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# Financial Sector Regulation: The Lessons of the Asian Crisis

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One consequence of the Asian financial crisis has been to provoke a critical reassessment of the orthodoxy of financial market liberalisation. The World Bank's Chief Economist has stated that 'theory would predict that financial market liberalisation preceding the development of adequate regulatory capacity is likely to lead to an enhanced likelihood of a financial crisis' (Stiglitz, 1998). Michael Mussa, Director of the IMF's Research Department, commenting on the volume of international capital outflows in the aftermath of the crisis, observes that 'no country, no matter how soundly managed its economic policies, no matter how solid its banking system, can maintain an open attitude toward international capital flows in the face of that type of system disturbance' (IMF, 1998a). Economists and policy analysts alike have been required to reconsider the role of the financial system in the development process and to develop a better understanding of the role of government in regulating domestic and international financial markets.

The lessons of the East Asian crisis for financial sector regulation, particularly in the context of developing economies, provide the focus of this article. It falls into five parts. First, it briefly reviews what we know about the role of the financial system in the development process, the functions it performs in facilitating efficient resource use and economic growth, and the causes of financial distress. The next section provides a brief anatomy of the Asian financial crisis, while the following section discusses competing explanations of the crisis and draws attention to failures in financial regulatory and supervisory systems as a contributory factor. The fourth section examines in more detail failures in prudential regulation and supervision in East Asia. The concluding section looks beyond the Asian countries directly affected by the current crisis and points out that banking crises and financial instability have

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been regular occurrences throughout the developing (and developed) countries. This section also brings together the lessons and conclusions of the East Asian financial crisis for prudential regulation of the financial sector.

### **The financial system and financial distress**

Economists are in agreement that the development of financial markets is a critical part of the economic development process and that an efficient financial system is linked to economic growth. Consequently, a satisfactory understanding of the factors underlying economic growth necessitates an understanding of the functions and workings of financial systems.

Financial systems exist to serve one primary function — to facilitate the allocation of resources across space and time, in an environment of uncertainty and transaction costs (Levine, 1997). They channel resources from savers to investors, and allow savers to retain liquidity for their savings when these savings are used for longer-term investment. A well functioning financial system will select the most productive use for savings, and will also monitor their use, ensuring that they continue to be used productively. These selection and monitoring functions of financial markets are basically concerned with providing and processing information. But information is imperfect, hence financial markets are characterised by market failure and imperfections (Stiglitz, 1994). The fact that market failures are pervasive in the financial sector has often been overlooked or ignored in the pursuit of financial sector liberalisation.

Financial regulation can be divided into two distinct categories according to its motive. The first, economic regulation (e.g. controls over interest rates and credit allocation), aims to mitigate market failures in the allocation of resources. This type of regulation has increasingly been dismantled under programmes of financial liberalisation in countries all over the world (Long and Vitta 1992; Williamson and Maher, 1998). Although it is intended to improve efficiency in financial markets, liberalisation may make financial systems more vulnerable to crises by, for example, allowing banks to hold more risky assets than would be the case in a regulated system, by exposing banks to greater competition, or by exposing them to a greater degree of market risk, such as interest-rate or exchange-rate risk. The second category of regulation is prudential regulation, which aims to protect the stability of the financial system (i.e. prevent systemic failures or financial crises) and to protect depositors, especially small depositors. In contrast to economic regulation, prudential regulation has not been dismantled as part of liberalisation programmes, but has been strengthened in many countries, often in response to financial crises. For example, many of the East Asian countries enacted strengthened banking regulations after failures of banks and non-bank financial institutions (NBFIs) in the 1980s (see fourth section of this article).

We now examine briefly three sets of theoretical arguments which have been advanced to explain financial crises. The first analyses bank runs, the second analyses financial distress in terms of imperfect information and the associated agency costs and moral hazard, and the third attributes financial distress primarily to macroeconomic factors. All three paradigms have relevance to the East Asian financial crisis.

In the bank runs analysis, financial distress is primarily a problem of bank illiquidity, although illiquidity may also lead to insolvency if illiquid banks are forced to sell assets at 'fire sale' prices in order to meet demands for withdrawals from depositors. The seminal analysis of bank runs is that of Diamond and Dybvig (1983). The nature of the deposit contract, under which depositors' claims are met at a fixed value on a first-come, first-served basis, provides incentives for bank runs if depositors fear that their bank may be unable to honour all its liabilities. Depositors have incentives to withdraw their own deposits before the bank is closed because of insolvency. One view of bank runs is that they are random events, while another is that they are related to events which change depositors' perceptions of the risk of bank liabilities, such as failure of a large financial institution or severe recession (Gorton, 1988: 754–5).

The second approach locates financial distress within a microeconomic analysis of financial markets. Market failure is intrinsic to financial markets because of informational imperfections and the attendant agency conflicts and moral hazard. Agency problems arise between creditors and debtors because of asymmetric information and the fixed value nature of loan contracts: debtors have a concave return function, while that of creditors is convex (Ncube and Senbet, 1997). The consequence of these agency conflicts is that banks and other financial institutions could face adverse incentives to undertake investment strategies which might jeopardise their solvency and therefore the safety of their deposits (or that of their other liabilities). Problems of asymmetric information, adverse selection and moral hazard are far more common in developing countries than in industrialised countries because, inter alia, of the high costs of collecting information about borrowers, the difficulties in enforcing contracts, and macroeconomic instability (Long and Vittas, 1992: 54; Villanueva and Mirakhor, 1990: 521).

An interesting literature has examined how the incentives on banks (or borrowers in general) for risk-taking are affected by different factors. For example, adverse incentives may be worsened by increased interest rates (Stiglitz and Weiss, 1981) or macroeconomic instability (McKinnon, 1988). Bank capital serves to reduce adverse incentives on bank owners, because they have more of their own funds to lose from adopting higher-risk investment strategies. Financial distress worsens adverse incentives if it erodes the value of bank capital: as the value of bank equity falls, owners have incentives to 'gamble for resurrection' (Berger et al., 1995: 398–9; Dewatripont and Tirole,

1993). Finally, as is widely recognised, major contributors to moral hazard in banks are explicit and implicit deposit insurance and regulatory forbearance (Garcia, 1996).

