been made to exercise some control over those flows (Calvo, Leiderman, and Reinhart 1993, 1994). Narrow banking seems to be a better alternative, since it can achieve the same goal without government intervention. Thus narrow banking could make a substantial contribution to monetary stability without introducing distortions. These points are especially relevant to the dynamics of the Argentine panic. Between November 1994 and March 1995, 3,490 large depositors (those holding more than $100,000) left Argentine banks. This exodus caused bank deposits to drop by $3 billion—representing 90 percent of the fall in term deposits and 64 percent of the drop in total deposits. Thus demand deposits and term deposits in small denominations provided core deposits that together with reserve requirements were helpful in keeping the system going.

The second issue is whether narrow banking would be more effective in controlling panics than a system based on liquidity requirements, the Central Bank’s (limited) ability to provide liquidity, depositor discipline, and information disclosure. From this point of view narrow banking is also superior not only to the current Argentine regime but also to a regime based on deposit insurance. There are several reasons:

- Narrow banking removes almost all the asymmetry of information because bank assets are not only made risk free but they are also marketable. Thus the chance of a contagious run is much lower, even without deposit insurance. One limitation of the Argentine regime is that no matter how much information is available to depositors, there will always be some remaining asymmetry of information between bank owners and managers and bank depositors, because bank assets are information intensive by nature.
- Narrow banking introduces a separating equilibrium, given that risk-averse depositors and small depositors that cannot afford the cost of acquiring information will have access to a financial contract that pays a sure return. At the same time large, better-informed, or institutional depositors will choose to contract in capital markets that offer higher returns and greater volatility. By allowing economic agents to get into a contract according to their preferences and abilities to monitor counterparties, narrow banking improves social welfare. In terms of political motivations, narrow banking provides a natural protection to small savers and passes volatility on to those who know how to price it.

These features seem to be particularly attractive for Argentina given its restrictions on providing liquidity, the limitations of insurance funded by banks, and the reluctance of politicians and citizens to establish deposit insurance or bail out banks with fiscal resources. Narrow banking could be a path to reconcile the sure return demanded by small depositors with the discipline imposed by financial decisions, and the stability of the payments system with a philosophy of no distorting government intervention.

But would the failure of a large nonbank induce the authorities to bail it out anyway? In principle, the commercial paper market should provide strong incentives for nonbanks to avoid excessive risk taking. But even if a nonbank risked failure, the Central Bank would not be a lender of last resort or bail it out because there is no reason to fear contagion effects. The failure of El Hogar Obrero in 1991 provides evidence of this; there were no spillover effects to the banking sector. Thus there seems to be good reasons to believe that Argentina could benefit from narrow banking.

But an important point to remember is that narrow banking relies on active capital markets. The problem is that if demand deposits, savings accounts, and short-term deposits are all invested in safe assets, there may be nothing left to fund long-term (risky) projects. Thus the pros and cons of each regime can be seriously addressed only after a capital market develops.

Argentina has been making big strides in this regard. Part of private investment is being funded with private bonds. These were unknown in Argentina before the Convertibility Plan, partly because of high inflation and partly because their tax treatment made competition with public bonds impossible. In January 1995 a law was passed that provides the legal framework for closed-end funds and consequently for the development of asset-backed securities. In October 1995 the Central Bank approved a standardized mortgage loan contract that will make easier the securitization of residential mortgages. Banco Hipotecario
Roque Fernandez and Liliana Schumacher

Nacional, a federally owned bank, will be originator of the loans and also will sponsor mortgage-backed securities by other financial institutions.

Securitization reduces capital requirements (high in Argentina) by removing assets on balance sheets and increases returns by generating fees. Securitization also provides companies with direct access to the capital market and to broader and cheaper funding sources. In this sense, it could be the vehicle for a natural transition to narrow banking in Argentina.

Appendix

The point will be made in this appendix that, under certain assumptions, a narrow bank plus an insurance fund can achieve the optimal consumption bundle derived in Diamond and Dybvig (1983). The first section summarizes the main features of the model presented by Diamond and Dybvig. The second section shows how a combination of a narrow bank and an insurance fund can achieve optimal allocations. The third section elaborates on the assumptions made in the second section.

Diamond and Dybvig's model

Diamond and Dybvig present an economy with three periods and a single homogenous good in which there is a riskless technology that can be represented in the following way:

\[
\begin{align*}
T = 0 & \quad T = 1 & \quad T = 2 \\
-1 & \quad 1 & \quad R
\end{align*}
\]

That is, a unit of good invested at \( t = 0 \) allows to consume one unit of good if the production process is interrupted at \( t = 1 \) and \( R \) if the process is allowed to continue until the next period, such that \( R > 1 \). Interruption is costly and any amount of physical good that is taken out of the process cannot be reused as an input.

There are two types of individuals. Types depend on their consumption needs at \( t = 1 \) and \( t = 2 \). Preferences are such that individuals consume only in one period depending on their type: type 1 will only consume at \( t = 1 \) and type 2 will only consume at \( t = 2 \). At \( t = 0 \) there is uncertainty about how many individuals will be type 1 or type 2, and types once revealed at \( t = 1 \) are private information. A social planner maximizes a social utility function:

\[
\text{Max}_{\{c_1, c_2\}} \left[ \alpha U(c_1) + (1 - \alpha) \rho U(c_2) \right]
\]

subject to:

\[
c_2 = \left[ \frac{R(1 - \alpha c_1^*)}{(1 - \alpha)} \right]
\]

where \( \alpha \) is the proportion of type 1 individuals and \( c_i^* \) is the consumption of the individual type \( i \) at time \( j \).

Additionally, \( U' > 0; U'' < 0 \); risk aversion implies:

\[
\frac{U'(c_1^*)}{\rho U'(c_2^*)} > R
\]

Under this choice of preferences, the optimal consumption bundle satisfies:

\[
c_1^* = c_2^* = 0
\]

\[
\frac{U'(c_1^*)}{\rho U'(c_2^*)} = R
\]

and

\[
\alpha c_1^* + \left[ \frac{(1 - \alpha) c_2^*}{R} \right] = 1
\]

Equations 3 and 4 taken together imply that

\[
c_1^* > 1; c_2^* < R
\]

This means, as shown in figure A.1, that the optimal pair is located to the right of the consumption allowed by the technology.

It is important to note that

\[
c_1^* = f(\alpha, T, U)
\]

\[
c_2^* = g(\alpha, T, U)
\]

That is, optimal consumption in each period is a function of the parameters of the model: technology, preferences, and the proportion of people that turn out to be type 1 or type 2.

In addition, individual types are private information. If a contract is contingent on an event, then it must be known whether or not the event occurred. Thus Diamond and Dybvig conclude that regular insurance contracts cannot be written, but the fact that the optimal pairs satisfy the self-selection constraint allows a bank to write contracts that offer \( r_1 \) at \( t = 1 \) such that \( r_1 > 1 \). If \( r_1 \) happens to be equal
Does Argentina Provide a Case for Narrow Banking?

Figure A.1 How a narrow bank and an insurer achieve the optimal solution

![Diagram of a narrow bank and an insurer contract](image)

Banking contract is optimal and only a good Nash equilibrium is possible. The point that will be made here is that under these same conditions there is no need for an illiquid bank.

Following Wallace (1996), a narrow bank in a context of Diamond and Dybvig model can be identified with a bank that offers the following returns:

$$c_1^* = 1; c_2^* = R$$

That is, a narrow bank is a liquid bank. Assume now the following contract written at $t = 0$ between the agents, the bank, and an insurer: At $t = 1$ individuals that turn out to be type 1 will get 1 from the narrow bank and $z$ from the insurer (see figure A.1); the payment by the insurer will be funded with the insurance fees collected from type 2 individuals and equal to $x/R$. The narrow bank pays $1$ at $t = 1$ and $R$ at $t = 2$ and is also in charge of transferring the fees to the insurer. Since the contract satisfies the self-selection constraint, no individual 2 will claim to be type 1. We should remember here that it is costly to interrupt the technological process; thus type 2 individuals cannot claim to be type 1 and use the proceeds of their withdrawals to get extra consumption in the next period. Thus individuals do not have incentives to misrepresent themselves. The advantages of these solutions are that funds in the insurance pool are not used to fund production but are available for the extra consumption needed at $t = 1$, and the bank is liquid and not subject to runs.

If the insurer is subject to a sequential service constraint, as the bank in the Diamond and Dybvig model, the same bad Nash equilibrium can arise; then the insurer will need some mechanism that allows him to pay only up to an amount compatible with the known $\alpha$. But if the sequential service constraint is removed with respect to the insurer, then at the end of the day the bank can transfer the exact amount of fees compatible with the number of individuals that claimed to be type 1. The insurer will then distribute that amount among all the type 1 individuals. That is, at the end of the day type 1 individuals will get one unit from the bank plus the payment by the insurer, or:

$$c_1^* = 1 + \left[ \frac{(1 - \alpha)Nx/R}{N\alpha} \right] = c_1^*$$

which by definition is the optimal amount.

In this case there is no need for a suspension-type mechanism. Furthermore, once the sequential service constraint is removed, the optimal consumption can be achieved even if it is random.
Are the assumptions realistic?

If the sequential service constraint is maintained, then the crucial assumption in the last section is that \( \alpha \), the fraction of people turning out to be illiquid, is known. How realistic is this assumption? Wallace (1986, 1996) and Diamond and Dybvig conclude that, since suspension did not work in the historical experience, \( \alpha \) should be random and many episodes that were believed to be bubbles were actually real liquidity shocks, or high realization of the random \( \alpha \). Although it is true that suspension was not very effective, a random \( \alpha \) might or might not be the answer. When thinking of an empirical counterpart for \( \alpha \), the best candidate seems to be the aggregate demand for money for transactions purposes. Many authors have estimated the aggregate demand for money for different countries, and it is possible to predict an expected value. The question is whether an error term can be held responsible for many episodes of past panics.

In any case, according to equation 2 above, if the number of individuals that turns out to be illiquid is random, optimal consumption should be random too. Wallace (1996) reaches a similar solution, and concludes that “equilibrium arrangements involve some dependence of returns on the order people withdraw”; that is, for certain economies debt is not an optimal contract any more. This takes him closer to recent narrow banking proposals like Litan (1987), which suggested that narrow banks should be required to operate as money market mutual funds, or earlier narrow banking proposals like Simons (1948), which suggested that equity could be a preferred arrangement. Nevertheless, it should be taken into account that in Diamond and Dybvig there are no asymmetries of information with respect to the agent’s actions or output and thus some equity-like forms of risk-sharing arrangements might turn out to be first best.

References


Roque Fernandez and Liliana Schumacher deserve credit for examining alternatives to the OECD model of banking, which stipulates that countries should adopt an 8 percent capital adequacy rule and work on improving bank supervision. Such an approach is fundamentally flawed. Not only is the agreed capital level low by historical standards, it also ignores noncredit risks, as well as the likelihood that private agents will respond when regulated. It is hard to believe that even if the OECD model were appropriate for industrial countries—and a string of banking crises from Japan to Scandinavia suggests otherwise—that the same standard would be sensible for smaller, more concentrated developing countries. Developing countries that have experienced systemic episodes of bank insolvency saw far greater terms of trade volatility than countries where banking problems were not systemic (Caprio and Klingebiel 1996). Thus it is about time that greater efforts be made to examine alternative models to ensure safe and sound risk-taking in the financial sector.

In searching for a replacement, one requirement should be that the proposed framework reduces the need for a “world class” supervisory system. Such systems are extremely difficult to attain in rich countries; achieving them in poor countries seems almost impossible. A second requirement is that incentives for participants in financial sector activities should reward prudent risk-taking. This is not meant to deter all high-risk ventures, but rather to ensure that financial intermediaries fund a diverse bundle of activities but do not gamble excessively. Narrow banking is attractive because it appears to meet this key requirement. What are its pros and cons?

Fernandez and Schumacher remind us that narrow banking will mean that narrow banks will invest only in safe assets, and other institutions (called nonbanks) will provide risky short- and long-term finance using loans, equity, and debentures. Some assessments of narrow banking argue that it is not practical where there is an insufficient supply of riskless or low-risk paper. This claim is useful to explore because it points the way to understanding possible adjustments if a narrow bank model were adopted.

Suppose that a developing country has only $1 million of government debt outstanding in a system with initial demand deposits of $100 million. If banks are required to hold government debt to back their deposits, their first reaction might be to bid up the price of this debt and correspondingly lower the rate of return both on this paper and on what they can afford to pay on demand deposits. If citizens really want the security of having their funds in banks, then they might have to pay banks to hold their funds—much like depositors of specie used to do for the early banks, which were nothing more than lock boxes until those tending them saw that they could lend the idle funds and make a nice return. In other words, citizens that insist on having security can pay for the privilege, and their banks might then have to pay for the ability to hold government debt. Thus government debt would trade above par and the interest rate would be negative.

This outcome is unlikely. Instead, as the rate of return on demand deposits declines, depositors likely will diversify away from these deposits in favor of riskier but potentially more remunerative investments—as U.S. depositors did in 1994 when riskless interest rates plummeted to their lowest level in more than thirty years. This likely adjustment should be the focus of the debate on narrow
banking. If a sizable chunk of funds migrates from (narrow) banks to nonbanks, whether there is any gain from adopting narrow banking turns on whether government guarantees migrate along with the funds. If governments guarantee the large holdings of nonbanks, clearly there is no gain. All that has happened is a relabeling of the banking system.

Would governments guarantee nonbanks? This question lies in the domain of political economy. Argentine authorities may well be able to contain the spread of guarantees. In the United States the adoption of narrow banking would lead to a huge migration of funds in favor of nonbanks, substantially increasing the size of companies like American Express, Merrill Lynch, and Fidelity Investment. If these organizations offered not only equity instruments but also loans and debentures, they would be susceptible to failure and contagion. As Caprio and others (1996, p. 22) put it:

The fundamental problem is that the community wishes to transform some current output into a capital stock; the capital stock is itself illiquid. If any claims that ultimately derive their value from the capital stock have fixed nominal values, there is a risk that someone must bear.

Fernandez and Schumacher say that narrow banking removes almost all asymmetry of information, but it does not change this problem. So with this risk there is the possibility that the government would ensure it and, in the U.S. case, that large nonbanks also would be too big to fail. Although the authorities were willing to allow Drexel to fail in 1987, it appeared that the Federal Reserve was propping up nonbanks in the face of a large systemic shock. Thus, in any attempt to adopt narrow banking, governments must plan how they will limit the spread of guarantees on larger and more politically powerful nonbanks and be prepared for the difficulty of making such plans credible. If the guarantee moves with the funds, the danger is that a substantial portion of the financial system would be without much supervision. As in banking in many developing countries in the 1980s and 1990s, governments would quickly see that, if they are going to provide a safety net, they need to be able to supervise. And if supervision is required, then one of the main attractions of narrow banking disappears.

In considering narrow banking, it may be helpful to compare it not just to the OECD model, but also to look at other possible ways to align incentives, such as by ensuring mutual liability among banks, raising capital ratios, raising liability limits on bank owners, or increasing franchise values (making greater bank profitability the carrot that induces greater prudence). All of these approaches would need to be coupled with better information and disclosure, so that outsiders could serve as effective monitors of banks. Also, a second Chicago Plan, namely a requirement that banks issue large amounts of uninsured subordinated debt, merits debate (Caprio 1994). These alternatives have the advantage of preserving the synergies between lending and deposit taking, the loss of which has been offered as an argument against narrow banking.

Fernandez and Schumacher also are concerned about how investment will be funded in a narrow banking model. Although I believe that the market will take care of this problem, if the authors want to follow the evolutionary path they appear to sponsor then they could note that it would be important to make sure that deposit insurance in the current banking system is not underpriced. The problem is that it is not possible to determine the price of an open-ended guarantee, and bankers can adjust to the existence of a safety net by taking more risks. Still, if some control of risk-taking is possible, it should carry high insurance premiums to drive banking into money market mutual funds, thereby hastening narrow banking. This approach would only make sense if the previous considerations about government guarantees for nonbanks were addressed satisfactorily.

Fernandez and Schumacher also argue that high capital levels and high reserve requirements can shelter the domestic financial system. Caprio and others (1996) argue the opposite with respect to reserve requirements, namely, that in a relatively simple model it is easy to show that the higher is the reserve requirement the greater is the change in the loan rate in response to a change in world interest rates. So with high reserve requirements, a positive shock would increase capital inflows beyond what they would otherwise be and a negative shock would lower them. Reserve requirements only help as a tool against capital flows if the government is willing to raise and lower them in the face of shocks; an endogenous reserve requirement that increases reserve ratios as world rates fall insulates the domestic loan market from the external shock, not because it discourages international capital mobility but because it discourages domestic financial intermediation. The growth effects of such a policy need to be explored.
Comment on "Does Argentina Provide a Case for Narrow Banking?"

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Comment

George J. Benston

Roger Fernandez and Liliana Schumacher identify two major possible advantages of narrow banking—better control over the money supply and increased bank efficiency—and three possible disadvantages—banking and credit inefficiency and the failure of large nonbanks. The authors conclude that the possible disadvantages are not present, will be overcome by the development of a capital market, or are not important. Thus it appears that narrow banking offers some benefits and few, if any, disadvantages. Is this an accurate assessment?

Presumed Disadvantages of Narrow Banking

Fernandez and Schumacher identify three potential disadvantages of narrow banking: the loss of economies of scope, the limited capacity to fund risky projects, and the need for governments to bail out large nonbanks. However, the study on which they base their conclusion—that narrow banking would not be inefficient—is seriously flawed. Although the second and third disadvantages largely could be overcome, the development of alternative institutions and the restructuring of commercial banks into narrow banks is likely to be costly.

Economies of scope

Fernandez and Schumacher dismiss the concern that narrow banking would result in banking inefficiency by citing Pulley and Humphrey (1993), who find little evidence of economies of scope from cost complementarities between deposits and loans, although they do find savings in fixed costs of 4–5 percent of total operating expenses. These savings, Pulley and Humphrey claim, would be offset by savings in deposit insurance costs, keeping the cost of narrow banking small.

Pulley and Humphrey (1988) obtained their findings from a study of 205 large U.S. banks (all with assets over $1 billion in 1988) in 1978–88 and 265 large banks in 1989–90. Assuming that their estimates were valid, they point out an important limitation of their study:

while there can be joint production of deposits and loans within a state, this is not yet permitted [in the United States] interstate. Thus separate loan-production offices of large banks operate in major cities outside of a bank’s home state and cannot provide deposit services. Had interstate branching been permitted, our scope economies may have been larger. (p. 458)

In addition, and of greater importance, their study suffers from four other limitations. First, the benefits to customers of obtaining deposit and lending services from the same organization are not considered. These benefits include savings in the cost of providing information to and obtaining information from lenders. Second, if overdraft banking and interest payments on deposits were permitted, customers could benefit from using a single account for payments, investments, and loans, which would reduce transactions costs and the cost of dealing with variation and uncertainty in cash flows. Third, all banks in the United States are permitted to offer all of the deposit and loan products used in the analysis. They are not required to offer loans. That none of the banks studied offers only deposit services indicates that they find joint production of deposit and lending products to be beneficial. Indeed, few (if any) banks in the United States or any other country offer only deposit services. Fourth, because the banks studied

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are not legally constrained from providing deposit and loan services in amounts that they find profitable (unlike the Glass-Steagall Act’s constraint on securities services), it is not conceptually possible for researchers to measure economies of scope. Thus the Pulley and Humphrey study does not and cannot provide useful evidence showing that there would be little loss if banks were not permitted to offer both deposits and loans.

**Funding for risky projects**

As Fernandez and Schumacher suggest, nondepository financial institutions could indeed provide funds for risky projects. Companies in the United States, such as General Electric Credit Corporation, Merrill Lynch, and Household Finance, make a large volume of business and personal loans. In a way they have a comparative advantage over banks in that they are almost unregulated. They can open offices almost anywhere, are not examined or supervised, and can structure loans as they and their customers please, subject only to state usury statutes and federal fair lending laws.

As Fernandez and Schumacher point out, bonds and closed-end equity funds can provide a means for businesses to obtain financing. These sources of funds, however, often are inferior to loans. Loans offer borrowers flexibility in amounts and repayment schedules. By contrast, bonds usually are issued in relatively large amounts with fixed maturities and are subject to agency risk. Equities subject issuers to possible loss of control or subject buyers to the risks of minority ownership status. Loans can be made, however, by companies that are funded with bonds and equity rather than with deposits. These companies also could be funded with savings.

Assuming that demand deposits (transactions accounts) would be held only or predominantly by narrow banks, these banks would have to hold a large proportion of the national stock of short-term treasury obligations and commercial paper and other similar short-term and virtually credit risk-free corporate paper. As Fernandez and Schumacher acknowledge, these resources would not be available for longer-term corporate debt. Narrow banks, however, might be permitted to hold diversified portfolios of marketable longer-term corporate debt and equity if they held sufficient capital to absorb fully the interest rate and credit losses that might be incurred. In this situation longer-term financing would not be constrained. But then the "narrow" banks would look very much like well-capitalized commercial banks.

**Bailout of large nonbanks**

Fernandez and Schumacher give the example of a large Argentinian nonbank, El Hogar Obrero, whose failure in 1991 did not spill over into the banking sector. Considering the paucity of evidence about contagious failures in banking, this outcome is not surprising. What is surprising is that the authorities did not intervene. In other countries where large banks and nondepository financial institutions failed, the authorities have stepped in to protect depositors and debtholders (although usually not stockholders). This loss of support is an important cost of narrow banking.

Although narrow banks would almost never fail, institutions that are not called banks but that offer bank-like services probably will spring up or expand, and some will fail. The authorities, then, are likely to be under considerable public pressure to bail out "depositors," who will claim that they were not aware that they were not protected. For example, Australian authorities bailed out the "depositors" in a large real estate investment company (see Kane and Kaufman 1993). Furthermore, other customers and employees of these institutions will assert that the closure of the firm will damage them and their communities. In the past such pressures have been successful in getting the authorities to intervene.

**Evaluation of Presumed Advantages of Narrow Banking**

It is likely that traditional banking offers both producers and customers of banking services the advantage of economies of scope. These would be lost if narrow banking were mandated. The other two presumed disadvantages could be largely overcome. However, both the development of alternative institutions and the restructuring of commercial banks into narrow banks are likely to be costly. Consequently, I turn now to an analysis of the presumed advantages of narrow banking.

**Money supply control**

*Fractional reserve banking*. Fractional reserve banking has long been a source of changes in the supply of deposit money. Fernandez and Schumacher incorrectly point out that this source of instability would be eliminated if banks were required to hold 100 percent of their deposits in short-term treasury bills. Treasury bills, like bank loans, are earning assets but carry no credit risk and a small interest rate risk. Banks would still hold fractional reserves in cash in
order to meet depositors' demands. If depositors ran to currency (say, because they feared that their bank's assets were being dissipated by fraud), the money supply would change as the narrow banks sold their treasury bills to obtain the currency. Thus there would be a multiple contraction of the money supply.

Banking efficiencies

Fernandez and Schumacher identify five efficiencies that they believe could be gained from narrow banking—prevention of bank runs, low-cost deposit insurance, low interest rates on deposits and low bank capital, reduced systematic risk, and facilitation of securitized credits for loans.

Bank runs. Narrow banking would indeed prevent bank runs. But bank runs are not a problem if there is deposit insurance or if the central bank does its job. Moreover, if narrow banking were adopted, the wall between classic intermediation and the securities business would be strengthened, not broken. The U.S. Glass-Steagall Act separated commercial and investment banking not because the combination made commercial banks more risky, but because at that time (1933) the separation benefited the institutions involved, though at the expense of consumers (Benston 1990). Narrow banking would prevent the recombination, except perhaps through bank holding companies, and this would obviate most benefits from economies of scope and diversification of assets and operations.

Deposit insurance. Deposit insurance would be less expensive under narrow banking. But an alternative scheme that would permit banks to operate largely as they have for centuries would have much the same effect.

Interest rates paid on deposits. Interest paid on deposits (demand or term) would be low under narrow banking, and narrow banks would require low capital. These banks' earnings also would be low, however—so low that substantial fees likely would have to be charged to demand depositors.

