

Bank restructuring in practice: an overview

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Introduction*

Managing a banking crisis is one of the most difficult tasks to confront a policymaker. Often measures must be decided quickly, sometimes in the eye of a crisis. Almost inevitably, decisions will be guided by imperfect information. This is an intrinsic problem because the very business of banking is built on the possession of information not available to others. Moreover, the various actors may well have an incentive to distort the facts. Because banks lie at the centre of modern economies, policies can have far-reaching implications, political as well as economic. This is particularly true at the present time when so many emerging market economies are simultaneously grappling with banking crises.

These issues were discussed by a small group of senior central bankers at the BIS in December 1998. Two days of discussion highlighted the extent of the challenges and the diversity of approaches to the problems. The country papers that follow highlight the main experiences of specific economies. This paper provides an overview of the main issues.

The paper begins by sketching the structure and recent performance of the banking systems in 23 emerging economies, reviewing the scale of the problems faced and some of the causes. Establishing the true magnitude of the likely losses from bad loans is far from straightforward. This is partly because eventual losses depend significantly on collateral and corporate bankruptcy arrangements. Bank restructuring often has

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to be accompanied by corporate debt restructuring, which is discussed in the following section. Assistance to banks, which involves balancing short-term concerns about avoiding bank runs and a credit crunch with medium-term concerns about limiting moral hazard and fostering a robust banking system, is then discussed. Deposit insurance, a key instrument to maintain confidence, is examined in some detail. (Other important preventive measures such as supervisory and disclosure requirements are outlined in Annex A.) The first response is often some form of assistance that does not attempt to change the ownership structure: one important issue concerns how various degrees of official intervention should be triggered.

The next section examines the institutional arrangements needed to manage impaired assets. Approaches involving changing ownership – domestic mergers, foreign takeovers and taking banks into state ownership – are then reviewed in turn before the concluding remarks.

Diagnosis

Structure of the banking system

The banking systems in the 23 emerging economies this paper covers account for almost a fifth of the world's top 1,000 banks. But only a handful, mostly in Hong Kong and Singapore, were, by end-1998, rated as being inherently very healthy (see the final column of Table 1).¹ This weakness is both a reflection of and a contributor to the recent macroeconomic problems (Table 2).

Yet widespread recognition that banks in most emerging markets were relatively weak did not prevent them from rapidly *expanding domestic lending*. While credit growth somewhat faster than GDP growth is part of the normal process of financial deepening, in many emerging economies the rates of growth of lending to the private sector during the 1990s were unsustainably high (Table 3). The poor standard of loans

Table 1
Structure of the banking industry
As at end-1998 (unless otherwise indicated)

	Number of large and medium domestic banks ¹	Concentra- tion in the banking industry ²	Bank claims on govern- ment ³	Share of bank assets in total financial sector assets ⁴	Share of state- owned banks ⁵	Share of foreign- owned banks ⁵	Median BFSR Rating ⁶
in percentages							
China	7	70 ⁷	2	78	99	0	E+
India	11	42	32	64	82	8	D
Hong Kong . . .	21	29	7	..	0	77	C
Indonesia . . . .	..	..	3	91	85 ⁸	..	E
Korea	14	50	3	38	28	6	E+
Malaysia	15	40	7	78	7	20	D
Philippines . . .	14	60	23	..	..	..	D+
Singapore	5	39	17	71	0	..	C+
Thailand	9	62	0	77	29	13	E
Argentina	8	38	32	98	30	30	D
Brazil	22	52	57	80	47	14	D
Chile	7	47	2	62	13	32	C
Colombia	1	53	20	56	19	31	C
Mexico	6	68	4	66	0	18	E+
Peru	4	67	6	91	3	22	D+
Venezuela	2	56	11	90	..	..	D
Czech Republic .	4	66	14	..	19	25	D
Hungary	2	57	42 ⁷	91	..	..	D
Poland	7	43 ⁹	37	..	46	17	D
Russia	5	42	59	..	36 ¹⁰	14	E
Israel	5	87	25	65	..	..	D+
Saudi Arabia . .	11	66	37	61	0	0	D+
South Africa . .	6	81	4	..	2	5	C
<i>Memorandum:</i>							
Australia	7	69	6	49	0	17	C
Germany	87	17	44	77	47	6	C
Japan	116	22	11	48	15	2	D
United States . .	182	35	15	23	0	20	C+

¹ Number of banks ranked in world's top 1,000. Mostly compiled from end-1998 balance sheets. Source: *The Banker* July 1999. ² Five largest banks' assets as a percentage of total assets. Sources: central banks; Fitch IBCA Ltd. For Singapore, Argentina, Chile, Venezuela and Hungary, data is from Kamin, Turner and Van 't dack (1998) and refers to 1994–96. ³ Banks' holdings of government paper as a percentage of banks' deposits. Source: IMF *International Financial Statistics* lines 22a, 22b, 24 and 25. ⁴ Banks' assets as a percentage of assets of banks and non-bank financial institutions. Sources: Kamin, Turner and Van 't dack (1996); central banks.

