

## FINANCIAL SHOCKS AND BUSINESS CYCLES: LESSONS FROM OUTSIDE THE UNITED STATES

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Both history and contemporary experience are replete with episodes of financial crisis leading to major output contractions. Predecessors of the current Asian crisis can be found in the interwar period as well as under the pre-World War I gold standard, although U.S. experience post-World War II is free so far of a recession initiated by widespread credit-institution problems. In 1890, the Barings crisis not only threw Argentina into turmoil, but also spilled over to “emerging markets” as distant as Australia and Turkey. In the United States, financial panics leading to recession were a regular occurrence before 1914. And, of course, even after: In 1931, twin banking and currency crises in central Europe spread to the United States, to other industrial economies, and to developing countries, hammering real activity and provoking a wave of international debt defaults. The developing-country debt crisis of the 1980s led to a near-decade of lost growth in Latin America and elsewhere, while the 1994-95 Mexican peso crisis led to a short, sharp contraction there and to contagion effects elsewhere, notably in Argentina.

Indeed, it is fair to say that for developing economies, exogenous fluctuations in capital flows have once again become a dominant business cycle shock. They remain a potential problem in developed economies as well, although lessons learned in the Great Depression and the resulting institutional reforms have greatly blunted the threat.

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## CAPITAL FLOWS AND INSTABILITY OF EXPECTATIONS

It is well accepted that credit markets can have multiple equilibria, so that exogenous shifts in expectations—"sunspots" if you will—can play a role, potentially an important role, in generating cyclical fluctuations. Diamond and Dybvig (1983) formalized the point that an illiquid credit institution could be viable if depositors had confidence in the value of its short-term obligations, but would fail if depositors coordinated instead on an equilibrium in which all attempted to withdraw their funds. Of course, long experience had strongly suggested the possibility as well!

In a purely domestic context, public policy has sought to limit such expectational instability through partial deposit insurance, lender of last resort support, accounting standards, capitalization requirements, and direct prudential supervision and regulation. The latter three ingredients serve to limit the moral hazard—on the part of depositors as well as deposit takers—that official guarantees induce. Even in developed countries, however, such safeguards have failed to stop financial malfeasance and failure—witness the costly U. S. savings and loan collapse. Nor have they always prevented contagious financial crises. The current predicament of Japan, whose economy shrank at an annual rate above 5 percent in the first quarter of this year, stems from a number of factors, all of which have been greatly amplified by widespread corruption and a weak financial system that has never recovered from the collapse of the late-1980s Japanese "bubble" economy.

Financial crises can bring into question the credit of entire countries as well, and here too there can be an element of self-fulfilling prophecy, as in a bank run. In this case, pure investor panic becomes an important driving force for the economy. In East Asia, the effects of recent crises have been dramatic. Countries in the region have moved rather abruptly from very rapid positive to negative growth rates. First quarter 1998 GDP was 1.8 percent below its level a year earlier in Malaysia, 3.8 percent below in South Korea, 6.2 percent below in Indonesia, and 2 percent below in Hong Kong (*The Economist*, July 18th-24th, 1998, p. 92).

The possibility of national financial collapse, sparked by a reversal of capital inflows, is inherently harder to contain than the problem of domestic financial stability. In the international setting, gaps and asymmetries in prudential regulation make evasion comparatively easy. Formal deposit insurance does not apply, accounting standards differ across countries, there is no clearly defined lender of last resort nor any universally accepted legal procedure for working out insolvency problems. (International cooperation to plug some of these holes has been on the docket of the Basle Committee of international bank regulators since the 1970s.) In addition, exchange-rate risk adds another big potential source of illiquidity or even insolvency.

In thinking about problems due to capital flow instability, it is useful

to separate for analytical purposes two types of international crisis—exchange-rate or currency crises, and national solvency crises. The separation is artificial, in that the two types of crisis may occur simultaneously and interact, but I wish to consider them separately for the moment, and only then ask why they often occur together.

## EXCHANGE-RATE CRISES

In the 1990s, foreign exchange crises have disrupted exchange markets in western Europe, eastern Europe, South Africa, Latin America, and, of course, East Asia. These recent crises have sharpened debate over two opposing views on the causes of crises. One claim is that otherwise successful economies have been victims of greedy market operators, usually foreign ones. This view is especially popular with government ministers in the afflicted countries. The opposing view is that such crises are largely home-grown, and that the global capital market is simply performing a needed role in disciplining imprudent government policies.

