BANKING STRUCTURES, MARKET FORCES, AND ECONOMIC FREEDOM: LESSONS FROM ARGENTINA AND MEXICO

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The successes or failures of monetary reforms in Latin America have depended on the financial liberalizations that accompanied them and on the peculiarities of attendant financial regulations and provisions. The absence of guarantees to make bank depositors whole in a financial crisis, for example, signifies a far different distribution of likely patterns of monetary growth and exchange-rate pressures than a more conciliatory treatment of depositors would have, even if a government is otherwise committed to tight money and a strong currency. More generally, the economic literature on monetary arrangements has shown increased appreciation of the links between official protections for financial institutions in newly liberalized environments, subsequent banking crises, and exchange-rate volatility (McKinnon and Pill 1996, Kaminsky and Reinhart 1996, Krugman 1998). Of particular concern in this context are how problems of moral hazard metastasize under financial liberalization when government guarantees abridge market discipline.

This paper presents evidence of the linkages between market discipline, government guarantees, bank performance, and exchange-rate stability in Argentina and Mexico. As will be detailed, Mexico's encompassing deposit guarantee program was associated with risky lending behavior beginning during the 1991–92 bank privatizations. The resulting bank crisis offered unresolvable tensions in the goals of monetary policy—preserving the banks versus preserving the exchange rate—and motivated a policy trajectory that had much to do with the subsequent exchange-rate crisis.

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In contrast, Argentina offered little succor for risky banks or their depositors and weathered the exchange-rate crises in the middle (and again in the late) 1990s.[1] Argentina's limitations on deposit guarantees and its restrictions against bank bailouts were followed by a wave of bank privatizations in which, in contrast to the Mexican experience, the typical bank did not engage in behavior that would be measurable ex ante as risky. When the Asian financial crises of fall 1997 stampeded investors even out of non-Asian emerging markets, including Argentina's, a governmental conflict between supporting the banks and supporting the currency did not materialize.

While no single empirical model yields all of the foregoing narrative, the results of various researchers' econometric models of the Argentine and Mexican financial systems offer varieties of evidence that have not until now found their way into the literature. The consideration of these several models together allows them to yield conclusions collectively that their constructors could not and did not draw piecewise.

Of particular interest in this context is that, in the wake of Argentina's success in weathering the Tequila crisis, Latin American banking policymakers moved toward more policies to facilitate market-based regulation and discipline—not only in Mexico and in Brazil but even in Argentina. The move is important not only because of Argentina's positive outcomes, but because of the increasing evidence to suggest that many indicators typically used by regulators to assess bank health and to identify bank problems have been shown to be misleading. That is, more than in industrial countries, banking crises in Latin American can be surprises for regulators, rather than anticipated and therefore planned for. Moving to policies that offer market-based signals so as to create market-based discipline may be seen as particularly crucial in societies in which indicators that are not market-based do not function well.

Two Contrasting Episodes in the Tequila Crisis

Even though this paper will address bank regulation events leading up to the Tequila Crisis of 1994–95, it is useful to begin by recounting some econometric results of a study of the crisis itself. The Mexican exchange-rate and financial crisis triggered a rush of capital out of other Latin American countries, as well as out of the Philippines and

[1]It can be argued that Mexico's exchange-rate crisis of 1994–95 was triggered by a banking crisis while Argentina's banking crisis of the same period was triggered by an exchange-rate crisis—or certainly by capital outflows associated with an attack on the currency (see Santiprabhob 1997).

Poland. Those problems, known as the "Tequila effect," contributed to banking problems in a number of countries, including not only Mexico but Argentina. However, the impact of the Tequila effect on bank depositor behavior differed by country. These differences in depositor behavior are not only important in and of themselves, but they tell us much about what precipitated the Tequila Crisis to begin with.

In an econometric model of the relation between deposit inflows or outflows and bank asset quality, Robert Moore (1997) found that depositor behavior in Argentina during the Tequila Crisis was consistent with what policymakers had hoped that minimal deposit insurance would do for market discipline. That is, during the crisis of 1995, deposit flows were significantly and inversely related to bank asset quality. The worse a bank was, the more likely were depositors to pull their money out of it. Bankers who had anticipated such disciplining behavior may be seen as less likely to take risks with depositor money.

In the Mexican case, in which depositor losses would be covered by a very generous deposit insurance program, Moore (1997) found that depositors were indifferent to the asset quality of a bank. Specifically, during the 1995 crisis, deposit flows were not significantly related either positively or negatively to bank asset quality.