Systemic risk. Narrow banking would eliminate risk in the depository banking and payments systems. The other institutions that would provide the services now provided by commercial banks would not be free of risk, however. They are likely to provide payments services, possibly through narrow banks, much as brokers (such as Merrill Lynch) now provide checking services through commercial banks. These other institutions can and probably will fail. (And the authorities are likely to bail them out.) Concerns about systemic risk, however, should be restricted to concerns about the central bank. As documented in Benston and Kaufman (1995), there is little reason to fear a financial panic or systemic failure as long as the central bank does not permit the money supply to decline precipitously.
Securitized credits. Narrow banking might help substitute structured securitized credits for bank loans, but this is doubtful and not necessarily beneficial. Securitized credit primarily offers lenders the advantage of being able to make and possibly service loans for which they have a comparative advantage, while not having to hold these loans if doing so would force them to invest in an undiversified portfolio of assets. Securitization has been particularly beneficial to geographically restricted U.S. thrifts and banks with respect to home mortgages and, to a lesser extent, consumer credit. These loans are particularly well suited for securitization because they are standard (conforming) contracts, the interest rate and credit risks of which can be reasonably well estimated. Other loans, however, particularly business loans, are subject to moral hazard concerns and operational problems resulting from idiosyncratic contracts and demands by borrowers for nonstandard repayment schedules (Benston 1992). In fact, an important advantage of traditional commercial bank loans is that such borrowers can borrow the amounts they wish when they wish and make repayments in amounts and at times that best suit them. This flexibility is not offered by securitized credits.

Narrow Banking in Argentina

Fernandez and Schumacher emphasize two aspects of Argentine banking that might affect or be affected by narrow banking: fixed exchange rates and high reserve requirements. High reserve requirements (43 percent against checking accounts) have brought Argentine banks halfway to narrow banking. Fernandez and Schumacher do not say whether banks were paid a market rate of return on these reserves (if held at the Central Bank) or whether the reserves could be held in market instruments. Because they characterize the reserve requirements as a tax on the financial system, presumably interest is not paid. In this event demand depositors would be paid little, if anything, on their balances and would attempt to keep as little on deposit as is feasible. A consequence is that volatility would be higher both from technology-supported float management and from substitute means of effecting payments. This could cause substantial changes in the money stock. If this is the case, narrow banking would likely exacerbate the situation, transferring investment volatility to nonbanks.

An Alternative Approach

Traditional commercial banking is much better than narrow banking. Traditional banking has suffered from two big problems, one past and one present. The past problem is fractional reserve banking when base money could change exogenously, generally as a result of gold outflows and inflows and runs to currency. A well-managed central bank can and in most countries has eliminated this problem.

The current problem is de jure or de facto deposit insurance. As Fernandez and Schumacher note, protecting depositors from losses results in moral hazard behavior. This problem can be solved by requiring banks to hold sufficient capital or debt that is not guaranteed by the government and is subordinated to depositors who would absorb most of the losses the banks might incur. Thus, as for other corporations, equity holders would have no incentive to take excessive risks because they would bear the cost if things turned out badly. Equity holders also would have to pay debt holders for the risk that the equity might be depleted.

There is an alternative and operationally viable capital requirement scheme—structured early intervention and resolution—that was essentially adopted in the United States as part of the Federal Deposit Insurance Corporation Improvement Act of 1991 (see Benston and Kaufman 1988, 1994). Institutions with government-insured deposits should be required to hold capital equivalent to about 10 percent of assets. If capital ratios fall below this level, the authorities first may and then must take actions to restrict the offending banks’ activities and get them to restore their capital. If capital falls below a positive percentage of assets—say, 2 or 3 percent—the banks must be taken over by the authorities. This system gives the banks a powerful incentive to avoid excessive risks and, if they do get into trouble, to resolve the situation through additional capital infusions or voluntary merger or liquidation. Deposit insurance would be required only to protect depositors from the cost of massive fraud and very rapid asset depletion.

An important advantage of this scheme is that the banking system does not have to be restructured, as would be required if narrow banking were adopted. All that is required is a substitution of explicitly uninsured debt or equity for de jure or de facto insured deposits and sufficient government regulation to ensure that banks are maintaining their equity and uninsured debt at the required level.

Note

1. Pulley and Humphrey do not specify what is included in costs and do not consider the extent to which annual accounting costs accurately measure economic costs. They do not appear to have included the number
of offices operated by banks as independent variables, nor do they mention converting the data to constant dollars, despite considerable inflation during the period studied.

References

Comment

Fernando de Santibañes

After defining narrow banking as a banking regime in which deposit-taking activities are separated from lending activities—and identifying features in the Argentine banking regime that resemble narrow banking—Roque Fernandez and Liliana Schumacher raise interesting questions about whether narrow banking would be a better banking framework for Argentina, given the constraints imposed by monetary policy, and what conditions would be required for its successful implementation. Their main conclusion is that narrow banking could improve the Argentine system by making it less prone to contagion, while reconciling the sure return demanded by small depositors with the discipline imposed by financial policymaking and ensuring the stability of the payments system while avoiding distortionary government intervention.

As the authors note, however, narrow banking requires that alternative sources of funding be available for long-term projects; hence its implementation depends on the development of capital markets. Thus before it can adopt narrow banking, Argentina must develop these markets. As these points are clarified and extended, however, some of paper’s observations and remarks weaken and contradict the main arguments. Here I address these breakdowns in logic.

Problems with Narrow Banking

Fernandez and Schumacher contend, first, that the Argentine banking regime has features that resemble narrow banking. The main argument is that given the constraints imposed by the monetary regime, the Central Bank established high reserve requirements to preserve a mass of liquidity that could be released in case of a systemic run. ... The rates were set at 43 percent for checking accounts and 3 percent for term deposits.

Actually, after the financial crisis that followed the Mexican devaluation, reserve requirements were replaced by liquidity requirements, and these were set at 15 percent for checking accounts and deposits up to 90 days, 10 percent for deposits between 90 and 179 days, and 5 percent for deposits between 180 days and a year, as well as extended to liabilities other than deposits. Thus Fernandez and Schumacher assign to the Argentine system some features of narrow banking because of its comparatively high reserve or liquidity requirements.

There are two problems with this argument. First, it completely blurs the difference between narrow banking and fractional reserve banking. But there is a qualitative difference between the two, one completely independent of the level of reserves: deposit and lending activities are separated in narrow banking, while banks grant credit in fractional reserve banking. And when reserve requirements are less than 100 percent, no matter how small or large, all the problems the authors identify with fractional reserve banking (which I disagree with) reappear immediately.

Consider this. When a fractional banking system is subject to an increase (decrease) in legal reserve requirements, can it be asserted that it has become more (less) narrow? Are banking systems with very low reserve requirements slightly narrow? The analogy made by the authors is trivial and misleading.

Second, the authors do not recognize that the coverage provided by high reserve requirements in a systemic run—which allowed Argentina to prevent...
Fernando de Santibañes

a 41 percent drop in deposits from translating into a corresponding drop in credit—is only possible under a fractional reserve system. Under narrow banking, where banks do not lend, the reduction in credit generated by a financial crisis cannot be compensated for by a reduction in reserve requirements. Moreover, the high reserve requirements that the Argentine banking system had before the financial crisis (and that leads the authors incorrectly to speak of quasi narrow banking) were an inheritance of the ample base that the inflation tax had in the past, before the success of the convertibility-based stabilization plan.

To support their main proposition—that narrow banking is a superior design for a banking system—the authors argue that:

- It can make the banking system less prone to contagious runs.
- It reconciles the sure return demanded by small depositors with the discipline imposed by financial policies.
- It reconciles the stability of the payments system while avoiding distortionary government intervention.

The authors imply that, because the deposits received by narrow banks are invested in liquid and low-risk assets, regulators need not monitor banks' investments. Moreover, they claim that deposit insurance (if it were needed) would have no significant fiscal cost.

This point raises some ambiguity about the description of narrow banking and its benefits. When the authors refer to stability of the payments system or cite the narrow banking proposal of the 1930s in the United States, they seem to limit narrow banking to demand deposits; in other parts of the paper they seem to include savings and time deposits. At some points they concentrate on narrow banking's ability to stabilize the payments system or the money supply; elsewhere they favor it for preventing the credit contraction that follows a financial crisis.

Let us first dispose of the motivation cited by the authors for narrow banking: full control of the money supply. Little argument is needed to appreciate that, under full convertibility of the peso, the money supply is endogenously determined.

In a system of narrow banking, with a separation between deposit and lending activities (narrow banks receive deposits that they invest in reserves or low-interest, low-risk assets, while credit flows through other financial institutions), the credit destabilization effect of a financial crisis cannot be avoided, although its dynamics depend on the nature of other financial institutions.

The authors are wrong to claim that narrow banking requires the availability of alternative funding for longer-term projects. This is a misconception of the nature of credit and capital markets. At all times there is a demand for credit from individuals and corporations for all maturities and varied financial conditions; these will be provided by other financial institutions, since narrow banks are inhibited. Thus segments of the stock of credit are always maturing.

If credit institutions are funded by issuing liabilities, then during a financial crisis, as those liabilities mature, there will be a withdrawal of funds by investors and credit will deteriorate. If, alternatively, credit institutions are funded by issuing shares or equivalent instruments, the prices of these instruments will collapse during a financial crisis. As a result there will be no new flow of funds to these companies and they will move toward precautionary liquidity, drastically reducing credit to the private sector. Ex ante, the demand for the liabilities of the first type of financial company will be higher than the demand for the shares of the second type of financial company.

The authors' propositions in favor of narrow banking imply wrongly that the special financial corporations would be funded with shares or equivalents, because otherwise the contagion effects and systemic liquidity crisis of a run would be similar to those caused by fractional reserve banking. But apart from the fact that the transformation of a demand for time and savings deposits into a demand for shares would only be partial, the negative wealth effect of a sharp fall in the price of those shares during a crisis would seriously disrupt aggregate demand, activity, and employment.

The authors confuse capital markets with maturity matching between assets and liabilities. Credit institutions also can incur mismatches that may lead to a liquidity crisis. And in any case, any ability these institutions have to match maturities by issuing long-term bonds would also be available for fractional reserve credit-granting banks.

The paper devotes only one paragraph to whether the failure of a large nonbank would have contagion effects on other nonbanks, discarding the possibility without any serious argument or piece of evidence. The formidable issues of transition from a fractional reserve system to a narrow banking system are not addressed at all, nor is there any treatment of the comparative statics of the exercise. Moreover, no comparison is made between the two systems under normal (noncrisis) conditions—despite the exceptional character of a crisis.
Additional Considerations

In the transition to narrow banking, part of the demand for time and savings deposits will disappear (with consequences for credit supply) because narrow banks will only be able to pay comparatively low interest rates, while many depositors will not be prepared to invest funds in volatile capital market products.

Contrary to what the authors say, narrow banking would not allow economic agents to enter into contracts according to their preferences and abilities to monitor counterparties. Rather, under narrow banking small uniformed investors will see their options restricted, because they will be less able than banks to judge the risk of a special financial corporation.

Narrow banks would have to invest their deposits abroad, because investing them locally would imply taking excess risk if there were a financial crisis. Hence they would be able to pay international interest rates (minus administrative costs)—with the result that part of the local savings would flow abroad to international banks or offshore banks of local financial corporations. This chain of events is the natural outcome of exposing banks to conditions under which they cannot compete with the international financial system.

Despite notable improvements in recent years, Argentina remains a country of high risk, and it cannot be expected that local savings sent abroad will revert to local corporations as credit granted by international banks. These banks are subject to the risk regulations of countries that provide their financial systems with different mixtures of deposit insurance, central bank lender of last resort function, and so on.

A second point is that, as the economies of joint production are loosened (with a considerably reduced volume of deposits and with low returns for assets), narrow banks will have to charge customers higher fees for their services—at a time when fee reductions are crucial to deepening bank penetration into more segments of the population.

Moreover, the increase in fees will be compounded by the development of both narrow banks and credit financial institutions. The reason is that narrow banking implies splitting existing banking channels into separate distribution networks for deposit raising, credit granting, securities and cash management services, and so on and distribution channel expenditures are the most expensive type of financial activity. This cost increase would come at a time that frontier financial technology is moving toward integration of financial activities, not fragmentation. In addition, the need for stronger supervision of credit financial institutions will balance out any cost reduction that may arise from downsizing a narrow bank supervision agency.

Finally, even with further development of capital markets in Argentina, it is difficult to conceive of an intense period of commercial paper or bond issuing by small and medium-size corporations that will see their credit opportunities curtailed. An analogous argument can be developed for the different credit products for individuals. In this way narrow banking will also limit the sources of credit available to non-prime corporations and individuals.

Conclusion

Given these facts, it is difficult to share the authors’ views on the lack of consensus of political and social support for partially funded deposit insurance schemes and lender of last resort functions and a corresponding support for narrow banking.

Although the paper is an interesting (although at many points mistaken) examination of unproved theories, its views on optimal financial industry design and social welfare are impractical and should be discarded.

Moreover, although the development of capital markets in Argentina is a task of paramount importance, Argentina's biggest financial challenge is to promote saving, financial saving, and credit in all forms. The natural development of capital markets (in which banks have and will play a major role) will define, through the market choices of investors, individuals, and corporations, the complementary functions between commercial banks and other capital market products and institutions. It would be irresponsible to bureaucratically destroy what has been achieved and to immerse financial activity into a vacuum.
**Floor Discussion**

**Question:** In considering the assets of narrow banking, all the speakers said there were two types: short-term government paper and short-term commercial paper or other forms of short-term liability. But the only true riskless asset is government paper, not commercial paper. And since the commercial paper market is not well developed in many countries, narrow banks would end up holding mostly short-term government paper. Would this not create some preferential financial arrangements for governments? In Italy, for example, demand deposits are 40 percent of GDP and the treasury bills held by banks are 20 percent of GDP. If narrow banking were introduced, it would force banks to buy 20 percent of GDP in treasury bills because Italy does not have a commercial paper market. Although this would make the Italian government happy, it might not be the best approach.

**Roque Fernandez:** I think we must be flexible in the way we think about narrow banking. Although Argentina has a fractional reserve requirement system akin to traditional commercial banking, we think in terms of narrow banking. There is no short-term commercial paper available, but we are developing a mortgage market that we believe international banks will trade in. We already have some contracts to sell these mortgages, for example, to the Deutsche Bank.

Options and derivatives allow you to have, for example, a put option on the mortgage. Thus banks have the option, if there is a run, to sell the mortgage to the Deutsche Bank. So a local domestic financial institution in Argentina can have a mortgage financed with short-term liabilities, and if it has a put option on Deutsche Bank it can replicate a sort of narrow banking situation. That way, if there is a run or the depositor does not want to renew the demand deposit or the savings account, the bank can exercise the option and return the money to the depositor. Of course, those options have to be paid for out of the depositor's money. The maturity transformation is not free. But the good thing is that banks pay and tell the truth about what they are doing. That is the idea.

**Question:** Listening to Roque Fernandez and George Benston, I wonder if the primary utility of narrow banking comes not from thinking of it as a full-fledged alternative but rather as a sort of intellectual punching bag with which to refine some of the details of conventional banking. My sense is that most people would conclude that narrow banking is an unrealistic approach. Consider the numbers for Argentina: There is about $50 billion of deposits, $80 billion of bank assets, and a capital market with the capacity to generate perhaps $5 billion a year in tradable securities. Even if Argentina reaches a stage where it can process a lot more commercial paper—despite a fiscal situation that permits the government to issue a lot more treasury securities—the banking system would not be standing still. By then the banking system would most likely be two or three times its current size. There is no easy way of squaring these numbers. Or look at the United States. What amount of additional treasury bills or commercial papers would have to be issued for most sight deposits to be invested in them? Not to mention that the yields on the safe instrument would drop close to zero, if not turn negative.

Another aspect that has not been mentioned is that for non-narrow banks to perform the financial intermediation that conventional banks perform today, they are going to have to raise trillions of dollars in long-term bond markets. When both of those
effects—a drop in short rates and a significant spike in long rates—are taken into account, it basically equals what current (imperfect) systems pay in terms of the periodic large costs of bank bailouts. Given this, is narrow banking even desirable?

And even if it were desirable, is it possible for a system like this to come about? Since there are no countries in which to run this experiment from scratch, we need to engineer a transition from an existing banking system. If that is what we are dealing with, what does it amount to other than asking whether the banking capital adequacy ratio should be 15 percent, not 8 percent; whether the results should be 20 percent, not 10 percent; and whether regulators should have all of the responsibility for auditing banks, or whether a portion should be shared? In other words, is narrow banking an alternative or something that allows us to tinker with the current system?

**Roque Fernandez:** I am not in favor of revolution, I am in favor of evolution. Narrow banking has its merits. The market for a given country can provide enough liquidity and can replicate the behavior of traditional commercial banks. That mechanism can be used not to banish commercial banks, but to complement them. In Argentina and other parts of the world people are developing derivatives in the market and transforming these instruments. Thus if we say explicitly that there is no subsidy for commercial operations, there is no lender of last resort, and there is no free deposit insurance, then the incentives are going to favor an evolution toward narrow banking.

In a sense narrow banking is a superior technology for managing risk and liquidity. I am not proposing, however, that every country produce new legislation proposing 100 percent reserves for everyone and allow the government to issue short-term paper to cover the 100 percent reserve. Some proposals in the United States—introduced when there were serious crises in the system—have suggested that this be done. Now that those crises are over, however, we can think in terms of evolution in the financial system and not react in a hurry to solve financial crises.

**Allan Meltzer:** Two issues do not seem to have been resolved. First, which banking risks are social and which are private? It may well be that we have the kind of banking structure we have because we underwrite the risks through various systems, such as too big to fail and explicit or implicit deposit insurance. Throughout history, few banks have failed. So who actually bears the risks?

Second, although early, structured intervention may work in the United States, without widespread reform of macroeconomic policy it is difficult to imagine how reform of banking policies would work in most developing countries. Given the history of many countries in Latin America, are there people who would bear the risk of structured early intervention when, for example, a country such as Chile has changes in the real exchange rate that are larger than anything seen in industrial countries? To what extent are risks being subsidized by the present system? If they are not being subsidized, could you get anyone to bear them through structured intervention, which asks people to insure banks or their depositors against government policies without any guarantee on how those policies would be restricted?

**Roque Fernandez:** In Argentina the risk is in the banking system. There is no warranty; there is no lender of last resort. Although there are restrictions, the Central Bank can act as a lender of last resort. Although narrow banking may not be imposed in Argentina, it looks as if there is an evolution toward it. If that is the case, I am afraid that narrow banking will not provide the best tools should a similar crisis occur in the future.

**Fernando de Santibañes:** Allow me to take us back to the real world. During the most recent crisis in Argentina deposits went down almost 20 percent ($8 billion or $9 billion) and there was a lender of last resort. Although there are restrictions, the Central Bank can act as a lender of last resort. Although narrow banking may not be imposed in Argentina, it looks as if there is an evolution toward it. If that is the case, I am afraid that narrow banking will not provide the best tools should a similar crisis occur in the future.
Comment: To build on that comment, consider the issue of reserve requirements as a shock absorber. There has been some revisionist thinking about reserve requirements, from the early view that they were attacks on financial intermediation to the feeling that they could be used as something of a buffer.

Question: What would narrow banking mean to Argentina, and how does the market see risk in Argentina? The old narrow banking models are based on a dollar economy, where assets and liabilities are denominated in the same currency. But in Argentina the market prices one-year peso assets at a 5 percent differential to one-year dollar assets. That, in turn, has created a situation of moral hazard inside the banking system, with people who have peso assets borrowing in dollars. As a result 70 percent of the banking system has become dollarized.

So if there is to be a narrow banking system in Argentina, might not there be a situation where the risk is concentrated in narrow banks? During the tequila crisis money actually ended up in the economy through the capital market rather than through the banking system.

Roque Fernandez: One of the measures taken during the tequila crisis was to dollarize the reserve requirements of banks. Thus any time commercial banks bring pesos to the banks for the reserve requirement, they are converted to U.S. dollars. We did not know what was going to happen after the tequila devaluation, but we were not going to devalue. That was a measure of strong commitment to the exchange rate policy by government. Of course, other central bank regulations limit the exposure of commercial banks to exchange rate risks. Those are the same in Argentina as everywhere else. So if narrow banking takes away some of the risk in foreign exchange, banks will have to have enough capital to cover the risk. Remember, narrow banking does not mean that there will not be any risk. The idea is to have enough capital to cover the risk. It could be credit risk, exchange risk, or interest rate risk.

In Argentina, for example, there is a different regulation for interest rate risk. Suppose that you have a ten-year mortgage on the asset side and you are funding it with a thirty-day deposit. If the interest rate on the mortgage is a fixed rate, and the rate for deposits is a floating rate, then you have an interest rate risk. Commercial banks in Argentina are forced to compute that risk and to have capital to cover it. The same applies for other risks. Hence narrow banking does not mean you have no risk, it means you have minimum risk.

Question: Has Roque Fernandez given any thought to the idea that narrow banking may be the miracle solution in, say, Paraguay, which is still in the midst of a serious crisis with no solution in sight?

Roque Fernandez: I do not believe in miracles. Moving from the academic world to the real world, I believe in making adjustments to systems that need them. In Argentina our system has survived. We do not know if it is the best system, but we were able to manage the crisis. I would not argue for radical modifications to any system that works reasonably well. Even in Paraguay it is important to think in terms of the innovations in financial markets and to see how they can be used to create a more stable financial system. What is happening everywhere is that narrow banking and fractional reserve banking have become politicized, so we are almost discussing ideology instead of economics. This is what worries me.

Question: It seems that narrow banking is aimed at making the system safer and improving confidence. In doing so, lower rates will be paid to depositors. That might encourage the development of other institutions not governed by regulators. This has happened in many countries, both developing and industrial, and ultimately can undermine confidence. As a regulator, how would you stop that from happening? If you believe that you should not regulate, how would you educate the public so that they understand the difference between a proper financial institution, a proper mutual fund, and one that was not properly regulated?

Roque Fernandez: Argentina is just one case where we did not intervene to rescue financial institutions. In most other countries a lot of intervention prevents financial institutions from failing. Given that it is tough on the regulatory authority, countries must be very careful with banking supervision and with the development of nonbank institutions. In Argentina we control nonbanks. They are not allowed to grow in a disorderly fashion, and they are under supervision of the Central Bank. For example, General Motors was not granted a license in Argentina. When it came to Argentina, General Motors wanted a different kind of license than it had in the United States. We concluded that this could pose a risk, and turned them down.
Banking panics have been part of the financial landscape for centuries, but deposit insurance as a means to prevent those panics is a more recent innovation. In the United States state-run deposit insurance schemes, often voluntary, were common by 1920, but federal deposit insurance for commercial banks was introduced only in 1933, in response to the catastrophic failure of more than 9,000 banks. Insurance for savings and loan deposits did not come until a year later.

Both deposit insurance and the lender of last resort facility offered by central banks have evolved as devices to stabilize an inherently unstable institution: fractional reserve banking. Fractional reserve banking is an irrational system that came into being by historical accident. In the early days of gold and silver coinage, money holders required safe places to store their gold and silver coins, so they turned to goldsmiths and their secure storage facilities. Money holders deposited their gold and silver coins with a goldsmith and received a warehouse receipt. Over time goldsmiths learned that only a few depositors came to retrieve their coins on any given day, and hence they began lending, at interest, a sizable part of their deposits. Thus fractional reserve banking was invented. That it has survived with little change in its fundamentals over the centuries has rendered the system neither more rational nor inherently more stable. So long as fractional reserve banking persists, so will the ever present risk of runs on banks and with it the need for some facility to reduce if not eliminate that risk.

Source of Banking Instability

The instability of fractional reserve banking arises from a well-known externality: the withdrawal of one deposit reduces the liquidity of all remaining deposits (much as an extra vehicle on a crowded freeway reduces the speed of all other cars). When a person withdraws money from his or her account, it imposes potential costs on all remaining depositors. The increase in risk to those depositors due to the reduction in liquidity may be slight, but the cost of avoiding that risk is also slight: simply withdraw the deposit. But each additional withdrawal carries with it the same (or an even greater) externality; in the absence of a lender of last resort, illiquidity on the part of a single bank can spiral into an uncontrolled (and uncontrollable) panic.

Deposit insurance cannot increase the liquidity of the banking system; that is possible only through the lender of last resort facility. But deposit insurance does reduce the tendency toward bank runs because depositors know that their money is safe even if they are last in line to withdraw. Thus deposit insurance does not internalize the externality but it does partly neutralize its effect. Economic theory, however, indicates that the first best way of dealing with an externality is to exorcise it. Papiering it over is only second best. Deposit insurance and the lender of last resort facility are ways of mitigating the effects of an inherent flaw in fractional reserve banking, but they fail to deal with the flaw itself.

