

Liberalization, Privatization, And Crash: Mexico's Banking System in the 1990s

William C. Gruben

Assistant Vice President and
Director, Center for Latin American Economics
Federal Reserve Bank of Dallas

Robert McComb

Assistant Professor of Economics
Texas Tech University

This article details the events that precipitated and followed Mexico's financial crisis and examines how the problems took shape.

Although the Mexican economy has been growing since the third quarter of 1995, the banking sector remains in serious financial straits whose resolution, the government estimates, will ultimately absorb the equivalent of 8 percent of current annual gross domestic product (GDP). Indeed, despite Mexico's recovery, domestic banking fragility strains Mexico's ability to finance a deepening and diversifying of this recovery among smaller and mid-sized firms, which lack large firms' access to international capital markets.

This article details the events that precipitated and followed Mexico's financial crisis and examines how the problems took shape. Although Mexico's banking crisis is closely related to the December 1994 peso devaluation, its foundations were laid much earlier. In fact, there is much to suggest that Mexico's devaluation occurred in part because the optimal policies for resolving an incipient banking crisis contradicted the requirements for maintaining a pegged exchange rate.

Very recently, a literature has developed that not only addresses the banking crisis but also deals with Mexico's difficulties in a microeconomic financial industry context. Despite its Mexican focus, this literature has much to say about microeconomic problems that can ensue in the wake of any financial liberalization.

According to this literature, monitoring potential problem loans is especially difficult when—as in Mexico in the early 1990s—euphoric investor behavior and a rising economy make identifying risky borrowers more difficult. When foreign capital departs, what always had been risky behavior suddenly becomes more obvious. This monitoring problem, which not only regulators but the banks themselves face, helps explain the suddenness of some banking crises—that is, when anything goes wrong, everything does (Hausmann and Gavin 1995).

An important backdrop for this monitoring problem in Mexico—and the attendant inrush of capital and its subsequent outflow—was the behavior of its banks in the wake of financial liberalization. For Mexican banks, Gruben and McComb (1996) find—as Shaffer (1993) finds for Canadian banks in the wake of liberalization in the 1980s—behavior consistent with a postderegulation struggle for market share. In these struggles, a typical bank extends financial services more aggressively in the short run than it would in the long run. It may lend so expansively in the short and medium run that marginal costs exceed marginal revenue. The bank may be encouraged in this by the apparently strong balance sheets of borrowers for whom what may appear a permanent improvement in for-

tunes ultimately turns out to have been temporary (Hausmann and Gavin 1995).

In such periods, not one but a collection of phenomena may conspire to send illusory messages. Banks may engage in herd behavior as lenders send unrealistically positive signals about the economy to one another and as the euphoric flow of foreign capital into the nation's financial markets (common following a liberalization) temporarily sends signals that some may wrongly take to be permanent (Gonzalez-Hermosillo, Pazarbaşıoğlu, and Billings 1996; McKinnon and Pill 1996; Ostos Jaye 1996).

What distinguishes more recent literature on this topic from what appeared in the past is that more of the recent literature details this behavior empirically. This allows the statistical characterization of expansive behavior as it happens, in contrast to the more traditional verbal descriptions of what may be easy to identify when the crash comes but is hard to prove convincingly beforehand.

To put Mexico's recent experience in context, we detail the government's previous, financial repression approach to regulation, examine the Mexican financial system of the 1980s, and consider the privatization of the early 1990s and its aftermath. We characterize the banking crisis as it began to materialize before the devaluation of December 1994 and follow with the denouement of 1995, which included programs that not only preserved depositors' assets (the banks' liabilities) but also, strange to relate, the assets of the banks' stockholders.

The nationalization of Mexico's commercial banks

To elucidate the causes and effects of the Mexican financial system's volatile trajectory, we open with the end of the Lopez Portillo administration in 1982, the first year of real economic decline since 1932. Faced with increasing pressure against the peso and attendant capital flight, the administration forgot the real reasons capital flees a country, blamed the banks, and nationalized them. To make sure the banks stayed that way, Lopez Portillo incorporated the nationalization into the constitution.

The government's new prisoner was an ill one. The banks were suffering the effects of falling oil prices, bursts of exchange rate instability, and, ultimately, regulatory oversight problems, evidenced in retrospect by extensive self-lending. Mexico recapitalized the banks and began to consolidate them. Of the fifty-eight originally nationalized, only eighteen remained by 1990 (Banco de México 1992).

Broadening and deepening the financial markets

A financial crisis had preceded the bank nationalizations in 1982. The problems included an accumulation of government debt Mexico was hard put to pay. For years thereafter, government domestic borrowing crowded out private borrowing. The government absorbed domestic credit by decree, imposing heavy reserve requirements on the banking system and allowing them to be fulfilled only by the purchase of government debt. In 1986, for example, more than 60 percent of net bank credit flowed to the government.

Crowding out was only part of the banking system's problem, however. Until the late 1980s, Mexico was a classic case of general financial repression.¹ Not only did the government force banks to lend to it, but it maintained interest rate ceilings on bank assets and liabilities and dictated lending quotas to what it deemed high-priority economic sectors. (See the box entitled "Financial Repression.")

