

THE ORIGIN OF MEXICO'S 1994 FINANCIAL CRISIS

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After nearly a decade of stagnant economic activity and high inflation in Mexico, the Mexican government liberalized the trade sector in 1985, adopted an economic stabilization plan at the end of 1987, and gradually introduced market-oriented institutions. Those reforms led to the resumption of economic growth, which averaged 3.1 percent per year between 1989 and 1994. In 1993 inflation was brought down to single-digit levels for the first time in more than two decades. As its economic reforms advanced, Mexico began to attract more foreign investment, a development helped by the absence of major restrictions on capital inflows, especially in the context of low U.S. interest rates. Indeed, large capital inflows began in 1990, when a successful foreign-debt renegotiation was formalized. The devaluation of the peso in December 1994 put an abrupt end to these capital inflows and precipitated the financial crisis.

Regulatory Failures, Credit Growth, and the Onset of the Crisis

The financial sector also underwent a substantial liberalization, which, when combined with other factors, encouraged an increase in the supply of credit of such magnitude and speed that it overwhelmed weak supervisors, the scant capital of some banks, and even borrowers.¹

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¹Lindgren et al. (1996: 18) show there is abundant evidence of similar phenomena: "Excessive credit growth relative to GDP and rapid rises in asset prices have been associated with a weakening of the quality of bank portfolios and an increase in risk exposure." Furthermore, they add that "Banks that have lost most of their capital face a different incentive structure from sound banks, and competition from insolvent banks can pose threats to the financial soundness of their competitors. As owners and managers try to recoup their losses, moral hazard increases, particularly when managers or owners do not have their own funds at stake. An unsound bank may offer higher interest rates than competitors to draw in deposits to pay operating expenses, may resort to outright gambling by choosing high-risk transactions, or may incur higher risk through adverse selection. In many cases unsound banks become

Several factors contributed to facilitate the abundance of credit: (1) improved economic expectations; (2) a substantial reduction in the public debt;² (3) a phenomenal international availability of securitized debt (see Hale 1995); (4) a boom in real estate and in the stock market; and (5) a strong private-investment response.

Poor borrower screening, credit-volume excesses, and the slowdown of economic growth in 1993 turned the debt of many into an excessive burden. Nonperforming loans started to increase rapidly. A process of adjustment of the balance-sheet position of the private sector, underway by the second half of 1993, and the late adoption by some commercial banks of prudent policies were signs that nonperforming loans had exceeded reasonable dimensions before 1994.³

The substantive causes of the debt increase were:⁴

1. The financial sector was liberalized: lending and borrowing rates were freed, the forced channeling of credit was abolished, and bank reserve requirements were eliminated.
2. Banks were hastily privatized, in some instances with no due respect to "fit and proper" criteria, either in the selection of new shareholders or top officers (see Honohan 1997: 13, and Ortíz 1997). It must be noted, however, that on average the

captive to insolvent debtors or carry a portfolio of loans to related borrowers, who have no intention of repaying their debts. Unable to declare loans in default lest they acknowledge their own insolvency, such banks may continue to lend to unperforming borrowers or to capitalize interest on those borrowers' loans" (pp. 57–58).

²As Trigueros (1997: 9) shows, "Domestic public debt went from 19.5 percent of GDP at the end of 1989 to just 5.4 percent of GDP at the end of 1994. . . . This latter aspect played an important role in the expansion of bank credit during the period 1989–94."

³As Miguel Mancera (1997) has observed, "Wide insufficiency of capital was becoming perceptible, a phenomenon explained by the relatively high level of past due loans that had not been adequately provisioned. Moreover, some commercial banks were operating with serious problems which were not readily noticeable to the financial authorities. In some instances, bank administrators acted with disregard to existing regulations and proper banking standards."

⁴Other factors are: (1) To calculate nonperforming loans, banks applied a "due payments criteria"—the amount of payments due after 90 days were recorded as delinquent loans, instead of the value of the loans themselves. (2) Taxes on international capital flows (dividends, interest, etc.) were drastically reduced or eliminated. (3) Some commercial banks were able to have access to disproportionate amounts of money-market funds because of their confidence that, on any particular day, they could rely on an unlimited supply of daylight overdraft facilities at the central bank. (4) The banking sector did not have a consumer-loan credit bureau, nor did it actively utilize the bureau available on business loans. (5) There was a deep structural transformation in the economy that radically altered many relative prices, which canceled opportunities in traditional sectors, turned good projects into bad ones, and altered the relative ability to service the debt of many sectors and enterprises.