The third paradigm focuses on macroeconomic factors as causes of financial distress. Macroeconomic explanations are not incompatible with the liquidity and moral hazard explanations discussed above. Macroeconomic changes may expose weaknesses in bank balance sheets attributable to microeconomic causes, and macroeconomic shocks could also trigger bank runs (Lindgren et al., 1996). Banking crises have been attributed to booms and slumps in asset prices. In this explanation, excessive bank lending, supported by rising asset prices, fuels the upswing in the business cycle, but borrowers become over-indebted and vulnerable to any macroeconomic changes which reduce their capacity to service their loans, such as a rise in interest rates. Distress sales of assets by borrowers to service their loans drive down asset prices, thereby rendering borrowers insolvent. This reduces the value of banks' loan portfolios, and potentially jeopardises bank solvency (Davies, 1992: 127–30).

Macroeconomic causes of banking crises can also have an international dimension, particularly in the context of liberalised capital account transactions. Devaluation of the exchange rate undermines bank solvency if banks have large net foreign-exchange liabilities, or if banks' borrowers are adversely affected by the devaluation. Currency and bank crises may have common causes, such as an overvalued exchange rate and a widening current account deficit financed by capital inflows (Kaminsky, 1998; Kaminsky and Reinhart, 1998). If the capital inflows are intermediated through the domestic banking system there will be an expansion of bank lending, possibly accompanied by asset price booms of the type discussed above. When the current account deficit is no longer perceived as sustainable there will be a capital outflow, precipitating a banking crisis through recession, devaluation or monetary contraction.

### **Anatomy of the East Asian financial crisis**

It is not the purpose of this article to provide a comprehensive account, or to discuss all of the competing explanations, of the East Asian financial crisis, but rather to focus on one major aspect of the crisis, namely, the distress in the financial system and the link between this distress and financial regulation. However, it is worth placing the analysis within a broader context by first presenting a brief overview of the salient features of the crisis.

The East Asian financial crisis had multiple dimensions. All the countries affected suffered sharp depreciations of the exchange rate as a result of large and rapid reversals of external capital flows, widespread distress among financial institutions, and financial distress in the real sectors of their economies. The financial crisis thus involved triple crises of currencies, financial sectors and

corporate sectors. The East Asian countries were vulnerable to a financial crisis because of 'reinforcing dynamics between capital flows, macro-policies, and weak financial and corporate sector institutions' (Alba et al., 1998). The reinforcing dynamics included, for example, the losses caused by exchange-rate depreciation which were incurred by domestic firms and financial institutions (FIs) which had net foreign currency liabilities. Fragility in the financial and corporate sectors deterred the national authorities from tightening monetary policy to defend their exchange rates in the first few months after the attacks on their currencies had begun. Moreover, attempts to bail out distressed FIs, before the currency crisis had erupted, had fuelled money supply growth and added to the pressures on exchange rates (Corsetti et al., 1998).

There were significant differences between countries, but the following factors appear to have played an important contributory role in the crisis across the region. In the run-up to the crisis, the East Asian countries experienced strong inflows of foreign, mostly short-term, capital, attracted by high interest rates, which led to rapid increases in the external indebtedness of the domestic corporate and financial sectors. Capital inflows helped to fuel a boom in lending by domestic FIs and an investment boom, although high domestic savings rates also funded the latter. The lending and investment booms led to strong growth in domestic absorption while export growth began to slow, partly as a result of purely exogenous factors and partly because of appreciation of real exchange rates, with the consequence that current account deficits widened. The macroeconomic imbalances which emerged in the mid-1990s largely emanated from the private sector: most of the affected countries recorded fiscal surpluses and public sector debts were low. Moreover, inflation rates were moderate (World Bank, 1999: 59). In this respect the East Asian crisis was radically different from many previous currency and financial crises in the developing world in which public sector deficits and debts were major causes.

Even before the crisis erupted in mid-1997, there was evidence that the financial condition of real sector enterprises and FIs was deteriorating. Asset prices had boomed in the 1990s, but in some of the countries, such as Korea, the boom had already peaked by the mid-1990s, two years before the crisis. The collapse of the Thai currency in June 1997 had contagious effects throughout the region, with a huge reversal of foreign inflows and depreciation of other currencies in the region. The contagious effects were attributable to a number of factors: countries exported similar products and so each individual country suffered a loss in competitiveness when the currency of its neighbours depreciated, and countries exhibited similar vulnerabilities and so were subject to similar trends in market sentiment from international investors and lenders. Weaknesses in the Japanese economy contributed to the regional crisis. The depreciation of the yen led to a real appreciation of the regional currencies pegged to the dollar. Moreover, Japanese banks were among the largest international lenders to other countries in the region, but after they suffered losses in 1997

which cut their capital, they were forced to reduce external lending to remain in compliance with capital adequacy requirements (Corsetti et al., 1998: 14).

The financial crisis in East Asia was characterised by widespread distress among banks and NBFIs. In Korea, Indonesia and Thailand there was a marked deterioration in the quality of banks' and NBFIs' loan portfolios, as borrowers defaulted on repayments. By early 1998, estimates of non-performing bank loans averaged 30–35% of total outstanding loans in Indonesia, and 25–30% in Korea and Thailand (World Bank, 1999: 94). All three countries suffered failures of banks and/or NBFIs. In Thailand, the operations of 58 finance companies were suspended in June–August 1997 and 56 of them were closed in December of that year. The authorities also intervened to support a number of distressed banks: six banks were effectively nationalised through the conversion of central bank loans into equity. The authorities in Indonesia closed 16 banks in November 1997, and in 1998 intervened in 54 banks, placing them under the authority of the Indonesian Bank Restructuring Agency (which was set up in February 1998) and closing down ten of them. By the end of 1998, 16 out of the 30 merchant banks in Korea had been closed. The Korean Government also made large capital injections into two major commercial banks, intervened in five others and reached voluntary agreements for the recapitalisation of another seven. Preliminary estimates of the costs of recapitalising failed banks and NBFIs are 19% of GDP in Indonesia and 30% of GDP in both Korea and Thailand (*ibid.*: 87).