¹ Goodhart et al (1998, Tables A1.1 and A1.3) summarise the experience of developing economies' banking systems since the 1980s: almost a quarter have had a banking crisis and over half had significant banking problems short of a crisis. See also Frydl (1999).

Table 1 (cont.)

⁵ As a percentage of total bank assets; Source: Table 21. ⁶ Note: Moody's Bank Financial Strength Ratings measure the likelihood that financial institutions will require financial assistance from third parties; it does not incorporate the probability that such support will be forthcoming. Hence a bank with a low BFSR may have a higher credit rating if third party support is expected to be available. Note that some banks may have been evaluated more recently than others and some ratings are unsolicited and hence based only on public information. Source: Moody's Investors Service *Bank Credit Research Service Monthly Ratings Lists* January 1999. ⁷ Four largest banks. ⁸ June 1999. ⁹ Rose to 51% on 1 January 1999. ¹⁰ Three largest SOBs.

in many countries is a legacy of very weak credit assessment by banks, particularly where loans were made to related companies or state-owned enterprises. Excessive lending to rapidly expanding manufacturing companies and speculative property developers were common causes of trouble. Booming output and rapidly rising collateral values gave banks a false sense of security and allowed firms to become highly leveraged. Financial deregulation meant banks moved from being credit rationers to credit marketers: the implications of this for the risks they faced were often underestimated.

Moreover, major international banks in the industrial world were all too ready to extend loans to poorly rated banks in the emerging markets, permitting them to fund an increasing fraction of their domestic assets by foreign borrowing. One approximate indicator of this is the ratio of domestic banks' borrowing from international banks (as reported in BIS statistics) to domestic bank credit (from national data) (Table 4). In general, the dependence of Asian banks on foreign credit increased sharply in the first half of the 1990s. For instance, borrowing by banks based in Thailand from foreign banks rose from 17% of domestic credit in 1990 to 46% just before the July 1997 crisis.

Exchange rate risk in such overseas borrowing was often ignored. While banks' direct exposure to foreign exchange risk was limited by supervisory regulations (see Table A4), banks allowed their customers to become exposed to such risks. Hence banks were in effect faced with credit risk when large devaluations weakened their customers' ability to service foreign currency-denominated loans. Moreover, much of the borrowing was short-term and therefore required frequent rolling over, leaving banks vulnerable to swings in confidence by overseas lenders. The final column in Table 4 shows the sharp declines in funding

Table 2
Macroeconomic background

	Real GDP growth ¹	Exchange rate ²	Equity prices ³	Bond spreads ⁴	Real interest rates ⁵
	Average 1998–99	% change from end-June 1997 to end-Dec 1998		Change from end-June 1997 to end-Dec 1998; percentage points	
China	8	0	-67	2	0
India	6	-16	-29	..	1
Hong Kong . . .	-3	0	-32	1	6
Indonesia	-8	-68	-42	8	-32
Korea	0	-26	-19	4	-4
Malaysia	-3	-34	-53	9	-5
Philippines . . .	1	-32	-26	3	-2
Singapore	2	-14	-22	..	1
Thailand	-4	-30	-43	1 ⁶	-7
Argentina	1	0	-33	4	1
Brazil	0	-11	-53	6 ⁶	14
Chile	2	-12	-38	2	1
Colombia	0	-28	-27	4 ⁶	11
Mexico	4	-19	-17	2 ⁶	12
Peru	2	-16	-40	3 ⁶	5
Venezuela	-3	-14	-51	8	22
Czech Republic .	-2	8	-22	1	-11
Hungary	4	-13	10	1	5
Poland	4	-6	-16	1 ⁶	0
Russia	-4	-72	-40	36	-27
Israel	2	-17	3	..	-1
Saudi Arabia . .	-1	0	-13	..	2
South Africa . .	1	-24	-32	5 ⁶	2
Memorandum:					
Australia	4	-18	3	0	-2
Germany	2	3	29	0	1
Japan	-2	-3	-33	1	2
United States . .	4	..	39	..	0

¹ Based on June 1999 *Consensus Forecasts*. ² US dollars per local currency. ³ In local currency. ⁴ US dollar-denominated bonds relative to US Treasury bonds of appropriate maturity; monthly average. ⁵ 3-month interest rate (except for Brazil and Russia: overnight rate) deflated by annual rate of inflation. ⁶ Starting point is August 1997 for Peru, Poland and South Africa, January 1998 for Colombia, March 1998 for Mexico and April 1998 for Brazil.