1991: Argentina's Currency Board Means Few or No Deposit Guarantees

Having addressed a peculiarity of bank depositor behavior during the Tequila Crisis, I now turn to earlier events in Argentina and Mexico. These events help to explain not only the foundation of differences in Argentine and Mexican depositor behavior but the Tequila Crisis itself . They also help to explain bank behavior during Argentina's recent bank privatizations. When Argentina in April 1991 adopted the Convertibility Plan, which included a monetary regime based on a fixed exchange rate with full convertibility of the peso into U.S. dollars and bimonetarism, the point was to put control of the money supply out of reach of political pressures. Any attempt to issue currency above this endogenous amount would result in a loss of reserves and a threat to the convertibility of the peso.

This monetary straitjacket was, in large part, fitted to avert certain political intrusions by the nation's banks (Fernandez and Schumacher 1998).[2] In the past, during economic crises, the banking system had

[2]It is important to understand that the Convertibility Plan and attendant legislation, liberalization, and reforms were part of a so-called big-bang in which notions of optimal sequence of policy measures were disregarded (see Rozenwurcel and Bleger 1996:1). The establishment of a currency board monetary regime with full convertibility was accompanied by a tax reform in the same year. Equity markets were deregulated the next year.

been behind political pressures that led to inflationary behavior by the government. A combination of deposit insurance and central bank intervention had effectively guaranteed that all of a commercial bank's liabilities, however small or large, would be made whole. Banking system bailouts had in the past resulted in fiscal deficits. Since attendant economic difficulties had typically abridged the government's revenue-generating abilities, the deficits would be monetized.[3]

Starting with the onset of the Convertibility Plan, government deposit insurance was gradually eliminated. In 1991, the government of Argentina curtailed coverage of the existing insurance to $1,000, and a year later even that was removed. In 1995, a new deposit insurance program appeared. The program, which was funded in total by the banks and without government fiscal commitments, offered coverage of $10,000 to $20,000 depending on the maturity and the interest rate paid. Econometric evidence suggests that depositors tended to treat the insurance as if it did not exist in the early stages of the program (Schumacher 1997). At the time the full effect of the Tequila Crisis was felt, the banks had made such small contributions to the insurance fund that for practical purposes it did not exist (Schumacher 1997, Fernandez and Schumacher 1998).

The explicit purpose of the removal of deposit insurance in 1991, and also of an attendant minimal bailout policy, was to make depositors and other bank debt holders exercise market discipline to discourage banks from risky behavior.[4] Other measures to reduce the political pressure for bailouts included high reserve requirements. The assumption was that if banks were forced to remain highly liquid, capital market volatility and large declines in asset values would be less likely to trigger systemic problems in banking. In another effort to impose a cushion against these same problems, Argentine regulations imposed heavier capitalization for what were perceived as riskier assets or banks.[5] Higher capitalization requirements overall were imposed to discourage risky behavior. Policymakers reasoned that by increasing

[3]Fernandez and Schumacher (1998) note that, as of December 1989, the total loss incurred by the Central Bank for deposit insurance and different forms of bank bailouts was $14.6 billion. This sum was roughly the size of all private bank assets when the 1991 Convertibility Plan, which established Argentina's currency board, was initiated.

[4]Carlos Zarazaga (1995:16) notes that, despite the textbook conventions respecting currency boards, the Argentine monetary base and Argentina's foreign reserves did not maintain exactly the same value or move exactly the same way. The difference occurred because "unlike the orthodox currency board, Argentina's convertibility law gives the central bank some flexibility to act as a lender of last resort."

[5]As will be discussed, the functionality of such capitalization requirements in a Latin American context may be seen as considerably less than in the financial systems of industrialized nations.

the amount of shareholder wealth placed at risk, they would increase the likelihood of shareholder monitoring of bank behavior—particularly of risky behavior.

Mexico Takes a Different Approach to Financial Liberalization

At the same time that Argentina was liberalizing its financial system, so was Mexico. Prior to moving toward the market, Mexico suffered a classic case of financial repression.[6] In 1989, however, Mexico introduced reforms to eliminate controls on interest rates and on the term structure of traditional types of bank deposits, eliminated forced loans to the public sector at below-market interest rates, and eliminated governmental edicts on the industry-by-industry allocation of funds. Mexico had nationalized all but two commercial banks in 1982. During the period from June 1991 until July 1992, Mexico auctioned off to the private sector all 18 government-owned commercial banks. Despite these strong efforts to allow markets to operate, Mexico continued to provide full insurance coverage for almost all depositors under a program known as FOBAPROA (Fondo Bancario de Protección al Ahorro). For practical purposes, the Mexican government provided an insurance program whose protection of depositors was virtually complete.