One of the key events in Mexico's financial development of the 1980s was the government's move to facilitate an increase in nonbank financial intermediation. This move served as a first step in both ending financial repression and increasing the system's ability to capture national assets for intermediation. When Miguel de la Madrid Hurtado replaced Jose Lopez Portillo as president in 1982, the new administration would not privatize the newly public banks; nationalized banking was protected by the constitution.

But perhaps everything those banks did was not really banking. In 1984, the de la Madrid administration began to sell off the brokerage houses, insurance companies, and other bank operations that did not take deposits and make loans. Between 1982 and 1988, nonbank financial institutions' assets rose from 9.1 percent of total financial system assets to 32.1 percent.

Also driving nonbank financial institutions' growth was the rapid expansion of Mexico's securities market. This expansion in large part reflected the increased issuance of *cetes*—short-term government debt comparable to U.S. Treasury bills. The point was to create a separate market for public debt so as to wean the government from the banks. Mexico had begun to issue these instruments in 1978, but it was not until the de la Madrid administration that they became major funding sources for the government.

By the late 1980s, the Mexican money market had become liquid and sophisticated. As a result, by the beginning of the 1990s,

the Mexican government no longer relied on commercial bank financing. The 1988–89 biennium was among the most significant for financial liberalization in Mexico and for attendant broadening and deepening of financial markets there. Important events included not only the development of the money market but also the freeing of interest rates on bank assets and liabilities, the elimination of priority lending quotas, and, ultimately, the phaseout of both reserve requirements and liquidity coefficients. Moreover, banks were given greater opportunity to compete with brokerage houses, which had been taking market share from the banks at a rapid rate.

In 1990, more options became available. Under Carlos Salinas de Gortari, who in 1988 succeeded de la Madrid as president, the Mexican congress amended the constitution to permit the sale of the nationalized banks, although only to Mexicans. Soon after, a new Financial Groups Law was passed, heading the banks back toward the universal banking system to which they had been moving before the 1982 nationalization. Under universal banking—common in Europe but illegal in the United States—the same holding company may control an insurance company, a bank, a brokerage house, a leasing company, a factoring company, a bonding company, a mutual funds management company, a currency exchange broker, and a warehousing company.

Reprivatizing the banks

The government sold its eighteen banks in fourteen months—June 1991 through July 1992—at the extraordinarily high average price-to-book-value ratio of 3.49. Mexico used the proceeds to pay down the public debt left over from the financial crisis of the 1980s. Both anecdotal and econometric evidence (Lopez de Silanes and Zamarripa 1995) suggests that the buyers—financial groups and brokerage houses mostly—may have paid those high prices because they expected only very limited competition between banks. With eighteen newly privatized banks, plus two others that for particular reasons had never been nationalized, there were only twenty commercial banks taking deposits and lending in Mexico. Even among these twenty, market power was highly concentrated. At the time the last of the banks was privatized, the three largest accounted for about three-fifths of all Mexican bank assets. Moreover, profits were high. In 1992, when the government sold the last of its commercial banks, the net return on assets for Mexican banks was

To understand the implications of Mexican financial liberalization, it is useful to understand the implications of what occurred before liberalization—and to understand them in a general sense. The term for not only Mexico's but many developing countries' historical approach to dealing with financial institutions is *financial repression*. It is easy to understand why.

Developing countries have historically been more aggressive than industrialized countries in their detailed control of banks. In general, governments in both developed and developing countries attempt to pursue prudential regulation of their banking systems and may impose controls on the banks' exchange rate exposure. But developing countries have by tradition more actively controlled banks' interest rates on deposits, how much and to which industrial sectors the banks lent, and bank lending rates.

Developing countries, and certainly Mexico, traditionally have imposed far higher reserve requirements than developed countries. The reason appears to have little to do with the common textbook discussions, in which required reserve ratios are policy instruments used to restrict monetary growth.¹ The purpose has typically been to capture the resources of the banking system by force. Historically, other capital markets were not adequately developed to fund governments at the level to which they wished to become accustomed. The reserve requirements could be met by the purchase of government, but not private, debt.²

Similarly, in Mexico and in many other developing countries, ceilings on interest rates paid on deposits and for loans played an important role. Low deposit rates have the advantage of allowing banks to charge low loan rates, whereas loan rate ceilings force them to do so. More generally, Mexican policy for a long time officially directed bank funding to certain prescribed economic sectors—the government, of course, being one of them.

The problem with financial repression, of course, is that the public has many options when it wants to purchase assets. Many of these—the purchase of inflation hedges such as land, gold, and jewelry—are not very efficient forms of financial intermediation. That is, they are not very effective at channeling investment funds from those with a surplus to those with productive ideas but a funding deficit. High financial repression typically means that the banking system manages to capture only a relatively small portion of public assets. The ultimate social cost can be a lack of investment.

¹ Fry (1995) notes that over the period 1978–87, the ratio of bank reserves to bank deposits averaged 21.2 percent in ninety-one developing countries, compared with 7.1 percent in nineteen industrialized countries, meaning that the ratio of reserves to deposits was three times as high in the developing countries. On the issue of whether developing countries use high reserve requirements as instruments of restrictive monetary policy, Fry also notes that cross-country comparisons indicate high simple correlations between monetary growth or inflation and the ratio of bank reserves to deposits.

² Indeed, because the resources of banking systems are often easier for governments to attach in this way than other resources of financial systems, governments in developing countries often use rules, regulations, and charges to inhibit the development of nonbank finance.

approximately 1.45 percent, versus 0.91 percent for U.S. banks.