Sources: IMF; national data.

Table 3
Bank credit to the private sector

	Real bank credit growth ¹				Memo: Domestic bank credit as a % of GDP in 1997
	Average 1990–95	1996	1997	1998 ²	
China ³	12	17	19	18	103
India	4	8	5	– 5	23
Hong Kong	6	7	17	– 8	165
Indonesia	19	12	20	–26	61
Korea	11	12	15	– 7	71
Malaysia	14	24	21	– 1	104
Philippines	13	40	27	–12	60
Singapore	13	15	11	0	110
Thailand	20	12	9	–12	116
Argentina	3	3	13	10	20
Brazil	4	– 3	– 2	10	26
Chile	10	18	9	4	58
Colombia	10	6	8	8	24
Mexico	21	–39	–26	– 6	12
Peru	26	33	26	15	23
Venezuela	–15	–16	52	–17	12
Czech Republic	3 ⁴	5	3	– 7	77
Hungary	– 6 ⁴	– 6	13	7	26
Poland	– 2 ⁵	13	26	18	24
Russia	–12	–13	14	–22	9
Israel	10	7	8	11	75
Saudi Arabia	6	1	6	20	24
South Africa	2	10	7	9	71
<i>Memorandum:</i>					
Australia	5	8	9	10	81
Germany	6	6	5	8	108
Japan	2	1	– 1	– 1	114
United States	– 1	3	5	10	67

¹ Annual growth rate of domestic bank credit to the private sector deflated by the consumer price index. ² Partly estimated. ³ Credit other than to the central government. ⁴ 1994–95. ⁵ 1993–95.
Source: IMF.

faced by many Asian economies since mid-1997: the total decline in international credit to Indonesia, Korea, Malaysia and Thailand since the crisis is around \$90 billion.

Table 4
Bank borrowing from foreign banks¹

	As a percentage of domestic credit			Changes in billions of US\$ at an annual rate		
	1990 ²	1997 Q2	1998 Q4	1995 Q1– 1996 Q3	1996 Q4– 1997 Q2	1997 Q3– 1998 Q4
China	5	8	6	11	10	– 1
India	7	10	12	1	1	1
Indonesia	11	18	27	2	5	– 5
Korea	16	30	23	19	17	–23
Malaysia	14	24	24	5	8	– 5
Philippines	70	25	27	2	5	– 1
Thailand	17	46	31	24	3	–26
Argentina	90	23	21	1	3	1
Brazil	37	25	25	12	8	0
Chile	32	10	10	–1	0	0
Colombia	18	22	16	1	1	0
Mexico	40	40	42	–4	2	0
Peru	100	25	23	1	0	0
Venezuela	61	30	25	0	1	0
Czech Republic	1	19	18	2	2	0
Hungary	66	50	68	0	0	2
Poland	50	11	12	0	2	1
Russia . . . . .	..	92	198	0	0	– 2
Israel	7	2	3	0	1	0
Saudi Arabia	40	24	12	1	–1	– 2
South Africa	9	11	12	0	3	0

¹ Measured by assets of BIS reporting banks. ² For the Czech Republic, first quarter 1993; for Hungary, fourth quarter 1992; for Poland, fourth quarter 1991.
Sources: IMF; national data; BIS.

The degree of financial development differs considerably across economies. Credit provided to the private sector by the banks represents a similar proportion to GDP in Malaysia and Thailand as in the G10 economies. However, bank lending is proportionately much smaller in Hungary, India, Poland, Russia, Saudi Arabia and most of Latin America (Table 3). Banks in these countries tend to invest in government paper rather than loans to the private sector. Bank claims on government exceed 30% of total bank deposits in Argentina, Brazil, Hungary, India, Poland, Russia and Saudi Arabia (Table 1). This clearly limits banks' overall

exposure to credit risk²; by the same token, however, banks are less useful in meeting the borrowing needs of domestic business. In some cases, a reduction in government deficits meant banks that were used to investing a substantial proportion of their assets in government bonds had to expand lending to the private sector and thus assume greater credit risks.

The degree of concentration in the banking industry also varies considerably. In some emerging market economies, the five largest (usually domestic) banks account for over two-thirds of bank assets. In China and India, state-owned banks still predominate. In several markets, however, a large and growing presence of foreign banks (including minority stakes not captured in Tables 1 and 21) probably makes competition in the industry more vigorous than figures on domestic concentration might suggest.