The macroeconomic shocks — exchange-rate devaluation and increased interest rates — clearly adversely affected borrowers' ability to service loans, but the banks and NBFIs themselves were partly responsible for the impairment of their asset portfolios because their imprudent lending and investment policies had exposed them to borrowers whose viability was marginal and highly vulnerable to any change in macroeconomic conditions (Miller and Luangaram, 1998). Evidence of the deterioration of FIs' asset portfolios was already emerging in 1996, at least a year before the currency crises, in Indonesia, Korea and Thailand, although the extent to which asset portfolios were impaired was masked by poor accounting practices. Korean banks also suffered losses on their equity portfolios in 1996 (IMF, 1997a: 150–3). In Thailand one bank was taken over by the authorities in May 1996 after incurring heavy losses through a speculative and fraudulent lending policy, and some finance companies had suffered heavy losses in 1995 after lending for stock market speculation (Bank of Thailand, 1997). In Indonesia also, signs of distress in the banking system had begun to emerge in 1995, when one bank suffered a run on its deposits. The Central Bank intervened to support two distressed banks the following year.

The financial distress which afflicted FIs in these countries was mainly due to a combination of over-rapid credit expansion, excessive lending to high-risk sectors such as real estate, insider lending, and over-exposure to foreign currency risks. The relative importance of these different factors varied between countries: FIs' foreign currency exposures were crucial in Thailand but not in Indonesia,

where insider lending was probably more important.

During the 1990s banks and NBFIs in East Asia expanded lending to the private sector at a very rapid rate. Over the period 1990–97, bank lending in real terms grew at 18% per annum in Indonesia, the Philippines and Thailand, 16% in Malaysia, and 12% in Korea (BIS, 1998: 119); see also Table 1 for nominal growth rates of credit. Rapid growth in bank lending is itself often a source of poor asset quality; borrowers with more marginally viable projects are granted credit and FIs' capacities to appraise and monitor borrowers may not keep pace with the expansion of their loan portfolios.

**Table 1**  
**Credit Growth in Selected Countries 1990–96 (%)**

Country	Annual growth of nominal GDP	Annual growth of loans	Loan growth/ GDP growth	Net domestic credit/GDP	
				1990	1996
Indonesia	17	20 <sup>a</sup>	122	45	55
Korea, Rep. of	14	17	123	68	79
Malaysia	13 <sup>b</sup>	18 <sup>a,b</sup>	134 <sup>b</sup>	80	136
Philippines	13	33	264	26	72
Thailand	14	24	176 <sup>b</sup>	84	130 <sup>c</sup>
Argentina	28	23	82	32	26
Brazil	540	447	83	88	34
Chile	21	20	93	78	73
Colombia	28	34	120	36	46
Mexico	24	14	60	37	22
Germany	6	9	138	123	141
Japan	3	2	80	162	157
United States	6	8	140	109	123

Notes: Loans include NBFIs. (a) Does not include NBFIs in 1990 and 1996 for Indonesia and in 1995 for Malaysia; (b) Data are for 1990–95; (c) 1995.

Source: World Bank (1998).

In several of the East Asian countries the risks which this rapid expansion of lending posed to FIs were further exacerbated by the nature of their lending and investment strategies. Banks and NBFIs lent heavily to the property sector in Thailand, Indonesia and Malaysia, with loans to this sector expanding at an even faster rate than total lending, and to excessively geared large commercial and industrial conglomerates (*Chaebols*) in Korea. Because of over-investment in both

the corporate and real estate sectors, returns to investment fell and many of the loans were extended to projects which proved non-viable. For example, average profit margins of the *Chaebols* fell to negligible levels in the mid-1990s and several went bankrupt (Miller and Luangaram, 1998: 9). Much of the lending was collateralised by real estate, the value of which was dependent upon increasingly inflated, and unsustainable, property prices. Banks and NBFIs also lent money for speculation in stock markets, or invested directly in stock markets, on which equity prices had also been inflated to unsustainable levels. Once property and equity prices fell, banks and NBFIs incurred heavy losses.

Many banks and NBFIs had mismatched assets and liabilities in two important respects. First, while most of their liabilities were short-term, many of their loans were effectively long-term, since the projects they financed would only be capable of generating the income to repay the loan in the long run.

Secondly, FIs had borrowed heavily abroad in foreign currencies, mostly on a short-term basis, and lent to domestic borrowers in local currency, which exposed them to exchange-rate losses once the domestic currency depreciated. In Thailand, 17% of domestic credit comprised loans which had been funded by foreign currency borrowing by banks operating on the Bangkok International Banking Facility (Bank of Thailand, 1997). The foreign currency liabilities of Thai banks and finance companies were 775% of their foreign currency assets in 1996, and amounted to almost one-third of broad money. The degree of foreign currency exposure was lower in Korea: the foreign currency liabilities of banks and finance companies amounted to only 14% of M2 and to 174% of their foreign currency assets (World Bank, 1999: 62), but particular sections of the financial system, notably the merchant banks, were heavily exposed. The merchant banks in Korea had borrowed heavily in foreign currency to fund domestic currency loans, and were hit hard by the corporate defaults and bankruptcies in 1997 (Corsetti et al., 1998: 7). In some cases banks and NBFIs in East Asia hedged their foreign currency exposure by lending foreign currency-denominated loans to domestic borrowers, but this exacerbated the credit risk because the borrowers faced much larger loan-servicing requirements once the exchange rate depreciated (BIS, 1998: 123–4). Many of the borrowers who accessed foreign currency loans, such as real estate developers, were not generating income in foreign exchange.