The new owners managed to mark loan rates up significantly above their cost of funds. Over the first five months of 1991, when the eighteen banks were still public, the spread between average cost of funds and average lending rate ranged from 5.31 percentage points to 6.29. During the last five months of 1992, when the eighteen banks were all private, spreads ranged from 8.09 percentage points to 10.69—even though inflation rates were lower in 1992 than in 1991. The spreads widened because banks paid depositors lower interest rates in late 1992 than in early 1991, while the interest rates they charged borrowers were higher than they had been.

By the date of the privatizations, some bank performance measures had already improved compared with the middle and late 1980s.

For example, the banking system's ability to capture the nation's assets for intermediation had increased markedly. Despite an increasing ability not only to attract funds but to generate profits, low efficiency persisted. At the end of 1991, a common measure of bank efficiency—the noninterest expense to total assets ratio—was 5.3 in Mexico, compared with 3.6 percent in the United States.

Marketing seems not to have received much attention either. In 1991, Mexico had one bank branch for about every 18,000 people. In the United States, the number was about one branch per 4,000 and in Europe, about one for every 2,000.

These factors probably help explain why financial penetration, a measure of the degree to which savings are channeled through the financial system to provide financing for investment, was also low in Mexico. As measured by M4/GDP (where M4 is currency, checking accounts and other short-term deposits, bankers acceptances, long-term bank deposits, and government bonds held by the public), financial penetration grew markedly in the late 1980s and early 1990s. Nevertheless, by 1992 it was still only 46.1 percent, compared with 97 percent in Canada, 93 percent in the United States, and 71 percent in Italy.²

Increasing financial market competitiveness

If the high price-to-book ratios they paid meant buyers of Mexico's commercial banks in 1991 and 1992 expected competitiveness to continue at these low levels, 1993 would be a surprise. After cutting the number of banks in the 1980s, Mexico began to open its markets to new domestic entrants in 1993. By 1994, a total of thirty-five Mexican-owned banks (including the eighteen privatized in 1991–92) had charters.

The wave of domestic bank charters that began to roll in 1993 was followed by another, of foreign applicants, in 1994. Before 1994, the only foreign bank chartered to operate as a deposit-taking and lending institution in Mexico in the 1990s was Citibank. But in 1994, new bank regulations attendant to the implementation of the North American Free Trade Agreement (NAFTA) allowed foreign-owned banks to operate in Mexico, although market share maxima would greatly restrict their opportunities.

Pressures on the system: Exogenous

The prospect of increasing competition, together with the consolidation of organizational changes, led to noticeable alterations in Mexico's

commercial banking system. Between December 1991 and December 1994, the number of bank branches grew by one-eighth, while total bank employment slipped and then fell hard. Measures of efficiency, including the ratio of noninterest expenses as a share of assets, edged downward. Although improvement was slow, it still was improvement.

But other pressures began to cause difficulties for the banking system. As part of Mexico's efforts toward productive efficiency and low inflation in the late 1980s, the country had not only lowered trade barriers but had also followed an exchange-rate-based inflation stabilization policy. The government fixed the exchange rate during 1988. The next year, Mexico commenced a crawling-peg regime in which the peso's rate of depreciation against the dollar was lower than the differential between the two countries' inflation rates.

The resulting increase in the real exchange rate, together with the trade apertures that had begun in the late 1980s, caused international competition that discouraged producers of tradeable products from raising their prices. The nontradeable products sectors, including real estate and construction-related industries together with various service producers, were less sensitive to such discipline. By definition, nontradeable products are those that have little if any foreign competition. But nontradeable products are typically among the inputs tradeables producers use to make their products. When nontradeables producers raised their prices, they imposed a squeeze between costs to and selling prices of tradeable goods producers. The squeeze on these producers soon began to have implications for the banks that had lent them money.

Another important bank-related detail of Mexico's economic policy was related to the increasingly negative balance of trade. To maintain dollar reserves to defend the exchange rate, and to create capital inflows that would offset the outflows of funds to buy imports, Mexico held interest rates relatively high. Real interest rates rose during 1992 and 1993, making it more difficult for borrowers to repay their typically variable-rate loans.

Pressures on the system: Endogenous

In addition to pressures from outside sources, the banking system incurred self-inflicted wounds. When it was privatized in 1991–92, a widespread concern was that the system was not only not very competitive by world standards but that years could pass before

it would be. While privatization was expected to ameliorate some measures of inefficiency, Mansell Carstens (1993a) argues that among the reasons the spread between banks' interest rates on loans and their cost of funds could be expected to remain high for years is the high degree of oligopoly power in the provision of bank services.³

Gavito Mohar, Sánchez Garcia, and Trigueros Legarreta (1992) express similar concern about the anticompetitive implications of concentration in the Mexican commercial banking system, while Gavito and Trigueros (1993) argue that "some additional measures would be useful to induce greater competition." Gruben and Welch (1996) suggest that not only is Mexico's banking system not very competitive but that the high price-to-book ratios paid by the banks' new owners signal that they expected banking's industrial organization to remain relatively uncompetitive.

