
Responding to the East Asian Crisis

IN THE SECOND HALF OF 1997 SEVERAL EAST ASIAN CRISIS COUNTRIES experienced a massive reversal of the large foreign private capital inflows they had enjoyed through much of the 1990s. The net swing from inflows to outflows between 1996 and 1997 amounted to more than \$100 billion for the five crisis countries—Indonesia, the Republic of Korea, Malaysia, the Philippines, and Thailand—or 11 percent of their gross domestic product (GDP) before the crisis. The reversal precipitated steep devaluations of currencies, large increases in interest rates, and severe declines in stock and other asset prices, initiating the deep financial and economic crises that have gripped these countries since. Contagion effects from the crisis spread throughout the developing world. But instead of dying away quickly, as they did after the 1994 Mexico peso crisis, they were the precursor of currency and financial crises in the Russian Federation in August 1998, followed by a more general withdrawal of private capital from emerging markets.

While financial crises in emerging markets have many common elements—capital outflows, falling currencies, failing banks, and loss of confidence—their specific causes and, in particular, the factors precipitating loss of confidence, often differ and merit different policy responses. This chapter tries to advance our understanding of crisis response by focusing on the features of the East Asian countries that—with benefit of hindsight—made them so vulnerable to the outbreak of financial crisis, as well as the reasons for the emergence of these vulnerabilities. Different views on the causes of the crisis lead to different policy pre-

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scriptions for dealing with it. The chapter then analyzes the evolution and propagation of the crisis since its outbreak, dealing especially with reasons for its severity and duration, and the role of the policy responses implemented by governments to stem, manage, and resolve it. The discussion of policy responses reviews macroeconomic policies and financial and corporate sector restructuring and reforms, including efforts to work out the foreign debt difficulties of the private sector. The last section considers the social impact of the crisis and policy measures to mitigate these effects.

This chapter's key messages:

- The crises in several East Asian countries highlighted the extent to which their integration in global financial mar-

kets had outpaced the building of domestic institutions necessary to supervise and regulate the financial sector. The interaction of these institutional weaknesses with international capital market imperfections, and the use of inconsistent macroeconomic policies to manage surging capital inflows, generated crucial vulnerabilities that laid the groundwork for the subsequent financial crises—and ensured that their consequences would be severe.

- The critical immediate vulnerability came from an excessive buildup of short-term foreign currency debt on the balance sheets of private agents. This debt made countries vulnerable to sudden swings in international capital market sentiment. Macroeconomic policies to manage large-scale private capital inflows tended to create upward pressure on local interest rates. Large local interest rate premiums over falling international rates encouraged unhedged short-term foreign currency borrowing. In the euphoric business climate of the time, many market participants ignored the risk of exchange rate depreciation, lulled as well by the stability of exchange rates in the region, resulting from policies of pegging currencies. Surging capital inflows and weaknesses in financial regulation and supervision in the wake of financial liberalization in the 1980s and early 1990s also contributed to booms in domestic lending. These credit booms augmented already high levels of corporate leveraging, fostered speculative, low-quality investments, and weighed down banks' portfolios with doubtful

loans collateralized on assets whose value had been inflated by asset price bubbles. Banks and corporations became highly vulnerable to shocks affecting their cash flow and net worth.

- An ailing financial sector and large increases in central bank credit to failing banks helped trigger the run on the Thai baht and the collapse of the peg. The crisis quickly spread to other countries in the region, in part because of common vulnerabilities (such as high short-term debt and financial sector weaknesses) and spillovers through international trade linkages, but also through the contagion effects of a sudden change in capital market sentiment. Real activity began a sharp decline as private investment suffered a massive shock because of increased uncertainty, withdrawal of external financing, and the impact of interest rate increases and currency devaluations on corporate and bank cash flow and balance sheets. Personal consumption, especially of durables, also fell sharply. A strong export response, which had helped recovery in Mexico after the December 1994 peso crisis, failed to materialize because of the weakness in overseas market demand due to the regionwide downturn, sharp declines in export prices, and the credit problems facing firms.
- Given the large declines in private investment and consumption, the initial fiscal policy responses to the crisis turned out, contrary to design, to be contractionary and would have been strongly contractionary if fully implemented. As the severity of recessions

became apparent, fiscal policies were relaxed in favor of a more stimulative stance. The use of monetary policy also threw up extremely difficult tradeoffs between macroeconomic and financial sector stabilization objectives. Orthodox monetary policies in defense of currencies are appropriate in many circumstances, but not necessarily in all. Some initial policy responses in the crisis countries stressed raising interest rates to stabilize exchange rates (thus limiting the damage to the balance sheets and cash flow of firms with heavy foreign currency debts). But higher interest rates were themselves likely to damage economywide balance sheets and cash flows, and so weaken the real economy. Also, by increasing the risk of default on instruments issued by financially weak banks and corporations, higher rates could undermine rather than strengthen currencies. In the event, none of the initial policy responses had much immediate effect in stemming pressures on currencies—much of the decline occurred after these measures were taken.

- The primary role of fiscal and monetary policy now is to alleviate the collapse in aggregate demand, expand the social safety net, and recapitalize the financial system in a noninflationary manner. Financial support from the international community is vital. The initial reform packages in some countries were notable for their focus on structural reforms. Some of these (such as those dealing with the financial sector or corporate governance issues) addressed significant causes of the cri-

sis; others, however, while important for medium-term progress, have raised some questions about priorities in short-term crisis management.

- By mid-1998 large parts of the financial and corporate sectors in the most affected East Asian countries were insolvent or suffering severe financial distress. In several countries the cost of recapitalizing banking systems is expected to rise to 20–30 percent of GDP or more. Cross-country experience suggests that restructuring on this scale will require government intervention within a comprehensive plan for the financial sector, including the injection of substantial public funds. To reduce incentives for excessive risk taking (moral hazard), restructuring should allocate a substantial share of losses to bank shareholders, managers, and others who benefited the most from past risk taking. But these longer term goals will need to be balanced against the immediate priority of not exacerbating the credit difficulties facing viable firms.
- The success of bank restructuring and of restructuring debts of local corporations is intimately linked. Orderly workouts—less formal ways to achieve the same economic objectives as bankruptcy proceedings, by bringing creditors and debtors together for voluntary negotiation—will be important for both domestic and foreign debt. Although this is a difficult and protracted process, experience suggests that strong government leadership can play a critical role. OECD governments, in particular, can facilitate timely workouts between debtors and external private creditors, for example, by not holding out the possibility of more favorable bailouts for creditors in the future. Expanded flows of foreign direct and equity investment can also contribute to successful financial and corporate restructuring.
- The crisis has had an enormous social cost, placing a huge burden on the poor and, in some countries, exacerbating social conflict. Many of these consequences are likely to be protracted. Social policy concerns thus need to be an integral part of policy responses to the crisis. While not a substitute for sound, pro-growth, macroeconomic policies, social safety nets can play a major role in mitigating the social effects of crises. In recent decades East Asian countries have reduced poverty and improved living standards at a pace unrivaled in history. Nevertheless, cross-country research suggests that protracted crises lead to more poverty, greater income inequality, and deteriorating health indicators such as infant malnutrition—trends that can have enduring effects on people’s health and their ability to participate in the economy. An important lesson from this crisis is therefore the importance of establishing appropriate ex-ante social safety nets in all countries, prior to a crisis.
- Unemployment in Indonesia, the Republic of Korea, and Thailand is expected to more than triple between 1996 and 1998. Real wages are likely to fall dramatically in Indonesia. Conservative estimates put the number of people falling into poverty in 1998 at

25 million in Indonesia and Thailand alone, and the number could be much larger if income inequality rises. Priority actions to protect the poor include ensuring food supplies through direct transfers and subsidies, generating income through cash transfers and public works, preserving the human capital of the poor through basic health care and education services, and increasing training and job search assistance for the unemployed.

Buildup of vulnerabilities leading to crisis

What the crisis was not

Unlike the debt crisis of the 1980s, the crisis in East Asia was not driven by severe macroeconomic imbalances or instability, particularly those originating in large, money-financed public sector fiscal deficits. Fiscal positions in the East Asian crisis countries were either balanced or in surplus throughout the 1990s¹ (table 2-1). Public

sector debt was also generally low and falling as a share of gross domestic product (GDP) in the 1990s. Despite large private capital inflows and rapid output growth, there was little evidence of economic overheating in the form of inflation, which remained moderate, ranging from around 4 percent in Malaysia to 9 percent or so in Indonesia and the Philippines. In several countries inflation was actually falling in the year to mid-1997.

The main expressions of excess demand were large and widening current account deficits in Thailand, Malaysia, and Korea, and somewhat smaller ones in Indonesia and the Philippines. By and large, these were not accompanied by a deterioration in countries' ability to service their foreign debts from export revenues. A comparison of debt-service ratios (amortization and interest on long-term and short-term external debt expressed as a percentage of export revenues) at the start of the debt crisis of the 1980s and on the eve of the latest crisis, shows that for most East Asian countries debt-service ratios were relatively low

The crisis countries were in fiscal surplus for most of the 1990s

Table 2-1 Central government fiscal balances, 1977–96

(percentage of GDP)

	1977–81	1982–86	1987–91	1992–96	1996
Indonesia	-2.4	-1.4	-1.0	0.9	1.2
Korea, Rep. of	-2.1	-1.3	0.0	0.2	0.5
Malaysia	-7.9	-9.7	-3.9	0.7	0.7
Philippines	-1.8	-3.1	-2.6	-0.1	0.3
Thailand	-3.7	-4.6	2.1	2.4	2.3
Argentina	-3.9	-4.7	-1.1	-0.7	-1.8
Brazil	-1.6	-7.3	-10.4	-6.6 ^a	..
Chile	2.3	-2.0	1.3	2.2	2.3
Colombia	0.2	-2.1	-1.2	-2.6	-4.3
Mexico	-3.7	-9.6	-6.4	0.2 ^b	..

a. 1992–94.

b. 1992–95.

.. implies data is not available.

Source: International Monetary Fund.

in 1982 and had fallen even further by 1996 (figure 2-1). Only in Indonesia did the ratio rise, although even there it remained below the 1982 levels in many Latin American countries.

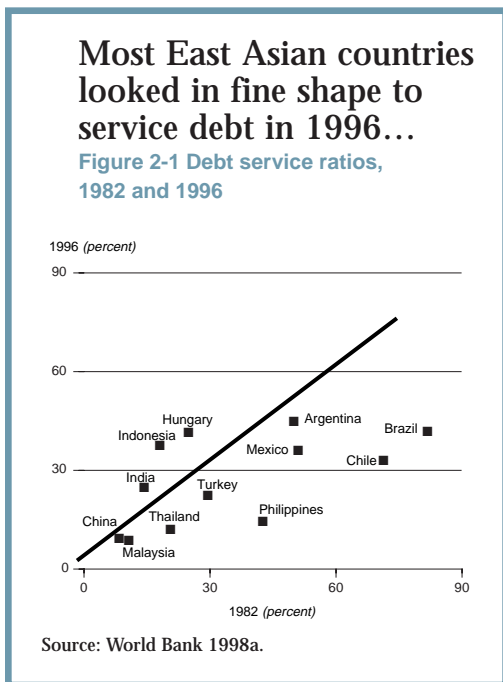
The buildup of short-term foreign debt

The chief external source of vulnerability arose not from major macroeconomic imbalances but from a rapid buildup from the late 1980s onward of risky forms of leverage on the balance sheets of financial institutions and nonfinancial corporations, in particular short-term foreign currency debt in excess of foreign currency resources available on short notice. Mismatches between the currency and maturity of liabilities and assets made firms vulnerable to sudden swings in international investors' confidence and to the

possibility of being unable to borrow from international capital markets to roll over short-term debt or meet other current debt service obligations.²

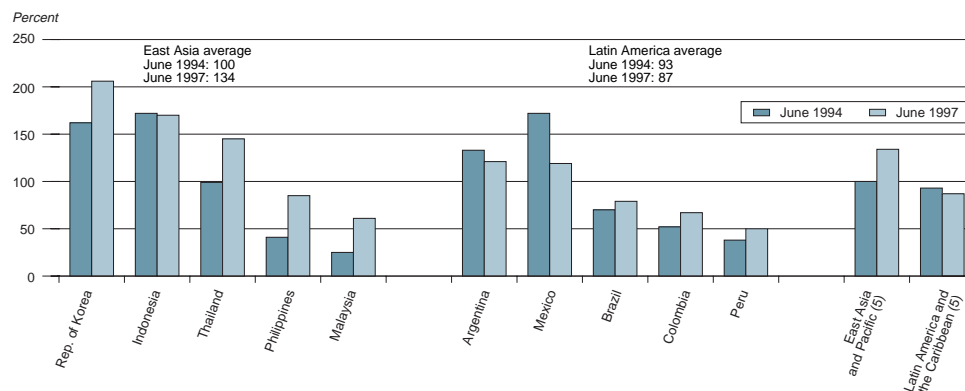
The ratio of short-term debt to foreign reserves is a rough measure of a country's ability to meet its current obligations from its own liquid resources.³ These increased sharply in 1994–97 in most of the crisis countries (figure 2-2). In the three worst affected countries—Indonesia, Korea, and Thailand—short-term debt to reserves ratios had risen to well over 100 percent by mid-1997. Malaysia and the Philippines, with short-term exposures less than 100 percent, avoided the need for emergency financial support packages from multilateral institutions.⁴ High short-term debt ratios in these countries were also associated with a broader measure of vulnerability, the ratio of M2 money to reserves (figure 2-3). This ratio indicates the potential for a run on the foreign exchange reserves of a country with a fixed exchange rate regime by its own residents when confidence in the local currency fails. (The figure also shows that the Russian currency crisis in the second half of 1998 was foreshadowed by very high levels of short-term foreign debt.)

The buildup of foreign liabilities by private agents took different forms. In Thailand banks and finance companies were a principal conduit of external loans. Their net foreign liabilities rose from 6 percent of domestic deposit liabilities (M2) in 1990 to one-third by 1996 (table 2-2). Financial institutions' net foreign liabilities also rose significantly in Korea. In Indonesia, however, direct foreign borrowing by nonfinancial corporations was more prominent.



...but short-term debt was high...

Figure 2-2 Ratio of short-term debt to foreign reserves, 1994 and 1997



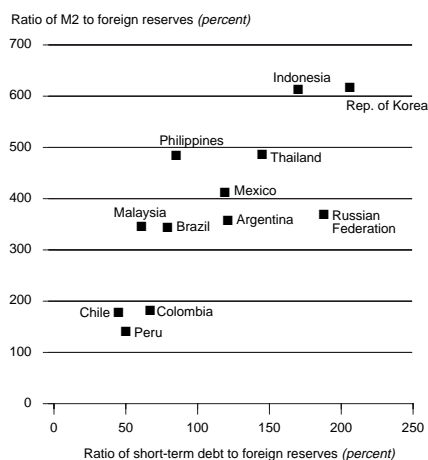
Source: Bank for International Settlements, International Monetary Fund.

Several factors furthered the emergence of these vulnerabilities in the 1990s. Macroeconomic policies adopted to manage the large-scale private capital inflows to the region tended to emphasize monetary policy as a way of sterilizing inflows. This created upward pressure on local interest rates at a time when international rates were falling in response to modest growth, low inflation, and accommodative monetary policies in industrial countries (figure 2-4). The large rate differentials created incentives for unhedged foreign currency borrowing, especially at short maturities, which carried the lowest rates. In the euphoric financial climate of the time, market participants ignored or discounted the associated risk of exchange rate depreciation. These excessively risky financial strategies were also fostered by the exchange rate stability in many countries that had pegged currencies to the dollar or to baskets of currencies with a high dollar weight.

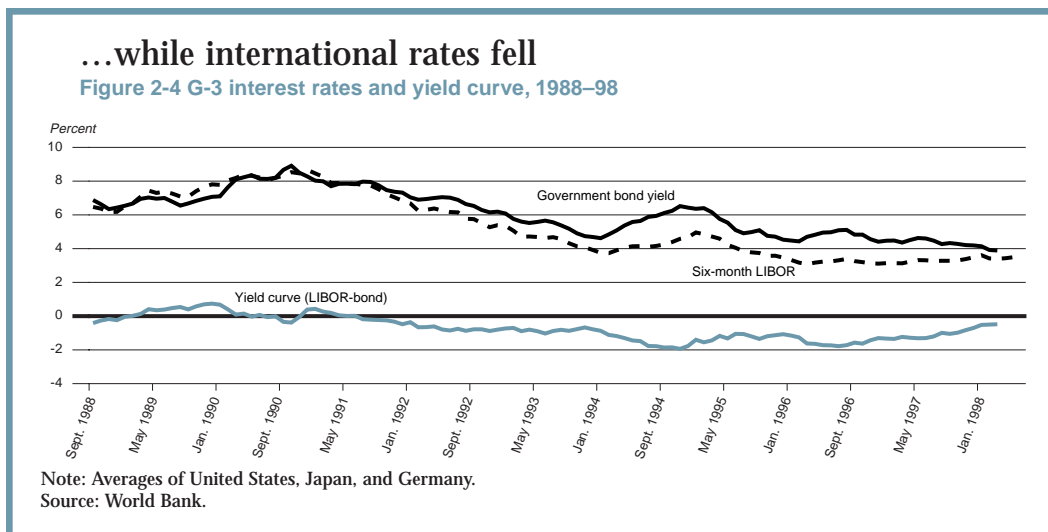
High interest-rate differentials and low variability in exchange rates may have been

...and vulnerability increased...

Figure 2-3 Vulnerability indicators, June 1997



Source: Bank for International Settlements, International Monetary Fund.



especially important to the short-term debt accumulation in Indonesia and Thailand (table 2-3). Obstfeldt (1998) notes that similar conditions fostered short-term foreign currency over-borrowing by Mexican financial institutions in the early 1990s. When the peso crisis struck at the end of 1994, a private sector financial crisis emerged alongside the problems arising from the government's own dollar-linked foreign borrowing. Diaz-Alejandro (1985) describes a similar process before the Chilean financial crisis of the early 1980s. The buildup of short-term debt

in East Asia occurred during several waves of international capital market enthusiasm for emerging market debt in the 1990s. The most recent wave, from late 1995 well into 1997, was marked by an unprecedented fall in spreads on such debt, which, several studies argue, was unjustified by observable economic trends and represented a significant underpricing of risk.⁵

Finally, the liberalization of domestic financial systems and external capital accounts that took place in the late 1980s and in the 1990s occurred without an ade-

Banks were the biggest borrowers in Korea and Thailand

Table 2-2 Foreign exposure of banks and finance companies (percent)

	Ratio of foreign liabilities to M2			Ratio of foreign liabilities to assets		
	1990	1994	1996	1990	1992-96	1996
Indonesia	1.2	7.0	3.2	108	193	143
Korea, Rep. of	4.4	8.3	14.1	140	149	174
Thailand	6.1	25.1	32.8	265	519	775
Argentina	33.7	10.1	9.5	313	197	158
Brazil	20.6	10.0	17.3	207	177	282
Mexico	55.3	66.8	44.7	901	750	498

Source: IMF International Financial Statistics.

Incentives for unhedged foreign borrowing rose in the 1990s

Table 2-3 Macroeconomic conditions related to unhedged foreign currency borrowing in East Asia, January 1991–June 1997

Country	Interest rate spread ^a	Average annual appreciation ^b (+) vs. US\$	Exchange rate volatility ^c
Indonesia	11.5	-3.8	0.7
Korea, Rep. of	4.1	-3.2	3.4
Malaysia	1.6	1.2	2.6
Philippines	6.5	0.9	3.8
Thailand	4.0	-0.3	1.2
Memorandum items			
Germany	1.2	-2.0	6.4
Japan	-2.2	2.5	10.7

a. Local deposit rate less LIBOR (US\$) for East Asian countries. Local LIBOR less LIBOR (US\$) for Japan and Germany. Interest rate spread in percentage points.

b. Relative to the U.S. dollar (in percent); a minus sign indicates depreciation.

c. Standard deviation of percentage deviation of exchange rate (US\$) from regression on a time trend.

Source: International Monetary Fund and World Bank data and estimates.

quate strengthening of prudential regulation and supervision, facilitating excessive risk taking by financial institutions on both the liability and asset sides of their balance sheets. Several countries created offshore financial markets with tax and regulatory advantages aimed at fostering the development of regional financial centers. These became channels for so-called out-in transactions—that is, external bank funding for local firms. In Thailand foreign bank loans through the Bangkok International Banking Facility soared from \$8 billion in 1993, the first year of its operation, to \$50 billion in 1996, \$30 billion of it out-in transactions and \$20 billion out-out transactions (Kawai 1997). Financial liberalization is also likely to have contributed to the buildup of short-term debt relative to other external financing. Some East Asian coun-

tries had welcomed or accepted long-term foreign capital in the form of foreign direct investment (FDI) or long-term debt for some time. Liberalization therefore tended to focus on removing barriers to short-term flows. Others, like Korea, maintained controls on long-term flows like FDI, while liberalizing short-term ones.