Fractional reserve banking is not only irrational but is economically inefficient. That is because the benefit to a bank of attracting a deposit is proportional to the size of the deposit, but the cost of servicing that deposit depends on the volume of transactions associated with it. This source of inefficiency is unavoidable if banks are prohibited from paying interest on deposits, since competition will force banks to offer transaction services to depositors free of charge. Complete elimination of fractional
reserve banking would result in a more efficient financial system and, if properly constituted, a 100 percent reserve system could eliminate the need for both deposit insurance and a lender of last resort.

Deposit Insurance and Lender of Last Resort

Although deposit insurance and the lender of last resort facility of central banks are related and complementary, they are different. Deposit insurance protects (partly, if there is an effective ceiling) depositors from losses resulting from the insolvency of a financial institution; indeed, it is only in the case of insolvency that the insurer has any liability. The lender of last resort facility, on the other hand, is intended as an antidote for illiquidity rather than insolvency. The effectiveness of the facility, however, is drastically reduced—and may disappear altogether—when the monetary authorities pursue an exchange rate rule, particularly if the illiquidity is systemic owing to a flight from the currency (as happened in Argentina in early 1995).

There are, of course, various ways of avoiding or stopping runs on banks. During the nineteenth century Bank of England tellers were instructed to use small bills and count slowly if there was a run on deposits. In this century banking “holidays” have been declared frequently in an attempt to stem runs on banking systems. Yet another measure is higher capital and reserve requirements for deposit-taking institutions.

Does Deposit Insurance Really Insure?

The main social benefit of deposit insurance is not that it protects individuals from loss of deposits; from a social point of view, that loss is real and inevitable, and occurs because of insolvency. In the United States during the 1980s failed savings and loan institutions recovered their deposits but that in no way reduced the real social losses due to bad investments. In this context deposit insurance merely redistributes losses to other parties—in the case of the savings and loan debacle, to U.S. taxpayers.

The most frequent cited benefit of deposit insurance is that it reduces the risk of a run on banks if one or a few banks are rumored to be insolvent or even lacking liquidity. Accordingly, deposit insurance is a misnomer because rather than pooling risks it reduces the risk of bank panics. A better term would be deposit guarantees.

When, for example, a farmer buys crop insurance or a homeowner buys fire insurance, it is not because they expect an improvement in the weather or a reduction in fires. Rather, it is intended to reduce the variance of their income or wealth—or both. The economic function of insurance is to reduce the liability of the insured, not the risk of an adverse outcome (or liability). Indeed, because of moral hazard the risk of an adverse outcome is commonly thought to be substantially increased by deposit insurance.

The Moral Hazard Problem

If deposit insurance or guarantees are to be effective, they must so totally protect depositors from the risk of loss (perhaps only up to some cap) that depositors have no incentive to monitor the quality of the portfolio—or even the solvency—of the deposit-taking institution. This moral hazard associated with deposit insurance is particularly serious because coverage is usually 100 percent (at least up to a ceiling) and, in contrast to other insurable risks (such as fire, flood, accident, and illness), insolvency of the deposit institution may not inflict the slightest pain—or even inconvenience—on depositors.

The Argentine crisis of 1980 was an instance in which the design of deposit insurance led to an extraordinarily high degree of moral hazard. In early 1980 the Argentine Central Bank was already phasing out deposit insurance when, unexpectedly and for unrelated reasons, three major banks faced imminent collapse. To deal with the crisis, deposit insurance was quickly reinstated and reinforced to cover not only 100 percent of the principal but all accrued interest. Moreover, there were no delays in collecting deposits. When an institution (almost always a financiera) failed, which occurred with alarming frequency, the Central Bank had the checks prepared immediately. As a result depositors actively sought out institutions that were likely to fail, since they paid the highest interest rates. Something similar occurred in the United States during the recent savings and loan crisis, when hopelessly insolvent institutions advertised rates that more prudent and solvent competitors could not (and did not) meet.

The moral hazard problem, then, is inherent to deposit insurance or guarantees, which means that close supervision or regulation of the financial industry is essential. The only feasible way to avoid the problem is to avoid deposit insurance, but perhaps even that is futile. The key issue is credibility. Is it possible for a government to make a policy of no insurance or guarantees credible, or will the public perceive that there is an implicit guarantee, at least for larger institutions? There is, after all, such a thing as the "too big to fail" phenomenon. When a major institution is on the verge of failing, there is a
widespread expectation that extraordinary steps will be taken by the authorities to prevent its collapse for fear of a banking panic. That expectation was completely fulfilled, for example, in the 1984 failure of the Continental Bank of Chicago.

Chile’s experience is also illustrative. After financial reforms in the second half of the 1970s the number of financial institutions in Chile expanded so rapidly that it was quite beyond the ability of the Superintendencia de los Bancos to adequately supervise them. As an alternative the government established a “no guarantee” policy, one that was enunciated frequently and widely by government officials. When the first bank that found itself in trouble was bailed out by the government, the public quickly understood that there was an implicit guarantee, and hence not to worry. The intense moral hazard in Chile during the late 1970s and 1980, together with grossly inadequate supervision, played an important role in the collapse of the financial sector in the economic crisis of the early 1980s.

While the too big to fail phenomenon is not necessarily an argument in favor of deposit insurance or guarantees, it convincingly supports close supervision of financial institutions. Banking appears to be one sector where even the most ardent free market economist might find regulation to be inevitable.

**Alternative Ways of Delivering Deposit Insurance**

In the United States deposit insurance premiums are paid by the deposit institutions, and those premiums typically are not adjusted for risk. Moreover, again in the United States, the moral hazard associated with deposit insurance is exacerbated because the insurance is essentially unlimited—despite the $100,000 nominal ceiling—because insolvent institutions are rarely liquidated. Rather, the Federal Deposit Insurance Corporation and the Federal Savings and Loan Insurance Corporation absorb the negative net worth and then arrange a merger with a healthy institution. Some moral hazard could be eliminated if the ceiling were made effective, either by liquidating all insolvent institutions or by confiscating all deposit amounts above the ceiling.

Because deposit insurance is intended to at least partly eliminate the risk of loss of deposits caused by insolvency, any measure that reduces the probability of that insolvency is a clear substitute. One such measure consists of substantially higher capital and reserve requirements for deposit-taking institutions. Another approach is multiple or even unlimited liability for shareholders in deposit institutions, which would make a weaker case for deposit insurance. That would shift the monitoring task from depositors (in the absence of deposit insurance) or regulators (when there is deposit insurance) to the shareholders and would negate the main disadvantage of deposit insurance—moral hazard.

A third and obvious option is privatization of deposit insurance. There is no reason insurance companies should not be able to offer deposit insurance. Privatization should be particularly attractive to developing countries, where the human and other capital required to administer state-run deposit insurance schemes is often lacking.

Many observers have argued that private insurance is not feasible. These arguments, however, are reminiscent of those raised against proposals to privatize another sacred cow, the postal service. Even so, private companies in some U.S. states insure deposits in state-chartered institutions. That some of these companies have failed (largely in Ohio and Maryland) has to be viewed in light of the dismal monitoring of the Federal Savings and Loan Insurance Corporation. The relevant issue is not whether private insurers perform perfectly. Rather, it is whether they perform worse than government agencies.

A fourth option is to shift the purchase of deposit insurance from the institution to the depositor, which would clearly reduce moral hazard. One would expect that firms specializing in portfolio rating would immediately spring up. Premiums for deposit insurance could be expected to be inversely correlated with the quality of the portfolio of the institution. Hence the extra cost of insurance on deposits in high-risk institutions would tend to offset the higher interest rates that such institutions offered.

**Essential Characteristics of Deposit Insurance**

A few key elements of a deposit insurance system, public or private, are essential if it is to reduce the moral hazard problem.

- Deposit insurance should never be available on demand unless it is being purchased by depositors, and then only if certain other conditions are met. There should be strict eligibility requirements for the insured institution, ranging from capital and reserve requirements to more mundane issues, such as the minimum qualifications of directors and composition of the board.
- Premiums should be risk rated, and deposit insurance should not be withheld if an institution opts for a risky portfolio. The risk of the portfolio, however, should be reflected in the

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Deposit insurance premium; otherwise the moral hazard problem is exacerbated.

- Deposit insurance should not be unlimited because effective ceilings also reduce moral hazard. Moreover, ceilings can substantially lower the cost of deposit insurance without significantly reducing effective monitoring by depositors.
- If deposit insurance is provided by a government agency, steps must be taken to ensure effective regulation and supervision of insured institutions. In this context it would not be unreasonable to impose substantial personal liability on the managers of the agencies charged with supervision.
- Insolvent institutions should be liquidated, never merged. Liquidation provides a visible and desirable lesson for would-be imitators. This, of course, applies only to situations where only a few institutions require liquidation. In a massive cleanup operation, such as the recent U.S. savings and loan debacle, mergers may be the only practical solution, since liquidation becomes too time consuming.
- To reduce moral hazard, multiple (or even unlimited) liability should be imposed on at least the major shareholders in insured institutions, with adequate safeguards to prevent evasion of that liability. Limited liability is a convention, not dictated by any law of nature or of economics. Moreover, there are ample precedents for multiple or even unlimited liability. Indeed, Lloyd’s of London is an insurance institution that imposes unlimited liability on its members.
- To further reduce moral hazard, clear contingency rules should be written into insurance contracts that partly or totally void the liability of the insurer if the insolvent institution is found, even after the fact, to have knowingly and deliberately engaged in certain proscribed activities (such as falsifying information or withholding information from the monitoring agency).

**Design for a Panic-Proof System**

For obvious reasons, most developing countries prefer exchange rate rule over a money supply rule. An exchange rate rule severely limits the lender of last resort facility, particularly under the very circumstances when that facility is most needed. In this context the central bank has but a single instrument (international reserves) but two paramount targets: maintaining the exchange rate rule and the liquidity of the financial institutions. Because international reserves often amount to only a fraction of the money supply, when a currency crisis occurs (as in Argentina in the early months of 1995) the central bank faces the agonizing choice between saving the commercial banks and saving itself. If the central bank chooses to save the commercial banks, it runs the risk of reserves falling below the critical level at which the exchange rate rule loses its credibility and invites a speculative attack. If it chooses to save itself, wholesale bankruptcy is not unlikely. What is needed, then, is a second instrument that permits the luxury of a second target.

Central banks can, of course, hold sufficient international reserves to defend both an exchange rate rule and exercise the lender of last resort function. An interesting example is Chile during the 1995 tequila crisis that infected some South American countries. For reasons that have precious little to do with the normally accepted functions of a central bank operating under an exchange rate rule, the Central Bank of Chile had accumulated a portfolio of foreign assets somewhat in excess of the M2 measure of money supply, thereby eliminating any possibility of a speculative attack on the Chilean peso. This high level of international reserves had come into being in response to a massive issue of bonds by the Central Bank of Chile; since the Chilean exchange rate regime is basically an exchange rate rule, it follows directly from the monetary approach to the balance of payments that the large but negative level of Central Bank domestic assets had to be balanced by even more foreign assets.

Although this arrangement unwittingly served Chile extremely well in the tequila crisis, the annual real resource cost of that insurance was hundreds of millions of dollars. The bonds issued by the Central Bank of Chile carried real yields of up to 9 percent, while the foreign assets consisted largely of short-term U.S. Treasury paper whose nominal yield was 6–7 percent. As a general defense against currency substitution in developing countries, this approach is not likely to be endorsed by anyone other than the secretary of treasury of the United States.

A more efficient second instrument is the combination of a currency board with the so-called Chicago Plan for banking reform. Under that arrangement the central bank is replaced by a currency board that issues currency in return for foreign exchange at a fixed exchange rate. Because the currency board is legally required to hold 100 percent international reserves to back its issue of domestic currency, a wave of currency substitution of any magnitude could be met with no difficulty and without risk of abandoning the fixed exchange rate.

A currency board has a second advantage, at least for some countries prone to inflation—the nominal
money supply is endogenous and hence inflationary finance of government spending becomes impossible. The board, however, would be free to define the fixed exchange rate against a single currency or against a basket of currencies (such as the ECU or the SDR), and to choose the composition of the basket to mitigate the undesirable effects of fluctuations in the exchange rates among major currencies.

Currency boards, however, have some disadvantages. In the first place, they involve a loss of seigniorage from currency creation. That, however, is likely to be a minor consequence because currency holdings typically are small relative to gross domestic product. Moreover, the foreign assets backing the currency could be interest bearing. Second, a currency board implies a total denial of discretionary monetary policy. It is less than obvious, however, that the past exercise of monetary policy in developing countries in general, and in Latin America in particular, has yielded positive net benefits for their constituents.

Because the currency board can hold only foreign assets, it cannot act as the lender of last resort. Financial institutions would be strictly on their own. The Chicago Plan, however, solves that problem by dividing those institutions into two parts. The first, deposit banks, accepts only sight deposits and, as in the case of the currency board, is required to hold 100 percent reserves against those deposits. This arrangement not only provides a high degree of stability for the banking system but also negates the need for both deposit insurance and the intense supervision needed to contain the moral hazard created by deposit insurance.

Because the Chicago Plan has never been formally adopted, the rules concerning the nature of reserves of the deposit banks are hypothetical. At one extreme the reserves could take the form of currency, in which case no interest would be earned. At the other extreme the deposit banks might operate like mutual funds, investing in highly marketable short-term paper. In an intermediate case reserves might be invested in short-term treasury paper. Although the 100 percent reserve requirement on sight deposits would be unlikely to change total wealth holdings, it may alter their composition. Since the reserves of deposit banks could be held in the form of short-term interest-bearing assets, however, those banks could pay interest on deposits, and hence the substitution away from deposits in favor of currency would be minimal.

The Chicago Plan is not without certain disadvantages that are difficult to assess. Since deposit banks could not make loans, the so-called "transformation service" function of commercial banks would be eliminated. There would, however, be a second set of financial institutions consisting of investment banks that, in effect, would issue only equity. And while the volume of credit provided by the financial system might not be seriously affected one way or another, commercial banks would no longer be a source of credit. This gap, however, might be filled by an increase in the number of investment banks, both large and small, and by institutions (such as money-market mutual funds) that hold short-term, highly liquid assets and permit equity owners to write checks against their equity. Just how these new institutions would be structured and function under the Chicago Plan is difficult if not impossible to imagine, but the U.S. experience over the past fifteen years has demonstrated quite convincingly that the financial sector is remarkable not for its inability to innovate, but for its all but unlimited capacity to do so.

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Given the difficulties and limitations of deposit insurance, why would any country that does not already have government deposit insurance want it? Deposit insurance as a government responsibility was once unique to the United States. It has become more popular around the world in recent years, and is required for participants in the European Union. Some countries have adopted it without a full understanding of its implications. Even so, with appropriate safeguards, deposit insurance can make a positive contribution to the stability of financial systems.

I cannot accept Larry Sjaastad’s assertion that fractional reserve banking is an irrational system. It may well be that the “system ... came into being by historical accident,” but it has survived four centuries and many financial crises. If the system was totally irrational, at some point in the past 400 years a better system would have been implemented. There have been many attempts to explain why fractional reserve banking with demandable debt is logical and efficient. Although none is completely convincing, if there were a demand for perfectly safe banks, the market would have generated them. In fact, the National Bank Act of 1863 provided a sort of narrow banking or “Chicago Plan” by requiring that bank notes be backed 100 percent by government bonds. At the time bank notes were the principal bank liability and were perfectly safe. Over time, deposits became more important, and market forces did not prevent the movement of national banks away from narrow banking.

This evidence from the market leads me to be wary of the presumed advantages of narrow banking. The benefits of narrow banking might be plausible for a primitive economy without any financial system. But the trauma and difficulty of transition argues against such a system for any Latin American country.

Need for Deposit Insurance

Even if most depositors were willing to bear the (presumed small) risk of bank failure, there are valid reasons for governments to try to avoid the potentially disastrous consequences of a systemic wave of bank runs and failures. First is the macroeconomic policy need to prevent the decline in the money supply that a wave of bank failures would cause. Based on the U.S. experience, there is little basis for fear of contagion effects in banking, but the fear exists. True, appropriate action by the central bank can provide needed liquidity, avoid the need for banks to dump assets at fire-sale prices in response to runs, and prevent a decline in the money supply. But as Sjaastad points out, deposit insurance is not simply insurance. Its appeal is that it can actually reduce the risk being insured against.

Another legitimate reason for governments to provide assurances of the safety of banking lies in an externality that works in the opposite direction of the one Sjaastad notes with respect to liquidity. There are external benefits associated with widespread use of the check payments system—for example, there are additional benefits to every user of the payments system when new users join. But getting full participation in the payments system requires full confidence in the safety of deposits.

An important attraction of deposit insurance is that, if it prevents bank failure, it appears to be costless. Similarly, government loan guarantee programs appear to provide benefits to borrowers at no cost to the government (if there are no defaults). But as we have learned in the United States, appearances can be deceiving. In fact, again as stressed by Sjaastad, moral hazard increases the potential cost of bank failure.

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The moral hazard problem is so difficult that Sjaastad concludes that deposit insurance is a bad idea. He notes the difficulty of limiting government exposure when big banks get into difficulty. I agree. But the benefits of deposit insurance in reducing financial system instability are too valuable to lose. More important, measures can be taken to minimize the moral hazard and "too big to fail" problems. The savings and loan and banking problems of the past fifteen years may represent one of the few times in the economic history of the United States when lessons have been learned from mistakes. The 1991 Federal Deposit Insurance Corporation Improvement Act (FDICIA) really was an improvement. Another development is the recently legislated preference for depositors over other bank creditors. This provides additional protection for depositors (and deposit insurers) but it also helps with the moral hazard problem because creditors other than depositors are clearly at risk in case of failure. Thus they have every incentive to be careful in their decisions to provide credit to banks.

There are probably advantages to fractional reserve banking, but, whether there are or not, no country with a reasonably well-developed banking sector is going to accept the pain of transition to 100 percent reserve banking because of theoretical advantages put forward sixty years ago. There are serious problems with government deposit insurance as implemented historically in the United States. That experience, as well as theoretical considerations, lead Sjaastad to recommend that government deposit insurance be abandoned. If deposit insurance is to be retained, he would prefer private rather than government-sponsored insurance. Private deposit insurance is feasible (Ely 1990; Konstas 1992), but I am not persuaded that it has important advantages over public deposit insurance.

Improving Deposit Insurance

This brings Sjaastad and me to common ground. What controls and limitations are necessary to make government deposit insurance work? The key element is a high capital requirement. If stockholders' funds are at risk, and not depositors 'or the insurers', then bank management has an incentive to be cautious. Whatever the level of capital, it is important that regulators be able to monitor it with accuracy. Sjaastad correctly emphasizes the importance of such monitoring. Effective monitoring requires valuing assets and liabilities at their fair market value rather than at historical cost.

If capital is substantial and can be monitored, then the riskiness of the portfolio is less important. What is crucial is that the regulator be able to take over the bank before its net worth drops to zero. The FDICIA sets the level for mandatory intervention at 2 percent. This is better than zero, but a higher level would be preferable. Peter Nicholl's paper on New Zealand (elsewhere in this volume) describes severe sanctions if risk-based capital drops below 8 percent. It is when net worth drops to low or negative values that the moral hazard problem of bank management is most severe. Insolvent banks have every incentive to take great risks. They gain the upside of such gambles, while the downside belongs entirely to the insurer. Incidentally, Sjaastad makes a good point in recommending double liability for bank stockholders. This was part of the national banking system in the United States before federal deposit insurance, and acted both as a cushion to protect depositors and a discipline to discourage excessive risk-taking.

Sjaastad lacks confidence in the judgment of regulators, particularly in dealing with big banks in trouble. The FDICIA takes the right approach in coming down strongly on the side of relying on rules rather than on the discretion of regulators. Although it is still possible for the U.S. government to bail out a failing big bank, there are daunting obstacles in the way of regulators who want to take such action.

I do not see the logic of Sjaastad's recommendation that insolvent institutions always should be liquidated and never merged. What I think he is driving at is that stockholders should be wiped out, and that the management responsible for bringing down a bank should be removed. But this does not require liquidation. The bank can be taken over and continue in operation, avoiding disruption to depositors and borrowers, but without protecting management or owners.

These considerations also suggest that risk-based insurance premiums are not essential. In any case the relevant risk is risk of loss to the insurer, not volatility of assets or probability of failure. Feasibility of monitoring is more important than other measures of risk. If asset values can be monitored, then fraud becomes a more important source of loss than asset volatility. But there is no way to assess the probability of fraud. A serious loss to the insurance agency is not possible with good monitoring and in the absence of fraud unless the agency fails to take prompt corrective action (that is, while net worth is still positive). I do not see how insurance premiums can be related to the risk that the insurance agency will fail to meet its responsibilities. As long as capital requirements are too low, however, risk-based premiums make sense.

I am intrigued with Sjaastad's suggestion that the managers of government insurance agencies should
face substantial personal liability for their performance. Kane has written extensively about the problem that the incentives faced by such managers may be in serious conflict with good public policy. Personal liability is an approach that merits serious exploration.

**Conclusion**

Thus, with appropriate safeguards, government deposit insurance can be the best way to deal with the inherent fragility of a fractional reserve banking system. The reforms enacted in the FDICIA provide the sort of safeguards that are necessary, though it is worth noting that the regulatory agencies have not carried through on the suggestions in the legislation for market-value accounting and capital requirements that consider interest rate risk.

Nobody can be sure that the structure in place is a sound one, because that structure has not yet been put to a real test. The banking environment since the FDICIA has been very favorable (although improved banking stability might be, at least in part, a result of the FDICIA). Until a banking crisis arises that puts the current deposit insurance system to the test, we cannot have complete confidence in what has been created. One thing I do have complete confidence in, however, is that it will not be too long until a bank or group of banks does something that brings on the crisis that provides the real test of the reformed insurance system.

**References**


Comment

Roberto Junguito

Colombia established a deposit insurance scheme in 1985 after a banking crisis that coincided with—and was affected by—the Mexican debacle of 1982. Moreover, the policy issues raised by deposit insurance are also linked to the institutional structure of Colombia—that is, an independent central bank (at least since 1991) with a mandate to control inflation and a role as lender of last resort, but where financial sector supervision, as well as management of the insurance scheme, are government responsibilities.

Larry A. Sjaastad argues that the roles of providing deposit insurance and acting as lender of last resort typical of a central bank are complementary. Whereas deposit insurance protects against bank insolvency, the lender of last resort function helps overcome bank illiquidity. The complementary character of the two becomes blurred, however, when the lender of last resort function is a responsibility of the central bank and the deposit insurance scheme is in the hands of the government.

The central bank must establish clear rules to decide if a bank’s problem is illiquidity or insolvency. The issue becomes one of conflicting interests between the central bank and the government, each trying to decide whether a bank’s failure (or, more commonly, multiple bank failures) is to be covered by monetary or by fiscal policy. In Colombia the fiscal dimension of bank insolvency is even more important because many of the more financially fragile banks are official and have a capital guarantee extended by the government. Moreover, illiquidity can lead to insolvency, an issue that acquires special significance in countries where the central bank is independent.

Another one of Sjaastad’s points is that with deposit insurance, there is a need for greater supervision and regulation of the financial sector. Under separation of powers, the questions are what the role of the central bank should be in dealing with bank failures when the supervisory agency is independent and what degree and form of coordination the two agencies should take in dealing with illiquidity or insolvency (or both).

Sjaastad refers to the “too big to fail” issue, which is the rational expectation that the government will bail out problem banks. On occasion such bailouts are the result of pressure from foreign banks, as happened in Latin America during the debt crisis. Another point worth noting is the potential effect of the foreign exchange regime on the financial performance of local banks. Opening the capital account, which is part of structural adjustment, subjects a country to inflows and may have a negative impact on banks because of exchange rate risks and direct competition from foreign banks. To the extent that foreign exchange regimes are managed by central banks, this could be another reason to coordinate to prevent conflicts between the central bank and the supervisory agency.

An issue not dealt with by Sjaastad is the appropriate portfolio choice for the insurance deposit fund. How are depositors’ resources best protected: inside or outside the country? If the decision is made to invest outside (as done by Argentina), there is an exchange rate risk. But the fund’s net worth is vulnerable if it is placed in the domestic financial sector, and could have an undesirable monetary impact if it is invested in central bank paper. Investing in treasury paper seems a good choice, but it depends on the depth of the market.

