
The Aftermath of Crises

The preceding chapters have focused on the antecedents of financial crises. The emphasis has been on the indicators' ability to anticipate crises and to measure the extent of a country's vulnerability. In this chapter, we begin with the premise that, whether anticipated or not, financial crises occur, and once they do, policymakers and market participants become concerned about their consequences for economic activity. In light of Asia's recent woes, there was much speculation as to how long it would take those economies to recover from such destabilizing shocks and what the consequences for growth and inflation would be over the near and medium term. In what follows, we review the historical experience of the aftermath of currency and banking crises.

The Recovery Process

If we want to assess how our indicators behave following financial crises and, in particular, how many months elapse before their behavior returns to normal, we must define "normal." One way to do that is to compare "tranquil" and "crisis" periods. We define periods of tranquility as the periods that exclude the 24 months before and after currency crises. In the case of banking crises, the 24 months before the banking crisis begins and the 36 months following it are excluded from tranquil periods. For each indicator, we tabulate its average behavior during tranquil periods. We then compare the postcrisis behavior of the indicator to its average in periods of tranquility.

Table 7.1 Length of recovery from financial crises (average number of months for a variable to return to “normal” behavior)^a

Indicator	Banking crisis	Currency crisis
Bank deposits	30 (below)	12 (above)
Domestic credit/GDP ^b	15 (above)	9 (above)
Exports	20 (below)	8 (below)
Excess M1 balances	9 (above)	8 (below)
Imports	29 (below)	18 (below)
Lending-deposit rate ratio	0	3 (above)
M2 multiplier	7 (above)	21 (below)
M2/reserves	15 (above)	7 (above)
Output	18 (below)	10 (below)
Real exchange rate	8 (below-overvalued)	23 (above-undervalued)
Real interest rate ^c	15 (above)	7 (below)
Real interest rate differential	15 (above)	7 (below)
Stock prices	30 (below)	13 (below)
Terms of trade	4 (below)	9 (below)

a. We note in parentheses whether the variable remained below or above the tranquil-period norm.

b. Domestic credit as a share of GDP remains above normal levels largely as a result of the decline in GDP following the crisis.

c. The disparity between the postcrisis behavior of real interest rates lies in the fact that a large share of the currency crises occurred in the 1970s, when interest rates were controlled and not very informative about market conditions.

Table 7.1 summarizes the results of that aftermath exercise for currency and banking crises. The number given after each indicator is the average number of months that it takes for that variable to reach its norm during tranquil periods. In parentheses, we note whether the level or growth rate of the variable remains above or below its norm in the postcrisis period. Several findings merit special attention.

First, the deleterious effects of banking crises do linger longer than currency crises’ effects. This is evident in several of the indicators. While the 12-month change in output remains below its tranquil-period norm for (on average) 10 months following the currency crash, it takes nearly twice that amount of time to recover following the banking crisis. This more sluggish recovery pattern is also evident in imports, which take about 2½ years to return to their norm. The weakness in asset prices, captured here by stock prices that are below the norm, persist for 30 months on average for banking crises—more than twice the time it takes to recover from a currency crash.

There are several explanations for banking crises’ more protracted recovery periods. One concerns the special nature of the “twin” crises. The bulk of the banking crises in this sample were accompanied by currency crises, and twin crises ought to have more severe effects on the economy, as argued in Kaminsky and Reinhart (1999).

Table 7.2 Time from beginning of banking crises to their peaks (months)

Descriptive statistic	Number of months
Mean	19
Minimum	0
Maximum	53
Standard deviation	17

Source: based on Kaminsky and Reinhart (1999).

A second explanation, not mutually exclusive, is that a banking crisis cuts off both external and domestic sources of funding for households and firms, whereas a currency crisis only cuts off the former. In other words, the credit crunch is more severe.

A third explanation derives from the distribution of crises across the sample period. The currency crises are roughly evenly distributed between the pre- and postliberalization periods, while the banking crises are bunched in the 1980s and 1990s. To the extent that crises have become more severe following deregulation, the slower pace of recovery in banking crises may reflect that. This is an issue we take up later.

A second finding highlighted in table 7.1 is that there are important sectoral differences in the pace of recovery, depending also on the type of crisis. For instance, following the devaluations that characterize the bulk of currency crises, exports recover relatively quickly and ahead of the rest of the economy at large. In contrast, following banking crises, exports continue to sink for nearly two years. This may reflect a persistent overvaluation, high real interest rates, or a “credit crunch” in the aftermath of banking crisis.

Table 7.2 underscores the protracted nature of banking crises by showing the average number of months elapsed from the beginning of the crisis to its zenith for the 26 banking crises studied in the Kaminsky and Reinhart (1999) sample. On average, it takes a little over a year and a half for a banking crisis to ripen; in some instances it has taken over four years. Often, financial sector problems do not begin with the major banks, but rather with more risky finance companies. As the extent of leveraging rises, households and firms become more vulnerable to adverse economic or political shocks that lead to higher interest rates and lower asset values. Eventually, defaults increase and problems spread to the banks. If there are banks runs, such as in Venezuela in 1994, the spread to the larger institutions may take less time.