Private sector debt, corporate vulnerability, and financial fragility

The buildup of short-term foreign debt was only one element, though the most important, in a wider increase in corporate sector vulnerability and financial sector fragility in many East Asian countries. Strong economic growth, buoyant domestic savings, booming private capital inflows, and lower reserve requirements resulting from financial liberalization fostered surges in domestic lending in the 1990s, especially in Thailand, Malaysia, and the Philippines (table 2-4). In Indonesia the boom in credit to the private sector occurred with financial liberalization in the second half of the 1980s, and bad debt problems had already surfaced in the early 1990s (Caprio and Klingebiel 1996a).⁶ Marked credit booms also preceded the outbreak of financial crisis in Chile in 1982 and, to a lesser extent, in Mexico in 1994. Although financial depth rises systematically with per capita income on a cross-country basis, in several East Asian countries the amount of private credit relative to GDP had risen by 1996 to levels well above those suggested by incomes alone (figure 2-5). By contrast, credit levels in major Latin American countries by this time were close to or below those suggested by their income levels.

There were marked lending booms in several crisis countries in the 1990s

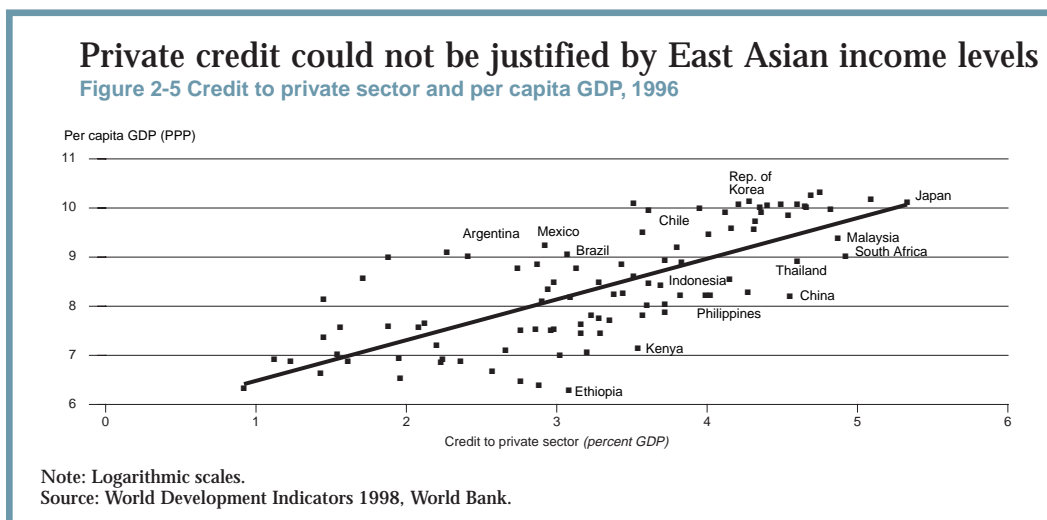
Table 2-4 Credit to private sector, selected years, 1975–96
(percentage of GDP)

Country	1975	1982	1990	1994	1995	1996
Indonesia	20	14	47	52	54	56
Korea, Rep. of	42	55	65	69	69	75
Malaysia	33	47	71	115	130	142
Philippines	32	46	22	36	45	54
Thailand	28	46	83	128	139	100
Argentina	16	34	16	18	18	19
Brazil	55	44	38	51	35	31
Chile	9	84	47	51	53	55
Mexico	27	16	21	47	36	22
Venezuela	34	55	25	13	12	10

Source: World Bank 1998c.

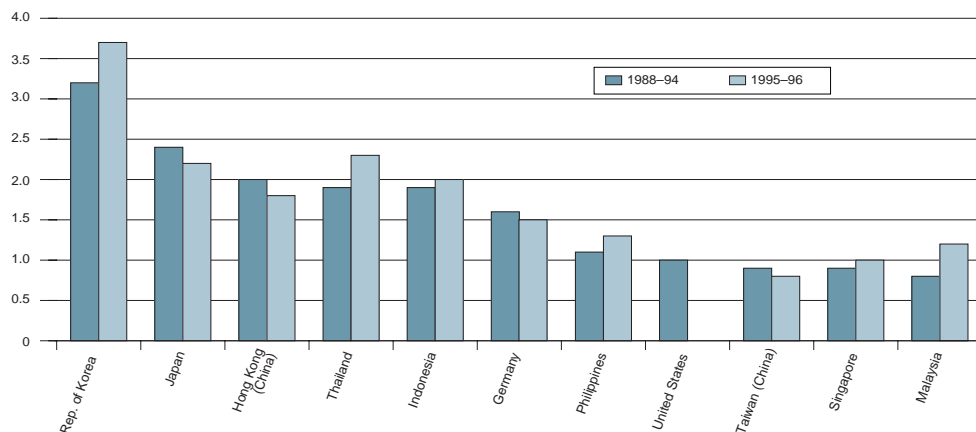
High levels of bank credit were reflected in high leverage, or debt to equity ratios, in East Asian corporate sectors. Highly leveraged firms are especially vulnerable to sharp fluctuations in cash flow and net worth as a result of external shocks or macroeconomic volatility, a fact that goes a long way to explaining the severe impact of the crisis on real output and growth. Over the past decade, the debt of nonfinancial corporations was two to three

times higher than equity in the most seriously affected countries (Korea, Indonesia, Thailand), and that leverage was generally rising in 1995–96, the runup to the crisis (figure 2-6). By 1996 the median value of foreign debt alone ranged from 70 percent of firms' equity in Indonesia and 80 percent in Thailand to 150 percent in Korea. Even more striking, short-term foreign debt ranged from about 40 percent of equity in Indonesia to nearly 100 percent in Korea.⁷



Corporate debt was excessive in the most seriously affected crisis countries

Figure 2-6 Debt to common equity ratios of nonfinancial corporations, 1988-96



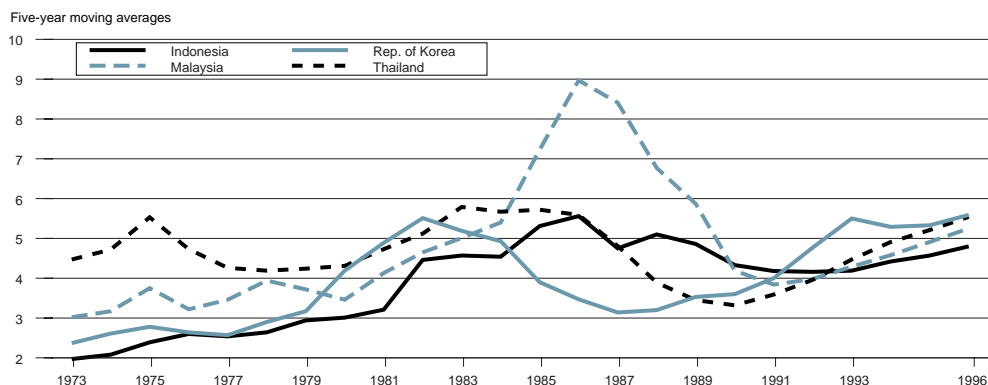
Source: Claessens, Djankov, and Lang 1998.

While the excessive buildup of leverage on corporations' balance sheets was the main source of their increased vulnerability, some cyclical deterioration in returns to investment likely contributed as well. Incre-

mental capital-output ratios (the amount of investment needed to generate an extra unit of output) rose in the 1990s, implying some decline in returns to capital (figure 2-7). Such declines are consistent with the sus-

Investment efficiency declined in the 1990s...

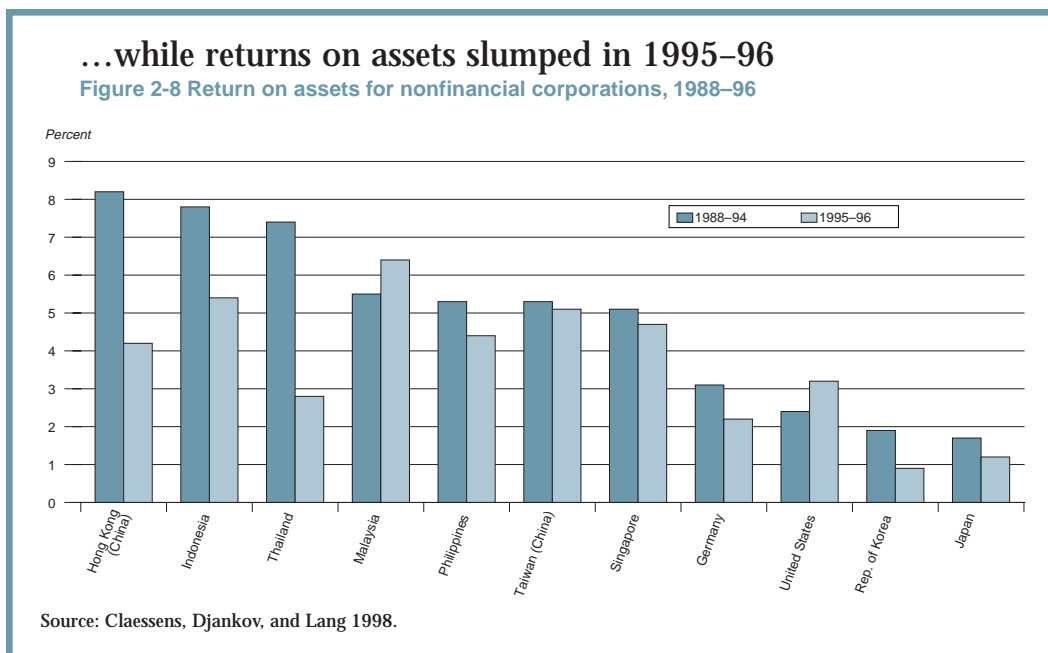
Figure 2-7 Incremental capital output ratios, 1973-96



Source: World Bank data and staff estimates.

tained, exceptionally high rates of investment in East Asia in the 1990s, as well as with some deterioration in investment quality during a credit and investment boom.⁸ Credit booms occur in times of general prosperity and rising asset prices, conditions that increase the information problems facing banks by temporarily boosting borrower collateral, making most firms appear profitable and blurring differences between good and bad long-run risks. The likelihood of credit flows into poor investment projects increases (Gavin and Hausmann 1996). The low levels of expertise in screening, selecting, and monitoring loans commonly found in recently liberalized financial systems tend to be further strained by the rapid increase in loan activity. Increased competition in the banking sector in the wake of financial liberalization also tends to reduce the franchise value of banks, which also encourages more risk taking.

Incremental capital output ratios in the recent period had not significantly exceeded the upper end of their range over the past 25 years, however. Similarly, while accounting rates of return on assets of nonfinancial corporations in some East Asian countries fell sharply in 1995–96, average returns in most East Asian countries in 1988–94 had run in a relatively high 5 to 8 percent range (figure 2-8). Claessens and others (1998) comment that “These ROAs [returns on assets] can be compared to ROAs in mature market economies of about 1–3 percent, providing support to the notion that the corporate sector contributed significantly to the East Asian Miracle during most of this period.” Indeed, it is only in Korea and Japan, among East Asian economies, that returns on assets were persistently low over the period. These patterns make it more difficult to argue that the decline in investment productivity in the mid-1990s was in all



cases a long-run trend related to long-standing structural distortions or rigidities associated with a single East Asian model of development, rather than a characteristic element in the buildup of vulnerabilities in a credit and investment boom.⁹

The combination of high leveraging and deteriorating returns among nonfinancial firms in the mid-1990s translated into a decline in the quality and an increase in the riskiness of bank loans to the private sector. In East Asia, bank fragility rose as lending to higher risk firms and sectors increased, especially loans for real-estate and stock market speculation. Property is estimated to have accounted for 25–30 percent of total bank loans in Indonesia and 30–40 percent in Thailand and Malaysia (J.P. Morgan 1998a). But weaknesses in banks' loan books were concealed so long as there was strong growth, and asset prices continued to rise. Indeed, nonperforming (bad) loans relative to total loans were generally estimated to be at modest levels and in several cases to be falling in the runup to the crisis, even though underlying conditions were worsening (IMF 1997).¹⁰ When macroeconomic conditions became less favorable, however, bad debt problems quickly came to the fore and played an important part in precipitating the crisis.

The links between financial sector liberalization, credit booms, and banking crises in East Asia is corroborated in a growing body of cross-country research. A recent study of 53 countries in 1980–95 finds a strongly significant association between the probability of a banking crisis and earlier financial liberalization (proxied by the removal of interest rate controls) (Demirgüç-Kunt and Detragiache 1998). The study also

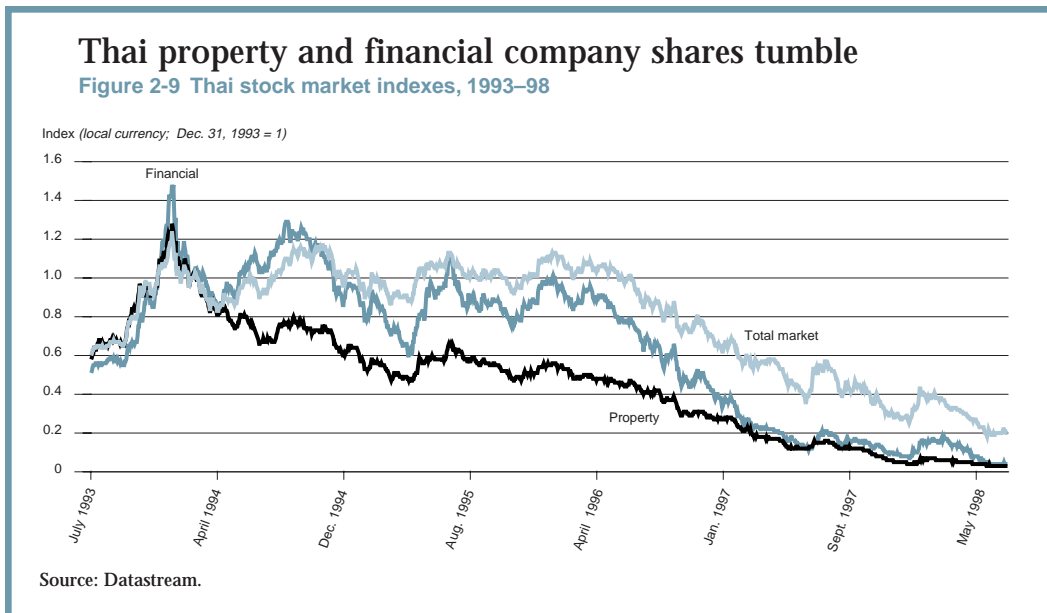
finds an association between the probability of banking and other characteristics of the financial system, such as rapid credit growth and vulnerability to currency crises, (as represented by high levels of M2 to foreign reserves), and macroeconomic factors that increase corporate distress among borrowers, such as slower economic growth, falling terms of trade, and high real interest rates. The study does find, however, that the likeli-

In East Asia, bank fragility rose as lending to higher-risk firms increased, especially loans for real-estate and stock market speculation.

hood of a crisis following financial liberalization is lower where there is a stronger institutional environment for the proper operation of financial markets, as measured by indexes for the rule of law, corruption, the quality of contract enforcement, and the quality of the bureaucracy.¹¹

Outbreak and spread of the crisis

Two main events triggered the crisis in Thailand in 1997. The first was the bursting of the bubble in asset prices. Real estate values had turned down as early as 1992, while stock market prices, especially those for property and financial company shares, began to decline in 1994 (figure 2-9). Asset price declines dragged down the value of borrowers' net worth and collateral, precipitating a deterioration in the quality of banks' and finance companies' loan portfolios and balance sheets. Construction activity began to fall sharply in 1996.



The second trigger was the abrupt slowdown in export growth in Thailand and many other East Asian countries in 1996. The slowdown appears to have been caused mainly by cyclical factors: falling world import demand, a sharp cyclical downturn in world semiconductor demand, and appreciation of many pegged Asian currencies as the U.S. dollar rose against the yen and other major currencies.¹² A swing toward fiscal contraction in Japan in 1997 contributed to slowing demand growth in the region, as well as to accelerating weakness in the yen. This harsh external shock reduced sales revenue and corporate cashflow growth in the export-oriented manufacturing sector, leading to further deterioration in bank asset portfolios. Private investment and consumer demand growth slowed, the latter reflected, for example, in large declines in Thai automobile and department store sales in 1996.

A more flexible currency regime (a floating rate or a floating rate inside broad target bands) could have allowed the real exchange rate to adjust to weaker external conditions and, more important, could have made local borrowers more aware of the true foreign currency risk. Banks and corporations, assuming that the currency peg was there to stay, piled on more short-term foreign debt as a (supposed) low-cost and low-risk financing option to tide over a (presumably) temporary economic downturn. Thailand's short-term borrowings from Bank for International Settlement banks rose by \$15 billion between the end of 1994 and the end of 1996.

Significantly, Thailand had been one of the countries more seriously affected by contagion effects in the wake of the Mexican crisis at the end of 1994. Speculative pressure on the currency recurred several times thereafter, and intensified in 1996

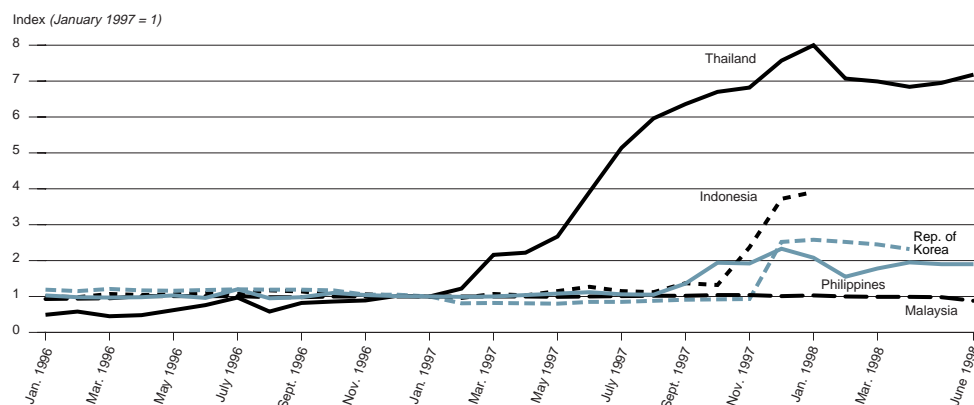
and 1997 as the difficulties of Thai financial intermediaries and corporations became more obvious. The authorities defended the exchange rate peg during these episodes by raising interest rates and using foreign exchange reserves. These defenses lacked credibility, however, since investors understood that the authorities would ultimately be unwilling to inflict the kind of damage on the financial and corporate sector that would be caused by the sustained high interest rates necessary to defend the peg indefinitely. Highlighting this implicit contradiction, the central bank began massive liquidity infusions to support ailing commercial banks and finance companies in December 1996. In the next six months, these credits increased four times in real terms, providing the backdrop for the intensifying pressure on the exchange rate that culminated in the floating of the currency in July 1997 (figure 2-10). Central bank credit to finan-

cial institutions rose from 2 percent of GDP at the end of 1996 to 15 percent at the end of 1997. Central bank credit to the financial system also rose sharply in Indonesia and Korea immediately before, or at the time of, significant declines in their currencies.

It is common for central banks to provide short-term loans as an immediate measure to support a troubled banking system. The problem is to distinguish between lending that may be justified as temporary liquidity support to solvent banks, and lending that is an unsustainable attempt to prop up fundamentally insolvent banks. The central bank's ability to maintain an exchange rate commitment erodes as it monetizes its support for the banking system or issues debt to finance it, raising expectations of a future monetization. Even without a central bank bailout, chronic banking difficulties may reduce the central bank's ability to raise interest rates or take other measures to

Central banks prop up ailing banks and finance companies

Figure 2-10 Real central bank credit to banks and other financial institutions, January 1996–June 1998



Source: International Monetary Fund, IFS, deflated by CPI.

maintain an exchange rate peg. Consistent with these arguments, there is considerable evidence that banking crises are significant precursors of subsequent balance of payments or currency crises (Kaminsky and Reinhart 1996; Calvo and Mendoza 1996; Sachs, Tornell, and Velasco 1996). In a sample of 20 countries in 1970–95, for example, 56 percent of banking crises were followed by a currency crisis within three years, although only 12 percent of currency crises were followed by banking crises in the same interval (Kaminsky and Reinhart 1996).