In sum, while Mexico's bank privatizations and the financial liberalizations that preceded, paralleled, and followed them were seen as offering greater opportunities for competitiveness, the high levels of bank concentration and the wide spreads between banks' cost of funds and interest rates on loans were taken to mean that years might pass before these opportunities were seized. NAFTA might ultimately allow greater competitive pressures in Mexico; so might the decrease in restrictions on starting new banks (Gavito and Trigueros 1993). All of this would take time, possibly much time.

But if this literature implies that Mexican banks would be underloaning for years so they could overcharge, a parallel literature on financial liberalization in developing countries points toward overloaning. Under this paradigm, the problem would not be inadequate expansion of credit but too much expansion. The excessiveness would become recognizable *ex post* in a wave of loan defaults followed by other typical artifacts of a banking crisis.⁴

In this paradigm of financial liberalization, the large spreads between cost of funds and interest rates on loans need not suggest uncompetitive behavior. Instead, when a repressed financial system is liberalized, the banks are unable to supply intermediation services efficiently because they lack expertise, qualified human resources, and adequate technology. The result is high intermediation costs, represented by a large spread between cost of funds and interest rates charged (de la Cuadra and Valdés 1992). Newly liberalized banks' portfolios become riskier because the banks

cannot evaluate the riskiness of loans and higher real interest rates under the new regime. Not only may lending expertise be scarce in general, but banks may lack experience with the new types of markets their increased funds permit them to enter.⁵

Consistent with this latter paradigm, the econometric results in Gruben and McComb (1996) suggest that what Shaffer (1993) has called a "supercompetitive" market materialized following the Mexican privatizations, as bank owners stretched their capital and deposits in efforts to swell loan portfolios in a manner consistent with short-run efforts to expand market share. That is, in the short run banks actually lent so much that they passed the point where marginal cost equaled marginal revenue, to a point where marginal cost exceeded marginal revenue. Of course, this is a relation that banks could never sustain in the long run.⁶ Indeed, in the wake of privatization, there was much evidence to suggest banks began to expand consumer credit despite limited information on the creditworthiness of the borrowers. Well-organized credit reporting systems, so common in the United States, operated on only a very limited scale in Mexico.⁷

This behavior may be seen as just one part of an overall episode of lender and investor euphoria during the period that has been well characterized econometrically in an endogenous bubbles model of investor behavior by Ostos Jaye (1996). Here, euphoria is defined in the sense that Minsky (1982) uses it: banks allow their liquidity levels to be reduced and accept obligations that in other circumstances they would have rejected.

Gonzalez-Hermosillo, Pazarbaşıoğlu, and Billings (1996) draw similar conclusions from an econometric model of banking system contagion effects, as these effects were expressed in Mexico's financial crisis. Their model suggests that contagion effects work through two channels: (1) through information asymmetries affecting depositor behavior and (2) as a result of herd behavior in bank risk-taking.

Lopez de Silanes and Zamarripa (1995) offer econometric results that suggest bank deregulation increased financial activity levels because of freer operating rules, while privatization led to a restructuring of operations, with a large increase in the loan portfolio growth rate and—importantly—a reduction in the securities portfolio growth rate. They also argue that the slow opening of the banking system to domestic *de novo* operations and foreign entry permitted greater than competitive profits for at least some institutions in the wake of privatization.

Regulatory problems

The rush of loan expansion, incomplete consumer credit assessment, and stresses resulting in the overvaluation of the currency converged to make loan defaults more common. Commercial banks' ratio of past-due to total loans and discounts rose from 5.5 in December 1992 to 8.3 in September 1994.⁸ At the time, 8.3 seemed very high.

The euphoria that prompted increasing amounts of capital to flow into the system created problems for both financial regulators and the banks themselves. The problem during a strong economic upturn, as Hausmann and Gavin (1995) characterize it, is that the abundance of liquidity masks risky borrowers who would be recognized for what they are in less florid times.

Problems in the banks that became visible in the wake of privatization motivated speculative activity that weakened the banks further. Although universal banking systems like Mexico's present special regulatory problems involving what might be considered self-lending, Mexican accounting standards did not require consolidated reporting until 1995, making it difficult to establish limits on lending within financial groups. Moreover, increasingly sophisticated trading in derivatives allowed highly leveraged and risky currency plays to be presented quite legally to regulators as conservative investments in which dollar-denominated assets were matched by dollar-denominated liabilities (Garber 1996).

A related but more general regulatory problem may be inferred—as Gunther, Moore, and Short (1996) argue—from the preprivatization increase in past-due loans (from less than 1 percent at year-end 1988 to more than 3 percent at year-end 1991) while the capital-to-asset ratio declined (from 7 to 5.4 percent). They note that, considering Mexican banks typically rolled over past-due interest into the principal at maturity and recorded the capitalized interest as income, the deterioration in these measures, together with the simultaneous decline in return on assets, suggests marked financial difficulties. These elements of forbearance before privatization may have predisposed bank purchasers to expect such forbearance after privatization, which is what occurred.

Moreover, Mexican regulations do not impose upon shareholders the consequences of their banks' behavior as fully as do those of the United States. In at least one case, shareholders of a failed Mexican bank were not only permitted to retain equity interest after the bank's acquisition by another institution, but the Mexican government provided guarantees that pro-

TECTED the purchaser from losses on existing loans. Thus, Mexico not only preserved depositors' assets but, to some degree, the assets of the bank's stockholders.