Early modern analytical thinking on exchange-rate crises, starting with Krugman's (1979) seminal article, tended to support the latter view. In Krugman's story, a government with a finite stock of foreign exchange reserves is simultaneously pegging the exchange rate and following an expansive fiscal policy inconsistent with the indefinite maintenance of the peg. Because the fiscal expenditures are financed by running down foreign reserves, an eventual currency collapse is inevitable. Krugman elegantly showed how that collapse would occur on a uniquely defined date, as the result of a sudden speculative attack that forces the authorities to relinquish the currency peg even though their reserves are positive beforehand. In this story, speculators are merely acting as they must to prevent the emergence of excess profit opportunities.

Recent thinking on crises would argue that this theory is not universally correct, although it does not support the idea, either, that currency crises can occur any time market whims dictate one. Instead, there may be extensive "grey areas" in which unwise policies make countries vulnerable to crises, but in which a crisis is not inevitable and might in fact not occur without the impetus of international capital outflows.

For example, a government with a large domestic-currency public debt of short maturity may be induced to devalue by very high short-term interest rates, which themselves reflect a rational expectation of devaluation. The government's motivation in devaluing is to debase its debt in real terms so as to limit future tax burdens. On the other hand, there can be a benign equilibrium in which markets do not expect devaluation, interest rates are low, and the government's pain therefore is not so great as to induce a devaluation (Obstfeld 1994). A jump from the second equilibrium to the first—due to an essentially exogenous

shock to market expectations—generates a sudden crisis. The Russian crisis that erupted in the late spring of 1998 fits this model well, as does the recent attack on Brazil's currency.

This logic suggests that crises may contain a self-fulfilling element, just as bank runs do, which can generate multiple equilibria in international asset markets and render the timing of crises somewhat indeterminate. What we see in these cases is a sharp break from an essentially tranquil equilibrium to a crisis state, rather than a gradual deterioration in domestic interest rates and other market-based indicators. This view helps explain why capital markets can appear to impose too little discipline before the crisis arrives, and too harsh a discipline afterward.

## CRISES OF NATIONAL SOLVENCY

Solvency crises, on the other hand, could occur even in a country that uses the U.S. dollar as its currency; the exchange rate channel is not central in theory, although it often has been in practice. If lenders refuse to roll over a country's maturing dollar debts, and if the country lacks the liquid resources—foreign reserves and credit lines—with which to meet its obligations, a crisis ensues. Here we have a pretty precise analogy with the case of a banking panic, since willing rollover would preclude panic, whereas a market fear that others will flee makes it optimal for each individual lender to flee as well. In the 1980s debt crisis, much developing-country debt was incurred by sovereign governments or guaranteed by them. In the 1990s, the borrowers have been private banks and corporations, but governments have felt compelled to back up at least the banks' debts so as to avoid domestic financial collapse. And government credit support of banks has in some cases been on-lent to their corporate customers so as to (temporarily) prop up the paper value of bank assets. Thus, the earlier example of a government funding crisis largely applies. Díaz Alejandro (1985), describing Chile's experience in the early 1980s, gave a classic account of the nationalization of supposedly private foreign debts.

## HOW CURRENCY CRISES AND NATIONAL SOLVENCY INTERACT

The European countries that devalued in the 1992 Exchange Rate Mechanism (ERM) currency crises did not subsequently fall into solvency crises, which is why their forced devaluations did not impair growth (indeed, may have helped it). In other cases, however, exchange rate and solvency crises can interact in explosive ways. The attempt to assure fixed exchange rates (or a preannounced ceiling on exchange depreciation) can lead to the very vulnerabilities that raise the possibility of an international solvency crisis. When domestic banks and corporate borrowers are

(over)confident of an exchange rate, they may borrow dollars or yen without adequately hedging against the risk that the domestic currency will be devalued, sharply raising the ratio of their domestic-currency liabilities to their assets. They may believe that even if a crisis occurs, the government's promise to peg the exchange rate represents an implicit promise that they will be bailed out in one way or another. Borrowers may face little risk of personal loss even if a bailout does not materialize, because they have little capital of their own at stake.

This problem has been especially severe in developing countries, where prudential regulation is looser, financial institutions are weaker, and even the government's credit may be questionable. When market sentiment turns against the exchange rate peg, the government is effectively forced to assume the short foreign-currency positions in some way—or else to allow a cascade of domestic bankruptcies. Since the government at the same time has used its foreign exchange reserves (in a vain attempt to peg the exchange rate), may have sold dollars extensively in forward markets as Thailand did prior to floating the baht in July 1997, and cannot borrow more in world credit markets, national default becomes imminent.