Banks' published accounts suggest substantial differences in efficiency and profitability across economies (Table 5). Overheads (operating costs in the table) have been particularly high (albeit gradually diminishing) in most Latin American economies, and have generally led to higher interest margins. "Other income" appears to be a high proportion of earnings in the accounts of most Latin American banks; this may reflect interest on their relatively large holdings of government bonds, which is sometimes included in this item rather than in interest income. Loan losses have been particularly high in the eastern European economies due to their inheritance of loans to uncompetitive state-owned enterprises. The net result of these features is an apparently greater variation in profitability across the emerging markets' banking industries and over time than is observed in the advanced economies. The profitability of banks deteriorated sharply in the late 1990s, especially in East Asia.

Most Asian countries are in the middle of a major process of bank restructuring. A comparison of the different responses to the two most serious banking crises in the industrialised world in recent years – Japan versus Scandinavia – suggests that quick and decisive action would give these countries the best chance of promoting an early recovery. In both cases, the crisis was preceded by many years of bank credit expansion

² However the recent Russian experience shows there can still be some credit risk in holding government paper.

Table 5
Banking sector performance
As a percentage of assets

	East Asia ¹		Latin America ²		Eastern Europe ³		G3 ⁴	
	1990–96	1997	1990–96	1997	1990–96	1997	1990–96	1997
Net interest . .	3.4	2.4	6.6	5.6	5.1	3.3	2.2	2.0
Other income . .	1.6	0.9	3.5	2.9	1.9	1.3	1.2	1.2
Operating costs . .	2.7	1.7	7.5	5.7	3.0	2.9	2.3	2.1
Loan losses . . .	0.5	1.1	1.3	1.2	1.9	0.9	0.4	0.4
Pre-tax profits . .	1.8	0.4	1.9	1.5	1.8	0.9	0.8	0.8

¹ Simple average of Indonesia, Korea, Malaysia, Philippines and Thailand. ² Simple average of Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela. ³ Simple average of Czech Republic, Hungary and Poland. ⁴ Simple average of Germany, Japan and the United States.

Source: Fitch IBCA Ltd. (October 1998; only includes those banks for which a run of income data is available).

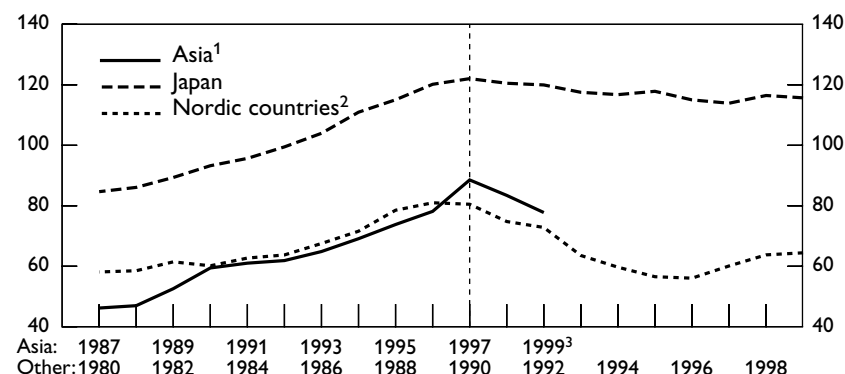
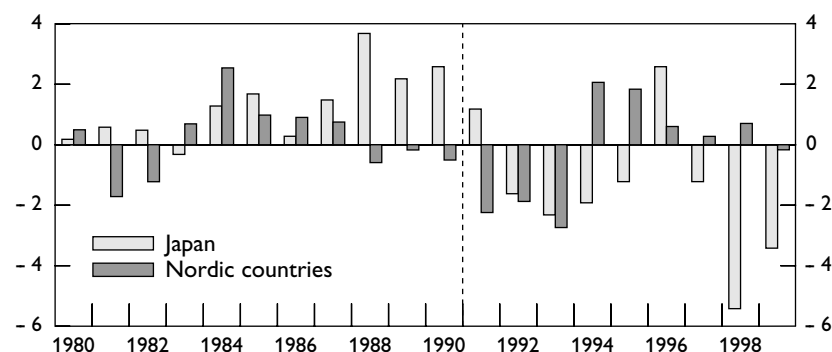
well in excess of GDP growth (see Graph 1). In Scandinavia, effective bank restructuring policies and a period of strong growth have contributed to bringing the bank credit/GDP ratio back to earlier levels. In Japan, however, this ratio has remained high: it has become clear that earlier hopes that the economy could "grow out" of its non-performing loans were unrealistic. Large-scale measures to address the problem have been implemented only recently. The latest data suggest that the crisis-hit Asian economies are following the path of the Nordic countries, rather than that of Japan. In most cases, prudential rules have been tightened and bank credit is being sharply scaled back.

Identifying the causes

Identifying the causes of unfolding banking difficulties is important because it may have a bearing on the appropriateness of competing solutions. Although usually mixed in practice, several distinct causes can be identified, at least in theory.³

³ For a more detailed discussion of the causes of banking crises, see Goldstein and Turner (1996) pp. 9–32, The Economist (1997), and Klingebiel and Caprio (1996). The latter authors suggest that while some studies regard fraud as the major cause of US banking collapses, it generally occurs after other causes have driven a bank to insolvency. There is also a generational aspect: bankers who survive a crisis tend to be more conservative, but their successors gradually seek more risk.