The exchange rate crisis

During the Salinas administration, which commenced in December 1988, the rationalization of Mexico's fiscal, monetary, financial, investment, and trade policies—together with relatively high real interest rates in Mexico and low rates in the United States—precipitated large inflows of foreign capital. Mexico could use the resulting accumulations of foreign currency reserves to defend the peso. Capital inflows covered—and to a certain extent caused—the increasingly negative balance on current account.

By the first quarter of 1994, foreign currency reserves were approaching \$30 billion, after having fallen below \$5 billion in March 1990. Investor optimism about Mexico's policies was so high that, when rebels occupied San Cristobal de las Casas in January, the markets shook off the shock and capital poured in.

Mexico's presidential election was to take place in August, however. When Institutional Revolutionary Party candidate Luis Donaldo Colosio was assassinated in March, the killing triggered massive capital outflows. Foreign currency reserves fell from \$29.3 billion in February to \$16.5 billion in June.

Thereafter, the markets seemed to settle down. From June until mid-November, reserves fluctuated occasionally but not by very much. In October, however, an assassin had killed Institutional Revolutionary Party official Carlos Francisco Ruiz Massieu. His brother Mario, an official in the attorney general's office, was appointed to investigate the case. In mid-November, he resigned, complaining that his efforts were being obstructed. Reserves began to fall hard—from \$17.667 billion at the end of October to \$12.889 billion by the end of November. On December 20, Finance Secretary Jaime Serra Puche announced that the peso would devalue from 3.47 pesos per dollar to 3.99. This was not really a change in exchange rate regime, government officials explained; it was just an adjustment. The crawling-peg regime would remain in place, they said.

But would it? Investors knew that nearly \$17 billion in dollar-indexed Mexican bonds were scheduled to mature in the first six months of 1995. Foreign currency reserves had not been that high for more than a month, and who knew how many bondholders would want to roll over

their bonds? Market participants precipitated a run on the peso, and two days after announcing the crawling-peg regime would remain in place, the government announced, late on December 22, that the peso would float. The peso-dollar exchange rate quickly headed toward 5 to 1. Reserves fell from \$12.889 billion at the end of November to \$6.278 billion by the end of December and to \$4.440 billion by the end of January 1995.

The financial industry after the devaluation

The devaluation triggered capital outflows and high inflation. Interest rates rose so high that they not only put borrowers at risk but—because major interest rate increases push up loan default rates—imperiled lenders as well.

To squeeze inflation out of the system, the central bank began to restrict domestic credit to the commercial banking system and slow growth in the monetary aggregates. After some initially ginger efforts, the Bank of Mexico imposed highly restrictive credit and monetary policies in February and early March. Mortgage rates that had been 22 percent in November rose to 74 percent in early March. Also in March, the interbank loan rate briefly rose to 114 percent.

Under these conditions, even an inexperienced banker could foresee a new wave of past-due loans. Some analysts claimed that problem loans had doubled between December 1994 and March 1995.⁹ Some banks reportedly suspended all mortgage, auto, and consumer loans until further notice and canceled loans to farmers for replacement parts and seeds for spring planting.¹⁰

As loan problems mounted, the government took steps not only to rescue the banks but to facilitate their purchase. NAFTA had decreed that, during the six-year transition beginning January 1, 1994, a U.S. or Canadian financial institution could acquire an existing Mexican bank only if it did not account for more than 1.5 percent of total Mexican bank capital. This rule meant that, at the time of NAFTA's ratification, only two Mexican banks were eligible for direct acquisition.¹¹

Beginning in February 1995, a new Mexican law permitted foreign banking organizations to purchase Mexican banks that accounted for up to 6 percent of total Mexican bank capital (*capital neto*), legalizing purchase of all but Mexico's three largest institutions. That this step was part of a bank rescue package is evidenced by the 6 percent rule's application only to bank acquisitions. A foreign-owned startup bank would still have to follow the old

1.5 percent rule. That is, while it remained unacceptable to start a bank large enough to account for 6 percent of Mexican bank capital, it became acceptable to purchase and rescue a problem bank that big.

NAFTA had also imposed limits on total bank capital that all foreign-controlled banks could hold. Under NAFTA rules, the limit in 1995 would have been 9 percent. The new Mexican banking law raised this limit to 25 percent.

To address the mounting undercapitalization problems of a growing number of banks, the government designed a special recapitalization program known as PROCAPTE. Under PROCAPTE, troubled banks could raise capital by creating and selling subordinated convertible debentures (bonds) to the nation's deposit insurance authority, FOBAPROA. The debentures would mature in five years. The government set criteria for converting the debentures to equity if the bank turned out to be poorly managed or if insolvency was judged likely. Although this condition would make FOBAPROA (which is administered by Mexico's central bank) a commercial bank shareholder, the government has committed itself to sell such instruments as soon as they become shares.

In another effort to refinance the banks, Mexico introduced a round-robin program in which (1) banks repackage and restructure certain types of past-due private debt into bondlike instruments; (2) the government purchases this repackaged debt, issuing special bonds to raise the money for the purchases; and (3) the banks purchase these special government bonds. An important characteristic of the restructured debt is that it is denominated in so-called Unidades de Inversion (UDIs), whose nominal value is indexed to the inflation rate so as to preserve real value.