Net capital inflows to the East Asian crisis economies had risen massively in the years preceding the crisis (Table 2) as foreign lenders continued to funnel loans to the Asian markets. These inflows reversed very suddenly in 1997, as is evident from Table 3. The flow of capital swung from a \$93 billion inflow in 1996 to a \$12 billion outflow in 1997, representing around 11% of the pre-crisis dollar GDP of the five countries (Radelet and Sachs, 1998).

**Table 2**  
**Net private capital flows to East Asia 1994–6 (% of GDP)**

<i>Country</i>	<i>1994</i>	<i>1995</i>	<i>1996</i>
Indonesia	0.3	3.5	6.1
Korea, Rep. of	1.2	2.0	4.9
Malaysia	1.2	6.2	8.4
Philippines	7.9	8.4	12.7
Thailand	14.3	17.3	14.5

Source: World Bank (1998)

**Table 3**  
**External financing of five Asian countries 1994–98<sup>a</sup> (\$bn)**

<i>Item</i>	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997<sup>b</sup></i>	<i>1998<sup>c</sup></i>
Current account balance	-24.6	-41.3	-54.9	-26.0	17.6
External financing (net)	47.4	80.9	92.8	15.2	15.2
Private inflows (net)	40.5	77.4	93.0	-12.1	-9.4
Equity investment	12.2	15.5	19.1	-4.5	7.9
Direct	4.7	4.9	7.0	7.2	9.8
Portfolio	7.6	10.6	12.1	-11.6	-1.9
Private creditors	28.2	61.8	74.0	-7.6	-17.3
Commercial banks	24.0	49.5	55.5	-21.3	-14.1
Non-bank	4.2	12.4	18.4	13.7	-3.2
Official inflows (net)	7.0	3.6	-0.2	27.2	24.6
International institutions	-0.4	-0.6	-1.0	23.0	18.5
Bilateral creditors	7.4	4.2	0.7	4.3	6.1
Resident lending and other (net) <sup>d</sup>	-17.5	-25.9	-19.6	-11.9	-5.7
Reserves change, excluding gold <sup>e</sup>	5.4	-13.7	-18.3	22.7	-27.1

Notes: (a) Table entries are sums over data for Korea, Indonesia, Malaysia, Thailand and the Philippines; (b) Estimate; (c) Forecast; (d) Includes resident net lending, monetary gold and errors and omissions; (e) A negative value indicates an increase.

Source: Radelet and Sachs (1998).

Why did the financial crisis strike East Asia in 1997 and not before? Most of the East Asian countries had also suffered financial crises, involving failures of FIs, in the 1980s, although the losses arising from these earlier failures were generally between 1% and 5% of GDP per country, which was much smaller than the estimated losses incurred in the 1997/98 crisis. Thailand, Malaysia and the Philippines had suffered systemic failures of banks and NBFIs in the mid-1980s,

with non-performing loans amounting at their peak to between 20% and 30% of total loans (IMF, 1998d: 96). There were also failures of FIs in Taiwan and Hong Kong in the 1980s and bank failures in Indonesia in the first half of the 1990s. What was new in the 1997/98 crisis was the extent to which the financial and corporate sectors had accumulated short-term external liabilities, and the combination of this with other sources of vulnerability. Bank credit had risen very rapidly so that by the mid-1990s credit to the private sector was much larger as a percentage of GDP than it had been at the start of the decade, particularly in Thailand and Malaysia. The quality of investment had fallen, as evidenced by falling returns on assets, and financial deregulation had allowed banks and NBFIs to take on new forms of risk which they had neither the capital resources nor the expertise to manage in a prudent manner. The severity of the financial distress in the 1997/98 crisis was the result of the combination of these factors.

In regard to the theoretical explanations for financial distress outlined in the previous section, the East Asian financial crises combined elements of both the microeconomic paradigm in which mismanagement and imprudent lending arise from agency conflicts, and macroeconomic causes, in particular the boom-bust lending and asset price cycle exacerbated by external capital flows. There were also bank runs, as in Indonesia, which were triggered by the closure of 16 banks in late 1997. It is clear that there were multiple underlying causes to the financial distress in East Asia, and this helps to explain why the financial crisis has been so severe.

### **Explanations of the financial crisis**

There is no shortage of explanations for the economic crisis in East Asia. At the risk of oversimplification, the debate can be divided into two camps. On the one hand are those who see the origins of the crisis as endogenous to the region, either in bad policy management or in the nature of the economies themselves. The other school blames inherent weaknesses and instabilities in financial markets, domestic and international. These two sets of explanations are not, however, mutually exclusive. Imperfections in financial markets can be exacerbated or mitigated by structural and institutional features of economies or by economic policies.

#### *Macroeconomic mismanagement*

Some of the observers who see the origins of the crisis as essentially 'home-grown' have argued that macroeconomic imbalances were an important cause of the crisis. However, all the affected countries had for a long time enjoyed strong macroeconomic 'fundamentals', and indeed had been repeatedly commended for their prudent macroeconomic management. All recorded strong economic growth, low inflation, and fiscal surpluses, or at worst only small deficits.

Nevertheless, as noted in the previous section, there were macroeconomic weaknesses such as overvalued exchange rates, widening current account deficits and a build-up of short-term external debt which led to a rapid expansion of bank lending and to increasing vulnerability to a reversal of capital flows (Radelet and Sachs, 1998). It should be emphasised, however, that these imbalances were centred on the private sector rather than the government. Equally important, they were made possible by financial market liberalisation in the region which opened up new channels for the entry of foreign capital. However, the policy response adopted by the monetary authorities to the capital inflow, which in general involved pegging exchange rates to avoid nominal appreciation while raising interest rates to dampen domestic demand, further stimulated the build-up of short-term external debt (Alba et al., 1998).