- banks remained in government hands for half of the expansionary period.
3. Several banks were purchased without their owners proceeding to their proper capitalization. Shareholders often leveraged their stock acquisitions, sometimes with loans provided by the very banks bought out or from other reciprocally collaborating institutions.
 4. The expropriation of the commercial banks in 1982 contributed to their loss of a substantial amount of human capital during the years in which they were under the government. With these officials institutional memory migrated as well.
 5. Moral hazard was increased by the unlimited backing of bank liabilities.
 6. There were no capitalization rules based on market risk. This encouraged asset-liability mismatches that in turn led to a highly liquid liability structure.
 7. Banking supervision capacity was weak to begin with, and it became overwhelmed by the great increase in the portfolios of banks. Part of this weakness originated in the political stature of government-appointed CEOs when banks were still government owned.
 8. There was a substantial expansion of credit from the development banks.
 9. From December 1990 on, foreigners were allowed to purchase "domestic" (short-term) government debt. Since domestic public debt decreased during this period, the purchases of *Cetes* by foreigners enhanced the purchasing power of their domestic sellers.
 10. Short-term, dollar-indexed, peso-denominated Mexican government securities, *Tesobonos*, were issued at the end of 1991, although not in large amounts except during certain periods.

These experiences are not unique to Mexico. As Lindgren et al. (1996: 100) point out, "Formerly regulated banks may lack the necessary credit evaluation skills to use newly available resources effectively."⁵ And they concluded: "Unless properly overseen, liberalization

⁵Also see Honohan (1996): "Often hailed as the panacea for banking weaknesses of one sort or another, privatization has all too often been the regime change which incubated more serious problems. This has been the case both in transition economies and in developing countries that had operated with state-owned banks. The problem has generally lain in the lack of suitability or experience of the new owners, in the inadequate capitalization of the privatized banks or both."

can result in too rapid growth of bank assets, over-indebtedness and price-asset bubbles" (p. 107).

The factors listed above combined with a greatly improved perception of the country's short- and long-term prospects to generate the conditions that would result in the Mexican crash.⁶ This combination of forces constitutes another example⁷ of how financial liberalization⁸ can go astray, despite important economic achievements. Thin or no capitalization of some banks was a key ingredient that combined with the other elements to induce imprudent credit growth.⁹ But, as Lindgren et al. (1996: 77–8) show, fast credit growth and its aftermath is not an exclusive feature of Mexico's crisis: "Kaminsky and Reinhart (1996) reviewed the experiences of 20 countries that experienced banking and balance-of-payments crises and found that in about half, the banking crisis preceded the balance-of-payments crisis. The causal pattern reversed in only a few instances. Thus, there is support for the notion that bank soundness exerts negative effects on the external balance and the exchange rate." Also, "All the sampled countries except Venezuela experienced a sharp expansion of credit to the private sector prior to the crisis" (Lindgren et al. 1996: 84). The experiences of the Czech Republic, Malaysia, Thailand, South Korea, and others in 1997 should be added to the list above, as well as the similar episodes of Sweden and other developed countries in 1992.

The Macroeconomic Feedback of the Credit Expansion

Mexico's credit expansion churned out impressive numbers. From December 1988 to November 1994, credit from local commercial

⁶Lindgren et al. (1996: 12) describe well what went on in Mexico from 1994 to 1996: "After many years of nationalized banking [from 1982 to mid-1992], commercial banks lacked the experience and organizational and information systems to adequately assess credit and other market risks and to monitor and collect loans. Accounting practices did not follow international standards. Concentration of loans and loans to related parties was a problem in those banks that were subsequently subject to intervention." They also find that "banks that are, or were recently, state-owned were a factor in most of the instances of unsoundness in the sample" (p. 107), and "it becomes more difficult to distinguish good from bad borrowers when bank loans are growing rapidly" (p. 110).

⁷Chile's 1982–83 crisis has many parallels with Mexico's. See, for instance, Gil-Díaz (1995) and Velasco (1987).