While such coverage may have been comforting to depositors, it can weaken the competitive advantage that financially strong banks would otherwise gain from doing what made them strong. When government safety nets prevail, bank liability holders (including deposit holders) are less responsive to changes in bank risk—that is, depositors do not punish riskily managed banks by fleeing them (Moore 1997). It may be expected that banks under a system of government guarantees for depositors would be motivated, under some circumstances, to make riskier loans than banks without such

[6]The phenomenon of financial repression, typical of developing countries in the postwar period, involves a considerably stronger governmental role in financial markets than typically appears in developed countries. In an effort to subsidize certain economic sectors or industries, governments in financially repressive markets may impose deposit interest rate ceilings and also dictate loan rates and the industries that will receive the loans. Government may also force the banking system to lend to it and to make the loans at below-market interest rates. High reserve requirements may be imposed, not as in developed countries to restrict monetary expansion, but to allow the government to capture the resources of the financial system. Some of these measures may be reminiscent of what Asian countries did prior to the financial crises of 1997. Because the public has many options when it wants to purchase assets, high financial repression typically means that the banking system manages to capture only a small portion of public assets. The social cost can be investment levels far below what a free market would permit.

supports. Some of these circumstances materialized in the early 1990s, with the privatization of the Mexican banks.

In addition to depositor guarantees, another motivation toward expansive and perhaps risky lending behavior was that Mexican banks in the wake of the financial liberalizations initiated in 1989 were awash with new liabilities. Financial liberalization in a financially repressed system like Mexico's can motivate massive shifts of assets from other sectors (or from financial institutions abroad) into the domestic financial system. This is exactly what took place in Mexico. The ratio of M2 to gross domestic product rose from 7.1 percent to 30 percent between 1988 and 1994.[7]

Accordingly, when Mexico's banks were privatized into a far freer financial market environment than the country had seen in decades, the banks did indeed commence risky behavior. Immediately after privatization, the typical Mexican commercial bank produced loans and other financial services to a point at which marginal cost exceeded marginal revenue (Gruben and McComb 1997). While such behavior could not be pursued in the long run, it is consistent in the short run with a struggle for market share—a struggle in which the Mexican banks had great motivation to engage.

Indeed, despite the obvious possibilities for bad outcomes from such market-share struggles, there is much to recommend them if an institution can survive their early stages. There is much to recommend them, at least in the context of retail banking, because of the tendency toward brand loyalty in consumer finance. For example, a survey of U.S. credit card users found that consumers are prone to use—for a particularly long time or to a particularly high degree—the first card they received (*Wall Street Journal* 1996).[8] The problem under a system of deposit insurance like Mexico's is that, when the risks do not pay off for the bankers, they are paid for by the taxpayers. The Mexican banks' risky behavior soon had results that could be expected. Delinquent loans as a percentage of total loans moved from 3.9 percent at the end of 1991 to 5.5 percent a year later to 8.3 percent in September 1994.

[7]Argentina's financial system saw major increases as well, although the reason has perhaps to do with the reduction in inflation and somewhat less to do with financial liberalization than in Mexico's case. The same ratio, M2-GDP, for Argentina went from 0.3 percent in 1988 to 31.4 percent in 1994.

[8]A very important part of the overall expansion of credit by the newly privatized banks was, in fact, credit card debt. During the ensuing Mexican banking crisis, the delinquency rate for Mexican credit card debt was among the highest of all types of loan delinquency rates at Mexican banks. Credit records of consumer borrowers were often very sketchy as, at this time, there were no generalized consumer debt reporting agenies in Mexico.

Although risky bank behavior was an important factor in precipitating the Tequila Crisis, it was not the only one. Mexico intervened strongly in foreign exchange markets in an effort to peg its currency to the U.S. dollar, but several factors made those efforts more difficult as the decade of the 1990s ensued. Among the most important factors were highly volatile capital inflows to and outflows from Mexico, and tightening U.S. monetary policy.

During the early 1990s, high rates of capital inflow characterized the emerging markets of Latin America in general, owing to a combination of optimistic outlooks for the region's newly liberalized economies and low U.S. interest rates. Through this mechanism, Mexico accumulated large stocks of foreign currency reserves that it could use to defend the peso in times of weakeness. The capital inflows represented such a large increase in the demand for pesos that Mexico's exchange-rate pegging problem at the time involved holding the exchange-rate down, not up.