#### *'Asian model' structural weaknesses*

A widely held view within the IMF and other influential policy fora is that the crisis has its roots in the Asian capitalist model of development. Several important characteristics of the East Asian model are singled out for criticism, in particular the close relationship between government and business, and various distortions in competitive markets. The first of these arguments, referred to as 'crony-capitalism', suggests that the long-term links between the corporations and banks led to poor investment decisions and over-lending to unproductive projects. The nature of the Asian corporations, involving extensive cross-subsidisation of subsidiaries, and their close relationships with the banks, meant that the financial markets did not have sufficient information about their true financial position. This lack of 'transparency' is regarded as being an important reason for the collapse of market confidence.

It is ironic that the very features of the Asian model which were identified previously as the basis for its economic success — strong government and competent bureaucracy equipped with the right policies — are now seen as root causes of the crisis (Singh, 1998). To attribute the current crisis solely to structural weaknesses in the Asian model does not seem plausible. As Stiglitz (1998) notes, there have been major failures of FIs in countries that are fully transparent, for example the United States and Sweden, so the availability, or lack thereof, of reliable information is not sufficient by itself to explain the collapse of market confidence. However, certain aspects of the 'Asian model', notably the close informal links between government bureaucracies and business, contributed to the weaknesses in prudential regulation, especially regulatory forbearance discussed in the following section, although regulatory forbearance is not a problem confined to East Asia.

*Financial liberalisation*

One area in which economic policies in East Asia changed in the 1990s was financial market policy. Although financial liberalisation had begun in the 1980s in a number of Asian countries, its pace accelerated in the 1990s. It was pursued in a variety of forms, including liberalising constraints on the permissible activities of domestic banks and NBFIs, liberalising entry requirements for new banks and NBFIs, liberalising controls on foreign banking, and allowing capital account convertibility.

In the late 1980s and early 1990s the Thai Government abolished interest-rate ceilings, relaxed foreign-exchange controls, granted offshore banking licences, eased the rules governing NBFIs, and expanded the scope of permissible capital market activities. The entry of foreign banks with the establishment of the Bangkok International Banking Facility (BIBF) increased competition for prime customers, such as multinational corporations, who were attracted by the lower cost of funds on the BIBF. The increased competition squeezed the lending margins of the domestic banks, inducing them to move into more lucrative, but also more risky, activities — a shift which was facilitated by the relaxation of the regulations governing the permissible activities of banks. Deregulation in Indonesia in the late 1980s allowed the number of commercial banks to increase nearly fourfold, from 64 in 1987 to 239 in 1997 (IMF, 1998b: 153).

Deregulation of the Korean financial sector, introduced in 1993, eliminated many interest-rate controls, removed restrictions on corporate debt financing and cross-border flows, and allowed increased competition in financial services (World Bank, 1998). Liberalisation in Korea enabled finance companies to convert to merchant banks and to engage in foreign lending and borrowing, an area in which they had no experience: the number of merchant banks rose from 6 in 1993 to 30 in 1996 (Jae-Kwon, 1998: 12).

The prediction that financial liberalisation preceding the development of adequate regulatory capacity increases the likelihood of a financial crisis has been borne out in a large number of countries and is confirmed by cross-country research (Demirguc-Kunt and Detragiache, 1998). The same is true of the opening-up of the capital account, which in the absence of effective prudential regulation increases the risk of instability in the financial system (Eichengreen and Mussa, 1998). Across East Asia, increased access to offshore funding through the liberalisation of financial and foreign-exchange control regulations made it easier for banks and NBFIs to take on excessive foreign-exchange risk and encouraged a surge in foreign borrowing.

*Incentives for imprudent risk-taking*

In a liberalised financial system, the avoidance of financial distress depends upon FIs having appropriate incentives not to take excessive risks that would jeopardise

the safety of their deposits. In several of the East Asian countries, the incentives for FIs to pursue prudent lending policies, and prudent management in general, were undermined for a number of reasons. Political pressure was exerted on FIs in Korea to lend to specific corporate borrowers, including *Chaebols*, and to extend further credit after the borrowers had run into financial difficulties (IMF, 1997b: 12–13). Regulatory requirements were imposed on banks to allocate a minimum share of their loan portfolio to preferred sectors such as small and medium-scale businesses in Korea and Indonesia, the Bumiputera community in Malaysia, and agricultural and rural industries in Thailand. These loans were often re-financed at preferential rates by the Central Banks or by special government funding schemes, which reduced the incentive for the lending bank to evaluate the creditworthiness of the borrower and monitor the performance of the loan (Folkerts-Landau et al., 1995: 38, 52). Prudent management of FIs was also undermined by their close links with non-financial enterprises. Many of the large corporations in East Asia had affiliated FIs from which credit could be obtained on preferential terms, especially in Korea and Indonesia. These loans could be rescheduled and further credit extended even when existing loans were not serviced (Rahman, 1998: 7).

FIs had adverse incentives to take excessive risks with borrowed money because outsiders, such as regulators and creditors, were unable effectively to monitor and control the management and lending strategies they pursued. The weaknesses in regulation and supervision are discussed below. For the FIs' creditors, including the foreign financial institutions which provided large volumes of loans to many East Asian FIs, the ability to exercise effective monitoring was impeded because of a lack of transparency in the published accounts of the East Asian FIs. Banks and NBFIs in Korea, Thailand and Indonesia did not apply international accounting standards in compiling audited accounts. As a result there were deficiencies in the disclosure of, inter alia, insider transactions, off-balance sheet items, loan portfolio concentration and net foreign currency exposures in the published accounts (Rahman, 1998).