Although the program, in a sense, simply trades one type of bond for another, it spreads the impact of current losses over time. The plan permits problem banks to restructure (often short-term) past-due loans adjudged likely to pay out ultimately. Under the restructuring program, commercial loan maturities are extended to a range of five to twelve years. Mortgage loans are also subject to restructuring.

Conclusion

The Mexican financial market has changed significantly since the bank nationalization of 1982. First, the banking system has been privatized. Second, the banks have returned to universal banking and have turned away from the narrower version of banking the government man-

dated during the early and middle 1980s. Third, after consolidating under nationalization, the number of banks has increased substantially since privatization. Some signs that suggest increased competitiveness have surfaced. Fourth, during this period the government has weaned itself away from the banks as a dominant form of funding and created a modern securities market.

Even so, 1994 saw a crisis, just as 1982 had. Bad debts had become a serious problem in the two years before the December 1994 devaluation, and the problem grew substantially worse thereafter. The banking problems appear to be the outgrowth of aggressive lending activity that was consistent with a struggle for market share. Banking services were produced up to a level where marginal cost exceeded marginal revenue. Such seemingly shortsighted behavior could have had positive long-run consequences for market share under a happier ultimate scenario than actually occurred.

Moreover, the supervisory and regulatory framework was inadequate to keep up with banks' acquisition of increasingly risky loan portfolios or to monitor highly leveraged trades in the financial derivatives markets.

In addition, inasmuch as past-due interest was rolled over into the principal at maturity and capitalized interest was recorded as income, regulatory forbearance of problem loans and risky behavior was built into the system before privatization and remained afterward. Such forbearance is often described as imposing risk on the public without corresponding reward (Kane 1989, 1986; Akerlof and Romer 1993).

Although international markets initially reacted in 1994 and 1995 as they had in 1982, clear policy differences emerged. The government took steps to resuscitate the banks without nationalizing them. The Mexican government devised plans to bail out the banks through the rescheduling and securitization of their loan portfolios and also attempted to facilitate the purchase of existing banks.

In addition, the structure of Mexico's non-financial private sector was different enough in 1995 to offer a prognosis for the financial market different from that of 1982. As with other Latin American countries, the 1980s were a "lost decade" for Mexico, whose exports were dominated by raw materials sales and whose domestic production was state-dominated, heavily regulated, and inefficient. Since then, Mexico's newly rationalized manufacturing sector has greatly increased its share of the nation's exports.

While the devaluation has aggravated Mexico's financial problems, it has had a more positive effect on the country's manufacturing sector than the 1980s devaluations had on the oil industry. The earlier devaluations did not affect Mexico's ability to profit from oil sales then. In real-dollar terms, oil prices have not reached their levels of the middle to late 1970s and very early 1980s. But the 1994 devaluation appears to have raised the profitability of a large number of Mexico's manufacturing industries. Indeed, devaluation allows manufacturers to raise their peso prices enough to beat the cost-price squeeze discussed above and yet remain competitive on world markets in dollar prices. Mexico's economic restructuring over the past decade has made its nonfinancial sector more resilient in the face of economic shocks over the long run and, accordingly, has made its financial sector more resilient.

Nevertheless, financial operating ratios, spreads between cost of funds and loan rates, and the other characteristics of Mexico's banking system suggest that its financial sector has some distance to go before it meets developed-country standards.

Notes

- ¹ For more comprehensive discussions of this issue, see Mansell Carstens (1995a and 1993a).
- ² See Mansell Carstens (1993a) for fuller discussion of this issue.
- ³ When the Mexican commercial banking system was nationalized in 1982, there were sixty Mexican banks, of which fifty-eight were nationalized. To capture perceived economies of scale, the government reorganized the industry by merging its fifty-eight banks into eighteen. Although the industry had been consolidating during the period leading up to 1982, these mergers significantly increased concentration. Accordingly, the system emerged from its state ownership under a considerably different structure than prevailed in 1982.
- ⁴ Gorton (1992) characterizes the common trajectory after financial liberalization and the appearance of new or newly private banks as involving rapid increases in bank assets, while de Juan (1995) notes that when new owners take control of a bank, increases in lending relative to the value of equity capital or deposit base are common. Whether or not these liberalizations and related rapid loan expansions are followed by large increases in loan defaults, as they are in Gorton's and de Juan's characterizations, a common adjunct to liberalization is often said to be markedly increased competition in the banking system (International Monetary Fund 1993).
- ⁵ It should be noted that while bank privatization was an

important financial market reform, it was by no means the only one. Beginning in November 1988 and largely finishing in 1990, Mexico removed controls on interest rates on bank liabilities and assets, eliminated sector-by-sector quotas and all other obligatory or targeted lending, and phased out reserve requirements and liquidity coefficients. Moreover, as Mansell Carstens (1995a) notes, in 1988 20 percent of Mexican government financing came from the banking system, but by 1993 all such financing occurred in the money market. To offer another perspective, in 1988 only 25 percent of bank lending was unrestricted, with the rest required as credits to the federal government, as deposits in the central bank, or as other obligatory credits. By 1990, the year before the privatizations began, 70 percent of bank lending was unrestricted and by 1991, 100 percent was. After the Mexican government sold off the existing commercial banks in 1991–92, the establishment of new private-sector banks began in 1993, while the introduction of NAFTA in 1994 permitted foreigners to establish new banks or purchase smaller existing institutions, and the financial crisis that began in 1994 motivated in 1995 a liberalization of rules on foreign acquisition of existing Mexican banks. See, for example, Gruben and Welch (1996).