During the first quarter of 1994, however, U.S. monetary policy began to tighten, raising U.S. interest rates and attracting capital back to the United States. If Mexico did not raise interest rates, or pursue other efforts to make Mexico a more attractive place for investment, the result would be diminished demand for the peso and increased pressure for devaluation. At this time in Mexico, preparations were being made for the presidential elections later that year. In March 1994, ruling PRI party presidential candidate Luis Donaldo Colossio was assassinated. Foreign currency reserves fell profoundly just after the March assassination but stabilized in April. To hold foreign capital in the country and reduce pressure on the peso, Mexico raised interest rates significantly, signaling that exchange-rate preservation remained important. But U.S. interest rates were also rising, and they continued to rise throughout the year.

In the third quarter and into the early fourth quarter, Mexico relaxed its interest rate intervention somewhat, even though U.S. rates continued to move up. Moreover, during the second half of 1994, real central bank domestic credit outstanding to Mexican commercial banks remained relatively high. Mexico was compensating declines in international reserves by increasing domestic credit, a step 180 degrees in opposition to Argentina's approach.

A nation cannot peg or fix its currency, permit international capital to come and go freely, and pursue a monetary policy independent of the nation to whom it has pegged its currency. So why would Mexico try? In a 1995 article in the *Wall Street Journal*, the governor of Mexico's central bank explained his country's divergence from U.S. monetary policy (which involved continued increases in interest rates

throughout the year), saying that "had domestic credit expanded less, interest rates would have soared to levels that would have caused severe economic disruptions" (Mancera 1995). His statement may be seen as an acknowledgment both of the difficulties in 1994 in the Mexican banking system and of the tension between avoiding such difficulties and of tightening Mexican monetary policy to discourage the capital outflows that had begun to characterize the nation's international financial accounts.

A central bank can always preserve a pegged exchange rate, as Mexico's was at this time, through a sustained high interest rate or a contraction in the monetary base.[9] Interest rates insufficient to prevent declining reserves suggest that other policies—such as perserving the solvency of Mexico's banking system—were dominating the central bank's commitment to a pegged exchange rate (Garber and Svensson 1994: 29).

In late November 1994, Mexico began to suffer massive capital outflows that culminated in an official announcement on December 20 that the peso would be officially devalued from 3.47 pesos per dollar to 3.99. The announcement triggered massive capital flight and a devaluation far more profound than the what the government had announced. By January 27, 1995, the exchange rate had moved to 5.75 pesos per dollar. The Mexican devaluation and financial crisis triggered a rush of capital out of other Latin American countries, as well as out of the Philippines and Poland.

Argentina's Bank Privatization

Argentina's major efforts at bank privatization did not occur until after the Tequila Crisis. Despite Argentina's policy rationalizations of 1989–92, the government's role in the banking sector was still strong. It is true that, unlike Mexico, financial repression is said not to have characterized the financial policy of Argentina since a financial liberalization effort during the late 1970s (Rozenwurcel and Bleger 1997), although credit allocation was not made completely market driven at that time. By the time of the Tequila Crisis, interest rates had long since been largely market determined.

Despite this perceived relative liberality, the role of financial institutions was relatively small in the years preceding the Convertibility

[9]In fact, the rule to apply this option is what made Argentina's Convertibility Plan rules during capital outflows exactly the opposite of Mexico's sterilization or offset policy. When Mexican reserves flowed out, they were offset with increases in central bank credit to the domestic banking system. When Argentine reserves flowed out, the Argentine monetary base was allowed to fall.

Plan although it had increased markedly by the end of 1994. An important reason was that high inflation during the late 1980s and very early 1990s discouraged Argentines from holding Argentine money. An additional problem for the Argentine financial system was that, prior to the Tequila Crisis, publicly owned banks held almost 39 percent of total deposits and granted almost 42 percent of total loans. The politicized nature of public financial intermediation meant that these institutions were virtual storehouses for past-due loans.

In addition, despite increasing requirements for bank capitalization, scores of privately owned banks found themselves inadequately capitalized when the crisis came. If any of them doubted that the central bank would fail to rescue them, their doubts were soon allayed. As of November 1994, there were 137 private sector banks, which accounted for 57 percent of all bank assets. In addition, there were 32 banks owned by federal, provincial, or municipal governments. By December 1995, out of a total of 137 private banks, 9 had failed and more than 30 had been either acquired or merged into a single bank.

When the privatizations did occur in Argentina, the greater market orientation of the regulatory system was expressed in substantially different post-privatization bank behavior than had been seen earlier in the decade in Mexico. To identify such differences, Jahyeong Koo and I constructed an econometric model of the market contestability of the Argentine commercial banking system and designed it to test for structural breaks in performance at various times (Gruben and Koo 1997). We tested for breaks during the period of most intense privatization, 1995.I-1997.I, during which three-fourths of the privatization occurred that had taken place in the decade. We also tested for behavioral breaks during other periods in the decade and examined whether there were any periods during which a typical bank produced where marginal cost exceeded marginal revenue or produced at levels suggestive of collusive behavior. In contrast to the Mexican case, Argentina did not show any period in which the typical bank operated where marginal cost exceeded marginal revenue. This result is particularly striking not only because of the difference from the Mexican outcome, but because it diverges from a study of the Canadian liberalization of the early 1980s.