### *Implicit guarantees and moral hazard*

The moral hazard created by implicit government guarantees of deposits and other liabilities of FIs has been cited as a key factor in the East Asian financial crisis (e.g. IMF, 1998b: 41). Explicit deposit insurance schemes were not in place in Korea, Indonesia, Malaysia or Thailand, but even if they had been, it would not explain how FIs in these countries were able to borrow so readily on external wholesale markets, by offering above-market interest rates, from lenders who might have been presumed capable of evaluating the risks involved.

Prior to the crisis, governments had bailed out distressed FIs, although this was not always the case. Thailand had experienced a wave of failures of finance companies in the mid-1980s, with 25 being closed, and their depositors had to

bear 50% of the losses. In Indonesia one bank was liquidated in the early 1990s. Nevertheless, the more typical reaction on the part of the authorities was to provide support to allow banks and NBFIs to remain open. The government in Indonesia recapitalised five banks in the early 1990s. Support for failed FIs in Thailand was provided by the Financial Institutions Development Fund, which in 1996 had provided funds to rehabilitate the failed Bangkok Bank of Commerce. Because of the problems of overcapacity in the property market, the Thai Government also established the Property Loan Management Organisation (PLMO) to purchase non-performing property loans from FIs and to arrange for property loans to be restructured. The objective of the PLMO was to reduce the non-performing loans of FIs and thereby improve their financial condition (Bank of Thailand, 1997). In Thailand, an international bank organising a syndicated loan for a finance company was assured that the Central Bank would support the company if it got into difficulties (Corsetti et al., 1998: 5). Had the regulators been more willing to close insolvent FIs and impose losses on their creditors, foreign lenders would have exercised more restraint in their lending.

However, the fact that the authorities appear to have supported distressed FIs more often than they allowed them to fail does not provide a very convincing explanation of why foreign creditors should have believed that governments or Central Banks would bail out all distressed FIs. And this is especially so since many of the FIs which had been able to raise funds from the international financial markets were NBFIs which would be regarded as less integral to the stability of domestic financial markets in these countries and therefore less likely than the large commercial banks to be bailed out by the authorities in the event of failure.

### **Failures of prudential regulation and supervision in East Asia**

Prudential systems cannot prevent all bank failures, but a strong prudential system should provide restraints against the widespread mismanagement of banks and NBFIs which leads to systemic failures. In liberalising their financial systems, the East Asian countries did not ignore the need for prudential regulation. Several countries, notably Hong Kong, Malaysia, Indonesia, the Philippines and Thailand, had experienced failures of banks and NBFIs during the 1980s. These failures were mostly attributable to bad loans arising from mismanagement, poor lending policies and in some cases insider abuse and fraud. They had helped to stimulate reforms in banking legislation and supervisory systems in the 1980s and in the first half of the 1990s (Bank Negara, 1994: 51–2; Dodsworth and Mihaljek, 1997: 41; Estanislao, 1993: 252; Stiglitz and Uy, 1996: 258). In the 1990s Korea, Indonesia, Malaysia, and Thailand all raised the capital adequacy requirements and imposed the Basel capital adequacy ratio of 8% of risk-adjusted assets.

Nevertheless, the prudential systems in Korea, Indonesia and Thailand proved incapable of preventing the imprudent management by FIs described in the

previous section, which led to the crisis. One line of reasoning to explain this failure is that the magnitude of financial instability was so great that no prudential system could have prevented the crisis. However, the fact that the financial systems in Hong Kong and Singapore, both countries with demonstrably stronger prudential systems and, in particular, strong and politically independent regulators, avoided distress on anywhere near the scale experienced in Korea, Indonesia and Thailand, does indicate that regulatory weaknesses played a significant role. This section explores the nature of the regulatory weaknesses in the latter three countries, starting with a review of some comparative evidence on the strength of their prudential systems.

**Table 4**  
**Indicators of the strength and quality of bank regulation and supervision**  
**in selected East Asian countries**

<i>Country</i>	<i>Bank Regulatory Framework</i>	<i>Enforcement of Regulations</i>	<i>Quality of Bank Supervision</i>
Hong Kong	Very Good	Good	Good
Indonesia	Satisfactory	Weak	Weak
Korea	Weak	Weak	Fair
Malaysia	Satisfactory	Weak	Weak
Singapore	Very Good	Strong	Very Good
Thailand	Weak	Weak	Weak

Source: for regulatory framework and bank supervision, Claessens and Glaessner (1998: 49). For enforcement of regulations, Reisen (1998: 23), Dodsworth and Mihaljek (1997), *Far Eastern Economic Review*, 1998.

The recognition that prudential failures may have been important factors in recent financial crises has prompted a number of attempts to grade the prudential systems of East Asia, and other developing countries. This is to some extent an imprecise and subjective exercise because, while certain aspects of prudential systems, such as minimum capital adequacy ratios, are readily observable, quantifiable and comparable across countries, critical aspects of the regulatory process, notably the degree to which regulations are actually enforced, are often hidden. Caprio (1998) ranks the prudential systems of 12 developing countries according to several criteria, including minimum capital, classification and provisioning for non-performing loans, minimum liquidity requirements, measures of property and creditors' rights, the enforceability of laws and transparency. Korea, Indonesia and Thailand fill three of the bottom four places in this ranking, while Singapore and Hong Kong are first and third respectively. Separate studies evaluated the quality of bank supervision, the regulatory framework and the enforcement of regulations in East Asian countries in the mid-

1990s. Hong Kong and Singapore were rated as strong, very good or good on all three counts. In contrast, the regulatory framework was rated as weak in Korea and Thailand. Bank supervision was rated as weak in Indonesia, Malaysia and Thailand (Claessens and Glaessner, 1998: 49). The enforcement of regulations was weak in Korea, Indonesia, Malaysia and Thailand (see Table 4 above).