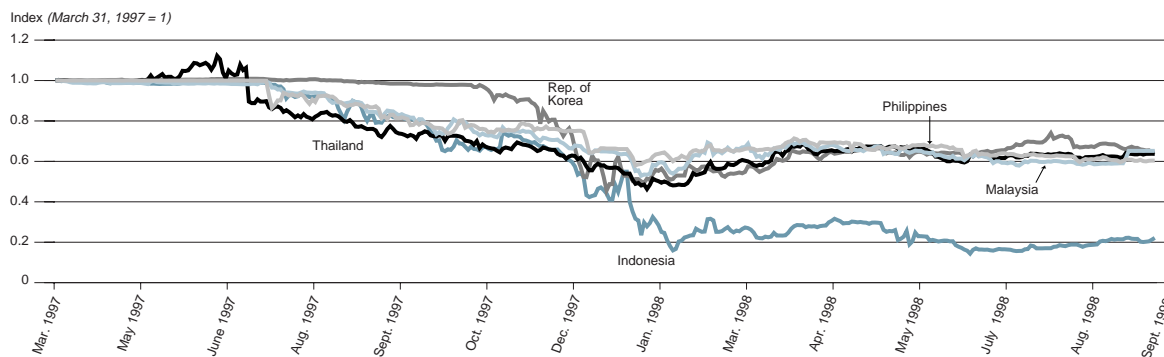
Spread of the crisis

Pressure on the currencies of neighboring Southeast Asian nations built quickly after the fall of the Thai bhat, leading to the floating of the Malaysian ringgit and Philippine peso in mid-July 1997 and the Indonesian rupiah in mid-August. All four currencies declined by 25–30 percent against the U.S. dollar between June and

the end of November. After that the rupiah entered a second phase of deep decline, while the other three currencies, moving closely together, began to stabilize (figure 2-11). The rupiah fell by a further two-thirds between the end of November 1997 and the end of January 1998, accompanied by a two-thirds increase in central bank loans to commercial banks aimed at propping up a failing financial system, and a two-thirds increase in loans by commercial bank to their own faltering private sector customers. Mounting political instability added to the pressure on the exchange rate. In Korea, growing bankruptcies of major conglomerates in 1997 fueled concerns about the health of the corporate sector. The won was forced to devalue at the end of October, as international banks failed to roll over large volumes of maturing short-term debts. The won fell 50 percent in two months before partially stabilizing. With the attack on the won, capital outflows and

Most crises currencies have moved together closely

Figure 2-11 Exchange rate indexes, March 1997–September 1998



Note: U.S. dollar per local currency exchange rates.
Source: International Monetary Fund.

speculative pressure on currencies spread within the region—to Hong Kong (China) and Taiwan (China)—and then, outside the region—to Argentina, Brazil, Mexico, and Russia. Although these pressures were largely fended off, they returned with redoubled energy later in 1998, leading to Russia's devaluation of the ruble and declaration of a debt moratorium in August; this then contributed to a severe, more generalized downgrading of emerging market financial instruments and intense pressure on currencies in Latin America and other emerging markets.

The sequence of events in East Asia confirms several patterns seen in earlier major currency crises of the 1990s, such as the European Monetary System crisis of 1992 and the “tequila crisis” of 1994–95. First, currency crises do not occur randomly in time but are clustered, appearing to pass contagiously from one country to another. Second, a currency crisis in one country significantly increases the probability of a crisis in other countries, even after controlling for domestic macroeconomic fundamentals. Third, crises also tend to be clustered geographically, for example in Europe in 1992,

in Latin America in 1994–95 and, at least initially, in East Asia in 1997.

Thus in East Asia most currencies fell by large and similar amounts (except for Indonesia's, which fell furthest) despite substantial differences in conditions (table 2-5). Current account deficits varied considerably (highest in Thailand, lowest in Indonesia), as did overall external debt burdens. Ratios of short-term debt to foreign reserves, a critical indicator of vulnerability to speculative attack, were high in Thailand, Indonesia, and Korea, but lower in Malaysia and the Philippines. Export growth had slowed dramatically throughout much of the region in 1996, but the slowdown was most severe in Thailand, where it persisted through 1997. However, countries like the Philippines maintained high double-digit export growth through 1996 and 1997, while others, such as Indonesia and Korea, saw a recovery in export growth in 1997. In the domestic economy, the extent of financial sector weakness as reflected in measures of credit booms, exposure to the real estate sector, and nonperforming loans also varied significantly.

Despite different conditions, most currencies fell by similar amounts

Table 2-5 East Asia: selected macroeconomic and financial sector conditions, 1996–98

(percent)

	Ratio of current account deficit to GDP 1996	Ratio of nonperforming loans to bank assets 1997	Ratio of real-estate exposure to bank assets 1997	Change in reserve money Jan. 1997–Jan. 1998	Change in real exchange rate June 1995–June 1997	Change in real exchange rate June 1997–Jan. 1998
Indonesia	-3.8	11.0	25:30	362.2	14.0	-68.0
Korea, Rep. of	-4.7	16.0	15:25	4.4	2.5	-41.6
Malaysia	-4.9	7.5	30:40	25.8	9.3	-34.2
Philippines	-4.8	5.5	15:20	12.1	20.0	-30.2
Thailand	-7.9	15.0	30:40	13.4	16.1	-44.2

Source: World Bank data; International Monetary Fund; J.P. Morgan 1998a.

While a full analysis of contagion effects in the East Asian crisis still remains to be done, the wide range of conditions in the region is consistent with earlier results that the transmission of currency crises is only partially explained by domestic economic fundamentals. The East Asian crises are also consistent with earlier evidence that currency crises tend to be transmitted between countries with strong trade links.¹³ Among the five crisis countries, exports to the East Asia region (excluding Japan) average 31 percent of total exports and range from 24 percent in the Philippines to 40 percent in Malaysia. East Asian countries

Recession in one country can reduce demand for other countries' exports, and devaluation in one can increase competitive pressure on others' exports in world markets.

also tend to be more represented in each others' export markets than in the world market, suggesting a greater degree of competition with each other than with countries from other regions (Bhattacharya and others 1998). These channels provide a "fundamentals" rationale for how a crisis in one country can change macroeconomic conditions in others, and make transmission of currency crises more likely. Recession in one country can reduce demand for other countries' exports, and devaluation in one can increase competitive pressures on others' exports in world markets.

Still, the quantitative impact of these fundamental trade channels in the transmission of the crisis from Thailand to the other East Asian countries is likely to have been

limited. For example, Thailand accounts for only 2 percent of the exports of Korea and Indonesia, 4 percent of Malaysia's, and 5 percent of Philippine exports. Similarly, Thailand's share as a competitor in the export markets of the other four countries amounts to only 1–2 percent. Thus Thailand's devaluation creates little pressure for competitive devaluations by those countries. The statistical significance of trade links in contagion may rather reflect the fact that countries near each other geographically tend to trade more,¹⁴ and it is this physical proximity that coordinates and focuses international investors' fears about country vulnerabilities, such as high short-term debt to foreign reserve ratios. These ratios had been high for several years without provoking much concern, but, once Thailand was attacked, a creditor panic or run on inadequate foreign reserves in Korea and Indonesia became much more likely. In addition, the importance of fundamental trade channels rises with each additional neighboring country affected by contagion, so that once a number of neighbors have suffered crises, trade channels become more important in amplifying pressure on currencies in the region.

The issue of contagion has important implications for policy. First, if an attack on one country has adverse effects on other countries unrelated to any fundamental weaknesses, there is a stronger argument for coordinated multilateral action to stem the spread of the contagion. Second, the same circumstances mean that there can be a stronger rationale at the national level for greater caution on full liberalization of the capital account, or for the use of carefully designed controls on short-term capital

inflows to developing countries. Third, the regional dimension of contagion and the role it plays in intensifying currency and other economic pressures in each country may provide a stronger rationale for coordinated regional responses to the crisis.

Impact on the real economy

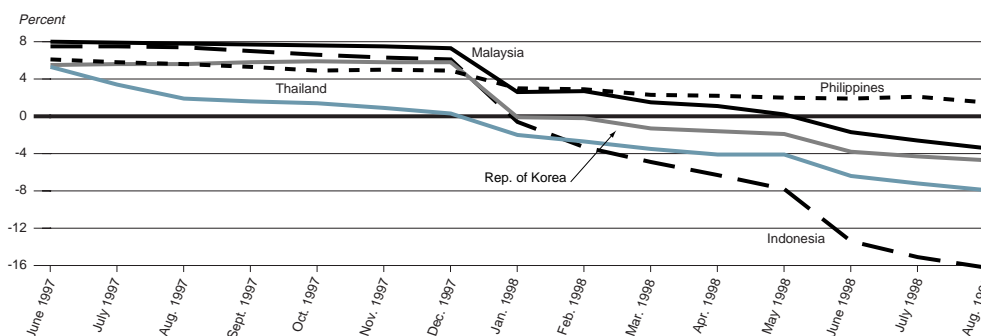
Experience in many countries shows that financial crises can produce deep and prolonged downturns in the real economy. Even a relatively mild financial crisis can initiate or exacerbate a downturn, as seen in the contribution of the U.S. savings and loan episode to the U.S. recession of 1990–91. One implication is that policymakers need to take account of the high degree of uncertainty during financial crises. In particular, they need to take account of the downside risk of a shortfall in demand, pushing a weak economy into deep recession through a vicious circle of bankruptcy, financial market collapse, and further declines in demand.

Most initial estimates of the impacts of the financial crisis in East Asia on the real

economies of the region (not least those in last year's Global Economic Prospects) vastly underestimated their depth and duration. Consensus estimates of GDP growth for 1998 were progressively cut over the year since the outbreak of the crisis (figure 2-12). This widespread over-optimism was at variance with a range of indicators showing a weakening in domestic demand even before the outbreak of the crisis, as well as with accepted macroeconomic reasoning and empirical evidence on the impact of financial crises on the real economy. Such optimism may have been based on the 1994–95 crisis in Mexico, where output fell sharply for two quarters but began growing thereafter, led by a powerful expansion in exports (figure 2-13). But differences in the Mexican case may have made it a misleading analogy, and basing the initial policy responses in East Asia on an overly optimistic scenario may have made it more difficult to protect against the worst outcomes—and may even have exacerbated the downturn.

Last year's forecasts on GDP growth were over-optimistic

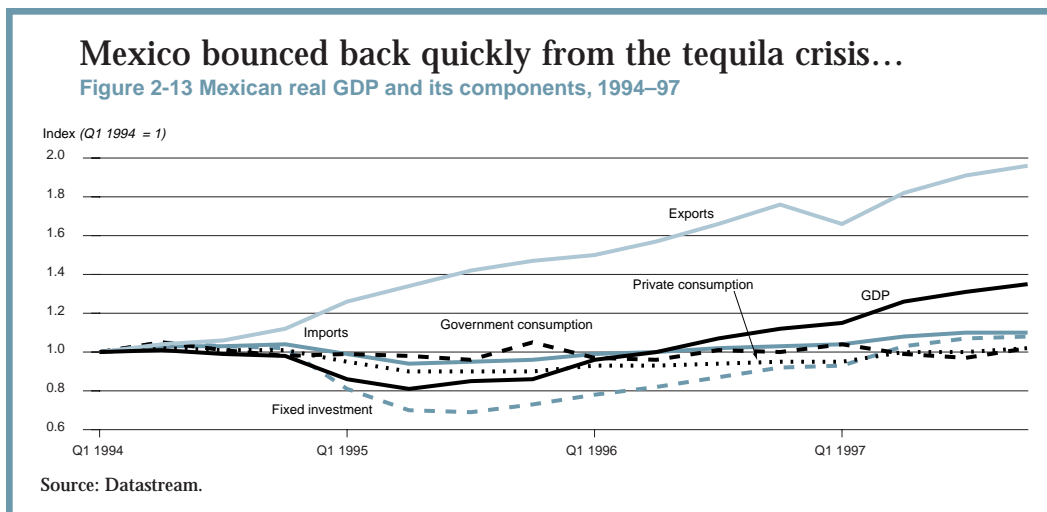
Figure 2-12 Evolution of consensus forecasts for 1998 GDP growth in East Asian crisis countries, June 1997–August 1998



Source: Consensus Forecasts, Inc.

Mexico bounced back quickly from the tequila crisis...

Figure 2-13 Mexican real GDP and its components, 1994–97

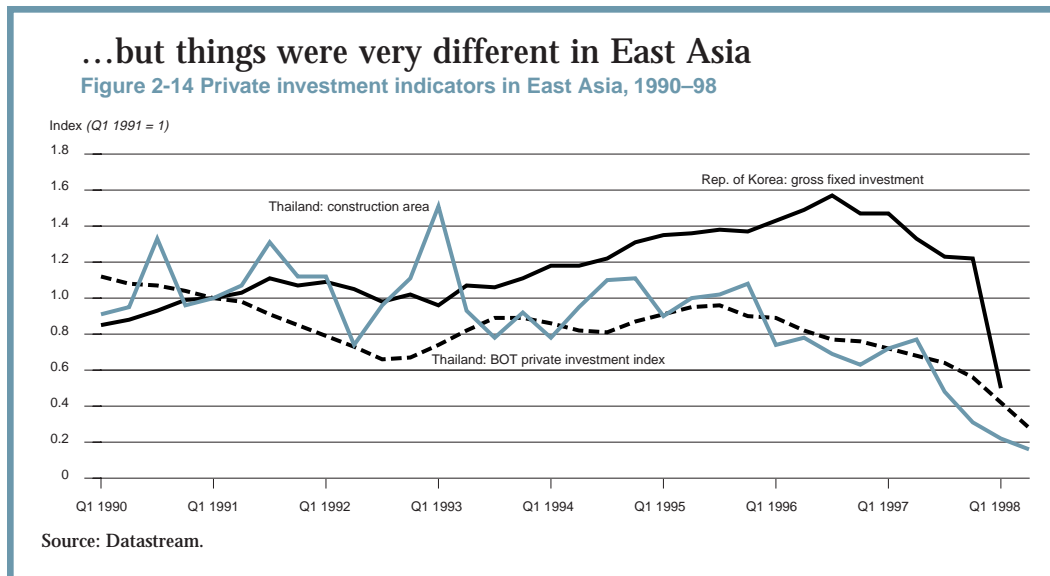


The collapse in the near-term growth outlook in East Asia has been driven by large declines in private aggregate demand, private investment in particular, even without taking into account possible effects of the monetary and fiscal policies taken as initial responses to the crisis. Contributing to the contraction of private demand were the decline in external financing to the region, and the impact of falling asset prices, deteriorating balance sheets, rising interest rates, and high uncertainty on credit supply, and on private investment and consumption. Moreover, various domestic and international factors resulted in a weaker export response to currency devaluation in some of the crisis countries than initially expected.

Private investment. Indicators showed a weakening in private investment in several countries even before the Thai crisis. In Thailand, construction activity and the Bank of Thailand's composite monthly index of private investment activity were moving downward from early 1996, while in Korea large corporate bankruptcies were

on the rise and gross fixed capital formation was weakening through 1997 (figure 2-14). Rates of decline in investment accelerated sharply with the currency crises, as external financing was suddenly closed off, reducing the availability of savings for investment and of foreign exchange for imports of capital equipment. In 1996 current account deficits (an approximate measure of capital inflow) represented 10–20 percent of gross domestic investment in the crisis countries, being channeled to firms either directly through corporate foreign borrowing or indirectly through the domestic banking system. Other things being equal, the sudden shutting down of capital inflows would be reflected in East Asian firms facing much tighter quantitative constraints on credit and a higher cost of capital.¹⁵

The macroeconomic adjustment forced by the loss of external financing is vividly illustrated by the size and rapidity of the move from external current account deficits to surplus in the crisis countries. There was a net swing in Korea's quarterly current



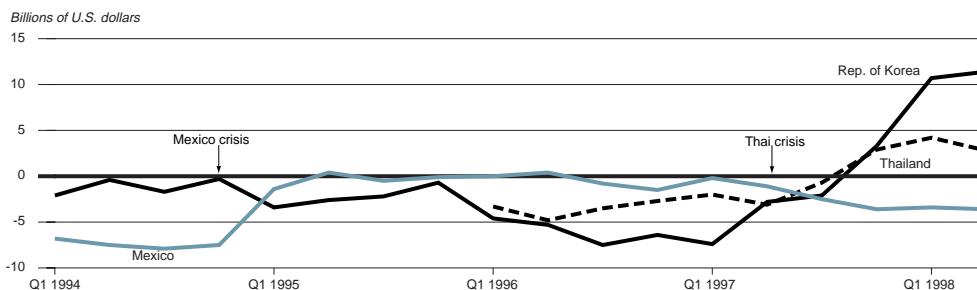
account balance of about \$15 billion between the second quarter of 1997 and the second quarter of 1998, or 12 percent of its precrisis (1996) average quarterly GDP. The net swing for Thailand amounted to 13 percent of precrisis GDP. Both were substantially larger than the 7 percent swing in Mexico between the last quarters of 1994 and 1995 (figure 2-15).¹⁶ Fixed investment in Korea fell almost 60 percent in the first quarter of 1998, three times the fall in Mexico in the first quarter of 1995. The current account adjustment was more severe in East Asia in part because less emergency funding was made available. Indonesia, Korea, and Thailand together received about \$118 billion, about the same amount relative to GDP as the \$50 billion package Mexico received. Some \$44 billion of the Korean and Indonesian packages was contingent second line of defense funds from individual governments, with little chance of early disbursement. Indeed, only about \$35 billion was disbursed by the end

of the first quarter of 1998, mostly by the multilateral institutions (IMF 1998; Radelet and Sachs 1998b).

Other factors worsening the financial conditions facing East Asia firms include the bursting of asset price bubbles, leading to enormous declines in real estate and stock prices, and the huge increase in the local currency cost of servicing foreign debt brought on by devaluation. Together these factors dramatically reduced the value of firms' net worth, rendering many of them insolvent; reduced the value of security on bank loans to firms; and greatly increased banks' stock of bad loans. Private sector estimates of nonperforming loans of the domestic banking system range from 25–30 percent of total loans for Korea and Thailand, to 30–35 percent for Indonesia (J.P. Morgan 1998b). These conditions increase banks' difficulties in finding out about, selecting, and monitoring borrowers, leading to less credit availability at given interest rates—a “credit crunch.”¹⁷

Thailand's and Korea's current account adjustments were much greater than Mexico's

Figure 2-15 Mexico, Republic of Korea, and Thailand: current account balances, 1994–98



When firms are already highly leveraged, as in East Asia, these effects are magnified, since a fall in asset prices reduces net worth by a greater proportion. Emergency sales of assets by credit-constrained firms can cause a vicious circle of further asset price and net worth declines that affect more and more firms, including those that had followed a relatively prudent, lower leverage policy. Some such process of amplification of financial shocks (such as the bursting of an asset price bubble or a devaluation) appears necessary to explain the astonishing asset price declines in East Asian countries, where stock prices, especially for property and financial companies, have fallen to less than 20 percent of their level 4–5 years ago in nominal local currency terms.¹⁸

Adverse selection problems in financial markets are also likely to have been worsened by higher interest rates in the immediate aftermath of the currency crises. Higher rates affect firms' net worth by putting further downward pressure on asset prices and, where firms have high volumes of short-term

or floating-rate debt, by reducing firms' free cash flow. More uncertainty, as a result of high volatility in exchange rates, asset prices, and macroeconomic variables, is another key factor that tightens credit conditions by increasing the informational difficulties of sorting out good risks from bad (Mishkin 1996). Higher uncertainty also tends to lower investment (where the investment is irreversible) by increasing the value of waiting for more information about the investment environment.¹⁹ According to Rama (1993), virtually all studies of investment in developing countries that look at uncertainty (measured as the volatility of various macroeconomic indicators) find it to have a significant adverse impact.

Direct evidence suggests the existence of a credit crunch to varying degrees in the five most severely affected East Asian countries.²⁰ Data on credit aggregates are of only limited value, however, since they are the outcome of both demand and supply factors. Lower bank lending may reflect a fall in demand for credit, as firms scale

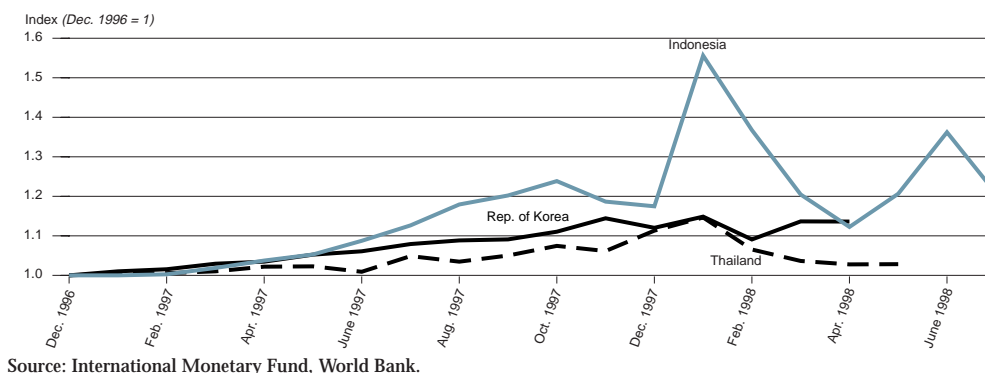
back investment plans, as much as a greater unwillingness by banks to lend. In the first half of 1998, volumes of real bank credit to the nonfinancial private sector in Indonesia, Korea, and Thailand were flattening out, though in a highly erratic manner, and in Indonesia only after the credit explosion at the start of the year noted earlier (figure 2-16). Studies in the United States and elsewhere suggest that at first lending continues to grow, as firms attempt to smooth declines in internal cash flow by borrowing more, earlier in the cycle. Credit begins to fall only six to nine months after a monetary tightening.²¹ In East Asia much new lending is also likely to represent a rollover of bad and doubtful debts, capitalization of interest arrears (which themselves will rise because of higher interest rates), and extension of new loans to bad debtors, to avoid declaring them bankrupt and acknowledging large losses. Overall credit aggregates could then conceal a significant tightening of credit to new borrowers.