Graph 1

Bank credit/GDP before and after banking crises**GDP growth relative to trend⁴**

¹ Simple average of Indonesia, Korea, Malaysia and Thailand. ² Weighted average of Norway and Sweden. ³ Based on first quarter 1999 domestic credit data with an 1999 GDP estimate.
age GDP growth rate over the period 1980–99 (for Japan 2.6%, for the Nordic countries 2.0%).

The first set of causes is *microeconomic*. The literature on banking crises has tended to focus on poor banking practices, notably inadequate capital and failures of loan policy: inadequate assessment of credit risks; an insufficiently diversified loan book (with specialist banks overdependent on the particular region/sector served); lending to connected enterprises; or excessive maturity and currency mismatches. However other

microeconomic shortcomings may be equally important. Principal-agent incentive problems have been significant, notably when loan officers are rewarded on the basis of the volume of loans extended without adequate attention to the risks to which the bank is thereby exposed. Overstaffing has often been a chronic problem, particularly in state-owned banks. Restrictive labour practices often impede the adoption of new technology which may reduce employment (or radically alter its character). In one developing country, trade unions actually succeeded in delaying banks computerising their operations.

The second major cause is *macroeconomic*. This does not of course refer to changes in macroeconomic variables that are within the range of “normal” experience. Prudent banks should provide themselves with enough of a cushion to be able to cope with cyclical downturns, exchange rate depreciation, declines in asset prices and similar manifestations of normal cyclical movements. Moreover, what is normal for one country may not be in another: banks in emerging market countries, for instance, have had to cope with much greater macroeconomic volatility than banks in the industrial world. Banks should plan to cope with the degree of volatility that is usual in their market. In practice, however, bankers may be tempted not to take sufficient precautions against macroeconomic crisis: they follow the crowd because they are loath to lose market share to banks taking greater risks. For this reason, macroeconomic crises should not be seen as absolving banks of their responsibilities. Nevertheless, macroeconomic shocks of an unprecedented magnitude can strain even those banks that *have* taken proper precautions. Examples include the oil shocks in the 1970s, the loss of confidence in Latin America in the aftermath of the debt crisis in the early 1980s and, more recently, the fallout from the succession of crises in the emerging markets (Table 2). By creating difficulties for *all* bank debtors, a severe macroeconomic crisis can make it harder for individual banks to identify the long-term-viable clients.

The third is *system-related* in the sense that the environment is not conducive to the development of an efficient banking industry. There have been several important examples of this:

- A large state-owned banking sector can distort the banking industry, both in the extension of loans and in the collection of deposits. Special quasi-state banks enjoying special privileges may also distort competition and limit banks' diversification possibilities.

- Government direction of credit may prevent banks from developing loan assessment skills.
- An inadequate legal framework may limit the effectiveness of the banking system.
- An underdeveloped securities market, especially the absence of a market for long-term securities, which means that all long-term lending has to be done by the banks. This may concentrate too much risk on the banks, although several countries have managed to develop rapidly relying almost exclusively on banks.
- An inadequate regulatory or supervisory regime has often been a major source of trouble.

Banking crises may result after rapid changes in the environment in which banks operate. These “regime changes” make the system more vulnerable, but do not necessarily doom it to a crisis.⁴ Gil-Díaz (1998), for instance, documents how some of these changes took place in Mexico. A rapid privatisation of the commercial banks in the early 1990s (with some of the banks acquired by investors with no previous banking experience), coupled with financial liberalisation measures and the sudden reduction of the borrowing requirements of the public sector, constituted a completely new regime for banks. The rapid expansion of credit that followed these changes and the weak supervisory capacity led to mounting problems well before the 1994 devaluation.

The nature of the underlying causes may have an important bearing on the optimal official response. Where the underlying cause is bad banking practices in a few specific banks, the case for official intervention in the management is much stronger. And it is necessary that bank shareholders suffer losses. But when the difficulties are due to extreme, or unexpected, movements in macroeconomic variables that affect all or most banks (e.g. a collapse in the exchange rate or very high interest rates), there may be a case for more lenient treatment. The moral hazard risks from rescuing banks in difficulties through relatively little fault of their own may be very small. This obviously has a bearing on the question of how far penalties should be imposed on the existing owners or management as a condition for rescue.

⁴ Honohan (1997) provides several examples of these “regime changes”.