Finally, fear of contagion and financial crisis depends, above all, on a country’s macroeconomic stability. In this sense one could venture to answer the question posed in the title of Sjaastad’s paper by saying that deposit insurance is less necessary when macroeconomic fundamentals are in place.

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Larry A. Sjaastad has done something that is hard to do. He has written a provocative paper on a subject that has been thoroughly researched and discussed. The paper starts with a bang. Fractional reserve banking, he tells us, has changed little over the centuries, is inherently unstable, and is totally irrational. Despite these flaws governments have developed deposit insurance and the lender of last resort function to preserve fractional reserve banking. Sjaastad believes that a better solution would be to eliminate fractional reserve banking by requiring 100 percent reserves. This change, he claims, would remove the system's inherent instability.

I am not sure why Sjaastad thinks the system has changed little or is irrational. Moreover, proposals for 100 percent reserves systems have a long history. One reason they have not been adopted is that bankers and depositors have incentives to share the private benefits of producing more loans and deposits from a given amount of reserves. Society can, of course, increase reserves at zero cost provided the country is on a fiduciary standard. This could be done by having the central bank issue reserves, either as a pure transfer or by buying bonds from banks until all deposits have a 100 percent reserve. For countries with modern financial systems and low legal reserve requirement ratios, this approach would require a substantial change in the ownership of debt. The case for debt neutrality, however, simply is not strong enough to support such a move.

Changing Approaches to Supervision and Regulation

Before turning to three issues that are often neglected in discussions of deposit insurance, I want to reinforce some of the paper's comments about supervision and moral hazard—but with a different interpretation. The paper argues, correctly, that eliminating deposit insurance is not credible. Such a policy would be seen as time-inconsistent for either of two reasons. When losses occur, pressure from domestic depositors encourages the government to spread the losses over taxpayers instead of concentrating losses on depositors. In Uruguay and Chile in the early 1980s foreign lenders pressured governments to underwrite banks' losses, and the governments did. Taxpayers may object to paying the bill, as in Japan recently, but there are few protests when the government announces that depositors will be paid in full.

Sjaastad concludes that even the most ardent free market economist might find regulation to be inevitable. This is correct but misleading. A more complete statement would be that regulation, supervision, and examination are neither necessary nor sufficient to prevent banking panics and losses. One reason is that supervision and regulation, typically enforced by audits and examinations, often fail to detect problems in a timely fashion. Moreover, when problems are identified, supervisors and regulators can be pressured by politicians to engage in forbearance. That is why closures and failures have been less common than taxpayer bailouts in many countries.

Recognizing the pressures for forbearance, several countries (Chile, New Zealand, the United States) have sought to reform supervision by moving toward market-based regulation. Some countries have followed the proposals made by Benston and Kaufman (1988) to internalize the cost of bank failures by using capital or loan markets to price the risk. There is not yet enough experience, however, to know whether the new arrangements will work as intended.

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One virtue of these plans is their recognition that the widespread use of deposit banking and organized lending markets has social benefits. Small depositors, however, have little incentive to monitor their banks and lack the ability to do so. By writing rules that require banks to close before all capital has been lost, market-based regulation tries to maintain the benefits that come from wide use of banking services while avoiding some social costs. Chile has gone further by supplementing the rules that seek to close banks before they fail with rules that require future repayment of any taxpayer funds that may be used to restore solvency. These arrangements are not perfect, however. Losses may accumulate too quickly or governments may engage in forbearance, in effect waiving the rules.

**Pitfalls of Narrow Banking**

Sjaastad proposes 100 percent reserves, or narrow banking, as one solution to these weaknesses. Although he does not provide many details, narrow banking proposals usually separate deposit-taking from lending. All deposit-taking and payments are made by banks that hold only default-free assets (such as short-term treasury bills). Depositors pay a fee equal to the cost of providing payment services net of the earnings on treasury bills. All lending is done by capital market institutions that finance their activities by selling bonds and equities. Banks and lenders may belong to the same group or holding company, but services are provided separately and independently.

Even so, three problems can cause banking or financial distress. First, 100 percent reserves eliminate default risk when holders convert domestic deposits into domestic currency, but under a fixed exchange rate they do not eliminate the risk of a run on foreign exchange reserves if holders of domestic currency or assets shift to foreign currency or assets. Second, a 100 percent reserve against deposits does not prevent gross claims from exceeding deposits or reserves. A bank or its customers may sell one foreign currency and buy another. The net deposit or reserve position may be unaffected, but a default by one party can cause default elsewhere—the so-called Herstatt problem. Third, small countries may have to choose between insufficient diversification (if the financial system specializes in domestic lending) and foreign exchange risk (if the financial system seeks to diversify its portfolio by investing abroad).

The first of the three problems is the easiest to discuss, in part because it is familiar from the recent Mexican crisis. Under a fixed exchange rate regime domestic residents or foreigners concerned about domestic conditions, such as inflation or political instability, shift into foreign assets. The larger is the initial reduction in foreign exchange reserves, the greater a subsequent reduction is likely to be, unless the authorities act promptly and effectively. Other factors contribute to the problem, including the frequency of past devaluations, the size of current budget or current account deficits, the populist rhetoric of a newly elected government, or weakness in the financial system.

The second problem requires a lender of last resort even if deposits are backed by 100 percent reserves. The reason is that, in current financial practice, there is a large volume of overdrafts. Thus an institution's gross purchases or sales, hence its exposure, may be large relative to its cash or net worth. Since most transactions are not settled bilaterally but clear at the end of the day (or in the foreign exchange market, at the end of the second day), there is settlement risk. If a large institution failed, settlements would be disrupted and other institutions might default.

In principle the failure to pay at settlement is no different from the failure that occurs when somebody pays with a check drawn against insufficient funds. The buyer has the asset purchased. The seller has a claim against that asset. If the seller defaults on payments during the interval in which the buyer has not discharged the debt, other defaults may occur. This hypothetical and improbable sequence in the case of a bad check is more likely to cause systemic failure in a system with many users of overdrafts that clear only once a day.

This problem currently arises most acutely because collateral requirements do not fully remove default risk on foreign exchange transactions, and central banks have been reluctant to underwrite the risk by offering to serve as lenders of last resort. By contrast, central banks have reduced or eliminated systemic risk on many domestic transactions. The Federal Reserve accepts the risk on Fed Wire and holds a reserve against a default on the CHIPS network. The Bank of England requires a securities reserve as collateral for users of the CHAPS network. Germany and France are moving to central bank guarantees for domestic wire transfers. Developing countries have less technology but they also have fewer explicit guarantees.

The third problem can arise if there is insufficient diversification domestically. If a dominant domestic industry in a small country experiences a large negative shock that causes it to default on loans, many lenders can fail. This problem can be reduced by
allowing branches of foreign lenders to compete in the domestic market and by allowing domestic lenders to hold foreign assets or open branches abroad.

Policy Options in a Market-Based System

A welfare maximizing policy would reduce to a minimum the risk inherent in market-based systems. Financial firms would be allowed to fail, but systemic failures of the payments and asset transfer systems would be reduced by the lender of last resort function. The purpose of policy would be to protect the system, not the financial institutions.

To perform this function without subsidizing risk, the lender of last resort should announce a penalty rate system—the modern equivalent of Bagehot's (1873) proposal. The central bank announces the range of collateral against which it lends. Each class of collateral would be accepted at a penalty rate, that is, a discount rate in excess of prevailing market rates. Borrowing would be a right. Financial institutions, whether banks or nonbank financial firms, could borrow as long as they could offer acceptable collateral. Since a penalty rate is charged, the central bank would only discount if there was a market panic.

This proposal seeks to use market pricing of risk to avoid subsidizing or penalizing risk taking. Electronic transfers would be subject to the same requirements as any other transfer. The central bank would use open market operations to reduce risk of systemic failure in times of distress and would offer discount facilities, at a penalty rate applicable to that security, to anyone discounting acceptable securities.

Chile and New Zealand have supplemented market pricing of risk with rules requiring public disclosure of prospective losses. Bank examiners' ratings are published in the press. And in Chile the Superintendant of Banks is prohibited from offering forbearance.

To encourage market pricing of risk, countries should allow financial firms to offer deposits in domestic and foreign currencies and permit foreign currencies to be used in payment, as Argentina has done. The pricing of foreign and domestic deposits would provide useful information about perceived risks.

No system of regulation, supervision, or market pricing of risks can eliminate risk. Furthermore, macroeconomic stability is a necessary condition for financial stability. The past two decades have taught us that financial regulation cannot compensate for the effects of large changes in real exchange rates or a cycle of inflation followed by disinflation or deflation.

Some Final Comments

We should seek to get rid of deposit insurance. Doing so will require institutional adjustments that both get rid of time inconsistency and recognize that small depositors cannot be expected to monitor banks.

In the United States reform is relatively easy to design. If restrictions were removed on the number or size of checks that can be written on money market funds that hold only U.S. Treasury bills, there would be a payments system with 100 percent reserves and no separate deposit insurance. This system could compete with regulated banks or other payments systems, including conventional banks that now rely on the Federal Deposit Insurance Corporation Improvement Act (FDICIA), a weak version of the Benston-Kaufman proposal. The public could choose the preferred system by placing deposits in money market funds with 100 percent reserves in treasury bills or banks under FDICIA without deposit insurance. With changes to strengthen the rules against taxpayer bailouts, as Chile has done, and to permit payments in foreign deposits, as in Argentina, the system could serve as a useful model for many countries.

References


Floor Discussion

**Question:** We have heard today from U.S. professors about adjustments that should be made to deposit insurance schemes but cannot be made because of political pressures. The Argentine experience is interesting because the economic authorities have a great deal of political and media influence, and they did what they thought should be done. Are you giving up too easily in the United States? How does the situation differ? Our view is that depositors have to go through a learning process, and if you continue to bail them out they will continue to exert pressure for additional bailouts.

**Allan Meltzer:** I agree with the first point. Professors should not make political decisions about what should be done. They should say what they think is best, possibly taking into account some political realities in trying to make the proposal acceptable, and leave politicians to decide what can and cannot be done.

**Paul Horvitz:** The United States is now in a situation where pressure to bail out depositors will probably not be a problem. With deposit insurance, large banks are unlikely to fail or put depositors in much danger. There will be losses faced by other creditors of banks but the political pressure to bail them out will not be insurmountable.

**Question:** Since Japan is experiencing banking problems similar to those in Latin America, I am interested in the discussants' views on the functionality of deposit insurance corporations—in particular, their ability to seize and dispose of technically insolvent institutions as quickly as possible. And second, how can deposit insurance corporations be equipped to deal with banking problems in addition to simply liquidating insolvent banks and directly paying off depositors?

**Paul Horvitz:** The issue is really whether there is a problem in empowering the government to take over a bank that is solvent. In the United States the ground rules for action say that the insurer must act when a bank has a net worth below 2 percent of capital. So, in effect, the government would be taking over an institution that is solvent.

At first glance banks appear to have been taken over when capital fell to those levels. In fact, it does not happen often, because banks that are truly solvent come up with additional capital. Thus the government takeover does not take place, avoiding the problem of taking away private property in a way that is unconstitutional or undesirable.

**Allan Meltzer:** The Japanese case is worth discussing. It was not simply a bad set of banking circumstances, but a bad set of banking circumstances coupled with bad macroeconomic policy. That is, the policy in Japan was deflationary. And because such policies hit asset prices first (real estate prices, stock market prices), their decline made the banking problem worse. So, there was no sensible correction for the Japanese system until monetary and fiscal policies began to turn around. Now that they have, it is possible to get an idea of what the magnitude of the problem is, because as long as the monetary policy was deflationary real estate prices were expected to be lower tomorrow than they were today. As a result no one wanted to buy out any real estate today. It really took an anticipation of an end to deflation of asset and output prices to get this problem under control. Once the Japanese authorities turned the macroeconomic problem around, things began to look a little better in terms of finding a place to stabilize the banking system with rising asset prices, which is now occurring.

My second point concerns debt overhang, a problem that was inherited by the current regime. Chile's
Floor Discussion of "Deposit Insurance: Do We Really Need It?"

approach seems as close to a good solution as one is likely to find. Namely, they saved the banks that could be saved and wiped out all the stockholders. The government put in capital, but owners of banks will have to pay for it out of future profits. That is what should be done in Japan. Close the banks that cannot be salvaged and salvage the ones that can be saved.

George Benston: The U.S. savings and loan institutions failed predominantly because they were investing in long-term, fixed-rate mortgages using short-term money. Paul Volcher, then Federal Reserve chairman, allowed interest rates to go up sharply, which destroyed the industry. The savings and loan institutions should have been closed down after interest rates came down in 1982. But the Reagan administration chose not to do so because that would have jeopardized the tax cut the president wanted.

Real estate did not go bad, at least not at first. Mortgages went bad. Then the industry was encouraged to grow out of it problems and was allowed to do so when required capital ratios were lowered. Perhaps surprisingly to some, most of the thrifts that made bad loans were not insolvent. Mike Carhill and I revalued all the savings and loans' financial statements to market values. We found that the savings and loan institutions that made bad investments were predominantly solvent and better capitalized. Most of the insolvent savings and loan institutions just stayed put and went deeper into the hole because of their negative equity.

The Bush administration addressed the problem and created the Resolution Trust Corporation (RTC), which sold the real estate held by institutions that were taken over by the FSLIC. The RTC correctly did not try to hold the real estate until prices went up. There were large losses, but they would have been much larger if the RTC had not gotten rid of the package as quickly as it did. Still, it is best to avoid such bailouts in the first place because there are large losses when any government agency or, for that matter, bank takes over real estate. Neither government agents nor bankers are good at managing property.

Comment: It is clear that banking failures are related to systemic problems that are related to macroeconomic problems. Thus there should be separate discussions of systemic problems and individual bank problems. This is not done. In addition, many papers discuss failures in Latin America, but they rarely discuss the success stories, such as Panama.

Panama introduced financial reforms in 1970 and has had total success. The basis of the system is totally different from everywhere else. First, there is the strongest commitment to stability in the form of U.S. dollars. Second, many foreign banks operate in Panama, although there are many local banks. There is no macroeconomic crisis, the interest rate is 3 percent for both loans and deposits, the system is totally stable, there is no regulatory process, there are no reserve requirements for local banks, and the government does not bail out anybody. Local banks occasionally fail. Yet the government does not bail them out. Panama's system cannot be improved. Every possible objective of macroeconomic policy has been achieved.

In Mexico, on the other hand, the authorities protect local banks under the assumption that protection is essential to their development. In addition, there is no foreign competition. As a result local banks never became efficient because they did not have competition.

Every time a guarantee like insurance is given, it goes against the market behavior of depositors because the system works better when depositors must assume risks. In the absence of insurance, depositors will look for the banks that give bankers the incentive to behave in a responsible manner. With insurance, this market mechanism is lost. Thus I agree with the proposal suggested—the best approach is to make all depositors lose something when a bank goes under.
Larry Sjaastad: Let me take up the issue of multiple liability. Presumably, these shares would be purchased voluntarily. There would be no coercion. As long as they are purchased voluntarily, there is little difference between buying shares and buying milk. If people want to buy shares of multiple liability, and they do it voluntarily, there is nothing wrong with it.

On the issue of capping liability, it is more of an empirical issue than a logical one. The idea that everyone should lose something has a certain appeal. But it seems to run counter to the whole reason for talking about deposit insurance in the first place, because the whole point in having deposit insurance is that we do not need to use it. We hope that it prevents runs.

If I expect to lose 10 percent of my deposits then I will behave in much the same way as if I expect to lose 100 percent. There is not much of a difference. Monitoring is expensive compared with the cost of pulling my deposit. So, if I think there is a chance of losing 10 percent or even 1 percent, I will be first in line to withdraw my deposits—defeating the objective of preventing banking panics. As I said, it is an empirical issue. We really do not know how people would behave. In Argentina in early 1980 deposit coverage was 90 percent. It failed and was restored to 100 percent. In a well-developed economy the threat of widely distributed losses could lead to the development of private insurance, or co-insurance. That is, the government might insure 90 percent, and depositors could go to a private agency for the other 10 percent.

Paul Horvitz: I think Sjaastad is exactly right on the matter of imposing losses on everyone. If the goal is to eliminate instability in the system, that is exactly the wrong way to do it.

With respect to private insurance, the problem is that to make things work, insurers would need some control over the closing of the bank. Since they cannot get it, the whole project is unfeasible.

Under the U.S. FDIC Improvement Act it may be plausible for private insurers to enter the picture. Its capital requirement provisions may be one way to move toward co-insurance.

George Benston: There already is a way to institute a private insurance scheme—subordinated debentures, debt that is explicitly not insured by government. Such debt would have only downside risk; unlike equity, there is no prospect for upside gain. This debt should be part of the required capital of banks, as it would be available to absorb losses, as is equity. Subordinated debt should have a maturity of at least two years so that debt holders cannot remove their funds before the bank is closed by the authorities. The interest rate at which the debt trades in the market would provide the authorities with the market's perception of the bank's risk. When the debt is refinanced, banks would have to go to the marketplace; interest paid on that debt would be the same as a variable insurance premium. Furthermore, uninsured, subordinated debt would not be costly to a bank, except in that it would lose a deposit insurance subsidy. Similar to any other corporation, the bank would have debt that is not government insured and it could deduct interest on the debt for taxable income. Thus only banks that expect to take risks that could impose costs on the deposit insurance fund should oppose holding subordinated debt.

Question: An issue closely related to deposit insurance is state-owned banks that have, automatically and at no cost to the bank, 100 percent insurance. After all, commercial banks have to compete with those banks. Are there any observations to be made on this issue, other than the obvious recommendation to privatize the banks?

Allan Meltzer: Why should the state have a role? That is, what comparative advantage does the state bring to the banking system? Does it perform some function that is not being performed? Is there an externality available that it can somehow internalize?

When the state gets into the banking business, it creates risk. In every country where the state has played a role in banking it has made loans to favored customers for political reasons at below-market interest rates. So, the answer is no. The state should not play a role in banking.

Comment: It has been mentioned that the lender of last resort is for liquidity and deposit insurance is for solvency. While this is true in theory, the distinction is blurred. The lender of last resort facility sometimes helps to improve solvency and deposit insurance sometimes helps to improve liquidity.

It was well known in Argentina that if the Central Bank had provided some liquidity to the system through reductions in reserve requirements and through real discounts, interest rates would have been higher. As a result more banks would have become more insolvent. In that case a lender of last resort facility helped solvency. Likewise, in the middle of the crisis the government adopted deposit insurance, and that again helped keep liquidity in banks as they were losing deposits. It was also important in improving solvency.
Market-Based Banking Regulation

Peter Nicholl

In the past ten years or so, many countries have suffered recurrent and extremely costly banking crises. Latin America and the Caribbean were particularly hard hit, but no region has avoided them. These crises have led to an extensive reexamination of the role of banking supervision.

New Zealand has gone through such a reexamination. Unlike many countries, however, it has opted for less regulation and more reliance on market information and market discipline. By incorporating monitoring in the marketplace by the supervisory authority and by making the responsibilities of bank directors and management clear, this approach has the potential to be a stronger method of supervision. But how and why did New Zealand reach those conclusions?

Should There Be Any Banking Supervision?

When banking supervision in New Zealand was reviewed in the early 1990s, the initial question was: Is there a public policy justification for banking supervision? Or, put another way, why isn't the core legal code adequate to regulate banks?

Although it was not unanimous, the majority conclusion of the review was that there was indeed a public policy justification for treating banks differently from other corporate bodies. That conclusion was based on the central role banks play in the economy and the risk that a banking sector problem could become systemic.

Banks allocate credit. They play a maturity transformation role. They provide liquidity. They are a big part of the payments system, and so on. But because banking is strategically important, that does not necessarily mean that public policy intervention to regulate banking is warranted.

Policy interventions can be justified only if they are likely to improve the soundness and efficiency of a system compared with a situation in which there is no intrusion. One problem is that it is almost impossible to find a banking system where there is no intervention, so it becomes academic to describe how an intervention-free banking system would look and behave.

The age-old problem of moral hazard that besets the traditional approach to banking supervision means that the issue of whether more is better than less supervision is not clear-cut. A background paper prepared for this conference listed the bailout costs for banking crises in Latin America and the Caribbean. As that paper said, "the large economic and fiscal cost of resolving these crises is put into perspective by the dramatic difference that could have been made had equivalent resources been available for investment in human capital (health and education), infrastructure, and poverty alleviation."

At the very least, there is enough evidence from around the world in a variety of regimes to show that supervision has not prevented bank failures and, because of moral hazard, governments in many countries have met some or all of the costs of bank failures. The initial response of many governments to banking crises is to impose more regulation, and more supervision. Along with this, of course, goes greater moral hazard and greater potential financial risk to the government.

The Reserve Bank of New Zealand considered ways to reduce moral hazard and shift more responsibility for the soundness of banks and for monitoring the safety of deposits onto directors and management. The review concluded that there was a public policy role because of:

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- An information problem. Depositors do not have unrestricted access to information about a bank.
- The payments system. The failure of a major bank may have a crippling effect on the payments system.
- The potential withdrawal of credit lines. A credit contraction could spread the impact of a major bank failure quickly and widely throughout the economy.
- The freezing of transactions balances. In New Zealand more than 90 percent of the narrow money supply is in bank deposits.
- The possibility of contagion.

Aims of Banking Supervision

Having decided that it was not getting out of banking supervision altogether, the Reserve Bank had to decide on the objectives of its regulatory and supervisory regimes. These were determined to be promoting and maintaining the soundness and efficiency of the financial system (it does not seek to prevent bank failures or protect deposits per se) and, in the event of a bank failure, minimizing damage to the financial system.

Although the aim is not to prevent bank failures, it is hoped that the probability of bank failures will be reduced. The aim is not to protect depositors either, though it is hoped that the probability of depositors losing money is reduced (because there would be fewer bank failures and depositors would be better informed).

In addition to these two broad aims, the Reserve Bank review also sought to reduce the direct transmission mechanisms for systemic problems; use market incentives wherever possible; maintain an open, competitive, and flexible banking system; and keep compliance costs down and put all aspects of the regime to a “positive net benefits” test (even if this cannot be wholly objective).

The review of banking supervision took place at the same time as a wide-ranging public sector reform that focused on the appropriate role and objectives of the state and how these could best be achieved. At this point everything has been reviewed, and almost everything has been reformed. In 1984 the New Zealand government owned or explicitly guaranteed more than half of the banking system. Since then virtually all state banks have been privatized.

- The Bank of New Zealand, under government ownership for 100 years and the country’s biggest commercial bank, was sold to an Australian bank.
- The Post Bank, also state-owned for more than 100 years, was sold to an Australian bank.
- The explicit government guarantee of Trustee Saving Bank deposits was removed and a Scottish bank became a minority shareholder.
- The Rural Bank was sold to a New Zealand corporation that has since sold it to the National Bank of New Zealand, a wholly owned subsidiary of Britain’s Lloyd’s Bank.
- The Housing Corporation has been scaled down and most of its mortgage portfolio sold to private banks.

Thus New Zealand has gone from one of the most to one of the least regulated financial systems in the developed world.

Bank Supervision Techniques

New Zealand is using other bank supervision policies as well. First, there is still a system of bank registration. There is no limit on the number of banks that can be registered, however, and competition is fostered through an open-door policy. But the door opens both ways—banks can go out as well as come in. Some foreign banks that initially came into New Zealand have found the market too small and the established banks too well entrenched. Some have quietly closed down and left. The number of registered banks peaked at twenty-two and through mergers, closures, and one failure is now down to fifteen. Despite the open door, New Zealand’s registration policy endeavors to ensure that only institutions of appropriate standing with the ability to carry on business in a prudent manner are registered banks. So there is still an entry hurdle.

Second, the Reserve Bank of New Zealand still has statutory responsibility for maintaining the soundness of the banking system. Under normal circumstances the Reserve Bank monitors banks using public disclosure statements, whereas previously it received private prudential returns. The Reserve Bank still conducts annual consultations with banks and coordinates with parent bank supervisory authorities where appropriate. There are no (and have never been) regular on-site inspections in New Zealand.

Third, minimum capital requirements based on the Basle agreements have been maintained for locally incorporated banks. Although the Reserve Bank believes that disclosure alone should provide sufficient incentives for banks to maintain the 8 percent capital-asset norm established in the Basle agreements, it enforces this rule because it believes that the capital requirement increases banks'
international credibility at little, if any, marginal cost. The average capital-asset ratio of banks in New Zealand is now close to 11 percent.