⁸Mancera (1997) discusses the causes of the increase in private debt and provides a full presentation of the diverse financial salvage operations performed in the aftermath of the crisis to protect depositors, to provide relief to low-income debtors, and to encourage shareholders to capitalize commercial banks.

⁹According to Honohan (1996: 13), "Unusual asset price movements, rapid growth of lending, especially for property transactions and for financing of stock market positions, [and] capital inflows. . . are some of the tell-tale signals of a credit financed asset-price boom which may prove to be unsustainable."

banks to the private sector rose in real terms by 277 percent, or 25 percent per year.¹⁰

Some items provide a better understanding of the underlying trends: credit card liabilities rose at a rate of 31 percent per year, direct credit for consumer durables rose at a yearly rate of 67 percent, and mortgage loans at an annual rate of 47 percent, all in real terms.

External credit flows to the private sector went from –\$193 million in 1988 to \$23.2 billion in 1993. The figure fell to \$8.9 billion in 1994, but that decrease was more than compensated by the fall in the international reserves of the Banco de México, which decreased by \$18.9 billion.¹¹ Therefore, the total use of external resources in 1994 was \$27.8 billion. The total external financial flows to the private sector were also substantial: \$97 billion over the 1989–94 period.

Those rates of growth are portentous. As Honohan (1996: 1A) warns, “There are general indicators which apply whether or not there is a macroeconomic boom and bust cycle.” He lists, among others, the following tell-tale signs: “One measuring balance sheet change, namely the growth in aggregate lending (in real terms). This is the classic indicator of individual bank failure and may also serve for systems.” And, “two drawn from the structure of the balance sheet, namely the loan-deposit-ratio and reliance on foreign borrowing.”

The unseemly attraction of foreign resources, the liquidation of large amounts of government debt, and moral hazard nurtured an increase in private aggregate demand that contributed to the rapidly rising current-account deficit. Furthermore, the deficit was financed in large proportion by short-term capital. The growing external deficit was combined with the commitment, a pledge consecrated in the so-called Pacts, to contain the exchange rate within a widening but relatively tight band.

For most of the period, the exchange rate stuck to the most appreciated level within the band, as domestic interest rates attracted short-term capital, banks and private firms borrowed abroad, and foreign money flowed into the stock market. The central bank accommodated the demand for currency and in that endeavor partially sterilized inflows or outflows of foreign exchange, allowing international reserves to increase or decrease as required. Because of the excess supply of dollars, the amount of reserves persistently increased, up to the uncertain period prior to the vote of the U.S. Congress on NAFTA, when

¹⁰All the figures quoted in this section were provided directly by the Economic Research Department of Banco de México.

¹¹Gil-Díaz and Carstens (1997) provide a detailed explanation of why these losses were deemed recuperable at the time.

reserves temporarily fell. The increase in reserves resumed after NAFTA was approved and continued to increase until the start of the political wobbles of 1994.

The deficit in the balance of trade rose 5.83 percentage points as a proportion of GDP over the period, explainable up to 81 percent (4.74%/5.83%) by the rise in private investment. But a substantial portion of the increase in private investment went into unprofitable ventures, thus contributing to the unsustainability of the current-account deficit. Some of those undertakings were highly leveraged tollroads, or unrecoverable home mortgages, or credit unions that invested with low or negative returns financed through the development banks. Some of the credit, in turn, went to finance nonexistent enterprises or the hugely levered acquisition of bank shares, or went to non-collateralized loans.

Thus, a classic overindulgence in credit, a frenzy of spending, a substantial short-term debt,¹² and the sitting-duck features of a fixed exchange rate combined to set the stage for the 1995 economic crisis. The emphasis should be placed on the potential destabilizing effects of short-term debt, since foreign direct investment, portfolio investment, foreign-currency securities issued by commercial banks and their credits, and foreign deposits at commercial banks exhibited remarkable stability, even after the onset of the crisis (Trigueros 1997: 3–4). This piece of information is useful to pinpoint the vulnerabilities associated with a fixed exchange rate, especially when it does not coexist with the automatic stabilizers of a currency board.

Even though the virtually fixed exchange rate exhibited its virtues by steadily stabilizing prices, in hindsight one can conclude that it also became increasingly untenable within the environment created: an ever greater fragility of the economy to a speculative attack.