There may even be a tactical case for regulatory forbearance. This can be *transparent* (i.e. an open relaxation of normal regulatory standards) or *disguised* (i.e. official collusion with the banks to conceal the magnitude of the problem). It can avoid the costs of long-term dislocation and buy time until a better climate has emerged. One example of this was the lenient regulatory treatment of a number of major money centre banks whose loans to heavily indebted countries exceeded their capital in the early 1980s. There have been several other examples, notably in cases of banks having to cope with extreme macroeconomic misalignments or shocks that are likely to be temporary. In such cases, there can be a case for giving banks a breathing space until a return to normal conditions allows banks that are fundamentally sound to improve their income and balance sheet statements.

The biggest danger with disguised regulatory forbearance is that the market may see through it so that it becomes ineffective. Moreover, once the authorities have been “caught out” understating problems in the banking system, future assurances may not be believed even when they are true. Because of this risk of damaging official credibility, regulatory forbearance should be used very sparingly and should ideally be combined with visible progress towards stronger standards in the medium term.

Addressing problems that occur in a poor competitive environment gives rise to similar dilemmas. It takes time to change the environment and institutions take time to adjust to a new environment. How far are present problems a legacy of an old environment that is now changing and how far do they reflect intrinsically poor management? What can be done to improve the signals governing banks’ reactions? These questions have no easy answers.

Scale of non-performing loans (NPLs)

The proportion of loans that have become impaired during banking crises in emerging markets has generally been much greater than that in the industrial world (Tables 6 and 7).⁵ At the crisis-year peaks, NPLs in

⁵ Frydl (1999) shows there are varying estimates of the timing and resolution costs of banking crises; Table 6 should be considered as giving a general impression of orders of magnitude rather than precise figures.

the Nordic countries were around 10% of total loans; in the United States it was much less.

It is now conceded that over one-quarter of loans are non-performing in China, Indonesia, Thailand and the Czech Republic. In many emerging economies, the proportion is still rising. While part of the reported rise may reflect the more accurate classification of loans, a disturbing lesson from the Asian financial crisis is how rapidly NPLs can increase as economic conditions deteriorate. Even so, many private sector analysts believe that NPLs in many countries continue to be understated. In contrast, NPLs in some eastern European economies have fallen from the peak of around a third of loans seen in the early 1990s.

Impact on the economy

The impact of a banking crisis on the real economy will depend on the size of the financial system. The credit/GDP ratios given in Table 3 suggest the impact would be much larger in Asia than in most of Latin America and eastern Europe. The large volume of NPLs has

Table 6
Banking crises

	Crisis period	Peak non-performing loans financial sector	Cost of restructuring
		as a percentage of total loans	as a percentage of GDP
Chile	1981–85	16	19–41
Colombia	1982–87	25	5–6
Finland	1991–93	9	8–10
Malaysia	1985–88	33	5
Mexico	1995–97	13	14
Norway	1988–92	9	4
Sri Lanka	1989–93	35	9
Sweden	1991–93	11	4–5
Thailand	1983–87	15	1
United States . .	1984–91	4	5–7

Note: See Table 7 for estimates of non-performing loans in current crises.
Sources: IMF (1998a); Banco de México.

Table 7
Non-performing loans (NPLs)
National definition

	NPLs as % of loans (1)	Capital as % of loans (2)	Provisions as % of NPLs (3)	NPLs less provisions as % of capital (4)	As at (1998)	NPLs as % of loans: 1995
China	25	4	..	..	Dec	20 ¹
India	8	..	..	..	Dec	20
Hong Kong . . .	5	19	65	8	Dec	3
Indonesia	36	2	33	1,430	Aug	10
Korea	7	5	..	..	Dec	5
Malaysia	9 ²	13	56	47	Dec	6
Philippines . . .	11	..	28	..	Aug	..
Singapore	8	12	54	32	Dec	..
Thailand	48	10	24	370	Dec	7
Argentina	9	..	65	..	Aug	12
Brazil	11	30	120	0	Dec	8
Chile	1	10	129	0	June	1
Colombia	7	12	58	23	Dec	4
Mexico	11	12	66	32	Dec	7
Peru	7	14	92	4	Dec	5
Czech Republic ³	27	13	33	126	Dec	33
Hungary ⁴	3	26	..	..	June	..
Poland	10	12	47	30	Dec	20
Russia	11	13	54	38	Dec	3
Saudi Arabia . .	9	29	82	6	Jan	..
South Africa . .	4	8	61	16	Dec	..

Column4 = Column1 * (100 - Column3) / Column2.

¹ 1993. ² On 'three-month-overdue' basis, NPLs are 13% of loans. ³ Excludes Konsolidační Banka. ⁴ Hungary excludes 'substandard' loans from NPLs. Including them, NPLs are 5% of loans and 18% of capital.