Fourth, a comprehensive review of the payments system is under way aimed partly at reducing risk, particularly by shifting to real-time settlement for large transactions. This change should greatly reduce the impact of a bank failure on the payments system, though it will not eliminate it entirely because some transactions will still be settled on a deferred basis. The central bank will most likely run the real-time settlement system, though some commercial banks are disputing that this is a central bank role.

Fifth, the Reserve Bank will retain a limit on the amount a bank can lend to related parties—that is, any party controlling or exercising significant influence on a bank. This is because a related party might coerce a bank to make loans on noncommercial terms. Under the new arrangements the limit will be based on a bank’s tier one capital rather than total capital (as is now done). Tier one capital is the only capital capable of keeping a bank’s doors open while absorbing losses. As a corollary, banks must make public their exposure to related parties, and directors must sign attestations that the exposure is not contrary to the interests of the bank.

Sixth, the Reserve Bank retains extensive crisis management powers, including the right to appoint an investigator, give directives to a bank, and recommend that it be placed under statutory management. The Reserve Bank also has extensive powers for dealing with breaches of disclosure requirements and conditions of registration.

The Reserve Bank sees the power to appoint an investigator as a substitute for, and a preferred alternative to, regular on-site inspection. It is certainly cheaper. And it should be more effective. After all, almost half of the U.S. savings and loan institutions that got into difficulties in the 1980s had received clean bills of health at on-site inspections.

Some other banking regulations will be abolished, including limits on banks’ exposures to individual counterparties and on open foreign exchange positions. The Reserve Bank considers the disclosure regime to be incentive enough for banks to maintain prudent risk positions, making regulatory limits unnecessary. The Reserve Bank also withdrew its guidelines on banks’ internal controls. It was satisfied that the new disclosure framework and directors’ attestations removed the need for such guidelines. The bank was also concerned that guidelines could become standard practice, introducing inflexibility and allowing banks to avoid responsibility for their own judgments.

In 1984–85 New Zealand got rid of most regulations imposed in the name of monetary policy: reserve requirements, interest rate controls, qualitative lending guidelines, and exchange controls. In addition, the exchange rate was floated.

Market-Based Elements

The two main strands to the market-based elements of New Zealand’s supervisory regime are disclosure and incentives.

Disclosure

The new regime requires all banks to issue public disclosure statements quarterly. Banks are required to make these available on request, and to display a one- or two-page “Key Information Summary” in all branches.

Disclosure requirements are comprehensive and include:

- An income statement and balance sheet.
- Information on the composition of the board of directors and any conflicts of interest that directors may have.
- Detailed information on asset quality and provisioning.
- Information on exposures to individual counterparties, measured in bands relative to the bank’s equity (that is, the number of exposures between 10 and 20 percent of a bank’s equity, the number between 20 and 30 percent, and so on). These concentration exposures will be taken both at their peak and at the end of the quarter to prevent figures from being temporarily lowered on the reporting date.
- Information on exposures to related parties.
- The bank’s risk management systems.
- Sectoral exposure information.
- Detailed information on the bank’s capital adequacy, including its off-balance sheet exposures.
- Information on market risk exposures, both at their peak and at the end of the quarter.
- Details on whether a bank’s obligations are guaranteed and the nature of the guarantee.

There are also to be disclosure requirements for market risk. Banks will have the option of calculating interest rate risk using the Reserve Bank model (based on the Basle market risk model) or using their own model, provided it produces a result that is at least as conservative as the Reserve Bank’s. Market risk disclosures are for the bank’s whole book—that is, the banking book and the trading book—in contrast to the
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Basle approach, which confines market risk measures to the trading book. Banks will not be required to hold capital against market risk exposures.

Disclosure serves a number of purposes. It is a way of reinforcing incentives for bank managers to adopt and maintain prudent risk positions. Some bank managers and directors were concerned about depositors’ reactions if they were to publish worrisome information. Their concern alone may be a strong enough incentive to avoid that situation. It also illustrates the moral hazard risk that occurs when only the bank and the banking supervisor have access to worrisome information.

Disclosure also should encourage directors to take ultimate responsibility for the management of their bank and focus attention on risk monitoring and management. Moreover, disclosure should provide depositors with better and more timely information with which to assess the prudential condition of their bank and to compare it with others. Disclosure will lower crown risk by reducing private information in the hands of banking supervisors and giving depositors and others greater responsibility for investment decisions.

Disclosure statements will be subject to external audit twice a year. Recognizing that external audits can be costly to banks, the half-year audit will be a limited review.

Credit rating disclosure

Banks with a credit rating applicable to long-term senior unsecured debt will be required to disclose the rating prominently in disclosure statements. If a bank has no such rating, that too must be displayed prominently. This requirement is expected to strengthen market discipline on banks and provide creditors with a simple means of comparing one bank with another. Initially, ratings were to be mandatory, but smaller banks argued that this would impose unnecessary costs on them.

Directors’ responsibilities

Bank directors or their agents must sign disclosure statements as being true and fair. The consequences of producing a statement that is false or misleading are serious and include fines and imprisonment. Moreover, if creditors lose money as a result of reliance on a false statement, directors face potentially unlimited personal liability.

In addition to signing the statements, directors must make certain attestations. These must state whether the directors are satisfied that their bank’s risk management systems are adequate and are being properly applied. The Reserve Bank thinks that this requirement will sharpen the incentives for directors to ensure that their bank has appropriate systems to identify, monitor, and manage its business risks. It also reinforces the Reserve Bank’s desire to ensure that responsibility for management of a bank rests with the directors and not the banking supervisor.

Response to breaches of capital requirements

A more structured approach to a breach of the minimum capital ratio requirements also has been adopted. This new approach is likely to reduce the scope for regulatory forbearance by the banking supervisor and therefore to reduce the risks associated with such forbearance. If a bank’s tier one capital falls below 4 percent of risk-weighted exposures or its total capital falls below 8 percent, the bank is required to submit to the Reserve Bank a plan for restoring its capital to the minimum required levels. The bank is also expected to disclose the plan in its public disclosure statement at the first opportunity. The plan must include certain elements:

- No distributions can be made to shareholders until minimum capital requirements are met.
- The bank’s exposure to a related party cannot increase from the level prevailing when the breach first occurred. Where a reduction in capital results in a bank being in breach of the limit on related party exposure, it must reduce such exposure to a level that complies with the limit.
- If a bank’s tier one capital falls below 3 percent of risk-weighted exposures, gross credit exposures must not be increased from the level prevailing when the breach first occurred.

If necessary, the Reserve Bank will use provisions in the Reserve Bank Act to enforce this policy by giving a direction to the bank.

Conclusion

As the background paper for this conference said, “it is still very recent to draw definitive conclusions from New Zealand’s experience with market-based regulation.” Disclosure provisions only took effect on January 1, 1996.

There have been mixed reactions to the new approach. For the most part consumer lobby groups, academics, business commentators, and politicians in New Zealand have been supportive. The Reserve Bank spent much time explaining the new approach to these people, believing that it was important to have widespread confidence in the new regime.
The reaction from New Zealand’s bankers and overseas supervisors has been more hesitant. Although most banks support the general direction of reform, some are uncomfortable with the degree of transparency in the new disclosure regime. Some of their comments and reactions imply that they think a regime based on market judgments will be tougher than one where they deal primarily with a supervisory authority.

Some doubts have been raised about the degree of responsibility put on directors to ensure that their banks are sound. In January 1996 an Australian newspaper (The Australian) said, “it is hard for independent directors to understand and monitor the risks” and “you’d wonder why anyone would want to be one [a bank director].” Both sentiments are probably accurate. But if banking risks are hard to understand and monitor, are bank supervisors in a better position to understand and monitor than bank directors? Probably not. By assuming they are, supervisors increase moral hazard and potential financial liability for the government. Moreover, placing greater responsibility on bank directors is consistent with developments elsewhere. For example, directors of securities issuing houses are subject to similar disciplines under New Zealand’s Securities Act. And the 1993 Companies Act strengthens disciplines on company directors.

New Zealand has been criticized for free-riding on overseas supervisors. That criticism has some validity. Just over 90 percent of the New Zealand banking system is now foreign-owned (about 66 percent by Australian banks). But New Zealand would almost certainly have proceeded with change even if the domestically owned proportion were greater. The Reserve Bank believes that the new system will promote soundness and efficiency in its banking system while significantly reducing moral hazard.

Another criticism is that most depositors will either ignore or misunderstand disclosed information. The Reserve Bank does not expect most bank depositors to carefully study disclosure statements or to base investment judgments on them. But there will be people that do so (financial advisers, business journalists, and the like) who will, in turn, convey the information to depositors.

It is possible that these observers will misinterpret information and start a panic. But that risk also existed in the past. Market rumors cropped up. Banks and the authorities had to decide whether to dispel the rumors and, if necessary, support the institution. With more information in the marketplace, there should be less risk of unfounded rumors, not more.

The New Zealand approach sets minimum prudential standards. It is not completely hands off and market driven. The market elements are important, but they are a complement to—not a substitute for—bank supervision. The prudential supervision elements of the regime are:

- Qualitative entry criteria
- Minimum capital ratios
- Limits on connected lending
- Monitoring by the Reserve Bank, based primarily on publicly disclosed data
- Scope for investigations
- Crisis management.

The regime aims to make bank directors clearly responsible for the prudential soundness of banks. Where a bank falls below the minimum capital requirements, the response by the supervisory authority is predetermined, eliminating regulatory forbearance.

The New Zealand approach clearly will reduce the moral hazard problem. But will it improve the prudential soundness of the banking system? The Reserve Bank believes that it will—and at least as well, if not better than, conventional banking supervision.

Is the model exportable? Maybe. But at least the major elements of the model—public disclosure, director responsibility, predetermined responses to breaches—should be accommodated within other countries’ bank supervision regimes.

References


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Note

1. It has been difficult to reach agreement with banks on the valuation of some of these market risk items. The disclosure regime commenced on January 1, 1996, but the market risk disclosure was postponed to April 1, 1996.
There are two kinds of banking crises. One is related to economic recession, such as that in Chile in the early 1980s, which cost-effective regulations probably cannot help avoid. The other results from one big bank failure that extends to the rest of the financial system, in which regulation can make—and has made—a major difference. Market-based regulations are likely to be cheaper for governments because they tend to reduce moral hazard and agency problems. Market-based systems such as that instituted in New Zealand share many common features with most prudential regulatory systems. Likewise, Chilean prudential regulations include many market-based elements. In practice both systems are strikingly similar, probably because they were designed by pragmatic officials who shared a common set of objectives and economic principles.

Banking and Financial Crises and the Role of Regulators

There is broad agreement that bank failures differ from the collapse of most other firms. In particular, bank failures can affect competing banks and the payments system. Moreover, moral hazard (which arises because banks mostly lend resources belonging to others) and information asymmetry (which exists because banks do not have all the information available to borrowers and depositors have little information about the credit portfolios of banks) are also more important in the financial sector.

For societies and governments these characteristics of banking have led to costly failures all over the world. Most countries also have experienced serious financial crises, which tend to be related to severe macroeconomic crises and not to the extension of one or two bank failures to the rest of the system.  

During an extreme economic downturn business cash flow becomes insufficient to service normal debt levels and asset values fall drastically, often well below the debt they were guaranteeing. When that happens most financial institutions will face liquidity problems and often become insolvent. This is what happened in Chile in the crisis of the early 1980s. It is probably also the main reason for the financial crises in Argentina (1981), Colombia (1982), Uruguay (1982), and Venezuela (1994; Gavin and Hausmann 1996). In other words the primary cause of recent deep financial crises in Latin America has been macroeconomic and can be avoided in the future only through much stiffer regulations. But it is often argued that tougher regulations would generate an additional cost in lost economic opportunities that would probably vastly exceed any benefits derived from occasionally less severe financial crises (Gavin and Hausmann 1996).

Of course, weak financial institutions aggravate these crises and the cost to governments of bank failures. For political reasons governments usually intervene to bail out failed banks. This has prompted most, if not all, governments to regulate financial institutions to try to minimize expected losses, both for society and for government. Regulatory improvements are usually synonymous with more regulation. As deregulation has become the fad, however, market-based regulation has been advanced as an alternative, and one country, New Zealand, has partly adopted such a system.

Prudential and market-based regulation have similar aims. They reduce systemic risk, that is, that the failure of one institution extends to the rest, and limit the bailout costs for government. The market-based approach, however, is more concerned with...
efficiency, both in the effect of regulations on the workings of the entire financial system and with respect to the operational costs of regulations to financial institutions. Thus any comparison of the two regulatory systems should be made in terms of all three objectives, bearing in mind that bank failures related to deep macroeconomic cycles are probably unavoidable, except at sky-high costs.

Advantages and Disadvantages of the Two Regulatory Systems

Prudential regulation

Current regulatory systems are usually prudential, characterized by restrictions on entry, mandatory credit risk assessments, and minimum risk-based capital requirements. Regulations are enforced by an official agency and have significant administrative costs, both for financial institutions (estimated at 6–14 percent of noninterest operational costs) and for the agency (Jordan 1993). Prudential regulations also have allocative costs, which are difficult to quantify but are significant (Jordan 1993, Nicholl 1996).

No reliable cost-benefit comparisons exist between administrative and allocative costs and the benefits from fewer bank failures derived from regulation. It is likely that the well-known agency problem, in this case produced by a divergence between the agency’s purpose and the personal interests of regulators, often reduces the effectiveness of prudential regulation. If so, the system might become cost ineffective.

Prudential regulations are, more often than not, accompanied by government-financed deposit insurance schemes. These have been costly for governments, although they have effectively reduced systemic risk. Moreover, if for macroeconomic reasons there are generalized bank failures, deposit insurance has helped avoid a breakdown in the payments system. As before, however, it is difficult to make a reliable cost-benefit analysis of such insurance schemes.

Theory says that deposit insurance schemes that are government financed or subsidized exacerbate the moral hazard problem of the financial sector. Banks that roll over bad loans can do so with impunity, financing them by increasing interest rates to depositors who, in turn, do not care about the quality of the bank’s loan portfolio because of the insurance. This has usually generated political demands for more regulation to limit government losses. This implies that part—perhaps a significant part—of current regulatory costs are incurred precisely because deposit insurance exists. Such schemes have nevertheless been effective in avoiding the spread of isolated bank failures to the entire financial system, although most specialists would argue that this has been achieved at relatively high administrative and resource allocation costs.

Market-based regulation

The high costs of prudential regulation have prompted the search for an alternative. Market-based regulations aim to achieve the objectives of financial regulation by eliminating subsidized deposit insurance and forcing financial institutions to publicly disclose information that is normally made available only to official regulators. In particular, depositors as stakeholders would have to bear bank losses when they exceed net worth. The authorities would only enforce property rights—those of banks if clients do not repay loans and those of depositors when a bank does not honor deposits and has not provided accurate and timely information as required by law.

In principle, market-based regulation reduces the operational costs of banks. It also eliminates the insurance or bank bailout cost to government, or both. Moreover, it does away with the resource allocation costs of prudential regulation. Market-based regulation does not require a specialized official agency to monitor banks and enforce regulations since agents, if they feel so inclined, can take their case to the courts. That is, market-based regulations are in principle less costly to banks, to governments, and to society as a whole. In principle they eliminate the agency problem and reduce the moral hazard problem because there is no subsidized deposit insurance. But in principle does not mean in practice.

If the aim is to achieve the same degree of protection against bank runs as those offered by reasonably effective prudential regulations, the amount and quality of information to be provided to the public will also require substantial extra work for banks. This is in addition to special auditing efforts, which are expensive and sometimes unreliable, and means the agency problem is not necessarily eliminated. If so, it would not be surprising that governments, faced with an unexpected and significant bank failure likely to spread to the rest of the system, might be forced to incur bailout costs not too different from those under prudential regulation.

Generalized bank failures are almost certain to happen in deep recessions, no matter which regulatory system is in place. Under such circumstances it is unrealistic to expect a hands-off policy from
government. By intervening, governments expect to contribute to a speedier recovery. In such cases bailout costs are unlikely to differ significantly between the two regulatory systems.

Market-Based Regulation in New Zealand, Prudential Regulation in Chile

In New Zealand it was decided early that the Reserve Bank would still play a role in supervising the financial system—in bank registration and monitoring, in requiring minimum capital, and in limiting loans to related parties. The main market-based elements relate to comprehensive public disclosure requirements, to bank directors' responsibilities, and to responses to breaches of capital requirements. New Zealand does not have an explicit deposit insurance system.

By contrast, Chile, heavily influenced by the effects of the 1982 recession and financial crisis, has developed a system of prudential regulation that includes market-based elements. In Chile (as in New Zealand) the aim has been to use market incentives whenever possible; to maintain an open, competitive, and flexible financial system; and to make regulation cost effective.

In Chile and New Zealand access to the banking industry requires official authorization. During the 1970s banking permits in Chile were liberalized and the number of financial institutions increased rapidly. Since the early 1980s (under basically the same legislation) no new banks have been authorized, and officials favor mergers of existing banks. Under the pretext of making sure that only prudent institutions have access to it, this entry restriction has been defended on several grounds, especially economies of scale and the need to allow banks to recover from past crises. As a result financial institutions in Chile enjoy high rates of return. This protection, which is not legally based, should be abandoned to generate more competition.

New Zealand and Chile more or less follow the Basle capital accord. In New Zealand it is argued that banks would likely maintain at least as much capital as the accord requires, but the minimum capital requirement is convenient for attracting foreign resources. In Chile it is argued that requirements higher than those of the Basle accord, although desirable for reducing bank failure risks and the moral hazard problem, might mean the loss of international competitiveness. To induce higher net worth, however, the Chilean government has submitted to Congress a measure to allow banks with a 10 percent risk-adjusted capital ratio to operate abroad without having to go through the time-consuming authorization.

In Chile, as in New Zealand, banks are free to decide their own loan portfolio (clients, sectors, and so on). In Chile, however, no bank can lend to any client, person, or firm more than the capital of the bank. This limitation also affects related parties, whose firms are considered for these purposes as one person. These regulations are similar to those in New Zealand, which also restricts credit to related parties. A significant difference, however, is that as a way of limiting market or financial risks, banks in Chile must maintain relationships between foreign currency deposits and loans and between the term structure of deposits and loans. In New Zealand banks are free to choose the level of risks they want to assume, but they have to disclose them. In addition to the risk-adjusted minimum capital requirement, Chilean banks have to set aside a proportion of their loan portfolio as a liquidity reserve, a regulation that does not exist in New Zealand.

These additional regulatory requirements in Chile are in a sense compensated by a Central Bank guarantee on all sight deposits. This guarantee ensures the smooth functioning of the payments system even when the system comes under deep stress. It is also compensated by an explicit time deposit insurance of about $4,000, payable only to Chileans and only once a year for the entire system. The idea is that such insurance eliminates popular pressures to bail out banks once they fail.

Given that the proportion of time deposits belonging to Chileans and firms that have more than $4,000 deposited is high and that time deposits exceed sight deposits, the potential risks incurred by depositors are still significant, although not as much as in New Zealand. Thus regulations in both countries provide incentives to banks to be prudent.

Public disclosure requirements in New Zealand are more comprehensive than in Chile. Even so, among other things, banks in Chile have to disclose publicly and usually monthly income and balance sheet information, composition of the board of directors, and information about the quality of assets. Although not a public disclosure, but perhaps more important, and as a requirement of its pension system, in Chile independent firms classify bank deposits every month for risk. These ratings are reviewed by a risk classification commission that is private but that includes representatives from the Central Bank and some supervisory agencies. Moreover, the Superintendencia de Bancos e Instituciones Financieras (SBIF) makes its loan portfolio classification public once a year.
In Chile (as in New Zealand) regulation makes commercial bank directors responsible for providing the correct information and, in general, for complying with regulations. In fact, under a proposed legal reform directors of financial institutions in Chile will be presumed by law to always be perfectly informed of all aspects of the operations of these institutions and will be totally responsible for all management decisions. In both countries any false or misleading information disclosed by a bank has serious consequences for directors, including fines and imprisonment. And if depositors lose money, directors may be personally liable for those losses.

In both countries, if banks do not fulfill minimum capital requirements because, for example, they have incurred significant losses, they will be forced to follow one or more steps to restore solvency. In New Zealand these banks cannot distribute dividends, cannot increase exposure to related parties, and eventually might have to present a plan to increase net worth. In Chile owners of banks might put in new resources, negotiate the capitalization of deposits, or even get credit from the rest of the banking system. These are considered part of net worth (for up to two years) to provide incentives for the financial system to bail out its own member banks. If necessary, the Reserve Bank of New Zealand has the power to give directions to banks to restore solvency. In Chile this power is wide and ranges from giving specific directions to bank managers, taking over management, and even closing banks down.

Although in New Zealand regulation is called market-based and in Chile is thought of as prudential, the differences between the two systems are not great. Both countries have decided to use a mixture of elements from both regulatory systems. Thus it is perhaps not surprising that both regulatory systems are similar. The objectives of banking regulation are common, and both countries approach regulation on the basis of similar general economic principles.

Notes

1. The crisis of the early 1930s in the United States is perhaps the best example of a few bank failures eventually spreading to the rest of the system and later generating a worldwide depression.

2. The Mexican financial crisis that started in late 1994 probably also had an important macroeconomic component.

References


Some 95 percent of the assets in Bolivia's financial system are managed by thirteen national banks; the rest is controlled by four foreign banks. Thus, unlike in New Zealand, foreign banks play a minimal role. Moreover, ownership is concentrated in a few powerful economic groups. Concentrated ownership can distort market outcomes and makes appropriate supervision based on the market more difficult.

Since 1995 Bolivia's Superintendency of Banks and Financial Entities has focused on improving the capital base and technology of the banking sector. The superintendency has created a more favorable environment for banks and has opened up the sector to international investment. Citibank is negotiating to become partners with a local bank (BHN-Multibanco), and the Andean Foment Corporation and the International Finance Corporation are partners with another local bank, Industrial Bank. Two other local banks, Union Bank and BBA, have joined capital with Chilean banks. These efforts are expected to change the Bolivian banking sector from a familiar to a corporate system. If this happens, market supervision will become more feasible.

Spreading Information

Such a transition can create problems—particularly in the dissemination of information, which is essential for market adjustment. Bolivia has no institutions or public agencies to monitor the performance of the banking sector. Moreover, there are no penalties for journalists who misrepresent the financial health of banks. Another problem is the political mishandling of information. At times congressmen have made their personal opinions about specific banks known for purely political purposes.

This is not to say that the superintendency does not disseminate information. We publish weekly, monthly, and annual banking information to develop a critical sense of analysis. But in many cases it is difficult to verify the quality, commitment, and reliability of information. Although monitoring can help improve banking system stability, there are problems and deficiencies in accounting registries, including double counting, high-risk hidden operations through other bank accounts, inappropriate provisions for unrealized income or impaired assets, and so on.

External Audits

As with other supervision models, the market-based approach depends on external audits, though to a greater degree. Bolivia requires that banks undergo two supervisions and two opinions each year. These audits allow problems that weaken the credit standing of banks to be detected by questioning the effectiveness of the objectives and approaches they use. In many countries, however, banks that relied on the opinions of prestigious auditing firms still had to be liquidated.

Another aspect that determines the contribution of external audits to banking supervision is the ability that authorities have to establish goals for auditing. Effective auditing depends on this authority and on the degree of responsibility held by and sanctions on external auditing firms. Without these aspects the market-based model would have difficulties.

Responsibilities of Managers and Directors

Effective supervision requires that managers and directors be held accountable for their actions. Developing sanctions for managers and directors is
an essential element of the self-regulation that is being implemented by the Superintendency of Banks and Financial Entities. Making this change will take time, however, because of the institutional culture in a concentrated system that lacks adequate human resources. Moreover, bankers must learn to respond to professional principles and not to personal interests or economically powerful groups. The superintendency has helped control negligence by initiating criminal proceedings against directors and managers that were involved in fraud and malpractice. At the same time the superintendency is removing its internal and manual controls by leaving approval responsibilities and obligations to the directors of financial firms.

Predetermined Answers

Like New Zealand, Bolivia has established predetermined answers to breaches of minimum prudential procedures, essentially imposing capital sufficiency requirements. In addition, the superintendency is lifting some of its internal and manual controls, leaving approval responsibilities and obligations to the directors of financial entities.