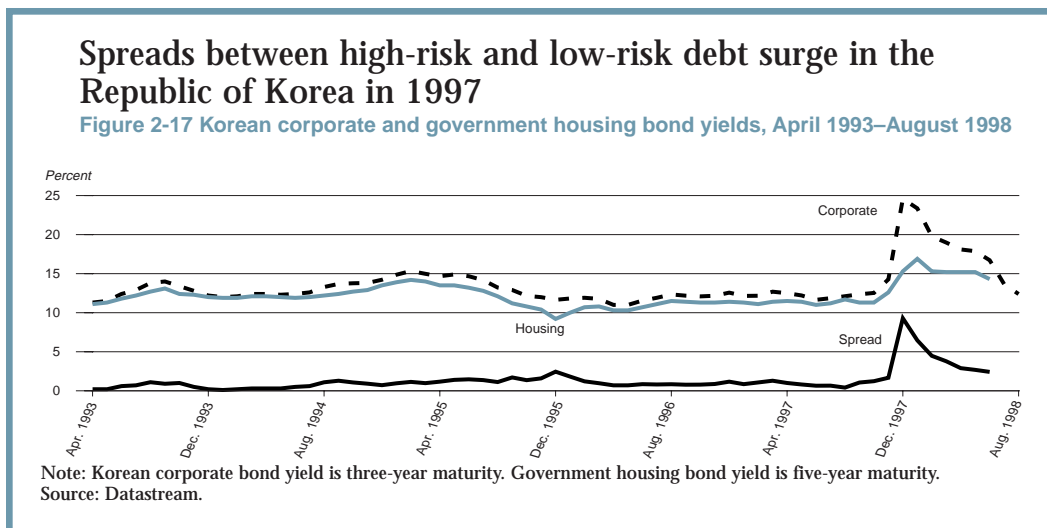
Some evidence for difficult credit conditions comes from rising risk premiums. Spreads between rates charged to high-risk and low-risk borrowers widened—for instance, between yields on corporate bonds and government housing bonds in Korea (figure 2-17). Other evidence comes from the sharper impact of the recession on capital spending by small firms, which generally have weaker balance sheets, have less access to corporate bond markets, and rely more on bank financing. Survey data from Korea shows small- and medium-size firms expecting to raise a significantly smaller share of their total funding from financial institutions, and a decline of around two-thirds in their fixed investment spending in 1998.

How much is investment in East Asia likely to fall? Using estimated coefficients from an empirical study of private investment in East Asia, a rough calculation can be made of the potential impact of the crisis on private investment in Thailand in 1998 (Larrain and Vergara 1993). This indicates a

Real bank credit to corporations flattened out in the first half of 1998

Figure 2-16 Real credit extended to nonfinancial private sector, December 1996–June 1998





hefty 9.3 percentage point fall in the ratio of private investment to GDP (table 2-6).²² Over half this fall is associated with heightened uncertainty (proxied here by the coefficient of variation of the real exchange rate), which worsens information problems in credit markets and increases the option value of delaying investment. Another 3 percentage points of the decline is associ-

ated with weakening economic activity. Activity affects investment in two ways—by its impact on expectations of future profitability and by its impact on the current profitability, cash flow, and net worth of credit-constrained firms (Romer, D. 1996). In common with most studies on investment in developing countries, credit to the private sector has a significant positive association

More uncertainty could account for much of the fall in private investment in Thailand in 1998

Table 2-6 Determinants of private investment in East Asia as applied to Thailand, 1997–98

	Coefficient	T-statistic	1997	1998	Change
Dependent variable: real private investment ^a			23.50	13.8	-9.3
Explanatory variables					
Uncertainty (coefficient of variation of real exchange rate) ^b	-1.402	-2.94	0.04	0.2	-5.2
Activity (previous year change in per-capita real GDP)	0.019	4.76	5.00	-2.0	-3.1
Real public investment ^a	0.178	2.78	10.00	10.0	0.0
Debt overhang (external debt) ^a	-0.153	-3.39	59.60	72.5	-0.7
Credit to private sector ^a	0.177	2.48	114.00	110.0	-0.1
Real interest rate	-0.015	-2.20	10.00	12.0	-0.1

Note: Adjusted R-squared: 0.919; S.E. of regression: 0.082; number of observations: 54.

a. Percentage of GDP, shown in levels in table but calculated in logs in estimation.

b. Coefficient of variation over three years.

Source: Larrain and Vergara 1993, World Bank data and estimates; Thailand: Memorandum of Economic Policies, May 28, 1998. Econometric estimates use panel data for four East Asian countries in 1975–88.

with investment. Since actual credit volumes are not in themselves an appropriate measure of the severity of credit constraints, however, they are left out of the calculation. Real interest rates had risen significantly in 1997 and in this model had the bulk of their effect on investment in that year, with only a small further effect in 1998. A direct estimate of the impact of worsening credit conditions cannot be made without appropriate measures. However, the role of credit in magnifying the impact of shocks is implicit in the importance of uncertainty and declining activity as the major forces leading to a contraction in investment (table 2-6).

Personal consumption. In Thailand, and to a lesser degree in Korea, personal consumption indicators were also weakening before the outbreak of the currency crisis (table 2-7), with rates of decline quickly

accelerating after it. Retail sales volumes fell 10–15 percent below levels a year earlier by the first quarter of 1998. Again, the size of the declines was not inconsistent with accepted macroeconomic models and cross-country evidence. Greater imperfections in developing country credit markets mean that consumers are less able to borrow to maintain consumption during temporary downturns. Shocks to current income thus have strong impacts on current consumption, as do fluctuations in wealth, a factor of obvious importance in East Asia given the huge declines in stock market and real estate values.²³

A study of household savings in 10 developing countries (including Korea, the Philippines, and Thailand) estimates that a 10 percentage point fall in the ratio of financial wealth to disposable income proxied by the ratio of M2 money to disposable income is associated with a 2 percentage point fall in the ratio of consumption to income (Schmidt-Hebbel and others 1992). It also finds that a reduction in the availability of foreign savings (a reduction in the current account deficit) has a significant negative impact on household consumption, presumably as a result of tighter credit. Finally, the massive increase in uncertainty during the financial crisis is also likely to have a negative impact on consumer durable purchases, as people increase precautionary savings to guard against bad times, and as they delay purchases to gather more information. C. Romer (1990–1993), for example, argues that the uncertainty generated by the U.S. stock market crash of 1929 and the subsequent financial volatility was a major force in the sharp fall in U.S. personal consump-

Personal consumption was weakening in Thailand and Korea before the crisis

Table 2-7 East Asia: personal consumption indicators

(percentage change from year ago)

	Thailand			Rep. of Korea
	New car sales	Retail Sales		
		Bangkok—38 stores ^a	Entire kingdom	
Q1 1996	11.3	0.9		10.9
Q2 1996	3.1	-2.9		10.1
Q3 1996	3.6	-14.4		11.2
Q4 1996	-1.8	-16.8		9.4
Q1 1997	-8.8	-14.7		6.4
Q2 1997	-19.9	-24.0		6.5
Q3 1997	-48.7		-8.0	5.6
Q4 1997	-73.5		-7.3	0.3
Q1 1998	-70.7		-12.3	-9.9
Q2 1998				-10.3 ^b

a. Discontinued.

b. April to May.

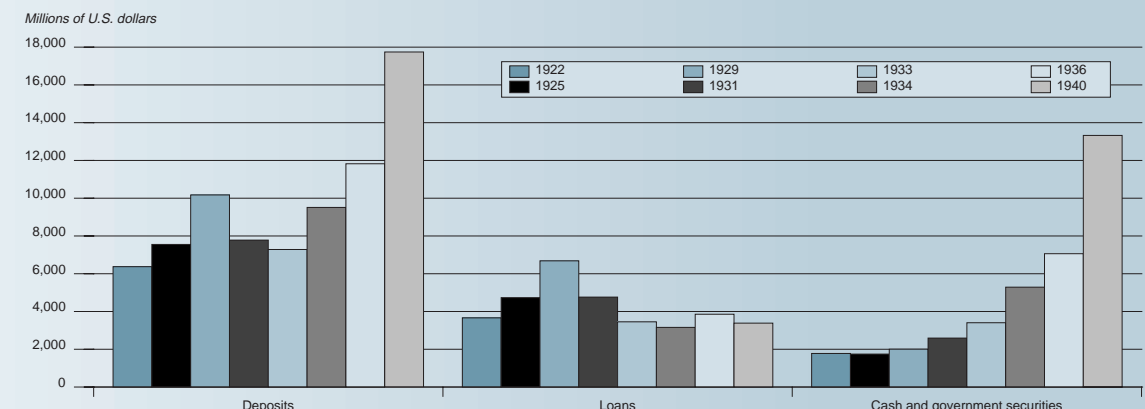
Source: World Bank.

Box 2-1 U.S. banks and the credit crunch during the Great Depression

The U.S. economy witnessed three major business cycle contractions between 1920 and 1940: the recession of 1920–21, the Great Depression of 1929–1933, and the recession of 1937–38. In response to severe loan losses in the early 1930s and high costs of raising new capital, U.S. banks faced pressures to

reduce depositors’ perceptions of risk. They cut dividends but found it difficult to raise new capital. The primary means to reduce depositor risk and prevent withdrawals was contraction in the supply of loans. Banks substituted riskless assets for loans, a process that took place over several years. This is consistent with the view that the

Credit crunch in the Great Depression; New York Fed member banks
Balance sheets of New York City banks, 1922–40



Source: Calomiris and Wilson 1998.

tion in 1930 and the onset of the Great Depression. For the 1980s and 1990s, Hasler (1996) finds a significant negative association between increased financial volatility in Sweden and the United States, and the most important element in consumer durable purchases—automobiles.

Exports. One expected outcome of a large devaluation (combined with a contraction in domestic demand) is a strong export response, which would strengthen the ability of firms to service foreign debts. Such a textbook response indeed occurred in the

aftermath of the Mexican peso crisis, when export growth in U.S. dollar terms almost doubled from 17 percent in 1994 to 31 percent in 1995 (table 2-8). The acceleration in Mexican export earnings growth came from a doubling in export volume growth, while export prices in U.S. dollars remained roughly flat. The export boom was helped by continued economic expansion in Mexico’s major market, the United States (which took 85 percent of Mexico’s exports), and the recent conclusion of the North American Free Trade Agreement (NAFTA), which

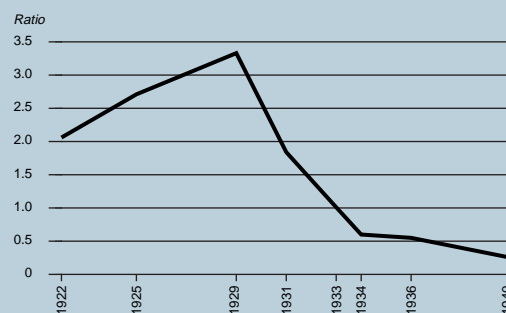
contraction in bank credit during the Depression was largely a result of a capital crunch that forced banks to limit loan portfolio risk. An alternative explanation is that banks became more risk-averse.

Relative to other recessions, the Great Depression saw extreme declines in loan ratios and capital ratios. It was also unusual in another respect: a reduction in deposits by more than 30 percent between 1930–32. The history of American interwar business cycles is reflected in the balance sheets of New York city banks (see box figure left)—rapid loan growth, reductions in the ratio of liquid assets, and large capital injections during the boom of 1922–29—whereas recessions are associated with declines in lending activity, increases in riskless assets, (cash plus government securities), and falls in bank capital.

Clearly, the primary means banks employed for controlling their asset risk was the decline in ratio of risky assets to riskless assets. This variable declined steadily throughout the 1930s. The ratio of the book value of loans to cash, reserves, and government securities rose first from 2.06 in 1922 to 3.33 in 1929, and then fell to 1.89 in 1931 and continued falling, eventually reaching 0.25 in 1940 (see figure right). The alternative would have been for banks to raise new capital. But banks did not replace the capital they lost during the Depression. Virtually no stock was offered after 1930. This is consistent with the view that in the aftermath of the Depression, as the potential for loan losses loomed large, the cost of new stock issues was prohibitive,

A significant decline in lending

New York City banks, loans to cash plus government securities ratio, 1922–40



Source: Calomiris 1998.

and thus banks sought to satisfy the depositor risk constraint by continuing reductions in portfolio risk. Reduction in bank lending was a response to the need to avoid depositor “discipline” and the adverse selection costs of raising equity. The banks’ capital crunch contracted the supply of lending and thus worsened the severity of the Depression.

Source: Calomiris and Wilson 1998

Dollar export revenues in East Asia are flat or only modestly higher

Table 2-8 Growth merchandise export revenues (U.S. dollars), 1994–97 (percent change)

Year	Mexico	Rep. of Korea	Indonesia	Thailand
1994	17.4	16.3	8.7	22.8
1995	31.2	31.0	13.7	25.6
1996	20.9	4.6	8.6	-0.6
1997	15.1	5.1	8.9	3.3
July 1997– June 1998	12.6	6.9	2.6	0.4

Note: Average of 12 months over previous 12 months.
Source: World Bank.

spurred a boom in export-oriented foreign direct investment in Mexico.

Factors suggesting a similar favorable outcome in East Asia included the large size of the currency devaluations, flexible factor markets (allowing for speedy redeployment of resources into export industries), and the strong export marketing channels and experience built up over decades of successful exporting. Set against these positive conditions, however, was the fact that East Asian countries’ principal regional export markets—other East Asian countries and Japan—

were slowing down and entering recession at about the same time. About 50 percent of the exports of the most seriously affected crisis countries go to Japan and the rest of Asia.

Added to this weakness were falling foreign currency export prices. The recession in the region has reduced world demand and prices for primary commodities, such as oil, rubber, and timber, exported by the crisis-affected countries. Foreign currency prices of manufactured exports were also falling sharply as region-wide devaluations and weakness in the yen shifted large new supplies from the region into highly competitive (and in part recession-affected) world markets. In Korea, almost entirely an exporter of manufactures, export volumes in June 1998 were estimated to be 15 percent higher than a year earlier, while export prices in U.S. dollar terms were down 17 percent, resulting in a year-on-year decline in dollar revenues. The picture was the same among the crisis countries generally, with export volumes increases of 15–25 percent in the year since the Thai crisis offset by price declines. The result was flat or only modestly higher dollar export revenues.

In contrast with crises in Mexico and Argentina in 1994–95, initial policy responses had surprisingly little effect in reducing pressure on currencies or stabilizing investor confidence in East Asia.

Thus, while growth in export volumes provides important near-term support for output and employment in an otherwise bleak demand picture, weak foreign currency revenues hamper firms' abilities to resolve their

external debt problems, making a return to financial health, revived investment, and sustainable growth more difficult.

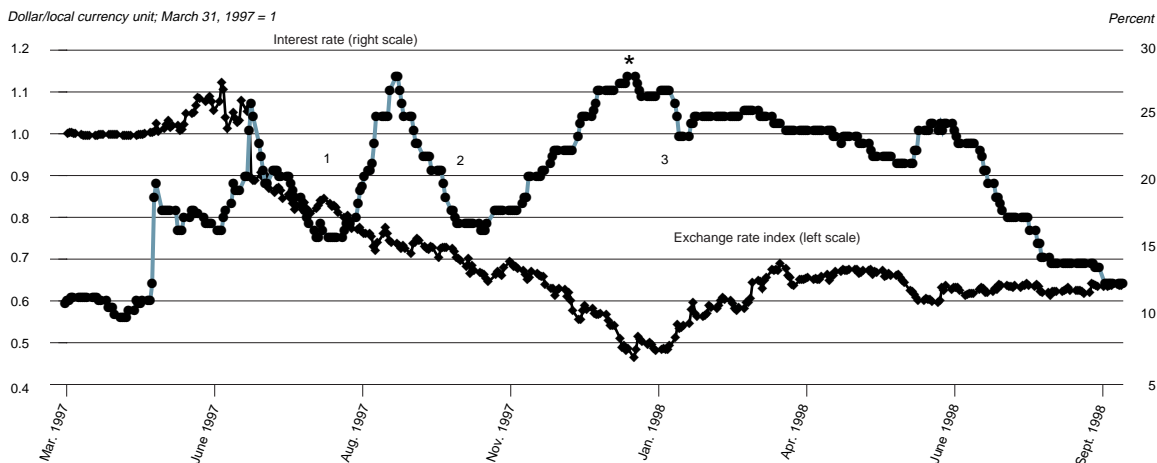
Immediate policy responses

In contrast with the crises in Mexico and Argentina in 1994–95, one of the great surprises in East Asia was how little immediate effect the initial policy responses appeared to have had in reducing pressure on currencies or stabilizing investor confidence. To the contrary, much or even most of the depreciation in currencies occurred after these measures were taken (figure 2-18). This was the case whether the initial package entailed new agreements with the multilateral institutions (Indonesia, Korea, and Thailand) or not (Malaysia and the Philippines).²⁴

Financial and real economic conditions deteriorated much more than expected, requiring several quick changes in initial packages. Some stabilization of currencies occurred in the first part of 1998 in most countries, other than Indonesia. Nominal interest rates have come down in recent months—some to below precrisis levels. In Korea negotiations between the government and foreign commercial banks (supported by the U.S. government) led to a standstill on short-term foreign debt servicing and then to an agreement to roll over and restructure short-term debt. This move toward an orderly workout may have reduced immediate balance of payments pressures on the currency and eased creditor panic. Some have argued that currency stabilization in Thailand may have been encouraged by government guarantees on bank liabilities, including those to foreign

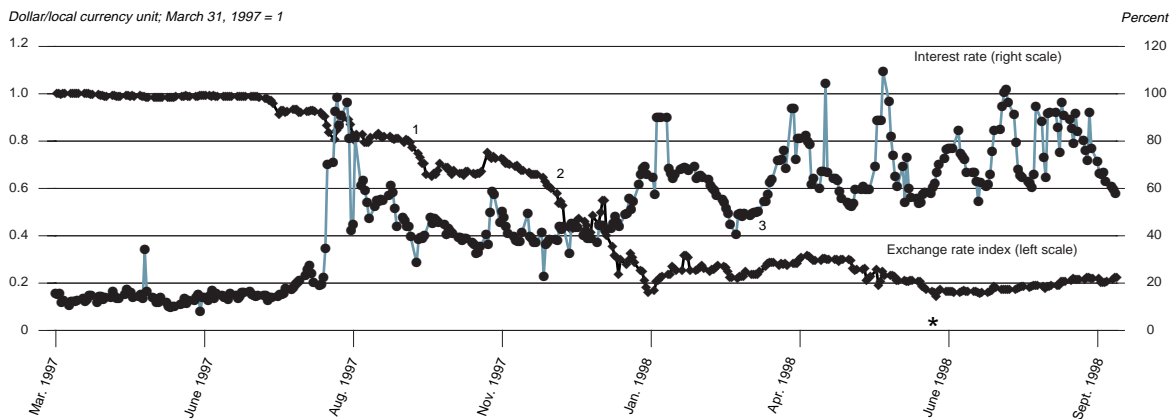
Much of the depreciation in currencies came after initial policy responses

Figure 2-18a Effects of policy responses: Thailand



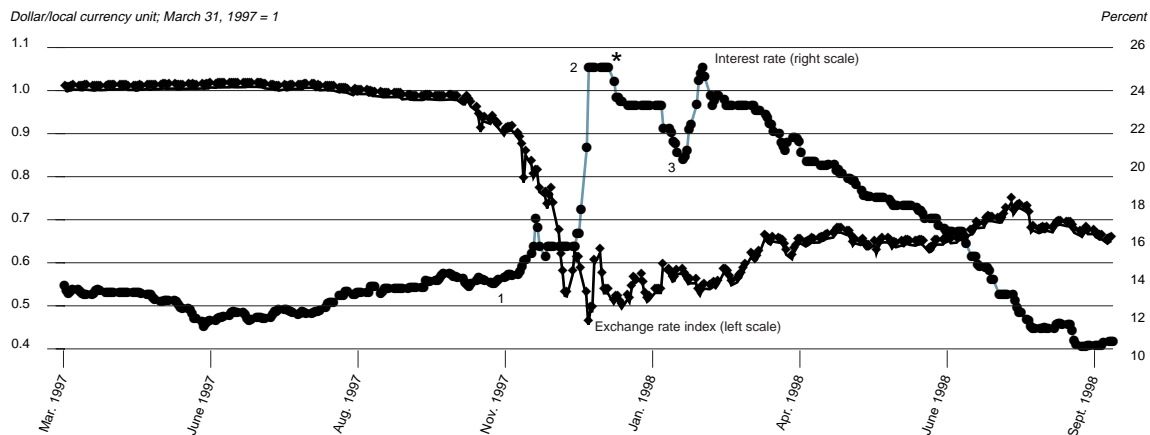
1 – Initial package 2 – First revision 3 – Second revision * Bank liabilities guarantee
 Source: International Monetary Fund, World Bank.