Sources: Central banks; BIS, 67th Annual Report 1997, Table VI.5; Kamin, Turner and Van 't dack (1998).

been the financial counterpart of overinvestment in real assets during the boom years. The excess capacity that resulted is the main factor depressing demand: even if the banking system were healthy, bank credit would decline because of the lack of investment opportunities. The

weakening of the banking system, however, may exacerbate this *credit contraction*.⁶ If banks are closed, even solvent borrowers will lose “their” bank and will usually find that access to credit from other banks will be limited. If banks are kept afloat, they will apply stiffer loan standards and reduce lending. The cumulative effect can be very great as a first-round contraction of bank credit weakens aggregate demand, causing further problems for all borrowers and banks. A vicious circle may ensue of sharp declines in asset prices, rises in delinquent loans and further credit contraction. Following earlier banking crises, real bank credit in Mexico halved in two years, while that in Finland and Sweden contracted by over one-third. Real bank credit contracted during 1998 in Indonesia, Korea, Malaysia, Mexico, the Philippines, Russia and Thailand (Table 3); as well as in several other economies that have not had overt banking crises.

Compounding this credit crunch is the credit rationing effect first highlighted by Stiglitz and Weiss (1981). Because of adverse selection (as only higher risk borrowers are still willing to borrow at very high rates), there may be a level of interest rate at which banks will find further increases self-defeating, and they will then resort to credit rationing. The refusal to extend credit at any interest rate because of an excessive risk-aversion on the part of the banks in a crisis may amount to a market failure. Very high interest rates and credit rationing may encourage the larger enterprises either to borrow abroad or to take out foreign currency loans – thus increasing corporate vulnerability to exchange rate changes.

The second adverse result is the *very large fiscal burden* (Table 6). As a rule-of-thumb, it seems that less than half the value of NPLs is recovered from the sale of the underlying collateral and governments usually end up meeting most of this shortfall. In November 1998 the IMF estimated the total cost of bank restructuring in the current crises at about 30% of GDP in Thailand and Indonesia and almost 20% in Korea and Malaysia.⁷ Allowing not only for recapitalisation costs but also for the

⁶ The concern about the danger of a credit crunch is well placed. US studies, such as Bernanke and Lown (1991), have found that lower bank lending does exert an effect on activity that is independent of interest rates. Other studies, such as Bank of Japan (1996) and Gertler and Gilchrist (1994), have established a similar effect for Japan. In both countries, it is investment by small and medium-sized enterprises that is hardest hit.

⁷ IMF (1998c), some similar private sector estimates are given in Keenan et al (1998). A more recent study by Armstrong and Spencer (1999) has much higher estimates for Indonesia.

lost output during the economic disruption, the total cost will be much higher.

Policymakers designing bank restructuring programmes have the task of minimising the immediate damage to the domestic economy while putting in place a more robust banking system in the medium term. This job is made all the more difficult when bank restructuring has to be carried out in an adverse macroeconomic situation. And restructuring almost always has to take place in such circumstances, because macro-economic shocks often provide the trigger for the onset of banking crises. Many emerging markets have recently had to face falling real income, depreciating exchange rates, much wider risk premia in international markets, higher (nominal and real) interest rates and reduced availability of external financing (Tables 2 and 4). These have contributed to a major deterioration in the quality of bank assets and a shortening of maturity of bank liabilities.

Classification of loans

An essential early step in any bank restructuring programme is to *measure correctly how far loans are impaired*. Since practices of loan classification have often been rather lax,⁸ and the quality of loans itself varies with the economic environment, this is a major task. This section reviews loan classification procedures at present in place.

Table 7 shows the proportion of loans currently non-performing, according to the criterion used by each supervisory authority. Even after subtracting provisions, NPLs are in many cases substantial relative to banks' capital.

Supervisors now generally require banks to distinguish three types of NPLs: substandard, doubtful and loss. In line with general G10 practice and recommendations of the Basle Committee on Banking Supervision there is a growing tendency to define loans that are more than three months overdue as “substandard”. Some supervisors in emerging markets have even adopted a very strict standard of one month. An exception to this convergence is Malaysia, which has reverted

⁸ Borish et al (1995) report that in transition economies banks often carry on their loans to former state-owned enterprises which have been privatised but with neither the old nor the new owners assuming responsibility for the loan.

from a three-month definition to six months, apparently because of poor macroeconomic conditions.⁹

Yet formal adherence to mechanical rules on overdue payments (as compared in Table 8) does not by itself guarantee that loans are being properly classified. Overdue payments should be regarded as a sufficient but not necessary condition for classifying a loan as doubtful. Regard should also be paid to the debtor's financial status and credit rating, its future prospects, a realistic (and realisable) valuation of collateral and the likelihood of support from guarantors or related companies if it faces difficulties. One common trick against which supervisors need to guard is "evergreening"; that is, a debtor being advanced new loans to meet repayments or interest on old loans just to keep it technically out of arrears. A bank may then argue that no bad debt recognition or provisioning is required. The authorities in several countries specifically underline the importance of checking for these practices during on-site inspections.