Crisis and Deposit Insurance

One difference between New Zealand and Bolivia’s approach is the broad influence that the New Zealand Reserve Bank has in a crisis. Unlike the Superintendency of Banks and Financial Entities, it can intervene only in involuntary settlements of financial firms.

It is more feasible to provide market-based supervision of banks when private deposit insurance mechanisms exist and are another element on which depositors can base their analysis of banks. By contrast, state insurance for bank deposits impedes the market approach. It is important, however, to remember that state-owned insurance can help reestablish depositors’ confidence after a financial crisis and help avoid massive deposit withdrawals that would put the stability of the financial system at risk, not to mention a country’s entire economy.

Conclusion

New Zealand’s banking supervision includes a number of elements that are based on the market: information activities, directors’ responsibilities, and predetermined answers. Some of the norms of the New Zealand supervision model are similar to those in the Bolivian model. Supervision in Bolivia, however, assigns an important role to on-site inspections, which do not happen in New Zealand. Inspections are essential in Bolivia because they track accounting irregularities that would otherwise be difficult to identify.

Another difference between the two systems is that New Zealand’s central bank has extensive intervention rights. Bolivia’s Superintendency of Banks and Financial Entities intervenes only to liquidate. A market-based system assumes that the information that has been disseminated has been properly treated. But problems exist in many countries:

- Depositors are not educated enough to perform analysis that allows them to make decisions.
- Private economic and financial institutions with sufficient capacity to evaluate the banking system do not exist.
- The media do not have journalists and reporters with the specialized skills or knowledge required to disseminate information about banks.

The role that directors and executives play in a market-based system assumes that the country has an enforcement capacity such that any false declaration from a director would result in fines and other penalties. But since judicial systems in most Latin American countries are weak, it is unlikely that such penalties would be enforced. Bolivia’s supervision model is moving toward self-regulation, giving greater responsibilities to the directors and managers of financial firms. This is a gradual process, however, to which the financial system and the depositing public must adjust. This model is easy to apply to stable and consolidated financial systems but presents greater challenges where systems are still making adjustments and where stability is weak and vulnerable to internal and external factors.
Comment

Paul L. Bydakek

In January 1996 New Zealand implemented a new system of market-based regulation for its banking system. Under this system regulation essentially has been privatized. Each bank is required to make quarterly disclosures to the market of the information it deems sufficient for sophisticated clients—including the central bank—to make sound judgments about it. This remarkable, free market approach to regulation is provocative, particularly when juxtaposed with the Latin American tendency to overregulate markets. It is easy to dismiss as irrelevant what happens in New Zealand, a country of 3.5 million people and GNP of $56 billion, where foreign-owned institutions hold 90 percent of banking assets. Brazil, with its 155 million inhabitants, has a GNP of $677 billion, and more than 90 percent of banking assets are owned by local investors. Obviously, vast cultural differences exist as well. Nonetheless, there are similarities and lessons to be learned. Good business practices transcend size and culture.

The changes in New Zealand’s banking system provoke thoughts about three major crises in Brazilian banking: the Central Bank intervention at the end of 1994 in Brazil’s second-largest commercial bank, the state-controlled Banco do Estado de São Paulo (or Banespa), and failures in the second half of 1995 of two of the largest private banks, Banco Economico and Banco Nacional. These three crises are each unique and should be the test for any changes contemplated in the Brazilian regulatory system. To put these problems into perspective, the last audited, consolidated total assets for each bank were Banespa, $28.4 billion (September 1994), Banco Economico, $8.7 billion (June 1995), and Banco Nacional, $13.1 billion (September 1995).

How does New Zealand’s system compare with Brazil’s? And, more specifically, how might it have been applied in the cases of the three problem banks?

Objectives and Similarities

Macroeconomic problems in the late 1980s and early 1990s forced a rethinking of the role of the public sector in New Zealand. Even there, the core legal code was judged inadequate for regulating banking.

Similarly, Brazil is rethinking the government’s role in the economy. Since the attainment of economic stability in July 1994, four of Brazil’s ten largest commercial banks have undergone Central Bank intervention, restructuring, or closure. As in New Zealand, the authorities have worked to promote soundness and efficiency in the banking system, reducing damage to it and to the economy. The authorities have admitted that past regulation was deficient. At the same time Congress is approving a revamp of the public sector, encouraging privatization and lowering entry barriers to private investors. In addition, the duties of external auditors recently were redefined and tightened.

New Zealand focused on reducing moral hazard by downplaying overt control by authorities and placing responsibility for proper conduct on bank directors, managers, and depositors. No new direct responsibility was given to shareholders, perhaps in an effort to acknowledge that shareholders should suffer the automatic consequences of poor stewardship by the executives they designate.

In Brazil voting control of most banks is held by a few individuals or families that are active in management. Ownership and management are frequently indistinguishable, even for banks listed on stock
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exchanges and having substantial minority participation. In Brazil responsibility for distress should be extended to controlling shareholders, who should bear the brunt of sanctions for improprieties. For publicly owned and listed banks, noncontrolling shareholders (who are usually a passive minority) should be exempt from sanctions. As with any other investment, however, they would still suffer from any erosion in share values caused by bad management.

**Regulation Techniques**

Some of New Zealand's regulatory techniques seem curious. There are no on-site investigations; only information disclosed quarterly to the general public is used by regulators. Limitations on loans to related parties and individual counterparties and on foreign exchange positions have been abandoned. To understand a bank's operations, discussions with management are essential. There may be no need for regulators to visit banks. If regulators are as agile as bankers in understanding new products and procedures and are as technologically proficient, electronic and statistical approaches can probably be devised to identify issues and to check problems. Government employees everywhere, however, are less nimble than their private sector counterparts and almost inevitably are less well equipped.

This regulatory approach would be inconceivable in Brazil. The complexities of Brazilian finance, the multitude of regulators overseeing a bank's activities, and the almost daily changes in regulations mean that regulatory reporting is voluminous and cumbersome. An outsider has little chance of obtaining banks' data, much less understanding it unless specially trained. Removing limitations on loans to related parties and counterparties and on foreign exchange positions is also alien to Brazil, where regulation is tight and detailed. This approach may date from times when poor communications and geographic distance forced the government to issue detailed regulations in order to develop a homogeneous banking system. Such excessive regulation will change only reluctantly and slowly.

**Disclosure**

In Brazil banks are regulated by several government agencies, as well as by the Central Bank. These agencies include the Securities Commission, the Insurance Commission, the Pension Fund Commission, the tax authorities, and others. Conflicts exist among these regulators. The Securities Commission requires that all publicly owned and listed banks (and companies) publish quarterly financial statements and provide information on asset quality and provisioning. Yet most banks in Brazil are privately owned and so are exempt. The main regulatory disclosures are half-year audited statements.

Twice each year all banks undergo full audits—balance sheet, income statement, reconciliation of net worth, and a source and application of funds statement, with notes and explanations and the auditor's opinion. These audits are published in local newspapers, usually within two or three months. Unlike in New Zealand, there is no requirement to report conflicts of interest by board members, asset concentrations, sectoral exposures, or peak market risk exposures. Auditors and banks meet the requirements set by regulators; few offer data beyond that.

In New Zealand quarterly disclosures bear attestations by bank directors to the accuracy of disclosure and to the sufficiency of risk management systems. False or misleading data can mean fines and imprisonment for directors and personal liability for losses by creditors. In Brazil published statements bear the names of the auditing firm and the bank accountant responsible for the figures. Directors do not attest to the accuracy of disclosure or adequacy of risk management systems. Presumably all directors are equally responsible. Yet when two large private banks closed in 1995, only the signatories of published statements were held liable for faulty reporting. The exact liability assumed by these signatories is arguable and will be tested in legal proceedings. Disclosure in Brazil is broadening, mostly because of regulation and market pressures. At times disclosure is greater than in New Zealand. At the end of 1995, for instance, Brazil's second largest bank, Itaú, and its third largest, Bamerindus, provided data on restructured loans, paving the way for better and voluntary disclosure. In related developments over the past two years commercial banks have been obliged to publish more meaningful income statements to consolidate their overseas branches on a line-by-line basis instead of reporting only net equity, to disclose the ratio of capital to risk-adjusted assets using standards more rigorous than those of Basle, and to reveal swap and derivative exposures, including the net positions in risk-adjusted asset calculations. Off-balance sheet items are included in these calculations.

**Credit Ratings**

Unlike New Zealand, there are no long-term senior unsecured debt ratings for any Brazilian company or
bank. Since Brazil is a notch or two below investment grade, no domestic company that does not have foreign backing can secure an international debt rating. There are local currency ratings, however.

Ratings were virtually unknown until Bradesco and Itau published their short-term local currency ratings in 1993. Now about 20 of Brazil’s 265 banks hold short-term, intracountry ratings issued by Atlantic Rating and BankWatch. In 1995 Moody’s issued its first financial strength indicators for Brazilian banks with outstanding euronotes. Their ratings on three local banks in difficulty received much publicity, causing all of Brazil to become aware of the idea, value, and responsibility of rating.

Local capital markets, however, are still uncertain about ratings. One function of rating is to uncover and promote unrecognized quality among less visible banks. Thus high-quality banks wonder if disclosure and the effort to obtain a rating are worthwhile. Quality debt issuers and mid-size banks are finding that a rating helps access new sources of funding, at better rates and at a time of capital market uncertainty caused by the spillover effects from recent bank failures.

Breaches of Capital Adequacy

New Zealand has clear rules on the consequences of exceeding capital adequacy ratios. Brazil, does not, and problems are dealt with quietly, on a case-by-case basis. Until risk-based capital-asset ratios were introduced in 1995, the basic requirement was for third party funding to be up to fifteen times adjusted net worth. In 1993 and 1994 this ratio was chronically overshot by a few banks. To suspend dividends until capital ratios strengthened, as in New Zealand, would have pit Brazil’s Central Bank regulators against Securities Commission regulators. Capital requirements for conglomerate banks’ operating insurance companies or pension funds can vary, depending on the regulator.

The equity of Brazilian banks is now being weakened by a dispute between bankers and the tax authorities. Bankers want to provision for identified loan losses, but the authorities refuse to recognize the new provisioning as tax deductible.

Market Reaction to New Zealand’s Change

New Zealand’s shift of responsibility for compliance and disclosure to bank directors and management, putting their personal reputations and wealth in jeopardy, is understandably disturbing. In a large, segmented institution it is difficult or even impossible for executives to be aware of all the risks assumed throughout the bank.

In a family-owned and -managed bank of reasonable size, professional directors and managers will have scant knowledge about dealings elsewhere in the organization. To hold all directors and executive managers responsible for corporate actions, as New Zealand apparently does, defies imagination and seems impractical. Tremendous transformations would have to occur within Brazilian organizations for directors to feel comfortable with such responsibilities. More focused responsibilities and consequences seem preferable. Holding the marketing director responsible for the actions of the foreign exchange trader or the derivatives desk seems impractical.

To work, laws holding directors and managers accountable must function smoothly. Despite some twenty-five bank failures in Brazil since mid-1994, only two bank directors have been held accountable for their actions and arrested. In most cases this kind of white-collar crime goes unchecked for years. Punishment usually comes in form of nominal fines and a ban on assuming responsibilities as a director elsewhere.

Benefits to New Zealand

Disclosure in New Zealand should improve the quality of the financial system. Banks will disclose abundant information so that directors and managers can claim later, in case of problems, that they are innocent of misrepresentations. Professionals with intimate knowledge of local capital markets and bank reporting will begin to interpret data and to render opinions. One clear advantage of the New Zealand system is the stream of quarterly data and performance interpretation. Assuming that problems are readily disclosed by local accounting practices and that bank management does not conceal difficulties, observers gradually will become aware of deviations from averages. Festering problems will become more visible and surprises less likely as quarterly disclosures proceed.

Full disclosure by Brazilian banks as called for in New Zealand would have reduced the size of the problems at Banespa, Economico, and Nacional, which were ignored by the market. Any early warning system would have helped. For years Banespa operated on negative cash flow, lending primarily to the state of Sao Paulo and its related companies. Interest and principal were rarely paid; instead they were rolled over into new loans at better rates. Growing funding expenses, salaries, bonuses, dividends, and taxes were paid from new funding. Problem assets at Banespa are estimated at more than
$15 billion. The Central Bank’s intervention and assumption of day-to-day management at the end of 1994 surprised the market. The size and complexity of the problems that surfaced were an even bigger surprise. The closing of Banco Economico in August 1995 was foreshadowed by years of dubious financial statements. Much of the current apprehension about Brazilian banks stems from the unexpected failure of the country’s fourth-largest private bank, Banco Nacional, in November 1995. Nothing had suggested that a large part of its loan portfolio was fictitious—yet massive fraud had persisted for years.

The New Zealand system requires management to confess problems, with stringent legal penalties for noncompliance if the marketplace is deceived. In this way the system protects against fraud. By revealing a gradually deteriorating situation to the marketplace, the system puts pressure on banks to cure their problems. Presuming no catastrophic losses, problems should appear slowly, permitting the public to shift business elsewhere without panic. A major industrial bankruptcy suddenly pressuring the banking system would, however, still require the central bank to provide liquidity to the system.

Lessons

So what conclusions can be drawn? Time will tell in New Zealand. The first quarterly disclosure reports will be available soon. The quality of disclosure and the reaction of the marketplace will be the litmus test. Several quarters of reporting will be needed to prove the validity of the approach, as will a banking crisis (such as a major and unexpected asset quality problem) or a steep recession. With 90 percent of banking assets held by international banks, local problems may easily be absorbed.

Some broad recommendations can be made for government-controlled and private banks in New Zealand, Brazil, and elsewhere. All should supply the marketplace with quarterly information on the quality of assets, funding, and profits. The degree of disclosure should vary with local necessities. Stockholders, directors, and managers should assume full responsibility for the accuracy of disclosure, suffering severe and immediate penalties for noncompliance. External auditors should validate the data disclosed and other professionals should issue reports on quality and risk. Rating agencies should analyze data and issue reports of credit risk changes and ratings for each institution.

Government regulators worldwide cannot keep pace with changes in capital markets and in technology. They must rely increasingly on self-discipline by banks. There must be stiff penalties for noncompliance. Authorities should privatize as much as possible monitoring of capital markets, placing responsibility on trained professionals. Regulators from various agencies that are each responsible for part of a bank’s operation should be combined into one agency.
Question: Most New Zealand banks are branches of foreign banks. Do you think depositors view this as implicit insurance, and so do not have an interest in monitoring banks? After all, reputation is an asset, and if a foreign bank fails it will probably be bailed out by its main house abroad. Do you agree? Has the new system improved depositors’ ability to monitor banks? In particular, do differences in the interest rates paid by banks reflect the risk position of banks better now than before?

Question: How easy is it to check the authenticity of the publicly disclosed information and how deep can market participants drill to verify the information? In other words, does a participant in the market have a right to demand more information to confirm what has been disclosed?

Peter Nicholl: Most New Zealand institutions are foreign-owned and most are set up as subsidiaries. Only one operates as a branch. Thus most depositors probably think that foreign-owned banks fall within the too big to fail category because the New Zealand part of their operation, for the biggest of them, represents 10-20 percent of the entire bank. In terms of interest rates, it is too early to say how depositors behave in monitoring or discriminating on that basis.

I do believe that supervision creates part of the moral hazard—that, as soon as a government sets up a system of supervision and appoints a supervisor, at the very least there is a moral hazard for the government. So, if the bank gets into difficulties, the depositors will say: what were you doing and why didn’t you warn us? To ensure that information is reliable, we have tried to set up a structure that gives strong incentives for people other than supervisors to do quality assessment. The main ones are the managers and directors of the bank. Because they are held personally liable for false or wrong information, they have much stronger incentives to do that job well than supervisors.

There is a worrisome aspect that we are still trying to sort out with the Australian authorities. Their legislation says that if an Australian bank fails, assets...
will be used first to pay off depositors in Australia. It is unclear what that stipulation means for depositors in New Zealand because it has not been tested. Depositors do not seem too concerned. It is ironic that there is more cooperation and consultation with other financial business, so it is difficult to gauge the benefits of consolidated supervision.

**Question:** What exactly does a market-based system add? Auditors are still required. Filings of audited accounts with the supervisors are still required. Banks do not file a balance sheet that says they are bankrupt, if they are.

So the banks are basically giving the public the same information they were giving to the supervisors. The problem develops when people want to challenge the information that has been provided. There are three areas where the problem is localized: portfolio classification, portfolio provisioning, and accrued interest. How does a system that focuses on public disclosure improve the ability of auditors or anybody else to assess these things?

**Question:** In Jamaica we are developing a deposit insurance scheme that will be put in place sometime next year. Could Mr. Nicholl briefly sketch the type of scheme he had in mind?

**Peter Nicholl:** We never came up with a final design for a deposit insurance scheme in New Zealand. But the only justification for deposit insurance in an economy like New Zealand's is the so-called small savers justification. Even with all the information in the marketplace, small savers cannot (or will not) make judgments, and the impact of the crisis on them is more severe than it is on large depositors. So we would have set an upper limit. It would not have been across-the-board deposit insurance.

We were also attracted to the British idea—co-insurance, where you only insure 75–80 percent of deposits. Even those depositors have an incentive to keep an eye on their bank and not to move deposits to the riskiest bank because they could lose 20 percent of their deposits. Although we liked the idea of co-insurance, it would have been funded by the banks who, in turn, would have passed the fees onto depositors.

**Question:** Market-based regulations assume that markets work. That means that market-based regulation will be no better than the market. Here there are two important elements. One is regulation itself. Laws make markets work but people must also accept the rules of the game. This should be a warning against installing market-based regulation in
countries where the market does not work. Also, governments should be aware that once they have market-based regulation, they cannot make any false steps. Any false step is a false signal and people will simply think that they do not have market-based regulations and that the government will save them. Do the people in New Zealand really think that the government is not going to come and save them next time there is a problem in the banking system?

Peter Nicholl: We do not know whether people accept that they must look after themselves, but the policy that has been put in place is not independent of other things New Zealand’s government has done. The government has corporatized most state-owned trading enterprises. They have been set up with their own balance sheets, capital, and boards of directors, and people that make loans to them have been told that they are not lending to the government of New Zealand. If those institutions collapse, even though they are owned by the government, people lose their money.

The one institution that did collapse, DFC, had been privatized, although the major shareholder was the government Superannuation Fund. The auditor was the government auditor and it was supervised by the central bank. So the government links were fairly close. Of all the creditors, 80–90 percent were Japanese, and there was a lot of pressure from Japanese institutions that basically expected the government to cover all their losses. In the end the government contributed to the package that was put together, but ordinary depositors still lost about 20 cents on the dollar and the subordinated debtors, who were all Japanese, only got about 25 cents on the dollar. Still, they accepted that package. The government contributed to the solution but did not provide a total rescue. However, the politics were different because most of the depositors were Japanese, not small New Zealand depositors. Even so, I am confident that the government will not step in to bail out depositors.

Question: Mr. Nicholl said something to the effect that inspectors had been replaced by investigators. What is the role of these investigators? What is their scope and to what extent are they replacing inspectors on a selective basis? With respect to external auditors, what is their liability when they fail?

Peter Nicholl: Investigators are not replacing inspectors. We have never had inspectors, but we have always had that power if we had doubts about information. We would probably use an external auditor as our agent rather than a member of our own staff. Auditors do not always know what is going on, and neither do supervisors. But in most cases they know the direction of things.

It is true, we do get privileged information simply by being the banker to the banks. If we had cause for concern, we would require that it be disclosed in the next quarterly statement. If capital had gone below the requirement, there would have to be a plan to restore it. If capital was close to evaporating, then we would consider using our statutory power to either give the bank a directive order or put it under statutory management. If it were a minor breach we would require them to disclose it and correct it. We certainly would not sit on the information.
Roundtable Discussion:
Systemic Banking Crises

The panelists for this roundtable discussion were Robert Eisenbeis, senior vice president and director of research at the Federal Reserve Bank of Atlanta; Valeriano F. Garcia, principal economist in the Technical Department of the Latin America and Caribbean Regional office at the World Bank; Sergio Ghigliazza, director of the Center for Latin American Monetary Studies; Allan H. Meltzer, professor of political economy and public policy at Carnegie Mellon University and visiting scholar at the American Enterprise Institute; José Evenor Taboada, president of the Central Bank of Nicaragua; Roberto Zahler, president of the Central Bank of Chile; and Rodrigo Bolaños Zamora, president of the Central Bank of Costa Rica.

Robert Eisenbeis

Financial crises have their roots in monetary and fiscal policies that are not viewed as credibly contributing to economic stability and low inflation. Credible monetary and fiscal policies are hard to sustain, and the potential for crises increases when government attempts through direct ownership to operate financial intermediaries. Moreover, governmental forbearance and a lack of credible policies on the closing of troubled institutions increase the possibility of financial crises. There is also a link between supervision and interventions in individual institutions and the likelihood of financial crises. The goal of policies should not be to prevent failure or limit the costs to liability holders but to make failures independent events. Finally, a lack of transparency in the accounting of market values of on- and off-balance sheet activities can increase the probability of financial crises in both private and public sector institutions.

Origins of financial crises

Most crises stem from government policy failures rather than from an inherent instability in a fractional reserve banking system. These failures usually involve one or more of three activities—pursuit of inflationary policies designed to monetize government debt, governmental forbearance when institutions have financial difficulties, or use of banking system resources to cross-subsidize fiscal policies to the point of systemic collapse (either because of withdrawal of foreign-owned funds, creating an exchange rate problem, or because of flight of domestic capital to sounder currencies and real assets).

Crises are most likely to occur when markets are not convinced that credible macroeconomic monetary and fiscal policies are being (or will be) followed. That is, excessive inflation or fiscal policies that create too great a role for government in the management and allocation of resources are not credible policies and will lead to a financial crises. In the United States at least, a decline in real economic activity triggers a financial crisis rather than the other way around.

Government ownership

Temptations are great and incentives are huge to engage in cross-subsidization of activities when governments own and operate financial institutions. Profit maximization incentives are dominated by political and other concerns, and the potential for mischief and abuse is great.

Credible policies

Credibility relates to concerns that governments will not follow the rules of the game, whatever they may be. For example, it is useless to design a deposit insurance system, however elegant, if economically insolvent institutions are not closed or costs are not imposed on those who supposedly had their funds at risk. Not following the rules is
forbearance. Experience has proved that forbearance is a bad bet. It increases taxpayer losses and creates incentives for moral hazard behavior. Contrary to some views, a properly designed and instituted deposit insurance system does not carry implicit moral hazard. Rather, moral hazard results from forbearance, from implicit guarantees, and from mispricing of explicit or implicit guarantees. This is another type of policy failure. It is also why academics like Professor Edward Kane and others have argued strongly for control of government incentives as part of the broader package of financial reform.

Transparency

The potential for crises is greater when markets lack information on the quality of assets and the true value of an institution’s net worth. When the owner of financial institutions (whether the government or a private entity) can hide from depositors and investors the true value of the institutions’ net worth, then the owner can engage in subsidized risk taking. Many reforms now recognize the role that disclosure can play in enhancing market discipline.

Narrow banking

The fascination with narrow banking and its focus on creating a riskless transactions deposit is the mental equivalent of twiddling one’s thumbs. There are clear externalities to a well-functioning financial system. It enables the separation of real savings decisions from investment. It facilitates the intertemporal transfer of consumption and investment. It enables the risk shifting that characterizes modern financial institutions and markets. Promotion of economic efficiency and specialization of labor are what distinguish modern economies from barter economies, and achieving these benefits depends on a well-functioning financial system. Were financial institutions not involved in payments (if, for example, the government permitted the exchange of infinitely divisible treasury obligations), these other externalities would exist. Threats to these positive externalities would trigger rationales for governmental intervention in times of crisis, even without direct involvement in the payments system.

To argue for narrow banking misses the point entirely. Narrow banking solves no problems in today’s financial system, nor does it remove the possibility that taxpayers will not be put on the spot when there is a crisis. In fact, a move to narrow banking may create an entire system of government-sponsored enterprises with implicit guarantees and no monitoring of risks to protect and limit taxpayer exposure to risks.

So what conclusions can be drawn from all of this? Financial crises have their roots in misguided government policies, and the situation can worsen where financial systems involve government-owned entities as active participants. Lack of credible policies and lack of will to follow the rules lead to forbearance and increase moral hazard and taxpayer risks. Finally, focusing on creating a riskless asset for payments purposes misses the critical point that governments will still be likely to intervene—at taxpayer expense—when financial institutions experience a crisis.