The distress afflicting most of the FIs in East Asia was not caused by esoteric financial instruments such as derivatives, for which effective regulatory methodologies have yet to be developed or of which regulators in these countries had no experience. It was mainly attributable to more traditional sources of distress such as credit risk and maturity and foreign currency mismatches, against which there are relatively robust safeguards available to regulators and of which most of the Asian countries already had some experience in the 1980s and early 1990s.

While it is widely recognised that there were regulatory failures in these countries, the precise nature of these failures is less well understood. Regulatory failures were mainly due to weaknesses in certain aspects of the prudential regulations in force in these countries, especially loan classification and provisioning rules, and a failure to enforce the existing regulations strictly enough. The latter undermined incentives for prudent management by allowing banks and NBFIs to flout the regulations. These issues are discussed in more detail below.

### *Loan classification and provisioning*

The standards applied to the classification of non-performing loans in most of the East Asian countries were much less stringent than international standards: hence, the non-performing loans reported by FIs were only a fraction of their real level. Moreover, FIs were able to accrue unpaid interest as income or could capitalise unpaid interest. In addition, the provisioning requirements were not stringent, especially for secured loans, and allowed banks considerable discretion in judging whether the loans were recoverable. For example, in Thailand, secured loans were only classified as substandard if they were 12 months in arrears, and only required provisions of 7.5% of the value of the loan. In Malaysia, loans overdue for up to one year required no provisions. In Korea, loans covered by collateral which were overdue for more than six months required only a 20% provision. Several of the emerging markets in Latin America had much stricter provisioning rules than the East Asian countries (IMF, 1997a: Table 35). Consequently loan loss provisions in East Asia were inadequate to provide cover against likely losses, which meant that earnings and capital levels were overstated. Had loans been properly classified as non-performing, unpaid interest suspended, and adequate loan loss provisions made, earnings would have been lower and the true capital position of the FIs much weaker. Although banks were legally required to meet the Basel capital adequacy ratio of 8% of risk assets, the requirement was largely meaningless, given that reported capital levels were overstated because of poor

accounting practices (Rahman, 1998). If capital levels had been accurately computed, taking account of the real value of assets, banks would have had to restrain the rapid growth of their lending, or raise new capital, in order to maintain compliance with the capital adequacy requirements, and as such would not have been so vulnerable to financial distress when the crisis erupted in 1997.

### *Weak enforcement of regulations and regulatory forbearance*

In many respects prudential regulations in Indonesia, Korea, Malaysia and Thailand were reasonably strong by international standards. For example, the Basel capital adequacy requirements were imposed, and there were restrictions on large loan exposures and insider lending. There were some weaknesses in the regulations, besides the lax loan classification and provisioning rules outlined above. For example, in Indonesia private sector banks were not subject to foreign-exchange exposure limits (Folkerts-Landau et al., 1995: 51–5). Formal closure mechanisms for insolvent FIs were not explicitly set out in the banking laws, which contributed to the regulatory forbearance discussed below.

A more serious impediment to effective regulation was not weak legislation but the failure on the part of regulators to enforce compliance with the legislation (Reisen, 1998: 23). In Korea and Indonesia several banks did not comply with capital adequacy ratios and other regulations (UNCTAD, 1998: 64). The insider lending restrictions appear to have been difficult to supervise and enforce because of a lack of transparency in accounts and political pressure on the regulators (Folkerts-Landau et al., 1995).

When FIs suffered financial distress supervisors often exercised regulatory forbearance, instead of intervening to force them to instigate remedial measures promptly. For example, in Korea the Central Bank relaxed the provisioning rules in 1996 in response to losses suffered by the banks due to falls in equity prices (IMF, 1997a: 151). As noted in the previous section, the authorities had often bailed out insolvent FIs during the pre-crisis period, instead of closing them down and imposing losses on their shareholders and creditors.

Regulatory forbearance in East Asia was attributable to a number of factors. First, supervision entailed large elements of discretion and dialogue between regulators and regulated. Instead of imposing detailed formal rules and regulations as in the US model of regulation which is increasingly being adopted around the world, supervisors relied more on informal pressure to regulate the financial system (Stiglitz and Uy, 1996: 258). Secondly, supervisors faced strong political pressure not to enforce regulations against politically connected FIs or against FIs which had lent in an imprudent manner to politically connected borrowers. Political interference was pervasive in Indonesia where the Central Bank had little effective independence to impose discipline on the banking industry (*Far Eastern Economic Review*, 1998: 15–16). Thirdly, there was an inherent conflict of interest between the role of Central Banks in enforcing economic regulations, such as the

requirements to lend a minimum share of the loan portfolio to priority sectors, which often involved lending to the more risky borrowers, and their role in enforcing prudential regulations.

In contrast to Indonesia, Korea and Thailand, regulation in Hong Kong and Singapore was largely free of political interference, and regulators adopted a much stricter approach to checking and enforcing compliance with the banking laws. Singapore imposed higher capital adequacy ratios (12%) than those of the Basel standards and Hong Kong enacted strong banking regulations covering areas such as insider lending, investment in equities and disclosure requirements (Dodsworth and Mihaljek, 1997: 40–42).

### **Looking beyond the Asian financial crisis: conclusions and lessons**

The Asian financial crisis is not unique, except perhaps in its magnitude. The last two decades have witnessed a succession of financial crises that have affected both developed and developing countries. In the developing countries they have primarily been banking crises, a consequence of the fact that banks play a much greater role in financial intermediation in these countries than in developed countries.

Recent empirical research on the causes of banking crises in developing countries has identified a number of common characteristics (Caprio and Klingebiel, 1997). For a sample of 29 bank insolvencies that occurred prior to the Asian crisis in 21 developing countries, the primary causes were considered to be poor supervision and regulation, deficient bank management, government intervention, or some degree of insider or politically motivated lending. Although macroeconomic factors, such as output or terms-of-trade decline, also figured in the sample, microeconomic factors were found to be the more prevalent.