The information in table 7.2 does not fully capture the length of time that the economy may be weighed down by banking-sector problems, since it does not cover information on the time elapsed between the crisis peak and its ultimate resolution. Rojas-Suarez and Weisbrod (1996), who examine the resolution of several banking crises in Latin America, high-

Table 7.3 Comparison of inflation and growth rates before and after currency crises (percent)

Indicator	average of				
	$t-1$ and $t-2$	t	$t+1$	$t+2$	$t+3$
Real GDP growth					
All countries	3.3	1.0	1.8	3.1	2.9
Moderate-inflation countries ^a	3.5	2.1	2.4	3.3	4.0
High-inflation countries	3.0	-0.6	1.0	3.1	1.7
Inflation					
Moderate inflation countries	14.0	15.7	18.0	15.7	14.8
High-inflation countries	270.9	732.8	394.8	707.4	964.7

t = year of crisis

a. Moderate-inflation countries are those with inflation rates below 100 percent in all years surrounding the crisis; high-inflation countries are those in which inflation exceeded 100 percent in at least one year.

light the sluggishness of the resolution process in many episodes. The Japanese banking crisis, which has spanned most of the 1990s and is still ongoing, is a recent example of the protracted nature of the recognition-admission-resolution process.

We next focus in table 7.3 on the evolution of two of the most closely watched macroeconomic indicators—growth and inflation—in the aftermath of currency crises. Instead of comparing tranquil versus crisis periods, we compare the immediate two precrisis years with the postcrisis years.¹ We distinguish between moderate-inflation and high-inflation countries; the latter encompass mostly Latin American countries. The numbers for “all countries” represent an average of the 89 currency crises in our sample.

Perhaps the most interesting finding from table 7.3 is that it takes between two and three years in currency crisis episodes for economic growth to return to the precrisis average. Devaluations may be expansionary in industrial countries—witness the sharp recovery in the United Kingdom following its floatation of the pound during the European exchange rate mechanism (ERM) crisis and the strong growth performance of the Australian economy in 1998 coincident with a large depreciation of the Australian dollar.

1. For a comparison of the recent crises with the historic norm, see Kaminsky and Reinhart (1998).

Yet, as shown in table 7.3, devaluations in the developing world are most often associated with recessions. There are numerous theoretical explanations for this finding (see Lizondo and Montiel 1989 for a survey of the literature). Two are of particular interest. First, devaluations that occur in the context of balance of payments crises are associated with losses of confidence and increases in uncertainty that are damaging to economic activity. It is usually the case that credibility problems are more severe for developing countries than for their industrial counterparts. Second, while industrial countries do not face a higher debt-servicing costs following devaluation, as their debt is predominantly denominated in their own currencies, developing-country debt is largely denominated in US dollars or other foreign currencies. Hence a large devaluation will have staggering implications for debt servicing burdens.

Furthermore, recessions following currency crises appear to be more severe among the high-inflation countries. This may be because inflation itself has adverse effects on growth (Fischer 1993) or because high-inflation countries may be especially prone to losing their access to international credit relative to their low-inflation counterparts. The evidence presented in Cantor and Packer (1996a) does indeed show that private credit ratings penalize high inflation.

In any event, most existing studies find devaluation episodes in emerging economies to be contractionary, with their negative impact diminishing within two years, and table 7.3 supports these findings.² In this connection, Morley (1992) concludes that the reason that earlier studies, which are largely focused on devaluations during the 1950s and 1960s, find milder recessions and even positive output consequences is that many of those devaluation episodes occurred in the context of trade liberalization and exchange market reform—not in the context of balance of payments crises.

Table 7.3 shows that inflation picks up in the two years following the currency crisis in both moderate- and high-inflation countries. The increase is far more dramatic for high-inflation countries, where inflation remains at a substantially higher level following the crisis (usually because of recurring devaluations at an accelerating rate). For the moderate-inflation countries, inflation returns to its precrisis rate in about three years. These patterns are consistent with those found by Borensztein and de Gregorio (1998) in 19 devaluation episodes in low- and high-inflation countries. The empirical studies surveyed in table 7.4 arrive at similar conclusions.