Valeriano F. Garcia

Macroeconomic weaknesses are the main cause of banking distress and banking crises. Some of these weaknesses develop from poor policy mixes—such as lax fiscal policy coupled with tight monetary policies—that result in sky-high interest rates, increased quasi-fiscal deficits, and, of course, a day of reckoning. Latin America provides many examples of these time-inconsistent policies. Think of Argentina’s experience in the late 1970s and early 1980s, when fiscal policy veered to the left and monetary policy to the right. Interest rates shot through the ceiling while bank portfolios deteriorated and exchange rate credibility was called into question. The result was a banking crisis.

Even so, banking distress is not due exclusively to inconsistent monetary and fiscal policy. Some of the blame lies in adjustment policies designed to treat inflation and macroeconomic instability. The banking system, accustomed to enjoying a share of the inflation tax, is shaken when a stabilization plan suddenly removes this source of profit.

So, in Latin America at least, the initial source of the problem has been macroeconomic—either bad macroeconomic policies or, in the transition from bad to good policy, sharp changes in relative prices and a reduction in the inflation tax shared by the banking system. These macroeconomic problems then interact with the banking sector, deepening the crises. The failure of some banks, coupled with deposit insurance, implies a feedback from banks to the macroeconomy, aggravating the fiscal dilemma. It is at this point that governments usually intervene to indemnify depositors, increasing government expenditures and money supply.

In Latin America and the Caribbean the provision of deposit insurance is cyclical. As we all know,
deposit insurance creates the potential for moral hazard behavior, which is inconsistent with a healthy banking sector. In the past when banking distress emerged, deposit insurance was quickly blamed, and was either eliminated or reduced in scope. But when banking crises resurfaced, deposit insurance was reinstated. There seems to be a love-hate relationship with it. When there is deposit insurance moral hazard can wreak havoc, and there is a tendency to eradicate it from the banking system. Conversely, when there is a threat of a domino effect, deposit insurance is seen as the answer.

The basic dilemma for authorities is related to fractional reserve requirements, and the best solution is to eliminate fractional reserve requirements and adopt a narrow banking system. A narrow system does away with deposit insurance and, at the same time, eliminates the threat of a domino effect.

Although macroeconomic causes of banking crises are the most important, a sound microeconomic environment can help mitigate the crises. A three-legged structure is needed: a sound regulatory framework, efficient supervision, and early enforcement and resolution.

Most Latin American and Caribbean countries have an adequate regulatory framework. Codes of law are satisfactory. Supervision in many countries is not bad. What is lacking is tough enforcement, up to and including bank closings. Supervisors are usually aware of problems but distrust the market. They are afraid of immediate enforcement because they think that if the market perceives what is happening, there will be a domino effect. So, they fail to enforce the rules. As a result the problem escalates to the point that it can no longer be concealed from the market—a much worse situation than if the market had been informed at the outset.

This tendency is not confined to the banking system. For example, the Mexican crisis of late 1994 and early 1995 would have been less severe if markets had been privy to all data on a real time basis. In December 1994 data were roughly four or five months out of date. It is imperative that the market be kept abreast of all pertinent (even negative) information. In the long run this approach helps avoid graver repercussions.

Lack of enforcement is endemic in Latin America. Take, for instance, the 1853 Argentine constitution, which clearly was “imported” from the United States. Its general democratic principles were good but they were never enforced with strength. Throughout the region’s history, despite the presence of institutions, laws, and regulations, compliance and enforcement are absent. Changing the banking system will require more than “better” laws: something has to be done about enforcement and, as history tells us, the best enforcement agency is the market.

It is vital to distinguish between rules and discretion. Automatic systems and rules must be imposed and discretionary power removed from regulators. Regulators often try to solve problems by using moral suasion or by trying to isolate and hide things from the market. But in Latin America this behavior leads to worse outcomes than informing the market in advance.

Two things usually happen in the region’s banking crises: a liquidity crisis and a reduction in the real amount of credit. Argentina, Brazil, Mexico, and Venezuela all illustrate the liquidity effect and the effect of crisis on real money and credit. In Argentina in the first quarter of 1995, real (and nominal) money declined by about 20 percent (figure 1). Suffice to say, this was a grim picture. In the United States during the 1930s the monetary base went down by 33 percent—but that was over three years. Argentina’s banking sector also experienced a liquidity problem: the ratio of M1 to M3 increased, although this growth was not as significant as the decline in total money stock. The same traits are evident in other countries.

Brazil’s experience is also interesting. In the past decade it has undergone many changes in economic policies and seen myriad failed stabilization plans. In response to its economic crisis, it developed the Real Plan. This plan drastically reduced inflation, but it also drastically reduced an important source of bank-

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**Figure 1 Real money and credit in Argentina, 1991Q1–1995Q4**

[Graph showing real money and liquidity ratio from 1991Q1 to 1995Q4.]
Sergio Ghigliazza

To impute banking crises to macroeconomic imbalances only means that, by adjusting these imbalances, the banking system could operate efficiently and that it would be free from bank crises.

But market failures also play an important role in bank failures, particularly when they allow for the possibility of moral hazard behavior. Official interventions, such as deposit insurance, that are intended to stabilize the financial system often become obstacles to efficient market operations.

Bank supervisors are responsible for ensuring the smooth functioning of the financial system. But they are not the only ones. The central bank and other government agencies also must play a role in making the market work. In many countries where the financial sector was liberalized, such as Mexico, banks were left without reserve requirements, interest rate controls, and required asset allocation channels. The authorities believed that, once liberalization was introduced, the market would respond wisely allocate resources efficiently.

But liberalization is just one part of the task. In a country like Mexico, where at the moment of liberalization the financial sector was closed to foreign competition, there was implicit unlimited deposit insurance, and two banks controlled 60–70 percent of the financial resources, the market could not automatically be expected to operate efficiently. Intelligibility is a prerequisite. It is unreasonable to expect market results if market conditions are not fully in place.

Long-term stability—in growth, prices, exchange rates—is essential to the development of markets. Although some countries have been able to develop financial systems despite market imperfections and imbalances, sustainability and stability go hand in hand, because stability can overcome or lessen the inefficiencies that derive from market imperfections.

Allan H. Meltzer

Capitalism without failures is like religion without sin. It does not work. Preventing banking crises is easier said than done. There are three aspects of the problem. The first two are macroeconomic and microeconomic (moral hazard, risk, incentives, and how to deal with them).

The third one, which requires much more thought, is political economy. What is feasible in practice? Is it possible to design a system that minimizes social
losses? It is important to distinguish between private and social costs. The aim is not to eliminate all future banking failures. It is to avoid subsidizing risk while not penalizing it.

Some suggestions, on limited liability for instance, would clearly penalize risk. There is a real danger of making banks so risk averse that their functions will end up being performed somewhere else and shifted to another part of the system. It is a question of striking the balance between too much and too little risk. Finding that optimal balance for each country is not easy. For example, it would not be in the interest of most countries to return to a lot of private lending and borrowing outside the banking system. These activities should be kept within an active and developing financial market. That will not happen if the effort to prevent bank failures eliminates all or too much risk in the banking system.

Some issues

Some broad generalizations and conclusions can be drawn from the presentations and discussion at this conference. First, there are social benefits from the widespread use of payments and financial systems and the development of markets for lending and borrowing. Deposit insurance, among other things, promotes these social benefits. Although much has been said about the problems of deposit insurance and moral hazard, there are benefits. If it is credible, deposit insurance makes people want to use the financial system more rather than less. That has some social benefits. So, how do we get those benefits without incurring the costs of the moral hazard?

Preventing systemic risk requires a lender of last resort, usually the central bank. In a currency board arrangement there have to be lines of foreign credit or, possibly, a fiscal authority that can sell treasury bills to assist solvent but illiquid financial institutions. Under colonial currency boards—a system highly developed in the old British empire—most banks in a country were branches of banks abroad. The home offices supplied liquid assets or foreign exchange, and the possibility of a run on the banks was much less. Runs did not occur often, if at all.

The goal of policy should be to reduce to a minimum risks that are inherent in nature, trade, and other parts of the institutional structure. There would still be financial failures. The aim is to avoid systemic runs that disrupt payment systems and financial flows. Problems usually arise in markets when information is not readily available. These markets are not traditional, efficient ones where all risks are priced correctly.

Banks and other financial institutions exist almost entirely because they acquire assets that trade infrequently or not at all. Bankers make judgments about whether and when prices or interest rates will rise or fall, whether firms will fail or delay repayment, and so on. Regulators cannot make these judgments unless they become bankers. There will always be differences of opinion between the two because regulators are usually more risk averse than bankers. Those judgments usually have to remain with the banks. Problems, arise, however, in markets where many evaluations are imprecise. This weakness alone creates an argument for political interference and forbearance when there are problems.

Modern portfolio theory stresses that risks arise from the structure of portfolios. Many people at this conference have talked about the use of capital in the Basle agreements. Nevertheless, the Basle agreements are seriously flawed because they assign risk to individual assets and not to portfolios. People can change the risk position of their portfolios without making much structural change in their assets. They can make the change by selling short or selling forward, by trading in derivatives, and so on. A regulator could examine portfolios one minute and apply the Basle criteria, and twenty minutes later the whole exercise would be irrelevant. The Basle agreements miss what seems to be the most important implication of modern financial theory—that the risk is in portfolios, not in individual assets.

There is evidence that auditors are slow to detect fraud and failure and have difficulty appraising risk. That does not mean that audits are useless, however. The inability of bankers to predict an auditor’s arrival acts as a deterrent to wrongdoing and excessive risk taking. Audits cannot solve all problems but they should not be eliminated.

Some answers

What can be done to reduce risk in financial markets? First, there must be a lender of last resort. Second, there must be protection for households and businesses, while avoiding deposit insurance and moral hazard.

Lender of last resort is a public good that the central bank can supply at low cost, provided that the lender operates only when there really is a systemic problem and does not become the lender of first resort. This is a great risk in all countries and is why Bagehot developed a wonderful set of rules for Great Britain. Later, the lender of last resort in Britain, who only operated at a penalty rate against particular classes of assets, became the lender of first resort who
operated every day. Hence the banks never had to hold any reserves because they knew they could always go to the lender of first resort. It is important to create the public good but also to restrict its use.

To provide protection for households and businesses while avoiding the problems of deposit insurance and moral hazard, the central bank lends at a penalty rate on a variety of marketable assets—or eligible securities. The penalty rate is set by letting the discount rate for each security float with the rate on that security. It is always above the last quoted price on the security. The discount window should be opened to anyone holding eligible paper. This includes, specifically, nonbank financial firms that trade securities or use wire transfers. None will come to the window if the market is functioning correctly because business can be done at a better price in the private market. They will come only when there is a problem in the market, and that is exactly when the lender of last resort is needed. That sets a policing role for the penalty rate.

Monetary policy is usually conducted through open market operations, not the discount window. Rates in the market are set according to money growth or other criteria, but for an individual bank there is always an opportunity to come and get more. To prevent discounts from affecting total reserves or money, the central bank can sell in the open market. It can drain the market but provide reserves to the bank that requires accommodation at the penalty rate. As Bagehot pointed out, these policies should be stated in advance and followed in a crisis whenever there is a premium on base money. This will not happen without rules, and there must be penalties on bankers (and on regulators) who do not follow the rules.

For many developing countries, a few other issues need to be addressed. One is insufficient diversification within an economy or financial market because of a country’s size and structure of production. That could be Chile and its reliance on copper in the past or Mexico and oil. Where there is one dominant asset and there is a change in the relative price of that asset, the country simply cannot avoid a financial problem. Hence the question is how that problem should be dealt with. Should foreign banks be allowed into the country, or should domestic banks hold foreign assets and lend outside the country? Which is the right approach?

There is also the issue of the size of capital in banking. Many countries are now thinking about capital structure. To prevent losses, capital must be tied to the variability of prices. More research is needed on how much capital is required. After all, in the United States the stock market can fall 30–40 percent overnight, as it did in 1987. If that can happen in the United States, with its well-developed financial system, what is the variance of asset prices in other countries, and how many problems will that create? Structured and early intervention must be tied to capital requirements, which in turn must be tied to variability.

Finally, does the world economy need an international lender of last resort or a bankruptcy agency? The answer is a resounding no, and for two reasons. First, because a lender of last resort has to create base money, and that money has to come from a central bank. Second, it would create all sorts of new moral hazard problems. If an individual or group can decide that a state is bankrupt, lenders face a new risk. If that happens risk is created, not removed. Who is going to lend? And how much will they lend if they think the International Monetary Fund can come along and disoblige countries from servicing debt? Such an arrangement would adversely affect lending, borrowing, and financial flows to developing countries.

José Evenor Taboada

In the past fifteen years at least two-thirds of the World Bank’s member countries have experienced banking sector problems. These developments have led the Bank and the Inter-American Development Bank to finance structural reforms in banking systems and in supervision and to provide relevant technical assistance. The International Monetary Fund (IMF) recently has been discussing, at great length, the implications of financial sector crises and the need for greater cooperation and coordination between multilateral institutions to deal with such problems. The IMF also hopes to increase its technical support in this area.

Most analysts now recognize the close relationship between banking system soundness and macroeconomic policy. Policymakers must take the condition of the banking system into account when formulating economic policies, both as a key objective for and as a constraint on policies. A stabilization program targeting a specific instrument may need to be adjusted if it faces an unsound banking system.

Nicaragua is a prime example of banking reforms in a transition economy. Until 1991 the banking system was comprised entirely of state-owned banks and, under Nicaragua’s old constitution, insurance also was owned by the state. Since then a stabilization and structural adjustment program has been under way, including the liberalization of the financial sys-
tem. Interest rates were liberalized and became positive in real terms, banks' legal reserve requirements have been reduced substantially, and directed credit policies have been eliminated. In addition, an autonomous Superintendency of Banks was created and private banks were authorized. Banking regulation and supervision were introduced with the objective of keeping a sound system compatible with most modern market-oriented systems.

How did the financial system respond to these new policies? Unlike private banks, which have become stronger through higher participation in the deposit and loan markets, state-owned banks have been facing myriad shortcomings and limitations stemming from their inability to overcome the problems of the old operating framework. That is, heavy state subsidies and intervention, open access to passive central bank credit, and lack of competition. These problems have been exacerbated by the public banks' decreasing deposit and loan market participation and by a high level of arrears from excessive concentration of lending to the agricultural sector, itself plagued by difficulties.

Adjustment and stabilization policies in Nicaragua have had an important effect on the growth of financial savings, as well as on other sectors. GDP grew 3.3 percent in 1994 and 4.2 percent in 1995, and the fiscal balance in the current account of the nonfinancial public sector fell from a deficit of 18 percent in 1990 to a surplus of 6 percent in 1995. In addition, inflation plunged from 11,000 percent in 1990 to 11 percent in 1995.

State-owned banks' repayments to the Central Bank, which have run into arrears, recently introduced the possibility of another crisis in the financial system. However, preventive measures have been taken in the form of downsizing the state-owned banks and in transferring nonperforming loans to a collection agency. In the future both state and private banks will depend exclusively on their efficiency and effectiveness in order to continue operating in a system where the only source of funds will be from deposits. Only time will tell if Nicaragua's state-owned banks will survive or if their existence is incompatible with market-oriented system.

There are several ways to prevent banking crises, one of them being effective and efficient supervision. This entails an independent supervisory authority, on-site supervision, higher capital ratios (Nicaraguan banks' capital adequacy ratio was raised to 8 percent in June 1996 and will be further raised to 10 percent by 1999), stringent rules on asset evaluations, early exit and intervention strategies for banks in deep distress, more transparency to foster market discipline, direct mechanisms of intervention (such as reserve requirements), contingent and transparent government liability in some cases, and personal accountability for directors and management.

Roberto Zahler

All banking systems maintain a mismatch between the value of assets and the value of liabilities. In other words the economic value of assets is variable and market-determined, while the value of liabilities tends to be equal to rigid and fixed accounting values. In financial systems where the difference between the value of assets and liabilities is too big, liquidity problems may turn into solvency problems, causing failure.

Basic considerations

To minimize the mismatch, two basic considerations should be taken into account. First, it is crucial to reduce the intensity and the extent of economic cycles, especially when those cycles are not anticipated. Macroeconomic instability makes bank debtors more vulnerable and leads to inappropriate or biased credit risk evaluation by the financial sector. In most countries monetary policy tries to have some early warning systems that control for this possibility, cooling down the economy in order to reduce the amplitude of cycles. The magnitude and intensity of these cycles hits hard on bank loans in an asymmetric way. When cycles are contractionary, bank debtors are hard pressed to repay; this clearly is not symmetric with the expansive phases of the cycle.

Second, macroeconomic policy shapes the behavior of key prices in the economy—interest rates, exchange rates, wages, and asset prices. If these prices are outliers or divorced from their fundamentals, they may generate huge adverse impacts on debtors. Policy flexibility is crucial because it allows shocks to be distributed among different markets. Chile has clearly learned this lesson. When foreign or domestic shocks occur, they are distributed among the credit and financial market, the foreign exchange market, and the labor market.

Asset prices tend to be a residual or equilibrium mechanism whenever too much weight is placed on certain variables. Moreover, bubbles in asset prices create problems not only because of their wealth effect on domestic spending but also because of the collateral value of bank lending—which may turn out to be totally disproportionate to its real value once the bubbles burst. So, in addition to flexibility it is important to understand the way asset prices
(especially prices of stocks and nontradable assets) tend to move. The possibility of movements that are completely out of proportion to reasonable fundamentals should be taken into account in the design and implementation of policies and regulations for the financial sector.

The timing, speed, and sequencing of reforms is another important issue. In the mid-1970s a mission from an international financial organization was sent to Chile to work on financial liberalization. Real interest rates on deposits were, for a second consecutive year, 45–50 percent. One member of that mission said that if interest rates were market-determined—he never explained what market-determined meant—then they would find their own best level. That turned out not to be the case—in fact, they stayed at around 40 percent for four or five years, contributing to the bankruptcy of the financial system. Those rates, of course, were never related to the price and marginal productivity of capital. They were clearly outliers. It is a mistake to think that because the prices are “market-determined,” everything will be fine. When outliers persist, there is likely a problem with regulation, bank owners or directors, moral hazard, and so on. No one should maintain confidence in inappropriate market behavior in such a situation.

Another example. In the late 1970s Chile’s currency was pegged to the U.S. dollar, at a time when wages were fully backward indexed to past inflation, domestic inflation was 35–40 percent a year, and international inflation was 4–5 percent. There was a clear incompatibility between the exchange rate policy and wage policy, but there was a pretense that domestic inflation could rapidly and smoothly converge to the level of world inflation. A disequilibrium in the exchange rate contributed to a huge current account deficit. Moreover, the exchange rate peg stimulated external inflows, which were mostly intermediated by banks domestically as dollar-denominated loans to both tradable and nontradable sectors, thereby increasing the foreign exchange risk of debtors directly and that of banks indirectly. What caused the appreciation of the domestic currency and the current account deficit? There was no fiscal deficit and monetary policy was apparently nonexpansionary, but there was high domestic spending. The current account of the balance of payments reached 14 percent of GDP in 1981, a figure that understated the weakness of Chile’s external accounts because of the impact of an excessively appreciated peso on GDP. But because there was no fiscal deficit, many highly regarded economists believed there was no need to worry, that there was no problem. Reality proved them wrong.

Something similar happened in Mexico in 1994, when an excessive current account deficit was financed by short-term capital inflows and, finally, the exchange rate system broke. The financial system also faced serious problems, and the economy tumbled into severe recession.

In the past five years Chile has maintained a macroeconomic situation where there has been a fiscal surplus of around 2 percent of GDP, monetary policy has been quite restrictive, and the exchange rate has been used to help contain a current account deficit of about 3 percent of GDP, a reasonable and sustainable figure. There also has been a huge effort of sterilized intervention in the foreign exchange market. In fact, by the end of 1995 international reserves were around 25 percent of GDP. Given this high stock of international reserves, Chile was able to prepay external debt, reducing the quasi-fiscal deficit. In addition, the currency has appreciated by an average of 4.5 percent a year over the past five years. As a result the economy is growing by 6–7 percent a year, the current account deficit is less than 2 percent of GDP, inflation is down to less than 8 percent, and there is huge foreign direct investment, good export performance, and strong long-term and medium-term capital inflows.

Given the circumstances, Chile had three options. It could do nothing and simply allow the market to work, thus favoring de facto an increasing appreciation of domestic currency, a higher current account deficit, and a greater vulnerability of the economy to foreign shocks. It could gradually liberalize capital inflows. Or it could close the wedge between what was considered to be an equilibrium in the domestic interest rate and the interest rate Chile faced in international markets.

Because the first option (aligning the domestic interest rate with the foreign interest rate) threatened stabilization and current account objectives, Chile chose a combination of the second and third options, the third by establishing a special reserve requirement on short-term capital inflows.

Countries that appear to be more liberal than Chile in financial integration with the world economy also tend to have higher domestic real interest rates. Why? Basically, those countries tend to have higher expectations of devaluation than does Chile or higher country risk premiums in international markets—or both. Neither of these elements, which mainly reflect the international financial community’s lack of confidence in a country’s macroeconomic policies, is the proper way to integrate with international financial markets.
Chile has tried to pursue policies aimed at a serious, responsible, and sustainable strategy of financial openness—witness the prepayment of foreign debt, the accumulation of international reserves, the healthy composition of the capital account, the huge amount of foreign direct investment, and an increasingly internationally integrated financial system. Moreover, there has been significant Chilean investment abroad. In that respect Chile has been cautious with the foreign lending and investment of banks and pension funds because of prudential policies related to state guarantee schemes and systemic risk considerations.

Future challenges

The Chilean financial system will face two basic challenges in the next few years. One has to do with the need for consolidated supervision of financial groups. Supervision is lacking, but this has not been a major problem because of the nature and scope of banking. But with a law in Parliament that would allow banks to do more domestically, such as factoring and securitization, in addition to cross-border lending and the international establishment of branches, subsidiaries, and joint ventures, consolidated supervision is now a must.

The most important challenge in maintaining the health of the financial system has to do with internationalization. Once the new banking law is passed, Chilean banks will be able to invest abroad, subject to certain criteria, posing major challenges for supervisory institutions. Chile must seek to limit country risk in the emerging markets where banks will make loans and buy shares from other banks. Contagion risks also must be considered. The authorities will have to be aware of how supervision is conducted in those banks, coordinate that supervision with its own, and, most important, seek consolidated supervision of the banking system. Chile must ensure that regulatory arbitrage risks are controlled, especially in terms of possible margin evasions for large exposures and related credit. We do not yet have the expertise to ensure that banks will not be exposed to excessive risk if they invest outside Chile. But with the irreversible trend toward internationalization, we can try to ensure that these activities proceed in a gradual and prudent way.

Rodrigo Bolanos Zamora

Costa Rica's banking system comprises three large state commercial banks, twenty-two small, domestically based private banks, and a few other public banks (such as workers and housing banks) created by special laws. All banks are regulated by the Superintendency of Banks, which is part of the Central Bank. Distortions in the system over the past ten to fifteen years led to the development of a parallel (offshore) banking system. Most domestic private banks have a parallel operation in the Caribbean or in Panama, mainly processing transactions in U.S. dollars with Costa Ricans. There are other intermediaries, including small nonbank financial companies and the so-called securities market, which trades in money market instruments. In addition, an incipient private pension fund has developed as a complement to the mandatory state-managed pension scheme and state monopoly in the insurance market.

Costa Rica's financial system suffers from inefficient state banks (with spreads of 14–16 percent between average loan and deposit rates), bad loans and portfolios, and insufficient capital. State banks hold a large but declining share of total bank assets and liabilities and have been highly protected. Some of these distortions are being ameliorated by a state warranty on all sight and time deposits, without any limits. Until recently state banks enjoyed a monopoly on sight deposits and had exclusive access to the discount window of the Central Bank. These privileges have been taken away.