Figure 2-18b Effects of policy responses: Indonesia



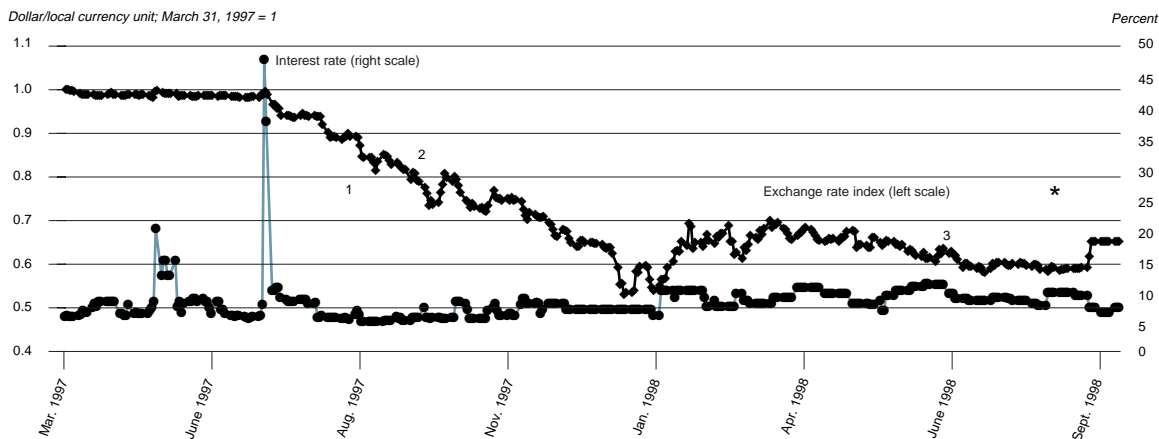
1 – Initial package 2 – First revision 3 – Second revision * Debt restructuring agreement
 Source: International Monetary Fund, World Bank.

Figure 2-18c Effects of policy responses: Republic of Korea

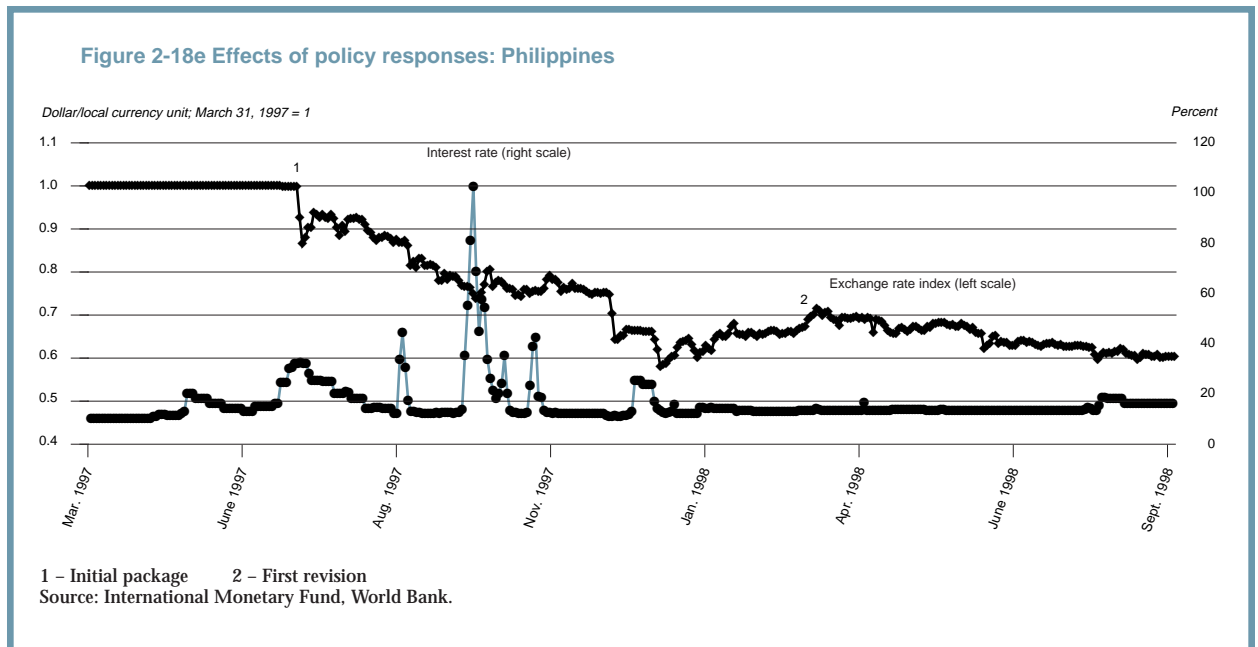


1 - Initial package 2 - First revision 3 - Second revision * Debt restructuring agreement
 Source: International Monetary Fund, World Bank.

Figure 2-18d Effects of policy responses: Malaysia



1 - Initial package 2 - First revision 3 - Second revision * Foreign exchange controls
 Source: International Monetary Fund, World Bank.



creditors (Radelet and Sachs 1998b). In Indonesia, however, a debt workout initiative in June 1998 did little to reverse what by then amounted to an 80 percent nominal devaluation.

Initial programs agreed with multilateral institutions called for some \$118 billion in loan commitments from multilateral and bilateral sources to help stabilize exchange rates and provide resources for repayment of debts to international creditors, although East Asia appears to have had less immediate access to disbursements than Mexico in 1995. Countries agreed to fiscal tightening to preserve budget balance or surplus, and to adopt more restrictive monetary policies (higher nominal interest rates, quantitative targets for domestic credit aggregates) to support exchange rates and curb inflation. Other important elements of initial programs included commitments to restructure the financial sector and adopt structural

reforms to further liberalize foreign trade and investment and deregulate domestic markets, including elimination of monopolies and other restraints on trade, privatization, and removal of price controls and subsidies. Initial responses in countries without agreements with the multilateral institutions, such as Malaysia, agreed with the emphasis on fiscal tightening, but differed on other provisions, such as the stance of monetary policy.

Fiscal policy

Fiscal balances in the affected countries had all been in surplus or virtual balance through the 1990s, so that excess demand generated by fiscal imbalances was not among the main sources of the crisis. Indeed, given the plunge in private investment and consumption, weak rather than excess aggregate demand became the principal macroeconomic characteristic of the

crisis economies in late 1997 and in 1998. From the onset of the crisis through early 1998, fiscal policies (contrary to their design and with benefit of hindsight) were contractionary. If the initially announced fiscal targets had been implemented, they would, indeed, have been strongly contractionary. As the severity of recessions became apparent, however, the aim of achieving fiscal balance or surplus was quickly relaxed and more stimulative measures adopted (table 2-9).

While adopting fiscal policies that are more supportive of economic activity in the near-term as a first priority, policymakers also face the daunting task of making prudent medium-term provisions for the expected high fiscal costs of financial sector restructuring. Estimating the fiscal costs of restructuring has just begun and will likely not be completed for some years. Preliminary private sector estimates of bank recapitalization needs range from 20 percent of GDP for Indonesia and

Malaysia, to 30 percent for Korea and Thailand (table 2-10).²⁵

Fortunately, the most seriously affected countries are relatively well placed to take on these costs because of their earlier fiscal prudence and resultant low levels of public debt (figure 2-19). These relatively low starting points make it more feasible to finance restructuring through increased government borrowing, either foreign (for example, from multilateral institutions) or domestic, since the resulting higher government debt to GDP ratios could be stabilized by primary fiscal balances not too different from those before the crisis (table 2-10).²⁶ In Thailand, for example, government borrowing to finance the entire financial restructuring would raise the ratio of government debt to GDP from 4 percent in 1996 to 34 percent. The primary fiscal surplus needed to stabilize this debt depends on how far the real rate of interest in Thailand exceeds the growth rate of the economy. But for a reasonable range the implied primary surpluses

Initial fiscal targets were contractionary, but were relaxed as recession worsened

Table 2-9 Central government fiscal balances, 1987–98
(percentage of GDP)

	1987-91	1992-96	1996	1997	1998			
					Initial package	First revision	Second revision	Third revision
Indonesia—Fiscal balance	-1.0	0.9	1.2	-0.2	1.0	-1.0	-3.0	-8.5
Primary Balance	1.6	2.7	2.4					
Korea, Rep. of—Fiscal balance	0.0	0.2	0.5	0.3	0.0-0.3	0.0-0.3	-0.8	-1.8
Primary balance	0.7	0.8	1.1	0.8				
Malaysia—Fiscal balance	-3.9	0.7	1.1	2.6	2.5	0.5	-3.5	
Philippines—Fiscal balance	-2.6	-0.1	0.3	-0.9	0.0	-1.0	-3.0	
Thailand—Fiscal balance	2.1	2.4	2.4	-0.9	1.0	1.0	-1.6	-2.4
Primary balance	4.3	3.0	2.5	-0.6				

Note: The primary balance includes interest on government debt. Data above for Indonesia refer to fiscal year starting that year (1997 refers to FY1997/98 April to March) and that for Thailand ending in that year (1997 refers to FY1996/97 October to September).

Source: IMF International Financial Statistics; World Bank data and staff estimates: Rep. of Korea 1997a, 1997b, 1998a, 1998b; Indonesia 1998a, 1998b; Thailand 1998a, 1998b. 1998 excluding projected interest costs of financial restructuring.

Bank recapitalization costs will be high, but fiscal surpluses needed to finance them are not large

Table 2-10 Fiscal costs of financial restructuring
(percentage of 1996 GDP)

	Government debt	Cost of financial restructuring	New government debt	Primary fiscal surplus needed to stabilize new debt-to-GDP ratio assuming a gap between real interest and growth rates of:			
				1%	2%	3%	4%
Indonesia	24	19	43	0.43	0.86	1.29	1.72
Korea, Rep. of	9	30	39	0.39	0.78	1.17	1.56
Malaysia	36	20	56	0.56	1.12	1.68	2.24
Thailand	4	30	34	0.34	0.68	1.02	1.36

Note: End-1996 government debt numbers are used because 1997 data are not yet fully available.
Source: IMF International Financial Statistics; J.P. Morgan 1998b; Daniel 1997.

are all substantially less than the 3–4 percent of GDP that Thailand averaged between 1987 and 1996.²⁷ Restoring the economy to fast growth and full employment is, therefore, an important condition to help medium-term fiscal stabilization.

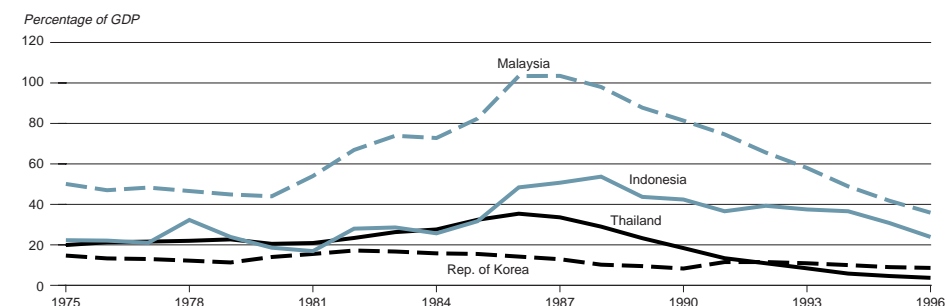
Monetary policy

The use of monetary policy to manage the East Asian crises threw up extremely difficult tradeoffs between macroeconomic and financial sector stabilization objectives. In

several cases initial adjustment programs adopted by the East Asian crisis countries stressed tightening monetary policy to stabilize exchange rates and curb inflationary pressures, the benefit of a more stable exchange rate being to limit the damage to the balance sheets and cash flow of banks and firms with heavy foreign currency debts. Orthodox monetary policies in defense of currencies are still appropriate in many circumstances. But higher interest rates could themselves be expected to have

Governments are well-placed to meet the costs of financial restructuring

Figure 2-19 Central government debt, 1975–96



Source: IMF International Financial Statistics.

damaging effects on already weak bank and firm balance sheets and real economic activity, as discussed above. In evaluating this difficult tradeoff, policymakers were concerned about how reliably, and under what conditions, higher interest rates would in fact serve to stabilize exchange rates during a currency crisis, a subject on which there had been surprisingly little formal research.

The use of monetary policy to manage the East Asian crises threw up extremely difficult tradeoffs between macroeconomic and financial sector stabilization objectives.

Higher interest rates should strengthen exchange rates by making it more attractive to hold financial instruments denominated in the particular currency.²⁸ Under some circumstances, however, this mechanism may not represent the full (or general equilibrium) impact of interest rates on exchange rates. If tighter credit and higher interest rates worsen the financial condition of already weak banks and corporations, an increase in the probability of default on financial instruments issued by them could weaken the exchange rate by increasing the risk premium attached to the currency. Monetary tightening could also weaken the exchange rate by reducing expectations of future output, demand for money, and interest rates.²⁹

The relative importance of these diverging influences in the East Asian crisis is something of an open question, especially given the difficulty of establishing counterfactual scenarios of what would have hap-

pened without a given policy action. Casual inspection of the evolution of interest rates and exchange rates in the East Asian countries does not suggest any simple connection between the two (figures 2-18a and 2-18e). This perception is confirmed at a slightly more systematic level by consideration of correlations over a rolling 30-day interval between exchange rates and interest rates in Korea, Malaysia, the Philippines, and Thailand (figures 2-20a and 2-20b: a positive correlation indicates an association between higher interest rates and exchange rate appreciation).³⁰ Clearly, negative correlations are at least as common as positive ones, although the significance of this fact is not clear, since it is consistent with both interest rate increases weakening exchange rates through the channels noted above, or with falling exchange rates inducing defensive increases in interest rates.

The cross-country movement of exchange rates over time also provides interesting observations. Leaving aside the special case of Indonesia, where the exchange rate fell more than 80 percent against the dollar in the year to mid-1998, currencies in the other four crisis countries moved closely together, each depreciating 35–40 percent by mid-1998. This similarity in exchange rate paths is notable, since several of these countries pursued quite different interest rate policies. Thailand and Korea tightened monetary policies, Malaysia did not raise interest rates apart from a brief effort in July 1997, and the Philippines reduced interest rates to near precrisis levels after increases in the second half of 1997.

Kraay's (1998) study of interest rate policies in some 186 speculative attacks on currencies in 75 middle- and high-income

There appears to be no simple connection between the evolution of interest rates and exchange rates

Figure 2-20a Thirty-day rolling correlations between interest rates and exchange rates, March 1997–September 1998: Malaysia and Thailand

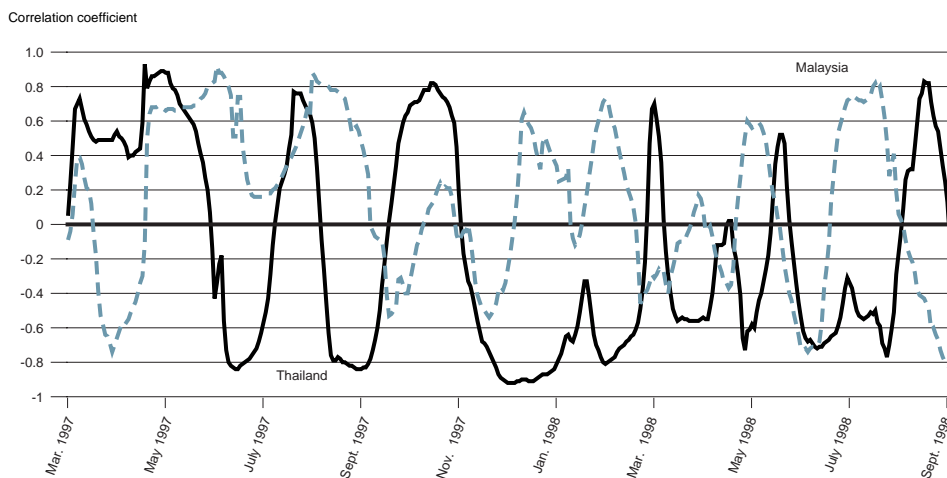
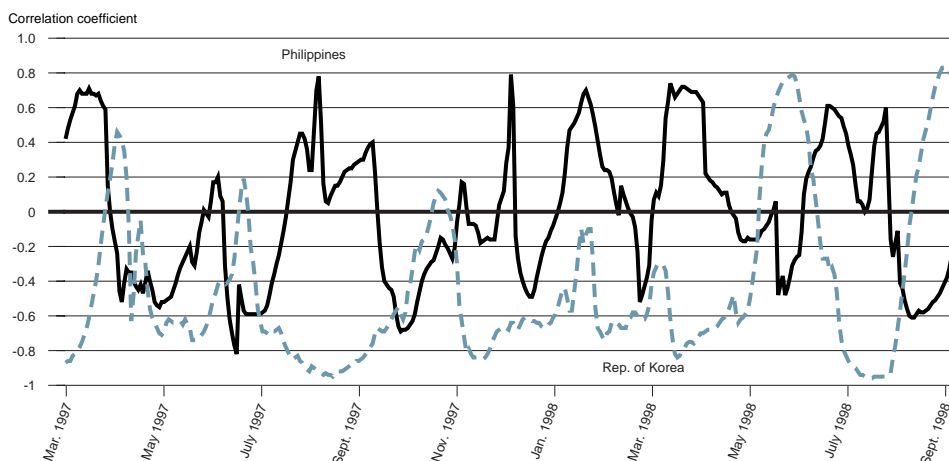


Figure 2-20b Thirty-day rolling correlations between interest rates and exchange rates, March 1997–September 1998: Philippines and Republic of Korea



Source: Kraay 1998.

countries in 1960–97 found that interest rate increases are not always necessary to ward off a speculative attack (table 2-11). Rates were not increased in 50 of the 117 cases (43 percent) in which attacks failed, and increases failed to foil speculative attacks in 35 of the 102 instances where they were used (33 percent of the cases). The study was unable to reject the hypothesis of no significant relationship between interest rate policy, and the success or failure of speculative currency attacks. It could, however, be that, where rate increases were not necessary, the speculative attacks were less serious. Similarly, where rate increases were not sufficient to prevent a successful attack, it could be that the speculative attacks were more severe. These considerations were addressed by controlling for various fundamental conditions that earlier studies have found to be good predictors of speculative currency attacks. It was still not possible to reject the hypothesis of no significant association.

Goldfajn and Gupta (1998) find more evidence for a positive link between interest rates and exchange rates in the general case, but this link is reversed when a country is facing a banking crisis. For a large set

One study found interest rate hikes are not always successful in fending off speculative attacks...

Table 2-11 Discount rate policy in 186 speculative attacks on currencies, 1960–97 (number of instances)

Policy	Attack succeeds	Attack fails	Total
Discount rate raised	35	67	102
Discount rate not raised	34	50	84
Total	69	117	186

Source: Kraay 1998.

of undervaluations of real exchange rates in the aftermath of currency crises, they find tight monetary policy significantly increases the probability of reversing the undervaluation through an appreciation of the nominal exchange rate, rather than through higher inflation. But the opposite is true when the country is facing a banking crisis. In that event, a monetary tightening is found to significantly reduce the probability of reversing undervaluation through an appreciation of the nominal exchange rate (table 2-12). They conclude that “the relationship between high interest rates and stable currencies hinges crucially on the state of the banking system.”

Overall, the still early state of the research into the behavior of interest rates and exchange rates during crises may not allow firm conclusions. There is, however, more evidence about the adverse impact of high interest rates on real economic activity, confirming the importance of undertaking monetary policy in a flexible and nuanced way that gives due consideration to the pol-

...another study finds a more positive link between interest rates and exchange rates, but this is reversed in countries in banking crises

Table 2-12 Conditional probability of reversing an undervaluation of the real exchange rate through appreciation of the nominal exchange rate

	Tight money	Nontight money
All countries	0.37	0.26
Countries with banking crises	0.29	0.45

Note: Estimates are for cases in which the real exchange rate is undervalued by at least 15 percent, and at least 50 percent of the undervaluation is removed by a rise of the nominal exchange rate.

Source: Goldfajn and Gupta 1998.

icy dilemmas that arise, such as in East Asia, where the financial system is fragile, corporations are highly leveraged, and shortfalls in aggregate demand are large.

Structural reforms

Adjustment programs in East Asia are distinguished by the importance they place on structural reforms. Many of these focused appropriately on financial and corporate restructuring, and strengthening of financial regulation, supervision, and corporate governance areas. Especially for Indonesia, adjustment efforts also included a variety of other structural reforms (table 2-13). These focus on liberalizing domestic markets and foreign trade and, in fiscal affairs, removing public subsidies. The valid general rationale

for these structural measures is that they will reduce impediments to long-run growth by increasing efficiency, improving resource allocation, and enhancing competition.