In a study of the Canadian liberalization of the early 1980s, Sherrill Shaffer (1993) found a structural break point at the liberalization. After the liberalization, the typical bank began to run at a point at which marginal revenue exceeded marginal cost, again suggesting a risky market-share struggle like Mexico's. With reference to Shaffer's findings in the context of the role of deposit guarantees and risky bank behavior, it should be noted that Canada maintained a policy

of no deposit insurance through 1966, but that significant guarantees were introduced in 1967. Moreover, in 1983, the maximum size of a deposit that could be insured in Canada was increased to $60,000 Canadian. Moreover, the Canadian system charges its participating banks less than its costs and typically therefore runs large deficits. Underpricing of this type follows a model routinely noted as conducive to the very sort of moral hazard that would trigger risky bank behavior, certainly during periods when motivations to fight for market share exist.

What Comes Next?

There is increasing evidence to suggest that if developed countries need market discipline in their financial systems, developing countries need even more. Liliana Rojas-Suarez (1998) offers palpable statistical evidence to show that in Latin American countries, for example, it is common for banks defined as in crisis to still have capital-to-risk-weighted asset ratios well within international standards. She also shows that, contrary to the predictions of traditional early warning systems for banks, it is typical for liquidity ratios of problem banks in Latin America actually to be higher than banks that turned out not to be in crisis. In sum, financial ratios traditionally used by financial regulators are ''useless as supervisory tools when accounting standards and reporting systems are inappropriate'' (Rojas-Suarez 1998: 6).

In the wake of banking problems associated with the Tequila Crisis, financial regulators have become increasingly sensitive to the importance of the market mechanism. They are accordingly turning to the market. Recognizing the effectiveness of Argentina's approach to discouraging risky bank behavior, Mexican policymakers are moving to reduce deposit insurance to a program designed to protect small depositors, but not to protect those with sufficiently large deposits to suggest some skills at monitoring the behavior of the banks where they keep their money. Meanwhile, the Argentines have moved even farther in their programs to make the market discipline the banks. Under a new set of rules, Argentine banks must issue subordinated debt equivalent to 2 percent of total bank assets. Since the debt is subordinated, signifying that its holders are at the end of the cue of creditors in the event of a bank closure, holders are expected to monitor bank behavior with particular care. Accordingly, the prices of such debt are suspected to be a particularly strong signal of bank health and clearly stronger—as Rojas-Suarez's results suggest—than capitalization and liquidity ratios might be.

Conclusion

A consideration of differences between the Argentine and Mexican banking systems, even though both faced financial crisis during the Tequila Crisis of 1994–95, is that the market-discipline-oriented policies of Argentina were more fully disposed to preserving prudent bank performance and to discouraging high risk behavior than the more traditional protections offered depositors by generous insurance programs. The problem with such programs is, despite the virtues they may have for depositors, they loosen market discipline on bankers, since bankers are less surely punished by the government than they are by a market in which government does not intrude.

These problems may be seen in considering Moore's (1997) results on depositor behavior toward bad banks in the two countries during the Tequila Crisis. Argentine depositors fled unhealthy banks, while Mexican depositors—protected by a generous deposit insurance—did not exercise such discipline. The lack of such market discipline in Mexico and its presence in Argentina could be seen in differences in post-privatization bank performance in the two countries. Gruben and McComb (1997) showed that, supported by depositor guarantees and other bank supports, the typical newly privatized banker ran his institution to a point where marginal cost exceeded marginal revenue. This was not a completely irrational stratagem, since those who followed it and did not go bankrupt were likely to finish the effort with greater market share than otherwise. Unfortunately, the cost of failure in the exercise was borne by the taxpayers. In contrast, Gruben and Koo (1997) showed that in the Argentine case, where market discipline was surer, the typical bank did not run where marginal cost exceeded marginal revenue. That is, the typical bank did not take inordinate risks in efforts to gain market share.

As it has become more widely recognized that market discipline offers a more stable banking system than does purely government discipline, Latin American banking regulations have been moving in the direction of market discipline. Mexico is moving toward an Argentine approach while Argentina is moving even more completely toward market signaling and market discipline as the keystones of national financial stability.

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