Over the past eight to ten years Costa Rica has been moving gradually to prudential supervision. The offshore banks remain a big problem, however. Monetary and exchange rate policy focus on reducing the dependency on reserve requirements, which are being lowered from about 40 percent to 15 percent for sight deposits. Costa Rica is moving to an auction system in open market operations and for ten years has followed a crawling peg, with daily mini-devaluations based on the real exchange rate and the level of international reserves. Fiscal policy and monetary policy interact in a special way: Central Bank losses are equivalent to 2 percent of GDP, mainly because in the past the bank was used to secure external debt and to perform several other quasi-fiscal operations. These losses have caused problems with monetary control. Inflation has fluctuated from 10–30 percent over the past twenty years and interest rates have been positive in real terms but volatile.

Trade and capital accounts are open, allowing capital to flow freely in and out of the country. Although we would like to control some short-term flows from the offshore banking system, we have neither the legal right nor the economic resources to do so. However, regulations for the offshore banking are being considered.
As to narrow banking, Costa Rica is, in fact, moving in the opposite direction. Reserve requirements are being lowered in an effort to lower the cost imposed on intermediation margins by the spreads in the banking system due to unremunerated reserve requirements. We are also preoccupied with the problems created by new financial instruments that substitute for sight deposits and with the problems created by fiscal and electoral cycles that tend to increase the fiscal deficit near election time.

A change in the constitution is planned to restrict the nonfinancial public sector deficit plus the central bank deficit to not more than 1 percent of GDP. That change has already been approved once by Congress; to become effective it must be approved twice. The possibility of introducing deposit insurance is also being examined. In the past year several consultants in Costa Rica have recommended deposit insurance, which might be a way of inducing depositors to shift toward domestic banks and away from offshore banks.

In terms of supervision, the government closed a poorly managed state-owned bank in 1994. It was the third largest bank in Costa Rica and the trial of the managers is still pending. Discussion has begun on how to improve management in the three remaining commercial state-owned banks. Market-based supervision would allow for better information, especially from offshore banks. The new law governing the central bank gives it some authority to require more information from offshore banks that, in any case, it already requires from domestic banks.

Thus Costa Rica is moving to raise bank supervision to international standards within the next decade. Other Central American countries are making similar efforts to reduce distortions, improve supervision, and address the problems of state banks.
**Floor Discussion**

**Question:** How would you have dealt with the Mexican crisis?

**Allan Meltzer:** Mexico’s problems began after the assassination of presidential candidate Luis Tonaldo Colosio. Then things stabilized—the exchange rate appreciated a bit, and interest rates fell. In October there were still 100 percent reserves in foreign currencies, so Mexico was able to stabilize.

Then two big events happened at about the same time. One was further assassinations, which frightened people. The other was an indication that the incoming government intended to do nothing about the fiscal deficit. It also had no plans to cut the rate of money growth. By December 1994, for example, producer prices were rising by 9.3 percent, about twice the annualized rate of the previous December. So there was not only inflation but also evidence that it was beginning to take hold.

What should the Mexican government have done? It should have stabilized in October by announcing a fiscal tightening. But failing that, what were its choices? Either to impose a large debt burden on the Mexican economy by paying off foreigners or to spread the loss and default on the debt. That is, to say to the debtholders, “you thought you were here for three months but you are going to be here for three or five years. So, let’s discuss the terms of the workout.”

Of those two choices, the second seems better. That is, given that macroeconomic policies were destabilizing in an election year, the choice was between borrowing abroad to pay off mainly foreign and domestic lenders who had gotten into dollars, dollarized securities, or other securities early or telling them that they would have to wait three or five years before they were paid back. I would have chosen the second option.

The people holding those securities were receiving 20 percent or more in yields. Thus they already had received a substantial risk payment for taking those risks. They knew the risks. Sometimes risk hurts—and sometimes people have to learn that you do not get a 20 percent return buying safe assets.

**Question:** Allan Meltzer, you said that it was possible to penalize bankers too much with, say, unlimited liability. But do you want to just keep trying to raise capital? And how high do you go? You talked about looking at asset prices like stock market prices, but there are many different variables in the regulatory framework that influence how safe a bank should be made. Could you or Roberto Zahler elaborate on this issue of whether you want to do it by increasing liability limits, or do you want to just arbitrarily raise capital? Then, most important, how do you fold this in with the lack of diversification if some countries, like Chile, want to go slow in allowing banks to invest overseas? Does that imply that you have to be more vigorous with capital or liability or something else to make those banks safe?

**Roberto Zahler:** One argument about overseas investment is that Chile’s banking system is somewhat risky because of the size of the market and concentration, and so Chilean banks should increase their scope of activities within and outside Chile. But to do that without jeopardizing the financial system, we need reasonable assurance that supervisory institutions can provide minimum standards to maintain the health of the system.

Two issues are involved: consolidated balance sheet supervision and better knowledge of what it means to go outside the country—not only investing outside, but lending abroad. These are major challenges and Chile is headed in that direction. Clearly, the big question is how soon we will get there. And
that depends on how quickly are we able to increase supervisory capacity.

We are comfortable with capital bulk, capital requirements, and things of that sort, and we feel comfortable with the criteria we are using now. For example, banks wanting to go outside Chile must have at least a 10 percent capital-asset ratio (instead of 8 percent, which is required to increase the scope of activities in the country). Ours is a pragmatic approach to what must be a gradual process.

Allan Meltzer: I will repeat something that has been said here many times: if we continue with the macroeconomic policies of the past, there will be no solution to these problems. We must balance too little risk-bearing by bankers with too much risk-bearing by bankers. The goal is not to drive all the risky activity out of the banking system; the goal is to pool it. Striking the optimal balance is difficult, but under better macroeconomic conditions the risks will not be as large as they were before.

Question: I would like to hear more about the links between liquidity, reserve requirements, and the lender of last resort function. In New Zealand there is an initiative to shift from deferred settlement to a real-time gross settlement that is processed, settled, and made final, irrevocable, and unconditional. From the risk reduction viewpoint, real-time gross settlement is obviously superior to deferred net settlement.

Peter Nicholl said that New Zealand has abolished reserve requirements. But careful examination of these arrangements is needed to understand who is providing liquidity and who is assuming risks. Real-time gross settlement can be designed in several ways. One is with central bank intraday credit that is daylight overdrafted, like that provided by the U.S. Fedwire, or without central bank credit, as with the Swiss Interbank clearing system. The second way is to provide central bank credit, which was free of charge until last year just to keep the system running. A third way is to provide a kind of grease to the system with daylight overdrafts. In the Swiss system the central bank does not provide any credit and payment is held on queue when funds are insufficient to cover payment. This approach tends to create gridlock. It must be stressed that there is a tradeoff between efficiency and risk.

In Argentina high reserve requirements are required and the Central Bank’s role as lender of last resort is limited. Presumably, Argentina does not have any other realistic option under those circumstances.

Robert Eisenbeis: Banks should not only move toward real-time gross settlement but toward real-time gross settlement only against good funds. Efficiency comes from participants being able to decide how to manage and monitor risk exposure. I cannot rationalize, particularly given the current rates that are being charged for interday money, that there is anything but free capital being provided from the Federal Reserve or the Fedwire. And with the evolution of markets to a system that is moving increasingly toward twenty-four hour trading, the idea of daylight overdrafts effectively disappears.

I am also not persuaded about the gridlock argument against real-time gross investment. Gridlock only comes when institutions do not manage their own liquidity. An institution has to make the necessary investment to be in the payments business. Banks must provide sufficient resources to that activity so that it becomes economically viable. One can always borrow from the lender of last resort if there is a liquidity problem. But what is worrying is that for systems with other than real-time gross settlement with clearing only against good funds, the main risks often come from initiators who are not under the supervisory responsibilities of those bearing the risks. Namely, in the case of the Federal Reserve, the issues often come from outside parties who are initiating payments and become the source of risks over which the Fed has no control. Under those circumstances I would rather see many of these payments markets go to operating like a futures market, which is essentially what real-time gross settlement clearing only against good funds is about.

Allan Meltzer: I agree. Many countries have tried to pass off risks to taxpayers only to find that taxpayers are unwilling to accept them. Japan is a good example, where the legislature is unable to pass any legislation settling who is going to pay for bank failures. But no one in Japan was protesting when the legislature was paying off the banks’ depositors. The experience has been similar in Latin America, North America, Europe, and elsewhere when governments bail out banks. And it is not easy for people to return to a system if they have been forced to accept losses.

Question: Suppose that American taxpayers, at the end of the 1970s, had been asked whether they were willing to accept a mortgage system for savings and loans that implied a risk that eventually could require them to pay $3,000 each. How would taxpayers have answered?
Allan Meltzer: Clearly, they would have said no. They would have said that they want the system but not the risk. That is why we need to find an incentive system that solves the problem in advance. It will not be perfect and there will be problems, but they will be less severe than the problems now. No solution will work unless macroeconomic problems are taken care of.

Question: Banks have limited capital. If there is a big change in the domestic discount rate, most of banks' capital can be wiped out, and the usual incentives for shareholders to behave prudently are also wiped out. What kind of corporate finance mechanism would allow for the replacement of shareholders by others who would otherwise not interfere but who could take over?

George Benston: That is the rationale behind structured early intervention and resolution. As a bank’s capital is depleted or as it grows beyond its capital, its capital-asset ratio goes down. When the ratio declines below prespecified “trip wires” the authorities first may and then must take action to prevent the bank from expanding, paying dividends, and so forth until the bank brings its capital-asset ratio back up. Thus the bank rarely would have to be taken over by the authorities. Rapid depletion of capital could occur because of massive fraud or severely negative macroeconomic conditions. The supervisors should make fraud unlikely and the central bank should control the macroeconomy.

Sri-Ram Aiyer: Three or four points from this session are worth noting. A sound macroeconomic environment is paramount. Economic stability and sustained economic growth should obviously be the first and primary goal of public policy. Without long-term stability, any banking system could melt down.

Policy flexibility is another objective, allowing the cost of economic shocks to be distributed across different markets rather than concentrated in one segment.

Deposit insurance and the threat of moral hazard is another important issue—how, without subsidizing risk, to optimize the provision of deposit insurance? What is the best form of deposit insurance? How can different actors be made to bear responsibility for their actions? The answer to those questions are country-specific and depend on how well markets function, the extent of information asymmetries, and so on.

Market-based regulation is a good idea, because in the information age transparency and disclosure are the only way to go. People bet against anything even slightly obscure, fearing the worst. That is why transparency is essential.

Then there is the importance of accounting principles, in particular those that allow for the valuation of assets even in situations where functioning markets do not exist. What are the proxies for those values, and how are they developed? In the absence of transparent accounting principles the 8 percent Basle capital adequacy standard and all other guidelines are useless, because the numbers mean nothing. Bankers must embrace the fundamentals, and that is an area where Latin America and the Caribbean must continue to make efforts. Adequate prudential regulation and effective supervision are also essential. In addition, given increasing cross-border operations of banks, there is a need for regular consultation among regulators—not least for consistency.

Finally, some countries in Latin America are developing policies on closing insolvent institutions—but more and tougher policies are needed. Inadequate enforcement does not provide the right incentives. There are continued attempts to protect institutions rather than the system. Every institution is seen as a potential risk, as a potential threat, to some kind of systemic problem. As long as that attitude persists, so too will banking problems.
As noted in the introduction, this conference was organized to gain a better understanding of banking distress and crises, both common and costly occurrences in Latin America. The main topics of the conference were narrow banking, deposit insurance, and market-based regulation. Many attendees were surprised by the discussion of narrow banking, having considered it an issue of merely theoretical and historical interest. When seen afresh, however—in the context of protecting the payments mechanism without incurring the high costs of deposit insurance, moral hazard, and excessive regulation—narrow banking is a timely and significant issue for distressed banking systems. The discussion of narrow banking was important not only for countries that lack lenders of last resort (like Argentina), but for the entire issue of banking stability. Thus my discussion here will focus more on narrow banking than on the other issues raised during the conference, since it is a potentially important reform that is opposed by most economists and almost all bankers.

Deposit insurance was a natural product of the nonexistence of narrow banking systems. Larry Sjaastad clearly traced its linkage to fractional reserve requirements. Latin America’s experience with reserve requirements has been quite varied. Some countries have had more than thirty different required ratios, discriminating by bank size, type of deposit, and location of regional headquarters. Until the tequila effect Argentina, according to Roque Fernandez, was on the road to 100 percent reserves and narrow banking, while Mexico had already proceeded to zero reserve requirements. Dissension over this issue has led to conflicting policy advice to central bankers.

Valeriano F. Garcia

Origins of Financial Crises

Unlike crises in individual financial institutions, generalized financial crises typically stem from macroeconomic disequilibria. But even though such disequilibria may trigger systemic crises, the incidence and depth of crises is strongly influenced by a range of institutional and regulatory elements, including the asymmetries, rigidities, and externalities associated with fractional reserve banking; inadequate accounting and auditing standards; poor enforcement of prudential regulations; and lack of early intervention and resolution of problem banks, as well as other forms of regulatory forbearance.

Banking distress and crises usually have a gestation period during which macroeconomic inconsistencies build up, leading to a resolution that implies a shock (capital outflows, devaluation, recession, and so on) to the system. In many cases creeping macroeconomic problems are related to time-inconsistent exchange rate policy and domestic credit and fiscal policy. For example, a “soft” fiscal policy coupled with a pegged exchange rate is a well-known recipe for disaster in the financial sector. This disaster can occur with a hard monetary policy or a soft monetary policy. Monetary policy can influence the duration of the gestation period, but the core of the problem is a fiscal deficit that undermines the credibility of the exchange rate anchor.

Such a combination of policies generates both high and variable real interest rates and high variability in the real exchange rate. These two effects are deleterious for the asset side of banks’ balance sheets. High interest rates lead to a larger share of nonperforming assets and encourage bankers to roll over bad loans (“evergreening”). The changes in relative...
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prices caused by changes in the real exchange rate also lower the quality of the financial sector’s assets portfolio, as Mexico’s recent experience demonstrates. A portfolio that is sound with one set of relative prices could turn out to be sharply downgraded with a different set.

Perverse Asymmetry: Deposit Insurance, Reserve Requirements, and the Multiplier Effect

The same policy that increases riskiness on the asset side of banks’ balance sheets—deposit insurance—also has a perverse effect on their liabilities. Deposit insurance causes banks with bad portfolios to pay higher interest rates to depositors (and charge higher interest rates to their risky clients) than other, less risky banks. The moral hazard generated by deposit insurance causes the liability side of banks’ balance sheets to increase in volume because, with deposit insurance, depositors do not have to worry about the quality of their banks’ assets. Consequently, as the market value of assets falls, the liabilities of the banking system increase—and with them, the potential for financial disaster.

Deposit insurance is a second-best solution to the need to ensure confidence in the banking system and prevent bank runs. And, as stated by Larry Sjaastad, deposit insurance is only needed because of fractional reserve requirements, which generate a deposit multiplier. This multiplier creates euphoria magnifying the monetary base increments resulting from capital inflows and wreaks havoc when the monetary base decreases as a result of large outflows. Because deposit insurance creates a serious problem of moral hazard, it also creates the need for more regulation, better “policing” (supervision), and stronger enforcement. The sole factor distinguishing banking from any other ordinary business—such as the bakery business—is its unique feature of fractional reserve requirements. The bakery business experienced only one episode of fractional reserves—when Jesus multiplied the bread. And experience has shown that it would be dangerous for bankers to continue wielding that kind of godly power.

Is Narrow Banking the Answer?

The perverse asymmetry problem can be tackled in two complementary ways. One is with consistent macroeconomic policies that help avoid significant changes in relative prices, including real interest rates. This approach evades the virus that causes the sickness in the first place. The second approach is the Chicago plan for narrow banking, an idea that was discussed in the conference paper by Roque Fernandez and Liliana Schumacher and supported by Larry Sjaastad and, to a degree, by Allan Meltzer. Narrow banking is equivalent to a vaccine: even if the virus is there, narrow banking protects the payments system.

The Chicago plan for narrow banking automatically deals with the asymmetry problem. By imposing a 100 percent reserve requirement on demand deposits, it resolves both the deposit insurance–moral hazard quandary and the asymmetry problem. A narrow banking system imposes symmetry on the remaining “broad” financial intermediaries’ balance sheet: any drop in asset prices is immediately mirrored in the liability side and borne by investors, not by the intermediary bank.

Several participants were of the view that the Chicago proposal would only shift risk from banks to nonbank financial intermediaries. In other words, narrow banks rather than reduce risk would merely reshuffle it. This contention misses a crucial point: the resolution of a banking crisis is entirely different from the resolution of a capital markets crisis because a banking crisis affects a country’s payments mechanism.

A banking crisis immediately threatens the stability of the payments system, increasing overall risk by exacerbating macroeconomic problems through both the potential fall in money supply and credit and the potential fiscal impact. The October 1987 stock exchange crash in the United States had no direct fiscal cost. Had it occurred in the banking sector, the consequences would have been quite different.

Furthermore, narrow banking is more equitable than conventional banking. In conventional banking the cost of crises is usually passed on to taxpayers and, through the inflation tax, can cause perverse income redistributions. In narrow banking the risk is transferred to the capital markets and is paid by those who took the risk in the first place.

Some analysts have claimed that narrow banking requires well-developed capital markets. This is not true. Consider some of the financial products developed by the Islamic banking system that can easily be applied to narrow banking in developing countries. Islamic banking has been completely disregarded in the West because of its apparent refusal to accept interest as an appropriate mechanism for the intertemporal allocation of resources. Some observers claim that Islamic banking is a contradiction in terms because there cannot be banking without interest, while in reality interest is well-embedded in that system. The Islamic system has developed some interesting products, particularly its profit-loss sharing scheme.
The Islamic system has two types of profit-loss sharing schemes: one between a bank's assets and its borrowers and one between a bank's assets and its lenders. Islamic banks place only a small share of assets in the first arrangement. Most credit operations are done with a mark-up arrangement that serves as a disguise to charge ex ante interest rates. The more interesting arrangement is the profit-loss sharing scheme between a bank's assets and its liabilities. Here depositors share a percentage of the profit or loss generated by the bank's assets portfolio.

Even if on a very small scale, the existence of this type of product in countries like Turkey should dispel the claim that, to be implemented, narrow banks need well-developed capital markets. A profit-loss sharing scheme between a bank's assets and its liabilities eliminates the perverse asymmetry found in conventional banking, and it may prove especially suitable for agricultural banking.

### Fixed Exchange Rates, Capital Flows, and the Money Multiplier

Another important advantage of narrow banking is that it makes the money multiplier equal to one. With floating exchange rates it substantially improves control over the monetary stock, and with fixed exchange rates it substantially reduces the monetary impact of capital flows.

Countries like Argentina, with a fixed exchange rate, also benefit from narrow banking even if the money stock is endogenous in the long term. The qualifier “in the long term” is important because large exogenous shocks have affected the Argentine monetary base in the short term. Those shocks have then “multiplied” into argen-dollars (and peso deposits). Because the banking system was not narrow, the endogeneity process proved more difficult.

When a dollar of capital inflows was, through the multiplier, transformed into an inflow of several dollars, there seemed to be no problem. But problems arose when a dollar of capital outflows was multiplied by the “irrational” (Sjaastad’s term) fractional reserve system, causing a multiple reduction in the money supply.

Narrow banking also permits better control of the money supply in countries that have floating exchange rates (or managed floating rates). In theory these countries can control changes in the money multiplier with changes in the monetary base (through open market operations). In practice such a move is difficult because of the inner lag in monetary policy (the lag between changes in the monetary base and changes in the monetary stock) and difficulties in predicting changes in the ratio of cash to deposits and in the aggregate ratio of reserves to deposits.

Some analysts have claimed that reserve requirements can protect against the destabilizing effect of capital flows if the central bank is willing to raise and lower them in the face of capital inflows or outflows. Although this proposal has some appeal, it creates more problems than it solves. Many countries (Brazil and Chile, for example) have attempted such sterilization, mainly through open market operations and reserve requirements. There are two major problems with introducing this sterilization policy in a context of fixed exchange rates. First, it increases domestic interest rates in the presence of capital inflows and reduces them in the presence of outflows, thus preventing arbitrage from working. Sterilizing capital inflows also generates huge interest rate losses in the treasury. In this case the central bank accumulates international reserves at a real interest rate that is higher than it can earn on those reserves.

Mexico’s recent financial crisis has shown the perverse effect of increasing domestic credit within a basically fixed exchange rate regime and then trying to sterilize the capital outflows that were the natural outcome of that policy. The sterilization policy (increasing money supply when facing capital outflows) tried to protect the banking system from very high interest rates. Ironically, this policy eventually contributed to the bankruptcy of many banks and threatened the entire banking system, creating huge quasi-fiscal deficits.

One rationale for sterilization is that capital flows are exogenous, determined by the “herd instinct” of foreign investors and the vagaries of international interest rates. Thus, it is claimed, the domestic market should be protected from these exogenous shocks. But sterilization would be inappropriate even if all shocks were exogenous. Moreover, not all capital flows are exogenous, and it is impossible to know what fraction of flows is endogenous and which is exogenous.

A large portion of Mexico’s 1994 capital outflows was endogenous. These outflows were caused by excess domestic credit (Garcia forthcoming), generated by development banks and other government expenditures. Adjustment came in the form of current account deficits and foreign exchange losses. With confidence shaken, further exogenous outflows followed.

The counterexample is Argentina. Although there was some sterilization (a reduction in reserve requirements and some rediscount), a convertibility rule required that the bulk of adjustment come through interest rate increments. During January–May 1996 the
nominal stock of money was reduced by 20 percent. Had Argentina chosen to completely sterilize the outflows, the convertibility plan would have collapsed.

Prudential Regulation

New Zealand's experience with market-based regulation, as presented by Peter Nicholl, shows that market-based regulation can have many advantages over traditional regulation. Although some prudential regulation is essential to reducing the transactions costs involved in gathering and processing information by bank creditors, market-based regulation has several advantages over the discretion of official regulators. Market-based regulation is automatically enforced, not subject to corruption, and timely.

Automatic enforcement guarantees equity—meaning there is no exclusive treatment to special banks, no "strategic" games played by the regulatory body, and no discretion granted to regulators on how and when to discipline. When there are problem banks, the market determines how to discipline—through deposit withdrawal—and when to do it—immediately—in a predetermined way. This approach should be scary only to bank directors and shareholders, and thus should provide them with incentives to monitor the bank's financial and economic situation to avoid the ultimate punishment by the market.

Market-based regulation is incorruptible because the market has no special auditor or regulator that could be subject to bribes. This form of regulation is, by its very nature, a mechanism—and so is not subject to fraud or malfeasance. The delays created by regulatory forbearance are one of the main problems in resolving banking problems. Regulators try to avoid spillovers to the whole banking system by engaging in forbearance and concealing "sensitive" information from the market. They tend to wait and see if the problems can be solved through special agreements or moral suasion. The market acts in the opposite way: it acts as soon as information is available, with the advantage that this discipline helps prevent problems from going from bad to worse.

Rules or Discretion?

Several interesting issues were raised during the roundtable discussion. Of particular interest is the subject of rules and discretion in the management of central bank policy. The controversy on whether monetary and exchange rate policy should be managed with rules or with discretion is not new. In his comments Roberto Zahler proposed "active discretion." He said that the central bank should not only try to fine-tune business cycles, but also that it should have the power and flexibility to target the nominal monetary base as well as nominal and real exchange rates, nominal and real interest rates, international reserves, and whatever else it deems necessary.

Notwithstanding what academics have to say about the futility of central bankers trying to control real variables, Zahler asserted that in the real world markets are not to be trusted. Active discretion, he said, would avoid major inconsistencies in the system that often generate large variability in relative prices.

Zahler is correct in saying that good management is better than bad and inconsistent rules. But good and consistent rules are readily available and are better than the best-intentioned management. Good rules are better because central bankers (and academics) still know very little about the functioning of countries' underlying economic model or about the leads, lags, interactions, and variabilities of its macroeconomic relationships. Although there have been several important cases of bad and inconsistent rules, there have been many more cases of bad and inconsistent discretionary management.

One way to avoid asymmetries in the banking system is to avoid macroeconomic policies that generate sharp and unexpected changes in relative prices (including interest rates). On that objective we all agree; the difference, as noted above, is the instruments.

Notes

1. In fact, many Islamic banking products implicitly introduce interest (for example, repurchase agreements).
2. The share of Islamic banks in the Turkish banking system is very small.
3. Most countries that use the fractional reserve system make the system more "irrational" by imposing different reserve requirements according to the type of deposit. Some countries also make it worse by changing required reserves according to bank size and region of operation. Under these conditions the aggregate reserve ratio is not wholly determined by the central bank, and is influenced by changes in the public's portfolio choice.
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