Some Caveats

The preceding discussion has suggested a “representative time profile” for the recovery process in the wake of currency and banking crises. This

2. See also Kamin and Rogers (1997) for an interesting analysis of the case of Mexico.

Table 7.4 The wake of devaluations: a review of the literature

Study	Sample	Variable	Results
Borensztein and de Gregorio (1998)	1982-94, 19 devaluation episodes, five of which are industrial countries	Inflation	About one-quarter of the devaluation is offset by higher inflation after three months, about 60 percent after two years. Except for Latin American cases, inflation returned to its pre-devaluation level in three years or less.
Cooper (1971)	1951-70, 24 large devaluations	GDP	Devaluations are followed by either a recession or a reduction in the rate of growth. These output effects were small, however.
Edwards (1986)	1965-80, 12 developing countries	GDP	Regressing income on the real exchange rate while controlling for policy fundamentals, he finds a negative and significant coefficient on the real exchange rate in the first year; this was offset by positive coefficients later on. Long-run effect is neutral.
Edwards (1989)	1962-82, 39 devaluations greater than 15 percent in 24 countries	Inflation, GDP, current account as a share of GDP, change in net foreign assets/money	Inflation doubles, on average from about 8 to 16.7 percent one year after the crisis; net foreign assets/money fall by about 5 percent in the three years following the crisis.
Kamin (1988)	1953-83, 50 to 90 devaluations in excess of 15 percent	Inflation, GDP, exports, imports, export prices, import prices, capital inflows, trade balance, reserves	The trade balance does not change much the year following the devaluation; import and export growth increase. Capital inflows and reserves are about the same at $t+1$ as in the year of the devaluation. Inflation increases the year of the devaluation then declines. GDP growth falls the year of the devaluation then recovers the following year.

Kiguel and Ghei (1993)	1950-90, 33 devaluations in excess of 20 percent in low-inflation countries	Real exchange rate, inflation, GDP growth, exports/GDP, reserves/imports, parallel premium	About 60 percent of the devaluation is not eroded by increases in domestic prices. Inflation increases, on average by about 1½ percentage points, between $t+3$ and -1 ; growth increases by 1 percent in that same period; exports and reserves/imports also rise between -1 and $t+3$; the parallel premium falls.
Krueger (1978)	1951-70, 22 large devaluations	GDP	As in Cooper (1971), devaluations are followed by either a recession or a reduction in the rate of growth. These output effects were small.
Morley (1992)	1974-83, 28 devaluations in excess of 15 percent.	Capacity utilization	After controlling for other fundamentals, the real exchange rate is found to have a negative and significant effect on capacity utilization for up to two years. He finds real devaluations are associated with sharp declines in investment.

Table 7.5 Comparison of severity of crises by region and period, 1970-97

Period	Currency crises (index ^a)			Banking crises (bailout cost as share of GDP)		
	Latin America	East Asia	Other	Latin America	East Asia	Other
1970-94	48.1	14.0	9.0	21.6	2.8	7.3
1995-97	25.4	40.0	n.a.	8.3	15.0	n.a.

a. See text for description of index's construction.

Source: Kaminsky and Reinhart (1998).

profile suggests that growth will return to normal within about two years of the crisis and that the inflationary consequences of the devaluation will abate within about three years. Yet this pattern would hardly describe the protracted recovery process of many Latin American economies during the 1980s, not even the relatively rapid recovery experienced by Chile.³

The speed at which the economy recovers from a financial crisis will be heavily influenced by how policymakers respond to the crisis as well as by external conditions. The high level of international real interest rates in the 1980s (the highest levels since the 1930s) were hardly conducive to speedy recovery. Moreover, as suggested in Kaminsky and Reinhart (1998a), severe currency and banking crises are apt to be associated with more delayed recoveries. This latter point is particularly relevant to the recovery from the 1997-98 crises in Asian countries, which are significantly more severe than the earlier crises in that region.

To analyze this issue formally, we measure the severity of currency and banking crises, as in Kaminsky and Reinhart (1998). For banking crises, the measure of severity is the cost of the banking bailout expressed as a share of GDP. For currency crises, we construct an index that gives equal weights to reserve losses and currency depreciation. This index is centered on the month of the currency crisis, and it combines the percentage decline in foreign exchange reserves in the six months before the crisis, since reserve losses typically occur before the central bank capitulates, and the depreciation of the currency in the six months following the abandonment of the existing exchange rate arrangement. This latter component captures the magnitude of the currency meltdown.

Table 7.5 presents these measures of severity for the 76 currency crises and 26 banking crises in the Kaminsky-Reinhart sample. For the 1970-94 sample, currency and banking crises were far more severe in Latin America than elsewhere. The 1970-94 crises in East Asia, by contrast, were relatively mild and not that different by these metrics from the crises in

3. Chile's inflation rate was in single digits when it abandoned its crawling peg policy in 1982.

the European countries that largely represent the “other” group. This divergence may also help explain the subpar performance of the high-inflation countries during recovery (table 7.3). The picture that emerges during 1995-97 is distinctly different.

Both in terms of this measure of the severity of the currency crisis as well as the estimated costs of bailing out the banking sector, the severity of the recent Asian crises surpasses that of their Latin American counterparts in the late 1990s and represents a significant departure from its historic regional norm. In this sense, the V-shaped recoveries in Asia have been less protracted than the history of past severe crises would have suggested.