From the perspective of successful implementation, however, it may also be useful to evaluate what the most promising times and conditions for initiating such reforms might be. On the one hand, “if there is one single theme that runs through the length of the political economy literature it is the idea that crisis is the instigator of reform.” (Rodrik 1996. See also Williamson 1994). Thus the study of trade reform in the period up to the 1980s debt crisis by Papa-georgiou, Choksi, and Michaely (1990) finds that most “strong” trade reforms took place in the context of a general perception

In Indonesia, structural reforms focused on domestic and foreign trade liberalization and removing subsidies

Table 2-13 Structural reform programs in East Asia

Reform	Indonesia	Rep. of Korea	Thailand
Domestic trade	Eliminate monopolies in food, plywood, and clove distribution.		
Foreign trade	Reduce tariff on a broad range of items, including agricultural products, chemicals, and metal products. Phase out all nontariff barriers. Eliminate or reduce export taxes and quantitative restrictions on palm oil, leather, cork, minerals, logs, timber, and other exports.	Phase out Import Diversification Program. Align import certification procedures with international practice. Permit foreigners to engage in securities dealing, insurance, leasing, and other property-related businesses.	
Fiscal issues	Eliminate subsidies and raise prices on domestic fuel, electricity, rice, soybeans and soymeal, sugar, wheat flour, corn, and fishmeal. Discontinue tax, trade, and credit privileges for national car and aircraft projects.	Review and rationalize subsidy programs.	
Privatization	Privatization of state enterprises over the medium term.	Privatize five state-owned enterprises immediately, another six by 2002.	Privatize and restructure energy, telecommunications, water, and railways.

Note: Financial and corporate restructuring and reform programs are not included.
Source: Indonesia: 1998b. Rep. of Korea: 1998b, 1998c. Thailand: 1998b.

of complete economic collapse, a change of political regime, or both, and the close association between crisis and reform was, if anything, even more evident in the 1980s. Various arguments have been proposed to explain this empirical observation: for example, that crises create a sense of urgency and public solidarity and so strengthen the hands of reformist governments relative to obstructive special interest groups, or, even more simply, that lack of resources obliges governments to accept the advice of external leaders.

Adjustment programs in East Asia are distinguished by the importance they place on structural reforms.

Researchers have noted a number of qualifications to the significance of the empirical association between crisis and reform, however. First, there is great variation in the necessary intensity and duration of crises needed to bring about reform. Haggard and Webb (1993) note that at various points in the 1980s, the Thai, Colombian, and Indonesian governments undertook reforms as preemptive responses to warning signs of impending difficulties, while, at the other end of the response continuum, several African countries endured full-blown economic disasters year after year without taking action. They state, however, that we do not really understand why governments behave in these different ways. They also note that “a crisis in no way guarantees that any remedial actions taken will be sustained or institutionalized,” as evidenced by the main instances where reforms are reversed once a crisis is

over, an event especially likely where governments are not themselves firmly committed to, or “have ownership” of, reforms.³¹

Rodrik (1996) also notes that “the emphasis on crisis has in itself little predictive content as to what form the response will take,” and that, in particular, some structural reforms undertaken during macroeconomic crises have little logical connection with the task of macroeconomic stabilization and indeed can even complicate that effort. Classical examples are where reductions in tariffs result in loss of fiscal revenue and higher fiscal deficits, or where the “compensating” devaluation required by trade liberalization conflicts with a nominal exchange rate anchor adopted to stabilize inflationary expectations. Here, as in other areas of response to the crisis, difficult trade-offs become apparent.

Crises may open windows of opportunity for structural reforms and should be taken advantage of in many circumstances. However, more research is also needed on circumstances in which structural reforms may complicate immediate crisis management tasks during financial crises. For example, dealing with structural impediments that are genuine but related in only a limited way to the causes of the immediate financial and macroeconomic crisis may undermine confidence, and aggravate uncertainty and informational problems, and thereby make crisis management appear even more difficult than it already is. The fact that well-considered structural reforms are often difficult to design and monitor, and take years to implement and assess, may also add to the difficulties of economic agents in evaluating the immediate stabilization pro-

gram. In some circumstances, could the inherently higher social contentiousness of some structural reform policies make it more difficult to achieve social consensus on immediate adjustment tasks during a financial crisis?³²

Financial and corporate restructuring and reform

By the middle of 1998, large parts of the private corporate and financial sectors in the five crisis countries were insolvent or suffering severe financial distress. Economic recovery policymakers need to undertake what experience has shown to be the unusually long, complex, and arduous task of nurturing these sectors back to health, as well as strengthening institutions of prudential supervision, regulation, and governance that would reduce the likelihood of such crises in the future.

Given the systemic nature of the crisis, financial restructuring will require strong government leadership within a clear strategic framework, including, inevitably, the injection of substantial public funds. Returning viable corporations to health will mean restructuring their often enormous domestic and foreign debts, by rescheduling, writing down, or converting debt to equity. The involvement of foreign investors, who can provide new equity and risk capital, will be important for both financial and corporate restructuring. There is much that OECD governments can do to speed the resolution of debt overhang, especially with external private creditors. The need for resolution of domestic debt problems is equally compelling if economies are to move ahead. Restructur-

ing on the scale needed in the East Asian crisis countries is relatively unexplored territory, however, and new approaches may well be needed.

Dimensions of financial sector restructuring

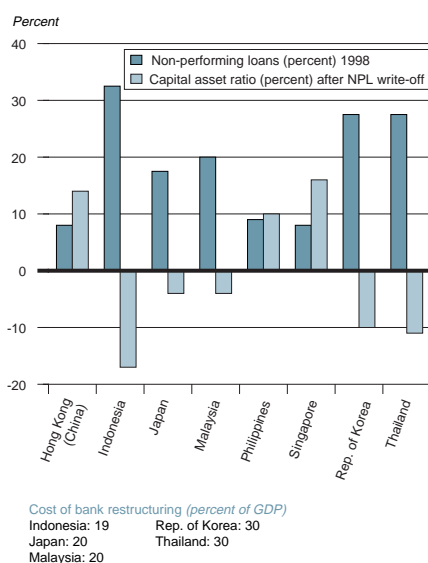
The dimensions of financial restructuring are staggering. In Indonesia, Korea, Malaysia, and Thailand, nonperforming loans are thought to be so extensive that writing them off against bank capital will result in a negative net worth in the banking system. Recapitalizing banking systems to achieve the 8 percent capital adequacy ratios recommended by the BIS will cost an estimated 20 to 30 percent of GDP (figure 2-21).

Given the systemic nature of the crisis, financial restructuring will require strong government leadership within a clear strategic framework, including, inevitably, the injection of substantial public funds.

Systemic banking crises—often defined as a situation of negative net worth in the banking system (Caprio and Klingebiel 1996b)—exact large real economic costs. Under such conditions, banks are especially susceptible to sudden losses of confidence and runs by depositors. Contagion effects can result in shutting down significant portions of the payments system and the critical information-collecting and -processing function performed by banks, with severe consequences for economic activity. Ultimately, even more harm can result when insolvent and poorly regulated banks

Recapitalizing banks in Indonesia, Korea, Malaysia, and Thailand could be 20–30 percent of GDP

Figure 2-21 Estimates of non-performing loans, capital asset ratios, and costs of recapitalizing banking systems



Note: NPLs are mid-points of ranges cited in source; recapitalization assumes 8 percent capital asset ratios. Source: J.P. Morgan 1998b.

remain open, protected against bank runs by explicit or implicit government guarantees of deposits. This kind of “silent, protracted financial distress,”³³ common in developing and transition economies, results in mounting misallocation of resources as banks continue to lend new money to insolvent debtors, to avoid having to write off bad debts, or gamble on new high-risk investments to recoup earlier losses.

A prompt, comprehensive program of financial restructuring aims to avoid or

minimize these costs by shutting down or merging insolvent banks and restructuring and recapitalizing those judged to be viable. Restructuring can involve market-based solutions or government intervention—or both. Market-based solutions include liquidating insolvent banks without more compensation for depositors than that provided under existing deposit insurance schemes (for example, the liquidation of BCCI in the United Kingdom in 1991) or selling (or merging) sick banks to other banks without government financial assistance. These methods are evidently better suited to situations where bank insolvency or distress is limited or localized.

In systemic financial crises, however, where the risk of significant economic disruption and loss of confidence is high, government intervention, involving the use of public resources for bank restructuring, has been common. In a study of eight bank restructuring exercises in the 1980s and the early 1990s (Argentina, Chile, Colombia, Ghana, Malaysia, the Federal Republic of Yugoslavia, Spain, and the United States), although market-based solutions were tried in most cases, there was government intervention in all eight (Sheng 1996). Mechanisms used include public recapitalization and sale to new owners, government-assisted merger with a viable bank, temporary nationalization, or even, failing all else, bailouts.

Financial restructuring programs need, however, to create strong incentives against future moral hazard, typically by writing off bad debt against the capital of existing shareholders, replacing bank management, and otherwise ensuring that those who benefited from earlier risky behavior bear a significant part of the cost

of restructuring. In addition, problem institutions must not be allowed to continue to expand credit to high-risk or delinquent borrowers.³⁴ Of course, closing down insolvent financial institutions or allocating losses to bank owners, shareholders, managers, or employees is politically difficult. The credibility of restructuring programs will depend heavily on the willingness of governments to deal with existing majority bank shareholders from influential business groups.

These priorities need to be balanced against other, more immediate, ones. The first is to maintain public confidence in the financial system when closing down insolvent banks. This requires a comprehensive and credible plan for financial restructuring that demonstrates to the public that the remaining banks will be solvent, well-capitalized, and will have adequate access to lender of last resort liquidity. The failure to do this when closing 16 Indonesian commercial banks in November 1997 under the initial program with multilateral institutions sparked bank runs and large transfers from local private banks to state- and foreign-owned banks, as well as capital flight offshore, and contributed to a second round of currency collapse.

To buttress confidence among depositors and creditors, Indonesia, Korea, and Thailand announced public guarantees of deposits as well as of other domestic and foreign liabilities. Such socialization of bank liabilities is not without its costs, however, such as increasing the fiscal cost of restructuring by forgoing some contribution from depositors.³⁵ Although it is often feared that imposing losses on depositors will lead to bank runs, that does not

appear to be the case, at least when the action is taken within a comprehensive plan. This is the conclusion of Baer and Klingebiel (1994) from five episodes where depositors were asked to share in the cost of resolving banking crises—in the United States (1933), Japan (1946), Malaysia (1985–88), Argentina (1980–82), and Estonia (1992).

Restructuring also needs to be done in ways that ease the stringent credit crunch for viable corporate borrowers.

Restructuring also needs to be done in ways that ease the stringent credit crunch for viable corporate borrowers, for example, by facilitating credit to exporting firms (that confirm their viability by earning foreign exchange in world markets). In this context, the implementation of capital adequacy standards needs to be handled flexibly and not on a rigid timetable, so that it comes about through injections of new capital into banks rather than through banks further cutting back on loans, which worsens the credit squeeze.

Financial sector restructuring and reform efforts

Most of the crisis-affected countries have revised legislation to strengthen prudential regulation and supervision of the financial sector. They have tightened up loan classification and provisioning requirements (generally aiming to achieve at least the 8 percent BIS capital adequacy standards by the year 2000) and improved disclosure, accounting, and auditing standards to

international levels. They have set limits on lending to shareholders and other connected parties and strengthened rules to limit maturity and currency mismatches on external borrowing.

Countries have also created institutions to carry through financial restructuring—such as the Indonesia Bank Restructuring Agency, the Korean Financial Supervisory Commission, and the Thai Financial Sector Restructuring Authority—although in cases such as Indonesia their operations are seriously hampered by a shortage of trained personnel. A strong, independent, public agency with the political and legal clout to implement difficult decisions is essential for successful financial restructuring (for example, the Resolution Trust Corporation in the United States to handle the savings and loan crisis). Inadequate powers and dispersal of functions can be disastrous; pooling of financial talent may be essential given the thinness of such human resources. These agencies are evaluating banks, their portfolios, systems, and management to sort institutions into sound, well-managed ones that could form the core of a new revitalized banking system; the nonviable that need to be shut down; and the weak that could be restructured and recapitalized under the direction of the supervisory authority to regain viability.

In Thailand, 56 finance companies were shut down and their assets were auctioned. By the end of August 1998, six commercial banks had been temporarily nationalized (with the aim of later privatization) through writing off bad debts against shareholder capital, replacement of management, and recapitalization through

conversion of short-term credit from the central bank into equity. Initially, the government adopted a market-based approach to recapitalization of the rest of the banking system, encouraging voluntary infusions of private capital. The need for public support was recognized in the second half of 1998, however, when some 300 billion baht in public funds were made available to support tier 1 and tier 2 bank capital, largely on condition that bad debts be written off or provisioned on an accelerated timetable (implying acceptance of painful writedowns of shareholder equity).

In Korea, the government had by August 1998 provided for up to 75 trillion won of public support for financial restructuring, about 16 percent of GDP. Some 10 merchant banks were shut down, and two commercial banks temporarily nationalized for later privatization. Five of 12 commercial banks that did not meet the 8 percent capital adequacy rule at the end of 1997 were to be taken over by other banks after much of their bad debts were acquired by the newly formed Korea Asset Management Corporation. The remaining seven undercapitalized banks were to present voluntary rehabilitation plans with sufficient infusions of new private capital, failing which they will be subject to temporary nationalization, mandatory merger, or closure. In the rest of the banking system, workouts of loans to the corporate sector are to be handled under a voluntary framework.

In Indonesia, 16 banks were closed in November 1997. In the absence of a comprehensive plan, this action provoked runs on other banks. Many other weak banks were placed under control of the bank restructuring agency. In August 1998,

plans were announced to nationalize, merge, or close 11 banks, involving considerable writedowns of shareholders' capital, and efforts to recover intergroup or connected loans made by banks to shareholders from these shareholders' other assets.

Mustering the political will to raise adequate public funds to recapitalize banks in a noninflationary way is one of three basic principles in managing financial crises (Rojas-Suárez and Weisbrod 1996).³⁶ This will not be easy where countries are correctly expanding fiscal deficits to buoy aggregate demand and where the interest costs of financial restructuring are likely to be significant. One solution is to attract external capital to recapitalize banks and distressed corporations. Thailand, which has attracted about \$3 billion in foreign investment and sold four banks to foreign investors, has made the most progress in this direction. Korea and Indonesia have also attracted some external investment on the corporate side. Foreign investment inflows will also make stronger managerial and technical capabilities and skills available to the financial sector. Success in attracting foreign capital will depend in part on the credibility of official programs, as well as on the legal ease, transparency, and speed of the foreign investment process. One reason for Latin America's better economic performance in recent years (and Mexico's quick recovery after its crisis) has been success in privatizing and in attracting new FDI.

Corporate restructuring, bankruptcy law, and debt workouts

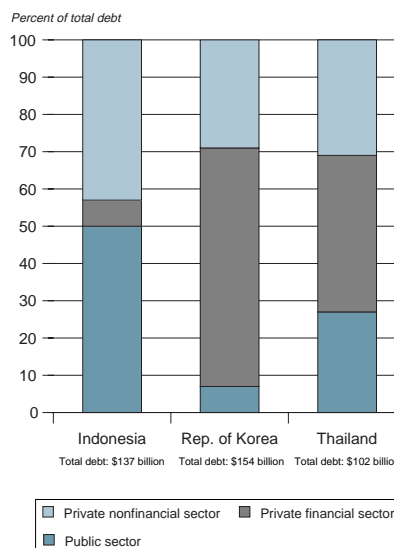
The success of financial restructuring in East Asia will be closely bound to the suc-

cess of restructuring in corporate sectors, which hold most loans made by domestic banking systems. The indebtedness of local corporations to local banks is one corner of a triangle of debt relationships that will need to be simultaneously addressed. The other two are the debts of local corporations and local banks to external creditors, mostly foreign banks.

The relative weight of these debt relationships varies considerably. In Indonesia, direct borrowing by the corporate sector makes up the bulk of external borrowing by the private sector (figure 2-22). At exchange rates of the 10,000–15,000 rupiah to the dollar prevailing in the first half of 1998, the cost of debt servicing was so high that

In Indonesia, most external borrowing was by the corporate sector

Figure 2-22 Structure of external debt by class of borrower, year-end 1997



Source: J.P. Morgan 1998b.

virtually the entire Indonesian corporate sector was probably insolvent, and the improvement in exchange rates since then permits more leeway. In Korea, where corporate regulations made such borrowing difficult, a much larger proportion of external debt was taken on by local banks for lending to local corporations. In Thailand, both banks and corporations were big external borrowers. Given the insolvency of large parts of the local financial and corporate sectors, the resolution of debt overhangs on each corner of the triangle is likely to require restructuring of the original terms of borrowings, either through court-ordered corporate rehabilitations or reorganizations, or through orderly debt workouts between debtors and creditors.

One obstacle in working out debt difficulties is the weakness of bankruptcy law and administration in East Asian countries.

One obstacle in working out debt difficulties is the weakness of bankruptcy law and administration in East Asian countries. A well-developed bankruptcy law recognizes that, left to themselves, debtors and creditors may take a long time to reach a voluntary reorganization and that delays in reaching agreement have real economic costs for society.³⁷ One is the failure to exploit profitable new investment opportunities because of conflicts of interests among the parties (for example, among shareholders of the debtor firm, existing lenders, and potential new lenders). Another is to encourage investments to be overly risky, when they are made. Yet

another is the possibility of “grab races” between creditors, which force a borrower into liquidation even if it is in the interest of all lenders to maintain the borrower’s enterprise as a going concern.

Bankruptcy law attempts to overcome some of these problems through a collective proceeding in which the court provides binding arbitration between the claims of the parties, balancing two broad aims. The first is to maximize the income and growth prospects of firms that appear able to earn at least their economic cost of capital (through debt rescheduling, writing down unserviceable debt, or introducing new debt with priority over older claims), while liquidating unviable firms. The second is to create incentives for strict adherence to debt contracts in future, for example, by penalizing debtors for resorting to bankruptcy.

Since most claims in the East Asian crisis are between private parties, a well-developed bankruptcy system could provide one channel for sorting out problems in a way that would be in the long-run interest of both debtors and creditors. Resort to bankruptcy is unlikely by itself to provide a complete framework for dealing with East Asian debt overhangs, however. First, in a systemic economic and financial crisis many even well-managed firms become insolvent as a result of factors such as steep devaluations, interest rate hikes, and drops in aggregate demand. Without a coordinated approach to the debt problem, a case-by-case treatment could lead to the liquidation of many firms that would be viable under more normal macroeconomic conditions. The loss of the information and knowledge capital represented by these

firms could then have a harmful long-run effect on growth.

Second, bankruptcy law systems in most East Asian countries are antiquated and lack adequately trained personnel. Legal processes are so costly, prolonged, unpredictable and, in some cases, open to political influence and corruption, that resort to the courts is usually not attempted. In Indonesia, for example, virtually all companies have stopped servicing debt, but few have applied for bankruptcy court protection (see box 2-2). Until this year, bankruptcy law was based on a one-page Dutch edict of 1906, which emphasized liquidation but did not allow for court-supervised corporate rescues. More significantly, corruption and personal influence were perceived to pervade the administration of bankruptcy law. In Korea, filing bankruptcy papers is straightforward, but progress thereafter is slow. Eight Korean chaebol (conglomerates) filed for bankruptcy court protection in 1997. Since then the companies have continued to operate while in default on debt, but there has been little progress in presenting business plans for corporate restructuring to the court. In Thailand, too, lengthy proceedings and other weaknesses have created a credit culture in which companies have been able to default on debt with impunity.³⁸

In the aftermath of the crisis, many countries have moved ahead to revamp and modernize their bankruptcy and foreclosure law, and to strengthen corporate governance. In Thailand and Indonesia, amendments to bankruptcy laws strengthen the capacity of the courts to approve reorganization (rather than just liquidation), reduce the discretionary power of the

Box 2-2 Filing a bankruptcy petition in Indonesia

Foreign creditors gained some experience of the Indonesian bankruptcy system after 1991, when the Bentoel cigarette company declared insolvency, owing \$300 million in equal parts to foreign and domestic banks. After the failure of voluntary negotiations with the company, the foreign banks filed a bankruptcy petition in 1992. The court first ruled that creditors could not enforce a personal guarantee on debt given by a Bentoel shareholder until the company entered liquidity proceedings. It then ruled there were no grounds for putting the company into liquidation. The case continues.

Source: J.P. Morgan 1998b.

courts, and increase transparency, certainty, and efficiency in court proceedings. Indonesia, recognizing the low level of professional skills, is also making provisions for improved training, licensing, and selection of judges, receivers, and administrators.