Consideration of the causes of bank distress in developing countries in general, and in East Asia in particular, has important implications for policies both to avoid crises and to deal with them when they occur. In particular, it directs our attention to the importance of strengthening domestic financial sector supervision and institutions, and of ensuring that the pace of financial liberalisation is sequenced so as to remain within the capacity and capability of the regulatory system. In the remainder of this concluding section we discuss the lessons that can be drawn for the design of prudential systems in developing countries.

There is now a standard model of prudential regulation, based on the Basel core principles for effective banking supervision (IMF, 1998c) which is increasingly being adopted by developing countries. The ability of Hong Kong and Singapore to avoid systemic financial crises in 1997/98 does suggest that this standard model is effective in protecting financial systems (although clearly not all FIs), even in the face of macroeconomic shocks, provided that the regulations are actually enforced by independent regulators. The key questions which emerge from the

East Asian crisis are: first, which particular aspects of the standard model of regulations need strengthening or modification, and second, how can the core principles be enforced by regulators in countries where bureaucracy is highly politicised?

In terms of strengthening the standard model, three areas deserve consideration. First, capital adequacy ratios can be raised above the Basel minimum of 8% of risk assets, to provide FIs with an extra cushion against shocks and their owners with stronger incentives for prudent management, although if this is to be effective the regulators must also ensure that FIs adopt international standards of loan classification and provisioning. Secondly, there is a case for the regulators imposing 'speed limits' on the rate of loan portfolio expansion, or on the expansion of lending to sectors considered to be high risk, such as real estate, during periods of rapid loan growth. These limits need not be written into the banking laws, but regulators should have discretionary powers to impose them. Thirdly, the adequacy of foreign exposure restrictions requires further analysis. Banking regulations in most East Asian countries included standard forex exposure restrictions (i.e. net exposures were restricted to a percentage of capital) but these proved ineffective in preventing massive overexposure to foreign currency risk by banks and NBFIs in Thailand and Korea. A key question is whether excessive forex exposures occurred because FIs simply flouted existing regulations or that the regulations were not comprehensive or strict enough to prevent these exposures. There need also to be restrictions on the extent to which banks can reduce their net open positions by passing on the foreign-exchange risk to their borrowers, as this will often translate into increased credit risk.

Regulatory forbearance, often caused by political interference in the regulatory process, is the 'Achilles' heel of any regulatory system' (Honohan, 1997: 21). This is essentially a problem of institutions and of political economy, for which workable solutions are likely to vary between countries depending upon their institutional characteristics. There are, however, a number of approaches which can be taken to provide greater incentives to regulators to enforce the prudential regulations and to insulate them from political pressures to exercise forbearance.

The first approach involves imposing an explicit legal requirement for graduated regulatory intervention linked to predetermined thresholds of financial distress, such as reductions in the capital adequacy ratios of FIs. An example of this is the prompt corrective action (PCA) rules, which were introduced in the US following the savings and loan débâcle and have just been introduced in Japan. There are several advantages to the PCA rules. First, PCA mandates the regulators to intervene at an early stage in the deterioration of a FI's financial condition, before it becomes insolvent, and when remedial actions which are less drastic than outright closure, such as restrictions on asset growth and the implementation of a capital restoration plan, offer the possibility of halting the deterioration in its condition. Graduated intervention is less likely to encounter political opposition because closure of the distressed FI is only implemented if a series of less drastic

corrective actions have failed to prevent it deteriorating into insolvency (or near insolvency). Secondly, intervention by regulators is often a time-inconsistent policy action. Policy-makers would prefer that all banks were prudently managed so that none become distressed, but if a FI does become insolvent, policy-makers would often rather find alternatives to closure. If bank owners recognise this time inconsistency, the incentives they themselves have to avoid mismanaging their FI into distress are reduced. Because PCA is a rules-based, rather than a discretionary, approach to intervention, it can help to mitigate the time inconsistency of regulatory intervention and therefore strengthen the incentives on bank owners for prudent management (Goldstein and Turner, 1996: 50–4). However, PCA rules will be undermined if loan provisioning standards are weak, because capital adequacy ratios provide the thresholds for intervention by the regulations, or if bank inspections are infrequent and thereby allow banks to conceal the deterioration in their financial condition.

Enhancing the transparency and the public accountability of the regulatory process may also improve incentives against regulatory forbearance. Many of the East Asian countries have a growing civil society and democratic structures which can be used to put pressure on the regulators to safeguard deposits and public funds. For example, the regulators should have to provide regular information on their activities (perhaps in a publicly available annual report) and should have to account for their performance to some form of parliamentary or other legislative committee.

Regulators must also reduce the moral hazard entailed in providing explicit and implicit guarantees to depositors. Deposit insurance should be strictly limited to small deposits below a predetermined ceiling, with governments making public commitments not to reimburse deposits above this amount. To avoid providing implicit guarantees, there should be some legislative requirement on the regulators to account publicly for any support given to distressed FIs, and to demonstrate that providing support was the least-cost option available. This will not prevent all bail-outs of insolvent FIs and the moral hazard this entails, but the more transparent the regulatory process is made, the more likely it is that regulators will have to take account of the wider public interest.

Finally, while the market cannot substitute for public regulation, because of the well recognised informational imperfections in financial markets, it is possible to design regulations which provide greater incentives for monitoring of FIs by the market to complement public regulation. The banking laws should set out an explicit ordering of creditor priorities, so that the claims of non-deposit creditors, including foreign lenders, are clearly inferior to those of depositors. This will increase the exposure of those supplying wholesale funds to FIs and thereby provide them with greater incentives for monitoring. FIs could be required to obtain regular credit ratings from established private sector credit rating agencies, which would then be made public. Such a requirement was introduced in Argentina as part of reforms to strengthen its prudential system following the

Tequila crisis. This would provide a mechanism through which the better managed and sounder FIs could distinguish themselves publicly from the less well managed FIs. It would thus provide incentives both for more prudent management and for greater transparency in the financial statements of FIs.

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