What potential macro adjustments ratify the expectations of depreciation that start the process rolling? It is essentially the threat that the government budget, now burdened with higher public debts and the debts of the private banking system, will be balanced through inflation. It is of course true that currency depreciation is bankrupting the domestic financial system and the government might prefer an equilibrium in which there is no depreciation and no inflation. But that is not the Nash equilibrium that characterizes a crisis. *Given* market expectations of depreciation, it still may be optimal for the government to inflate.<sup>1</sup>

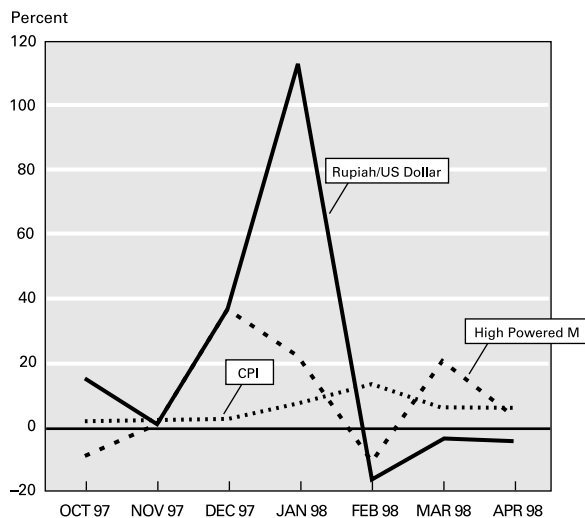
Indonesia's severe crisis illustrates these mechanisms at work. In 1997 Indonesia had come down from its spectacular economic performance of earlier years, but still had a healthy rate of growth, a reasonable real exchange rate, and a current account deficit of manageable size. The country had a short-term external debt of 182 percent of GDP; but the figure had been nearly as large in 1995 (according to the Bank for International Settlements) and the country had avoided a crisis then. After the July 1997 Thai devaluation, however, the rupiah came under pressure and was cut loose to float.

Sharp depreciation in December 1997—part the result of increasingly evident regional problems, part the result of domestic financial panic reinforced by policy uncertainties—led to a massive deterioration in

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<sup>1</sup> Of course, other mechanisms are driving such crises, as well. Because domestic interest rates rise, entities that finance long-term domestic lending with short-term domestic borrowing—for example, bank deposits—come under immediate pressure.

**Figure 1**  
**Changes in the Money Supply, Exchange Rate, and Price Level in Indonesia**



Source: Bank Indonesia and Datastream.

private sector balance sheets. Interest rates rose and the stock market collapsed. The government reacted by providing massive doses of liquidity in December and January, fueling further depreciation and, soon, sharply higher inflation (Figure 1). The new year also saw continuing runs on domestic banks, with the currency/M2 ratio rising from 16.6 in December to 21.8 in January. In effect, the government was buying up the private sector's negative net worth and financing the bailout through inflationary money creation. Of course, the collapse of the financial sector and the cessation of capital inflows have been accompanied by collapses in investment and in consumer durables purchases, and by difficulties for the export sector, which relies on trade credits.

It is hard to maintain that the Indonesian crisis was inevitable. Other of the regional crises, I would argue, also contain self-fulfilling elements to greater or lesser degrees. Hong Kong's ongoing problems offer a case in point. How can an economy as open as Hong Kong's gain economically from devaluing? Yet speculation has continued through 1998 and political support for maintaining the link to the U.S. dollar could erode in the face of rising unemployment.

## CONTAINING THE CURRENT CRISIS

How should monetary and fiscal policies be managed in the current crisis? The stakes are extraordinarily high, but the easy answers are few—in effect, policy must counteract the severe capital-account shocks by creating a new expectational climate, and economics has little to say as to how this can be done short of infeasibly extensive official financial support from abroad. Fiscal expansion would seem to carry minimal risks, given the generally sound public finances of these countries in the past. It is especially needed in Japan, where a negative fiscal shock in 1997 has helped propel the economy downward. Japanese monetary expansion risks further yen depreciation and adverse competitive effects elsewhere in the region. But it would still give a welcome boost to world demand and might marginally help those who have borrowed in yen. The optimal response by Japan would be a policy mix of monetary and fiscal expansion with offsetting exchange rate effects.

Given the dollar and yen debts incurred in other Asian countries, monetary expansion by them risks throwing gasoline on the fire. However, it is unlikely that tight money policies alone will restore confidence in regional currencies until Japan, seemingly suffering from policy paralysis, gets its house in order. Moreover, the Federal Reserve and the new European Central Bank have an extraordinary power to worsen the situation by raising interest rates in pursuit of domestic inflation objectives. To do so now would be an error of perhaps historic proportions. The Fed, at least, seems to have recognized the danger.

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