These efforts, vital as they are for long-run prosperity, are unlikely to provide a quick fix for the problems at hand. Passing legislation is one thing: developing the necessary human skills, knowledge, expertise, credibility, and respect for the rule of law in the day-to-day administration of bankruptcy law is a task that will take years, if not decades, to complete. Even a working bankruptcy system would not deal with the problems of insolvency in a systemic economic crisis. Thus, what will become important are orderly debt workouts—that is, less formal ways in which governments or other arbitrators attempt to achieve the same economic objectives as formal bankruptcy court proceedings by bringing together debtors and creditors to negotiate resolution of debt problems.

Unlike bankruptcy courts, whose decisions are binding, orderly workouts must rely on voluntary agreements between debtors and creditors, although in practice moral suasion, political pressure, or financial incentives play an important part. But voluntary negotiation can take a long time, especially in the case of default on debt. A number of earlier debt crises illustrate the problems (Aggarwal 1998). The debt crisis of the 1980s was not resolved until the U.S. government threw its weight behind market-based debt restructuring with the Brady plan. Often, allocating losses between and among debtors and creditors requires strategic direction from some such central player.

By mid-1998 the East Asian crisis had led to two main initiatives on workouts for external debt. In January, Korea worked out a deal with creditor banks to reschedule \$24 billion of maturing short-term debt owed by Korean banks, converting it to government-guaranteed loans with maturities of one to three years. Several features are noteworthy: first, the high proportion of Korean debt owed by local banks provided a strong motivation for averting disruption to the domestic payments system. Second, the relatively small number of bank debtors and creditors helped coordination. Third, the deal, while not envisaged in the initial adjustment program with multilateral institutions, had behind it the strong support of the United States government. Fourth, the deal seems to have eased immediate pressures on the won in foreign exchange markets. The currency stabilized and gradually strengthened in the following months.

Indonesia's June 1998 agreement with its creditor banks attempts to create a

framework to deal with the much more complicated question of the \$65 billion or so of foreign debt owed by thousands of its corporations. This initiative provided an incentive for voluntary debt restructuring through a government guarantee of foreign exchange for debt service at a fixed rate, to be determined by the actual course of exchange rates over a 12-month period ending in 1999. It was modeled on the plan to restructure Mexican private corporate external debt in the wake of the 1982 debt crisis. Running from 1983 to 1992, the Mexican plan helped restructure \$12 billion of debt. However, the plan came at the potentially high cost of a substantial public subsidy to the private sector in the event that the exchange rate depreciated against the dollar by more than that implied by Mexican-United States interest rate differentials. It remains to be seen whether the Indonesian scheme (described in World Bank 1998b) can succeed without a subsidy. Initial results were not encouraging, with very few transactions. The rupiah exchange rate also initially remained extremely weak, averaging 14,000–15,000 to the dollar in the month after the deal and falling below 15,000 in July; however, by October 1998, the rupiah had strengthened sharply to about 7,000–8000, thanks to the falling value of the dollar. Overall, the Indonesian experience so far is consistent with earlier experiences that orderly international debt workouts are more likely to succeed when they have strong support from the governments of creditor countries.

Some East Asian governments are also promoting voluntary workouts for corporate debt owed to domestic banks. They are removing tax disincentives to debt restruc-

turing, removing legal barriers to debt-equity swaps, and encouraging creditor committees and workout units at commercial banks. Korea has gone furthest toward a formal framework, bringing some 200 financial institutions to sign a corporate restructuring agreement. Voluntary debt workouts with corporations will follow London Rules for extrajudicial resolution of claims, and disagreements will be submitted to formal arbitration. Potential incentive problems of purely voluntary approach are addressed to some extent by guidelines to curtail the scope for emergency or rescue loans to troubled corporate debtors and to curb cross-guarantees within industrial groups, which allow weak affiliates to continue borrowing via stronger affiliates.

Given the high corporate leveraging in East Asian countries, a strong focus on debt-to-equity conversions may be the key to resolution of the debt problem—especially if supplemented by policies to liberalize conditions for foreign equity ownership and to foster the development of domestic capital markets, through mutual funds, pri-

vately managed pension funds, and so on. The purchase from the banks of newly created equity positions in corporations by strongly managed foreign and domestic mutual funds and pension funds would help to clean up bank balance sheets. It would also strengthen corporate governance by breaking down the concentration of corporate control by a few insider family groups and provide much stronger independent monitoring of management. Limits on foreign investment have been almost completely removed in Indonesia and significantly loosened in Korea and Thailand.

Social impact of the crisis

In recent decades East Asia has reduced poverty and improved living standards and social conditions at a pace unrivaled in history (table 2-14).³⁹ Per capita income growth averaged a remarkable 5.5 percent a year over the past 30 years. In the mid-1970s, six out of every 10 people in the region lived on less than \$1 a day. By the mid-1990s, only two of 10 did.

Living standards improved dramatically throughout East Asia in the 20 years to 1995

Table 2-14 Living standards in East Asia, selected years, 1970–96

Country	Number of people in poverty (million)		Headcount index ^a (percent)		Life expectancy (at birth)		Infant mortality rate (per 1,000 live births)		Net primary school enrollment (percent)	
	1975	1995	1975	1995	1970	1996	1970	1996	1970	1995
China	568.9 ^a	269.3	60 ^a	22	62	70	69	33	76	99
Indonesia	87.2	21.9	64	11	48	65	118	49	76	97
Korea, Rep. of					61	72	46	9	>99	100
Malaysia	2.1	<0.2	17	<1	62	72	45	11	84	91
Philippines	15.4	17.6	36	26	57	66	71	37	>99	100
Thailand	3.4	<0.5	8	<1	58	69	73	34	79	88

Note: All estimates of poverty are based on \$1 per person per day poverty line at 1985 PPP prices.

a. Data are for 1978 and apply only to rural China.

Source: World Bank 1998c.

Growth has led to larger and faster reductions in poverty in East Asia than in other regions.⁴⁰ One reason is that the region started off 30–40 years ago with a relatively equal distribution of income and wealth, and with a strong policy focus on widely spread human capital gains, rural development, and labor-intensive growth that has protected this distribution. Integration with the world economy, coupled with flexible labor markets, translated into high rates of job creation and rising real wages. Between 1986 and 1993, employment and manufacturing productivity growth allowed real wages to rise 3–6 percent a year. Countries also invested in human development, focusing on areas that benefit the poor most directly: basic curative and preventive health services, primary education, and others. One study found that higher school enrollment rates in East Asia accounted for 38 per cent of the predicted difference in economic growth between East Asia and Latin America in 1960–90.

In recent decades East Asia has reduced poverty and improved living standards and social conditions at a pace unrivaled in history.

The social achievements of the East Asian miracle are genuine and undeniable. Nevertheless, many of the social consequences of the present economic crisis are likely to be protracted. Most countries lack formal mechanisms to protect people from job losses and their consequences, while private savings and informal safety nets may be insufficient to deal with economy-wide

shocks. Governments do not have systems in place to adequately track the impact of shocks or policy interventions on household welfare or the institutional capacity to deal with mass layoffs (for example, through retraining schemes or massively scaled-up public works programs).

Social impact of crises and stabilization policies

What are the social costs of crises? Which groups will be hurt more than others? The impact of crises on household welfare is complex and often difficult to isolate from the impact of policies to manage crises. Important dimensions are a loss in household income due to layoffs, unemployment, and reduced hours of work; a decline in purchasing power due to price increases and a fall in real wages; and reduced access to social services because of lower personal incomes and, in some cases, public spending. Output losses, unemployment, and higher inflation are associated with an increase in poverty. There is also a worsening in the condition of those who are already poor, including lower living standards and greater malnutrition (see box 2-3). Income inequality often rises as well.⁴¹

How much poverty increases during crises depends on initial levels of poverty and inequality, the mix of stabilization policies, the structure of the economy, the flexibility of output and factor markets, and other factors. Wage and price rigidities in the modern sector of the economy may shift the burden of adjustment to the informal sector, and thus onto the poor. Different policies also affect the poor differently. Devaluation may have a positive effect on the poor who are employed in sectors pro-

Box 2-3 The impact of crises on the poor may be irreversible

Economic crises hurt poor and rich. The poor, however, are much less able to respond to a non-diversifiable risk like a recession. If domestic capital markets were perfect, all economic agents could borrow to smooth consumption and maintain welfare during a crisis. But capital markets are imperfect: credit or insurance is not available to the poor, and there is little they can do to smooth out consumption and welfare. Thus, crises and recessions may result in irreversible damage to the poor: malnutrition or death from starvation (in extreme cases) and lower schooling levels (Thomas and others 1996).¹

In Côte d'Ivoire, higher food prices in the stabilization program of the 1980s may have increased malnutrition (Thomas and others 1996; Grootaert 1994). Sudden fluctuations in income or food availability can be fatal to already malnourished children. The most common types

of malnutrition (iodine, vitamin A, and iron deficiency) may lead to lower IQ, retarded physical growth, mental disabilities, reduced learning capacity, and lower resistance to infections. These conditions are associated with increased repetition and dropout rates in school. The effects of malnutrition on child mortality are severe: results from 53 developing countries indicate that 56 percent of child deaths were attributable to the collateral effects of malnutrition and 83 percent of these were due to mild to moderate malnutrition.

¹ Alderman and Paxson (1994); Bourguignon, Lambert and Suwa (1996); Cornia et al. (1987). See also Jolly and van der Hoeven (1991).

Source: World Bank (1993b); Pelletier and others (1995).

of malnutrition (iodine, vitamin A, and iron deficiency) may lead to lower IQ, retarded physical growth, mental disabilities, reduced learning capacity, and lower resistance to infections. These conditions are associated with increased repetition and dropout rates in school. The effects of malnutrition on child mortality are severe: results from 53 developing countries indicate that 56 percent of child deaths were attributable to the collateral effects of malnutrition and 83 percent of these were due to mild to moderate malnutrition.

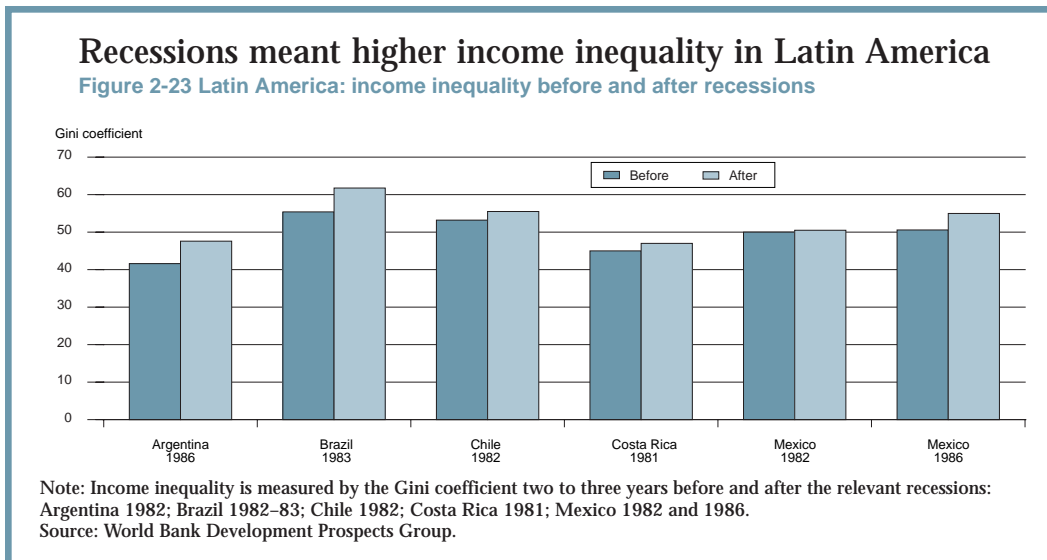
ducing tradable goods and services. Laying off public sector employees may create a new group of poor. Eliminating consumer subsidies and reducing social expenditures would affect the well-being of all the poor.⁴²

Both poverty and inequality increased in Sub-Saharan Africa during most episodes of economic crises and attempted adjustment (Demery and Squire 1996).⁴³ The same thing happened in Eastern Europe during the transition of the 1990s (Ravallion and Chen 1996; Milanovic 1995). Poverty increased in 55 of 58 recessions in Latin America during the 1980s and decreased or remained unchanged in 25 of 32 recoveries (Morley 1994). Recessions were also associated with higher income inequality in Latin America (figure 2-23). High and variable inflation was particularly damaging to the poor, who have limited access to mechanisms for protecting consumption. Workers were forced to

accept large wage cuts, unemployment, and low paid jobs in the informal sector because of the absence of social safety nets.

The impact on unemployment and poverty in East Asia

Unemployment in the crisis countries has risen sharply as firms have reduced output or shut down operations. Unemployment could rise to about 13 million in Indonesia by the end of 1998, 3.5 million in Thailand, and 1.6 million in Korea, for a total of 18 million, compared with 5.3 million in 1996.⁴⁴ Construction and financial sector employment are being especially hard hit. Inevitably, given the uncertainties and potential structural shifts associated with financial crises, the band for plausible estimates of the impact on unemployment (as well as other social indicators) is likely to be a wide one. Official Indonesian estimates suggest unemployment of 20 million



in 1998, for example. In Thailand and Indonesia, where agriculture employs 40 percent and 55 percent of the labor force, respectively, and where underemployment is also a significant problem, the impact of the crisis was greatly exacerbated by drought (box 2-4).⁴⁵ In Thailand, at the end of 1997, 70 percent of the unemployed were in agriculture, most in the poor north-east area. Migrant workers from neighboring countries will also be severely affected:

about a million will go back to Bangladesh, Cambodia, and Myanmar in 1998. Real wages are expected to fall dramatically in Indonesia, with the sharp depreciation of the currency since June 1997 and the collapse of industrial activity, exceeding even real wage declines in Latin America during the crises of the 1980s (table 2-15).

How this affects poverty in the crisis countries will depend on how much output declines and how income distribution

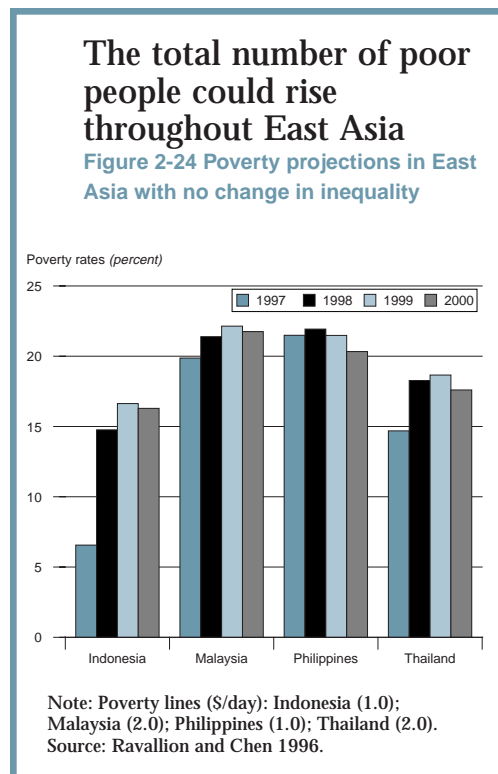
Box 2-4 There will be more poverty in Asia because of El Niño

El Niño—an abnormal warming of sea-surface temperatures in the central and eastern Pacific Ocean off the coast of South America—affected atmospheric conditions worldwide and contributed in 1997 to one of the worst droughts reported in 50 years in Indonesia, Papua New Guinea, some areas in the Philippines and Thailand, and the central and northeastern parts of China. Forest fires, smoke, and haze aggravated environmental conditions. Irregular rains and floods were seen

in Bangladesh, Myanmar, and Sri Lanka. Indonesia was particularly affected by El Niño. In addition to low rainfall during the 1997 cropping season, the late onset of rains in the last quarter of 1997 delayed rice planting by one to two months. Rice production in 1997 fell by 4 percent, but some areas saw larger declines. Food shortages and outright hunger have emerged in the most affected areas. Much of the poverty increase in Asia in 1998 will be determined by the drought rather than the financial crisis.

evolves. Let's look at projected increases in poverty in some East Asian countries (assuming no change in the distribution of income and using a \$1 a day poverty line for Indonesia and the Philippines and \$2 a day for Malaysia and Thailand) (figure 2-24). Almost 17 million more people in Indonesia are expected to fall below the poverty line in 1998. Moreover, many people in Indonesia live only slightly above the poverty line, so measured poverty is quite sensitive to the poverty line chosen. With a poverty line of \$1.25 a day, for example, the number of poor people would rise by 22 million, bringing the total number of poor to 56.5 million. In other countries the increase would be less pronounced, but still large: 2.3 million in Thailand, 665,000 in the Philippines, and under 500,000 in Malaysia.⁴⁶

Poverty calculations are also very sensitive to changes in distribution. A deterioration in both growth and income distribution (a 10 percent worsening in the Gini coefficient) would bring the poverty incidence in



most countries back to the levels of the early 1990s, practically eliminating the effects of 10 years of growth (figure 2-25).

Real wages are expected to collapse in Indonesia

Table 2-15 Real wages and unemployment during crises in East Asia and Latin America

Country (year of crisis)	Real wages (percent change)			Unemployment rate (percent) ^a		
	One year before crisis	Year of crisis	One year after crisis	One year before crisis	Year of crisis	One year after crisis
East Asia and Pacific						
Indonesia (1997)	13.5	5.5	-40 to -60	4.9	5.9	13.8
Korea, Republic of (1997)	7.3	-1.4	-0.4	2.0	2.6	7.5
Thailand (1997)	2.3	2.1	-10.3	1.5	3.5	10.9
Latin America and the Caribbean						
Argentina (1982)	-11.0	-10.1	26.3	4.8	5.3	4.7
Chile (1982)	9.0	0.0	-11.0	25.0	26.2	21.4
Costa Rica (1981)	n.a.	-12.0	-19.3	5.9	8.8	9.4
Mexico (1995)	0.0	-13.1	-8.2	3.7	6.2	5.5

a. Urban unemployment rate only for Latin America and the Caribbean.

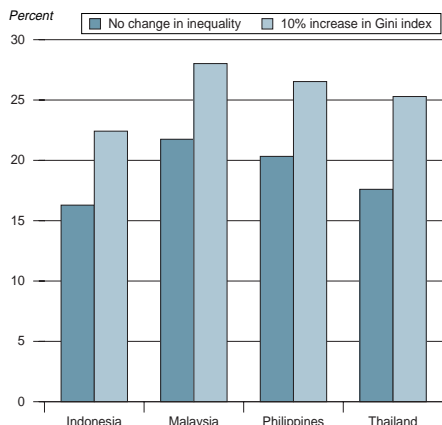
Source: International Labour Organisation; Central Banks; World Bank staff estimates; U.N. Economic Commission for Latin America and the Caribbean; Economic Survey of Latin America (various issues); World Bank 1994.

In Indonesia (using the local currency definition of the poverty line), poverty in the next couple of years would almost double in urban areas and increase by half in rural areas (figure 2-26). The sharpest increases are expected to be among workers employed in trade and manufacturing.

Poverty is just one dimension of welfare. Will life expectancy or education and health indicators deteriorate as well as a result of the crisis? Certain to come is a reduction in access to social services, because of losses in household income, higher costs of imported drugs, and decreasing nongovernmental organization (NGO) activities. Anecdotal evidence suggests that this is happening everywhere in

Lower growth and distribution would eliminate the effects of 10 years of growth

Figure 2-25 Poverty projections for the year 2000 with no change in inequality and with a 10 percent increase in inequality



Note: Poverty lines (\$/day): Indonesia (1.0); Malaysia (2.0); Philippines (1.0); Thailand (2.0).
Source: Ravallion and Chen 1996.

Poverty will increase faster among Indonesian workers in trade and manufacturing, but rural poverty will increase most

Figure 2-26a Projected poverty trends in Indonesia

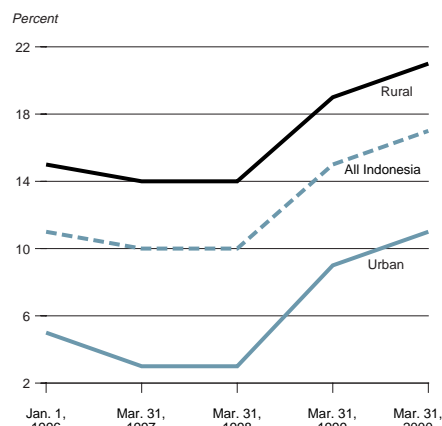
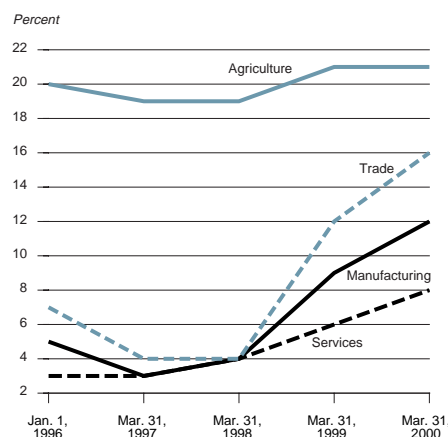


Figure 2-26b Projected poverty trends in Indonesia, by sector



Source: World Bank staff estimates.