⁶ Despite the obvious possibilities for bad outcomes from such market share struggles, because of the tendency toward brand loyalty in consumer finance, there is much to recommend them if an institution can survive their early stages. For example, a survey of U.S. credit card users found that most still use the first card they got (*Wall Street Journal* 1996).

⁷ According to officials of the central bank, after the privatizations it was not unusual for those taking a lunchtime walk in nearby Alameda Park to be accosted by hawkers trying to enroll passersby for credit cards.

⁸ Although the changes in the past-due loan ratio may be instructive, the ratios themselves are not easily compared with U.S. past-due loan ratios. Mexican banks have traditionally reported as past due only the actual loan payment that was past due thirty days or more and not the remaining balance on the loan. In the United States, if a loan payment is past due ninety days or more, the entire loan balance is reported as past due.

⁹ See Crawford (1995), 4.

¹⁰ See *El Financiero: International Edition* (1995, 26).

¹¹ For further details, see Edmonds (1995) and Gruben, Welch, and Gunther (1994).

References

Akerlof, George A., and Paul M. Romer (1993), "Looting: The Economic Underworld of Bankruptcy for Profit," *Brookings Papers on Economic Activity*, no. 2: 1–60.

Banco de México (1992), *The Mexican Economy 1992* (Mexico City: Banco de México).

Bazdresch, Carlos, and Carlos Elizondo (1993), "Privatization: The Mexican Case," *Quarterly Review of Economics and Finance* 33 (Special Issue): 45–66.

Calvo, Guillermo (1995), "Varieties of Capital Market Crises," Center for International Economics, Department of Economics, University of Maryland at College Park, Working Paper no. 15.

Crawford, Leslie (1995), "Lifeline Cast to Mexico's Troubled Banks," *The Financial Times*, March 30, 4.

de Juan, Aristóbulo (1995), "The Roots of Banking Crises: Micro-Economic Issues and Issues of Supervision and Regulation" (Paper presented at the Conference on Banking Crises in Latin America, Inter-American Development Bank, Washington, D.C., October 6).

de la Cuadra, Sergio, and Salvador Valdés (1992), "Myths and Facts about Financial Liberalization in Chile: 1974–1983," in *If Texas Were Chile*, ed. Phillip E. Brock (San Francisco: Institute for Contemporary Studies Press).

Edmonds, Skip (1995), "Mexican Banks Open to Foreign Investors," Federal Reserve Bank of Dallas *Financial Industry Issues*, First Quarter, 1–4.

El Financiero: International Edition (1995), "Outlook for Mexican Banks Tied to Peso," January 2–8, 26.

Fry, Maxwell J. (1995), *Money, Interest, and Banking in Economic Development* (Baltimore: The Johns Hopkins University Press).

Garber, Peter M. (1996), "Managing Risks to Financial Markets from Volatile Capital Flows: The Role of Prudential Regulation" (Paper, Brown University).

Gavito, Javier, and Ignacio Trigueros (1993), "Los Efectos del TLC Sobre Las Entidades Financieras," (Paper, Instituto Tecnológico Autónomo de México, May).

Gavito Mohar, Javier, Sergio Sánchez García, and Ignacio Trigueros Legarreta (1992), "Los Servicios Financieros y el Acuerdo de Libre Comercio: Bancos y Casas de Bolsa," in *México y el Tratado Trilateral de Libre Comercio*, ed. Eduardo Andere and Georgina Kessel (México, D.F.: Instituto Tecnológico Autónomo de México and McGraw-Hill).

Gonzalez-Hermosillo, Brenda, Ceyla Pazbarbaşoğlu, and Robert Billings (1996), "Banking System Fragility: Likelihood Versus Timing of Failure—An Application to the Mexican Financial Crisis" (Paper, International Monetary Fund, Monetary and Exchange Affairs Department, August).