Sharply higher real interest rates in the United States in the second quarter of 1994,¹³ a considerable but still orderly depreciation of the peso prior to the December 1994 debacle, and the aftermath of the assassination of a presidential candidate and other unfortunate political events poured gasoline onto already burning coal.

Just as many European currencies collapsed in 1992 after unrelenting speculative attacks on their narrow exchange bands, the political events of 1994 triggered what for one economist was a death foretold

¹²Trigueros (1997: 5) concludes, "From the beginning of 1990 to the third quarter of 1994 accumulated short-term inflows amounted to at least \$40 billion while, over that same period, the increase in international reserves was close to \$10 billion."

¹³The demand for peso assets is highly sensitive to changes in the price of the 30-year U.S. Treasury bond (see Calvo et al. 1993: 108–51).

but a surprise nonetheless: a drain in international reserves until the exchange-rate limits had to be abandoned in December 1994 (see Calvo 1995).

The devaluation prompted several damaging effects as inflation and interest rates skyrocketed, economic activity collapsed, the burden of servicing debts denominated in domestic and foreign currency increased, and banks' capitalization ratios fell.

The crisis had little or nothing to do with a low savings rate, but a lot to do with credit expansion, as McKinnon and Pill (1995), Calvo and Mendoza (1995), Hale (1995), and Trigueros (1997) have pointed out. It was also unrelated to an overvaluation of the exchange rate as Gil-Díaz and Carstens (1997) painstakingly document. Trigueros (1997) provides some additional clarification on this issue: "Most of the increase in the share of non-tradable productive activities on GDP is explained by the growth of the financial services industry."

A Financial Interpretation of the Crisis

Are the European financial crises of 1992, the Mexican crisis of 1994–95, and the recent Asian currency crises of 1997–98 the result of unsustainable policies given unexpected shocks, or a reflection of multiple equilibria not closely related to measured fundamentals? (See Bordo and Schwartz 1996.)

The classic position, which relates crises to misaligned fundamentals, can be traced back to Harry Johnson (1972), where an excess credit expansion is translated into a loss of international reserves. A balance-of-payments crisis is the outcome of the depletion of international reserves. This position can also be found in Sargent and Wallace (1981), who provide a closed-economy model in which a persistent deficit and real interest rates above the rate of economic growth eventually lead to debt saturation. At that point, private agents refuse to continue purchasing debt, the deficit is monetized, and inflation ensues—not very different from the open-economy model. Finally, Krugman (1979), in a model reminiscent of Mundell (1968), follows on this tradition in a futile attempt to time the speculative attack that will force an abandonment of the exchange rate and thereby propitiate a rise in inflation.

In all those classic approaches, an excessive expansion of credit leads the public, national and foreign, into a refusal to continue purchasing debt, and in all of them a day of reckoning is finally forced upon the government and society.

Michael D. Bordo and Anna J. Schwartz (1996) scroll the experiences of currency crises dating from the 18th century to Mexico's

recent episode and find reassuring evidence to support the classical contention: currency crises stem from fundamental causes or impending wars. They conclude: "The theory of self-fulfilling speculative attack may have intellectual merit but contributes nothing to our understanding of real-world events. In every crisis examined here, the fundamentals are more than adequate to account for the actions of speculators" (pp. 47–48). Honohan (1997: 2–3) reaches a similar conclusion.

This brings us back to the Mexican crisis. What were its fundamental causes? All the factors listed above made some contribution, but those with the greatest significance were the combination of the exchange-rate regime with a rapid expansion of credit (Bordo and Schwartz 1996), a substantial part of which was of poor quality.¹⁴ The surge of bad credits is in turn explained by flimsy bank capitalization and the failure to ensure that some bankers met the "fit and proper" criteria to own or manage the institutions.

It would be incorrect to isolate a factor, despite the key role it played, like the proportion of short-term government debt held by foreigners whose holdings have been shown to be particularly volatile (see Calvo 1996). Such volatility is probably derived from the ease with which, under a fixed or quasi-fixed exchange rate, peso demand fluctuations have to be and are expected to be readily accommodated.¹⁵ Volatility and risk stem in part from the exchange-rate regime. A floating rate presents speculators with currency uncertainty compounded by other risks, notably market-value risks.