East Asia. But whether social indicators will worsen is not straightforward. First, indicators such as education or the infant mortality rate are determined by past

investments in physical and human capital. Second, increased public spending in social sectors and special programs for the most vulnerable can counteract the negative impact of a drop in personal income. In Latin America, infant mortality, life expectancy, and primary enrollment continued to improve in the 1980s, even as poverty and inequality increased. It is conceivable that they would have improved even more without the economic crisis. But in Chile, where the crisis was especially severe, reduction in infant mortality accelerated because of public actions to safeguard the poorest. By contrast, in 1986–87, education spending in Indonesia was not maintained: enrollment rates fell dramatically for the poor and it took almost a decade to return to previous levels (Lustig 1995; Pritchett 1998). Preliminary reports from Thailand and Indonesia indicate that a growing number of children are not returning for the new school year in 1998 as parents lose jobs and cannot afford school and transportation fees. The health status of women and children is also reported to be deteriorating, as medicine and preventive care become more expensive. Reported increases in child labor, prostitution, and domestic violence in all the countries affected by the crisis may have long-lasting effects on the social fabric.

Responding to social impact of the crisis

The policies and instruments selected for crisis management can have a considerable impact on the welfare of the poor. The consideration of policies to mitigate adverse social impacts in the immediate aftermath of macroeconomic crises needs to be an up-

front consideration in crisis management. Counterfactual experiments in a study of stabilization in seven countries in the 1980s (Ecuador, Indonesia, Malaysia, Chile, Côte d'Ivoire, Ghana, and Morocco) suggest that some stabilization measures have higher social costs than others. For example, a moderate reduction in the pay of public employees has less damaging effects on poverty and inequality than laying off public employees or increasing indirect taxation. Public expenditure can be reduced while still maintaining public spending for essential public services (Bourguignon and Morrison 1992; Bourguignon, de Melo, and Morrison 1991). Moreover, while social safety nets are not a substitute for good

The policies and instruments selected for crisis management can have a considerable impact on the welfare of the poor.

macroeconomic policies, they mitigate the social costs of crises, especially in the short run. The advantages, however, need to be balanced against potential costs—for example, diversion of resources from investment, thereby compromising future growth, reducing work incentives, or displacing private transfers. There is thus an important distinction between short-term crisis management tasks and those in the longer term. During a crisis, some immediate priorities arise, which are described below. In the longer-term, these should be replaced by other instruments, such as fostering faster growth, human capital improvements of the poor, and building more flexible labor markets. Going further, an important lesson

from this crisis is the need for ex-ante social safety nets, that ensure appropriate, temporary, responses during crises to protect the poor. The appropriate instruments and design of such social safety nets will vary with the economic, institutional, and social structures and fiscal capacity of countries at different levels of development—a subject on which work is beginning and where more effort will be needed in the future.

Priority actions to protect the poor during crises⁴⁷ include:

- Generating income for the poor through direct cash transfers and public works for the unemployed. Cash transfers are effective when the poor are easily identified or when a self-selection method is employed, for example, by linking transfers to child nutrition programs or some work requirement. If well designed, public works are one of the most efficient ways of reaching the poor during economic downturns. Experience (Chile in the early 1980s, for example) shows that public works can achieve the multiple objectives of providing income support, creating local infrastructure, and keeping people in their villages—and the programs can be phased out as the economy strengthens. Their effectiveness and cost, however, depend on how they are designed, monitored, and evaluated. In particular, the wage rate must be low enough not to attract the nonpoor, and the share of wages in total costs must be high—international experience suggests between 50 percent and 66 percent (World Bank 1997).

Project design and implementation difficulties can make a huge difference

in the cost of public works programs and their impact on poverty. Ravallion (1998) estimates that the cost of a \$1 gain to the poor of a typical workfare program is \$2.50 in both middle-income and low-income countries. In Indonesia, transferring a dollar to the poorest 15 percent of the population is estimated to cost between \$2.08 and \$3.81. This range reflects differences in such factors as the administrative leakage of funds to officials and mistargeting of wage opportunities to the nonpoor. Lack of coordination and monitoring and corruption could push costs even higher.

In the present crisis, public work programs are expected to create about 50,000 temporary jobs in the public sector in Korea. In Thailand, they are expected to create about one million person/months of employment and over 900,000 person/months of training in 1998. Another 700,000 person/months of employment will be created over the following three years. In Indonesia a large share of the budget has been devoted to employment creation, through funds provided to local authorities and communities or through line agencies (including ministries). Their impact, however, will depend on design and implementation, which are highly uncertain: thus it is estimated that employment generation could reduce the unemployment rate by anywhere between 1 percent and 5 percent (Pritchett 1998).

- Ensuring food supplies through direct transfers and price subsidization of essential commodities. Direct food dis-

tribution is the last resort for reaching areas where people are starving because of drought or the collapse of local markets. Where markets function, a more efficient transitional way to sustain food consumption by the poor is to subsidize essential commodities. In Indonesia, where the price of rice has practically doubled since June 1997, the government has brought in huge quantities of imported rice to stabilize the price. This is an effective way of sustaining the poor in the short run, since the poorest 20 percent of the population spend 25 percent of their total budget on rice, compared to 5 percent for the richest 10 percent. Price subsidies are a tax on farmers, however, and in the medium-term may severely distort price incentives in agriculture. Rice subsidies are an expensive way of transferring resources to the poor. In Indonesia, the cost of transferring \$1 to the poorest 15 percent has been estimated at \$8.20. The same nutritional adequacy could be maintained—and targeting the poor could be improved—by subsidizing lower-quality rice. This could reduce the cost of transferring \$1 to the poor to about \$3.60 (World Bank 1998b).⁴⁸

- Preserving the human capital of the poor. An important consideration is maintaining basic health care services for a population whose income has fallen and whose health status has suffered because of worsening nutrition, homelessness, and other factors. The health and nutrition of pregnant women and girls is particularly at risk. Possible remedies include waiving user charges for the poor and extending

health care to workers dismissed from their jobs. Studies show that in most countries in East Asia public spending in primary education is pro-poor (though this is less true for secondary education).⁴⁹ Maintaining or increasing

Ensuring basic food supplies and maintaining basic health care are vital where people's incomes have fallen sharply.

real public spending to keep children in school should therefore be a preferred policy choice. In Indonesia the government launched a “Stay in School Campaign” culminating in the “National School Enrollment Week” before school began in July. Other interventions include block grants targeted to the poorest 40 percent of primary and junior secondary schools, to compensate for the increased costs due to the crisis, and a targeted scholarship program for the poorest primary and junior secondary-school children. Real spending in education and health will be increased (relative to 1997) in both Thailand and Korea. Changes in legislation allow laid-off workers to continue their health insurance coverage for twelve months, instead of six.

- Provide training opportunities, job search, and other assistance to the unemployed, who may not benefit from public work programs. In Korea, the social crisis is primarily one of unemployment, not poverty. The 1998 budget includes measures to strengthen public employment services and job cre-

ation. A new program will fund startup loans for some of the unemployed. New training and redeployment policies will relax restrictions on private employment and personnel leasing services. Unemployment insurance coverage has been extended, and minimum unemployment benefits raised.⁵⁰ In Thailand, the Labor Protection Act of January 1998 raised severance payments and mandated the creation of provident funds for the purpose.

Notes

1. Thailand's fiscal position moved to a small 0.9 percent of GDP deficit in 1997, as the economy slowed.

2. Chang and Velasco (1998) and Radelet and Sachs (1998a and b) discuss international illiquidity as a source of financial crises.

3. Data on short-term foreign debt are notoriously imperfect. Figures 2-2 and 2-3 use Bank for International Settlements (BIS) data on short-term loans by banks resident in its member countries (BIS 1998) and various earlier issues). By definition, these data provide only incomplete estimates of total quantities of short-term debt.

4. The Philippines' extended arrangement with the International Monetary Fund was expiring at the time the Thailand crisis started; this was extended and augmented as a precautionary measure, and a new two-year arrangement was subsequently approved and agreed to in March 1998.

5. The role of macroeconomic policies in managing capital inflows and in the buildup of vulnerabilities in East Asia is discussed further in chapter 3 of this report, as well as in World Bank (1998a) and in Bhattacharya and others (1998). Recent empirical studies find a significant part of the reduction in spreads on emerging market debt unexplained by economic fundamentals include Eichengreen and Mody (1998) and Cline and Barnes (1997).

6. Earlier banking crises were also experienced in Malaysia in 1985–88 and in Thailand in 1983–87.

7. Discussion of financial structure and performance variables in this and subsequent paragraphs

draw on Claessens, Djankov, and Lang (1998), who draw on *Worldscope* and *Extel* databases of 5550 East Asian firms in nine countries.

8. The ratio of gross domestic investment to GDP in Indonesia, Korea, Malaysia, and Thailand in 1991–96 averaged 5–10 percentage points higher than in the preceding 15 years.

9. Studies of total factor productivity (TFP), a measure of aggregate economic productivity, also do not provide clear-cut evidence of a secular deterioration in economic performance in the 1990s. Sarel (1997) estimates that in most cases TFP growth in the ASEAN countries in 1991–96 actually increased relative to the whole period 1978–96. Collins and Bosworth (1996) also find average East Asian annual TFP growth (excluding China) to have increased from 0.5 percent in 1973–84 to 1.6 percent in 1984–94, with most individual countries also experiencing increases.

10. For example in Indonesia, which had suffered serious banking difficulties in the early 1990s, in the wake of a credit boom in the second half of the 1980s, nonperforming loans were estimated to have fallen from 12 percent in 1994 to 8.8 percent in 1996.

11. Other evidence on financial liberalization, credit booms and banking crises is presented in Gavin and Hausmann (1996) and Kaminsky (1998).

12. Dasgupta and Imai (1998).

13. Eichengreen, Rose, and Wyplosz (1996a and b) find transmission more closely associated with trade links than with macroeconomic fundamentals. One study that does include the 1997 East Asian crisis in its data set is Glick and Rose (1998). It finds that in the 1997 crisis, as well as in earlier episodes, the probability of crisis transmission is significantly increased by the extent of trade links between transmitter and transmittee, while indicators of macroeconomic fundamentals are generally insignificant.

14. As in standard gravity models of trade.

15. The empirical literature on the determinants of investment in developing countries (surveyed in Rama 1993) confirms that the cost of capital has a generally significant inverse relation with investment. In addition, those studies that took into account the availability of foreign exchange always found it to have a strong, positive association with investment.

16. Expressed as a percent of average quarterly GDP in 1994.

17. In particular, borrowers, having less to lose in terms of net worth, have an incentive to propose riskier projects for funding (adverse selection) and to take greater risks after obtaining it (moral hazard). Stiglitz and Weiss (1981), Bernanke and Gertler (1995), and Mishkin (1996) discuss the role of asymmetric information in financial markets.

18. As described by Kiyotaki and Moore (1997) and Edison and others (1998).

19. As discussed for example by Dixit and Pindyck (1994).

20. Ding, Domaç, and Ferri (1998) and Dwor-Frecaut (1998) provide a detailed review of the evidence.

21. Bernanke and Gertler (1995), Bernanke and Blinder (1993).

22. Compared to a 7 percentage point decline estimated in the Thai Government Memorandum on Economic Policies, 5/28/98.

23. Studies of the determinants of consumption in developing countries, including those measuring the incidence of liquidity constraints, are reviewed in Agenor and Montiel (1996) and Schmidt-Hebbel and others (1992).

24. See also footnote 4.

25. Given a smaller bad debts problem, the Philippines is currently not expected to face large bank restructuring costs.

26. The primary balance is the fiscal balance before deducting interest on government debt. While table 2-10 draws on private estimates of costs of bank restructuring, these are not the only ones available. For instance, Indonesia's Supplementary Memorandum of Economic and Financial Policies (MEFP) of April 10, 1998, released to the public, contained an initial estimate of costs of bank restructuring of 15 percent of GDP, subsequently noted to have risen further in the Supplementary MEFP of June 24, 1998.

27. The primary balance required to stabilize a given debt to GDP ratio is that ratio multiplied by the gap between the real interest rate and the growth rate of the economy. Daniel 1997 and sources cited therein provide additional details.

28. While there is no reason to believe that a temporary rise in interest rates will lead to a permanent strengthening of the exchange rate, the argument is that it may help stability in the short term.

29. See Goldfajn and Gupta (1998), Kraay (1998), and Stiglitz (1998) for discussion of these

points. The argument in the text is set out in the standard monetary model of exchange rates:

$$m - p = \alpha y - \beta i \text{ (money demand)}$$

$$i = i^* + e(t+1) - e(t) + \theta(t) \text{ (modified uncovered interest parity)}$$

$$p = p^* + e + \varpi \text{ (purchasing power parity)}$$

where variables (except i and i^*) are measured in logs, $\theta(t)$ is the composite risk premium, and ϖ is a real exchange rate shock. The solution for the nominal exchange rate is given by:

$$e(t) = \frac{1}{1 + \beta} \sum_{j=0}^{\infty} \beta^j \left(\frac{\beta}{1 + \beta} \right)^j (m_t^e + j - \alpha y_t^e + j + \theta_t^e + j) \quad (1)$$

where i^* , p^* and ϖ are set equal to 0. A monetary tightening ($dm < 0$) would lead to a depreciation of the exchange rate ($de > 0$) if it is also expected to lead to a sufficiently large decline in output (y) or increase in the risk premium (θ), the latter reflecting a greater risk of default, corporate bankruptcy, and the like. The monetary model of exchange rates was introduced by Frenkel (1976) and Mussa (1976), and is expounded in Obstfeldt and Rogoff (1996, 526-8). The model as set out here follows Ghosh (1998).

30. Following Kaminsky and Schmukler 1998.

31. Indeed several World Bank studies of structural adjustment lending concluded that without such commitment external lending can undermine rather than fortify reform efforts (World Bank 1990a, 1992).

32. Rodrik (1994) argues that structural reform policies like trade liberalization generate a high degree of income redistribution relative to net social benefit, and are therefore inherently more contentious than policies (ending very high inflation, for example) with a lower "political cost-benefit ratio."

33. Described by Caprio and Klingebiel (1996b) as "perhaps the most pernicious type of insolvency."

34. Modes of bank recapitalization and the tradeoffs between objectives and constraints in financial restructuring are discussed by Claessens and Klingebiel (1998), Rojas-Suárez and Weisbrod (1996) and Daniel (1997), among others.

35. Depositors may also lose their incentive to monitor the activity of bank owners and managers, thereby increasing the moral hazard problem in banking.

36. The other two being, first, to ensure that the parties who benefited from risk taking bear a large

portion of the cost of restructuring and, second, to prevent problem institutions from continuing to expand credit.

37. Such delays occur because of disagreement among the parties about contingencies unforeseen in initial contracts, the costs of renegotiating contracts, and the existence of asymmetric information about the state of the business and its assets, which may encourage the parties to adopt time-consuming bargaining strategies. The costs of delay and the economic rationale for bankruptcy law and orderly debt workouts are discussed in Eichengreen and Portes (1995), Cornelli and Felli (1995), Krugman (1988), Sachs (1989), and Williamson (1988).

38. Asian bankruptcy law systems before the crisis are discussed in Gamble (1998); see also *The Economist* (1998).

39. The incidence of poverty is the share of a country's population whose consumption level falls below a poverty level—a threshold level of consumption based on minimum food and nonfood requirements. Poverty lines vary among countries, making international comparisons difficult. For the latter purpose, a 'dollar a day' poverty line is taken, defining an internationally comparable minimum level of private consumption per person—usually \$1 a day, measured in purchasing power parity—adjusted 1985 dollars.

40. The link between growth and poverty is well established in the literature (World Bank (1990–95), Ravallion (1995)). Estimates of the responsiveness of poverty to growth in mean incomes (assuming distributional neutrality), indicate that in the late 1980s a 1 percent increase in growth was associated with a 3.5 percent reduction in poverty incidence in Malaysia and Thailand, 2.8 percent in Indonesia, less than 2 percent in most of Sub-Saharan Africa, and less than 1 percent in Brazil. See Demery, Sen, and Vishwanath (1995), Ahuja et al (1997), Watkins (1998), and World Bank (1993).

41. Morley (1994). The association between recession and higher inequality may not be so strong in developed countries where wages are sticky and firms may stockpile labor if the recession is perceived to be transitory, and where there are unemployment insurance and other benefits to protect the incomes of the poor.

42. Deininger and Squire (1997) find a strong and significant relationship between initial inequality of assets (measured by land) and the elasticity of poverty with respect to growth. However, they could

not confirm the hypothesis of a negative relationship between initial income inequality and subsequent growth, as reported in Persson and Tabellini (1994) and Alesina and Rodrik (1994). Addison and Demery (1994) discuss the impact of factor market rigidities in the formal sector. The differential impacts of policies are discussed in Bruno, Ravallion, and Squire (1996).

43. It is important to note, however, that adjustment remained incomplete in many countries. World Bank (1994) found that only 6 of 26 countries in Africa achieved a significant improvement in policies during the 1980s. On the positive side, Demery and Squire (1996) found that poverty declined in five African countries (out of the six for which household consumption data were available) where there was an improvement in an index measuring policy performance.

44. Estimates of employment and unemployment are only indicative, in part because they are derived from past elasticities of employment to output, which may not hold in crisis situations when there are large and abrupt changes. For Thailand the 0.74 employment elasticity prevailing in 1986–94 is used. For Indonesia an elasticity of 0.29 from the period 1985–95 is used. Official unemployment forecasts for Korea are used. (Projections of output are reported in footnote 54.) In addition, as is well known, employment and unemployment data in developing countries with large rural and informal sectors are not very reliable.

45. In Indonesia, for example, 37 percent of those employed in urban areas and 50 percent in rural areas work less than a 35 hour week.

46. Poverty estimates in this section (Chen and Ravallion [1998]) are made using the a dollar a day poverty line, in purchasing power parity, to allow comparison across countries. All poverty lines are arbitrary, and alternative definitions will yield different estimates. These poverty forecasts use data on the distribution of consumption (or income) from the most recent household surveys. They represent a first, quick approximation based on the assumption that household consumption falls at the same rate as GDP per capita. They consider neither differences in the impact on subgroups (some of the poor may lose while others gain), nor the differential effects of different patterns of relative price changes, access to credit, sectoral spending, and so on. The assumed GDP growth rates for 1998–2000 are: Indonesia, –15 percent, –2 percent, 2 percent; Thai-

land, -7.2 percent, -0.2 percent, 3 percent; Philippines, 1 percent, 3 percent, 4.5 percent; Malaysia, -2.6 percent, -1 percent, 3 percent. The exercise was not performed for Korea because of a lack of recent household survey information. (However, poverty incidence in Korea was already as low as 13 percent in the early 1980s. At the end of the 1980s Korea also had one of the most equal income and land distributions.)

47. Measures to protect the poor are being financially supported by the international community. During 1998 specific interventions by the World Bank to address the social crisis have included, for Indonesia: two rural development projects to promote income generation activities in some of the poorest areas (\$37 million); the Kecamatan Development Project targeting investment priorities in the poorest subdistricts (\$225 million); the West Java Basic Education project providing basic education improvement programs (\$104 million); the Fifth District Health project (\$54 million) to improve the health status of rural and poor populations; the Early Child Development project (\$21.5 million) to protect educational needs of the poorest children. Moreover, part of a \$1 billion policy reform support loan will help Indonesia to finance imported food and drugs, and subsidize the price of these foods and provide intensive job creation schemes. For Thailand, the World Bank has approved a \$300 million Social Investment project to establish safety nets and fund job creation schemes, low-income health insurance schemes, and training for the unemployed. A \$300 million economic recovery and social sector loan will help the government of Malaysia maintain spending on social sectors. In Korea a \$2 billion Structural Adjustment Loan will, among other objectives, strengthen social safety nets.

48. In the short run the cost of subsidizing the rice is simply the fiscal cost of the subsidy and its administration. It is assumed that there are no producer income losses.

49. Particularly in Indonesia; see World Bank (1993b).

50. Under the "Basic Employment Act" (February 1998), the ministry of labor is authorized to implement unemployment measures; under the "Manpower Leasing Act" (February 1998) manpower leasing services are introduced for selected jobs that require professional knowledge and skills. The "Wage Bond Guarantee Fund Act" (February 1998) entitles those

laid off from a bankrupt firm with more than five workers to a sum equal to three months' pay from a state-managed compensation fund from July 1; and the "Labor Welfare Fund for Small and Medium Enterprises Act" (February 1998) extends the use of the Labor Welfare Fund to cover school and medical care expenses. The "Employment Insurance Act" (February 1998) reduces the minimum contribution period from 12 to 6 months temporarily until June 30, 1999; increases minimum duration of benefit period to 60 days and minimum amount of Job Search Allowance from 50 to 70 percent of minimum wage.

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