- Gorton, Gary (1992), "Comment," in *If Texas Were Chile*, ed. Phillip E. Brock (San Francisco: Institute for Contemporary Studies Press).
- Gruben, William C., and Robert P. McComb (1996), "Privatization, Competition, and Supracompetition in the Mexican Commercial Banking System" (Paper, Federal Reserve Bank of Dallas, Dallas).
- , and John H. Welch (1996), "Distortions and Resolutions in Mexico's Financial System," in *Changing Structure of Mexico: Political, Social, and Economic Perspectives*, ed. Laura Randall (Armonk, N.Y.: M. E. Sharpe), 63–76.
- , ———, and Jeffery W. Gunther (1994), "U.S. Banks, Competition, and the Mexican Banking System: How Much Will NAFTA Matter?" Federal Reserve Bank of Dallas Research Department Working Paper no. 94-10 (Dallas, May).
- Gunther, Jeffery W., Robert R. Moore, and Genie D. Short (1996), "Mexican Banks and the 1994 Peso Crisis: The Importance of Initial Conditions," *North American Journal of Economics and Finance* 7 (2): 125–33.
- Hanson, Gordon H. (1994), "Antitrust in Post-privatization Latin America: An Analysis of the Mexican Airlines Industry," *Quarterly Review of Economics and Finance* 34 (Special Issue): 199–216.
- Hausmann, Ricardo, and Michael Gavin (1995), "The Roots of Banking Crises: The Macroeconomic Context" (Paper presented at the Conference on Banking Crises in Latin America, Inter-American Development Bank, Washington, D.C., October 6).
- International Monetary Fund (1993), *International Capital Markets, Part II: Systematic Issues in International Finance* (Washington, D.C.: International Monetary Fund, World Economic and Financial Surveys, August).
- Kane, Edward J. (1989), *The S&L Insurance Mess: How Did It Happen?* (Washington, D.C.: The Urban Institute).
- (1986), "Appearance and Reality in Deposit Insurance: The Case for Reform," *Journal of Banking and Finance* 10 (June): 175–88.
- Lopez de Silanes, Florencio, and Guillermo Zamarripa (1995), "Deregulation and Privatization of Commercial Banking," *Revista de Analisis Economico* 10 (November): 113–64.
- Mansell Carstens, Catherine (1995a), *Las Finanzas Populares en México: El Redescubrimiento de un Sistema Financiero Olvidado* (México, D.F.: CEMLA).
- (1995b), "Servicios Financieros, Desarrollo Economico, y Reforma en Mexico," *Comercio Exterior* 45 (January): 3–11.
- (1993a), "The Impact of the Mexican Bank Reprivatizations" (Paper presented to the Institute of the Americas Conference on Privatization in Latin America, La Jolla, Ca., January).
- (1993b), "The Social and Economic Impact of the Mexican Bank Reprivatizations" (Paper, Instituto Tecnológico Autónomo de México).
- (1992), *Las Nuevas Finanzas en Mexico* (Mexico City: Editorial Milenio).
- McComb, Robert P., William C. Gruben, and John H. Welch (1994), "Privatization and Performance in the Mexican Financial Services Industry," *Quarterly Review of Economics and Finance* 34 (Special Issue): 217–36.
- McKinnon, Ronald I., and Huw Pill (1996), "Credible Liberalizations and International Capital Flows: The 'Over-Borrowing Syndrome'" (Memorandum no. 314, Center for Research in Economic Growth, Stanford University, April).
- Minsky, Hyman (1982), "The Financial Instability Hypothesis: Capitalistic Processes and the Behavior of the Economy," in *Financial Crisis: Theory, History, and Policy*, ed. C. Kindleberger and J. Laffargue (Cambridge: Cambridge University Press).
- Ostos Jaye, Raul Leslie Gerardo Martinez (1996), *Crisis Bancarias, Burbujas Racionales, y Regulacion Financiera: Lecciones Para El Caso de México* (Thesis for economics degree, Instituto Tecnológico Autónomo de México).
- Sauvé, Pierre, and Brenda Gonzalez-Hermosillo (1993), "Financial Services and the North American Free Trade Agreement: Implications for Canadian Financial Institutions" (Unpublished paper, External Affairs and International Trade Canada and Bank of Canada, Ottawa).
- Shaffer, Sherrill (1993), "A Test of Competition in Canadian Banking," *Journal of Money, Credit, and Banking* 25 (February): 49–61.
- Wall Street Journal* (1996), "Business Bulletin," July 25, A1.
- Werner, Martin (1995), "La Banca de Desarrollo: 1988–1994, Balance y Perspectivas," *El Mercado de Valores* 55 (January): 9–25.

Although Mexico's 1994 peso devaluation and subsequent capital outflows shook the nation's banking system, the foundations of the banking crisis were laid much earlier. ; Econometric evidence suggests that in the wake of the 1991-92 bank privatizations, Mexico's banks entered a market share struggle in which they incurred short-term losses at the margin, perhaps in the interests of greater expected gains over the long term.Â William C. Gruben & Robert P. McComb, 1997. "Liberalization, privatization, and crash: Mexico's banking system in the 1990's," Economic and Financial Policy Review, Federal Reserve Bank of Dallas, issue Q I, pages 21-30. Handle: RePEc:fip:fedder:y:1997:i:qi:p:21-30. William C. Gruben; Robert P. McComb: Liberalization, privatization, and crash: Mexico's banking system in the 1990's; 7). Haluk Unal; Miguel Navarro: POLICY PAPER: The Technical Process of Bank Privatization in Mexico; 8). Gunther, Jeffery W.; Moore, Robert R.; Short, Genie D.: Mexican banks and the 1994 peso crisis: The importance of initial conditions; 9). Brenda GonzÃ¡lez-Hermosillo; Ceyla PazarbaÅioÅlu; Robert Billings: Determinants of Banking System Fragility: A Case Study of Mexico; 10). Elizabeth McQuerry: The banking sector rescue in Mexico; 11). Rafael La Porta; Florencio Liberalization, privatization, and crash: Mexico's banking system in the 1990's. Article. Feb 1997. William C. Gruben. Robert P. McComb. Although Mexico's 1994 peso devaluation and subsequent capital outflows shook the nation's banking system, the foundations of the banking crisis were laid much earlier.Â Understanding how events unfolded in Mexico during the early 1990s continues to be fundamentally important to assess the mechanics of currency crises. More importantly, perhaps, the eruption of the East Asian currency crises in the summer and fall 1997 has raised the question of whether the lessons from Mexico have indeed been learned by policy makers, private sector analysts and international civil servants.