The lower risk speculators confront under a fixed exchange rate is borne by the government (i.e., by society at large). The insurance premium paid by society to cover exchange-rate risks is proportional to the size of the international reserves needed to reassure investors that potential claims will be satisfied. Mexico's reserves were insufficient even before December 1994 because of the size of the country's financial sector. Some authors puzzled by the depth and virulence of the Mexican financial crisis have tried to explain it, at least partly, by

¹⁴A further discussion of the effect rapid growth in bank lending has on bank failure can be found in Gavin and Hausman (1995) and Honohan (1997: 3–6).

¹⁵Evidence of how different institutional arrangements condition market behavior can be found in the comparison of the 1988–89 adjustment period with the 1995–96 period. Alejandro Werner (1997) found that the volatility of interest rates and the average value of the real interest rate were much lower in the latter period. Both intervals have several similarities, the most important one being that both were phases of adjustment to a crisis, but also a major difference: in the 1995–96 adjustment program a flexible exchange rate was adopted versus a predetermined rate in the 1988–89 program.

pointing out the financial vulnerabilities of the country (see Calvo 1996: 208).

That line of reasoning is insightful, but it does not go far enough.¹⁶ All domestic and foreign liabilities, peso and foreign currency denominated, have to be honored if there is a run on a country committed to a fixed exchange rate. One must also take into account that about 70 percent of all bank liabilities were payable overnight and that the rest were very short term.

But this situation of extreme liquidity was not new to Mexico nor to most other countries. What was new was the coexistence of a formidable growth in the volume and speed of international capital movements with the persistence, in some countries, of a fixed exchange rate (see Hale 1995). In this regard Mexico's currency collapse was not much different from that of several European countries in 1992 or the recent Asian crises.

Another often-invoked contributor to the Mexican crisis is the expansion of central bank credit in 1994. This vision ignores the fact that fractional reserve banking requires a lender of last resort, even under a currency board. Banks cannot liquidate loans when there is a run. Because of this simple but inescapable fact, all the lines that have been written about the so-called excessive expansion of the central bank's internal credit during 1994 are nonsensical. The logic of a fixed exchange rate is implacable. When there is a run, banks are all of a sudden left with more loans than deposits. Hence, when the central bank lends to commercial banks to balance their positions, it is simply fulfilling its unavoidable obligation as lender of last resort. This task is either performed by foreign creditors, which is unlikely when there is a run, or by the central bank. Under these circumstances, even a currency board needs a lender of last resort, as attested by the (appropriate) 1995 reaction by Argentinean authorities to stem the run they were facing.

To sum up: the correct sequence of events, which has been amply described and documented elsewhere (Mancera 1997, and Gil-Díaz and Carstens 1997), was initiated by a fall in the demand for peso assets equivalent to a loss in international reserves equal to the loss in bank deposits. This fall in demand was followed by an almost simultaneous credit increase from the central bank.

Conclusion

The original sin that led to the Mexican crisis is to be found in the expropriation of commercial banks that weakened them and rendered

¹⁶One could even counterargue that the lowest convertibility risk comes from holding the local currency (M_0 or M_1) which is totally liquid and, conversely, that the highest convertibility

them a fragile conduit for privatization and credit expansion. In addition, the following factors reveal the true measure of Mexico's financial vulnerability at the end of 1994: (1) A semifixed exchange rate; (2) a sizable current-account deficit resulting to a large extent from a huge credit expansion, not from the overvaluation of the exchange rate, as often claimed; (3) a substantial rise in U.S. interest rates; and (4) a trigger, consisting of the political tensions accumulated during 1994, a fact seldom incorporated by most analysts.

In hindsight, I now believe we have a clear idea of the origins of Mexico's financial crisis. Its symptoms and causes, as those of other countries, provide us with valuable lessons, the most important of which is perhaps the need to observe the behavior of credit aggregates, to follow the path of real estate prices, and to achieve transparency in the disclosure of financial information. Although many of these symptoms are by now almost self evident, and although the relevant information was available at the time to the international financial community, the consensus was that Mexico was doing everything right.

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risk comes from those bank and government obligations not included in M_2 .

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