The proper recognition of, and provisioning for, NPLs is important for supervisors, potential investors, depositors and their advisers. The Basle Committee on Banking Supervision recommends greater disclosure of NPLs and the basis of their calculation; however, some argue that publication will make banks more reluctant to make realistic assessments.

Moreover, applying the general rule that bank loans should be "marked-to-market" is difficult because markets for bank assets usually do not exist. This problem is often acute in emerging market economies where markets are less developed and often dry up (especially during turbulent times when values may be falling sharply). The supervisory authority in Argentina has tried to address this problem by comparing the treatment of loans to large firms by different banks. If a couple of large banks rate the chances of being repaid by a firm as low, then other banks will also be required to classify loans to that firm in the same way.

These difficulties make it all the more important that there is *adequate general provisioning for NPLs as well as specific provisions for*

⁹ In addition, the adoption of more lax standards is probably an important plank of the government's policy of inducing banks to expand loans. The banks were told that the value of their loans outstanding at end-1998 should be at least 8% higher than at end-1997 and (despite this not being achieved) a similar guideline is in place for 1999.

Table 8
NPLs classification
Period overdue

	Substandard	Doubtful	Loss
China	overdue		
India	7 M	25 M (19 M from March 2001)	loss identified but not written off; no collateral; fraud uncollectible
Hong Kong . . .	borrowers displaying definable weakness likely to jeopardise repayment (3 M used for statistics)	collection in full is improbable	
Indonesia	3 M	6 M	9 M
Korea	cut from 6 M to 3 M in July 1998	"expected to be loss"	
Malaysia	cut from 6 M to 3 M in Jan 1998; now back to 6 M	cut from 12 M to 6 M in Jan 1998; now 9 M	cut from 24 M to 12 M in Jan 1998
Philippines . . .	3 M or under litigation		
Singapore	3 M or borrower in weak financial situation	full liquidation of debt appears questionable	debts uncollectable
Thailand	3 M	6 M	12 M
Argentina	3 M	6 M	12 M
Brazil	2 M	6 M	12 M
Chile	1 M (mortgage)	7 M (mortgage)	5 M (consumer)
	2 M (consumer)	4 M (consumer)	
Colombia	4 M (housing)	6 M (housing)	12 M
	1 M (other)	4 M (commercial)	(housing, commercial)
		3 M (other)	6 M (other)
Mexico	6 M (mortgage)		
	3 M (other)		
Peru	3 M (mortgage)	4 M (mortgage)	12 M (mortgage)
	1 M (consumer)	3 M (consumer)	4 M (consumer)
	2 M (commercial)	4 M (commercial)	12 M (commercial)
Venezuela	"past due" = 1 M		
Czech Republic .	3 M	6 M	12 M
Hungary	"in line with international standards"	"in line with international standards"	"in line with international standards"
Poland	1 M or borrower in poor state	3 M	6 M; borrower subject to bankruptcy etc.
Israel	"in arrears"		
Saudi Arabia . .	1 M	3-6 M	
South Africa . .	4 M		

M = month(s).

Source: Central banks.

individual loans known to be at great risk.¹⁰ The mix between the two varies across countries reflecting national legislation and the nature of the loan book; see Basle Committee (1998). Specific provisioning may be more suited to large commercial loans and general provisioning (using appropriate statistical models) for small homogenous household loans. General allowances are sometimes used as an interim step pending the identification of losses on individual impaired loans, but should not be regarded as a substitute for the establishment of adequate specific allowances or the recording of appropriate charge-offs. In recent years, there seems to have been a trend towards increased specific provisioning, but this does not of course obviate the need for general provisioning because no loan is entirely risk-free and exposure to macroeconomic fluctuations cannot be readily diversified away.

Supervisors require minimum provisions to be made against each of the loan categories given in Table 8. The most common requirements are a small amount for performing loans, 20% for substandard loans, 50% for doubtful loans and 100% for losses. The requirements set in each economy are given in Table 9. The proportion of NPLs covered by some kind of provision varies from as little as a quarter to all (Table 7).

Supervisors generally follow the Basle Committee recommendation that “when a loan is identified as impaired, a bank should either cease the accrual of interest or continue to accrue the interest but set aside a specific allowance for the full amount of interest being accrued”. Another influence on banks’ provisioning will be the extent to which it is allowed as a deduction from taxable income. In some jurisdictions, the tax authorities refuse to allow banks to deduct provisions until the loan has been written off: their motive is to prevent the banks accumulating tax-free profits. In other jurisdictions, the tax authorities go further and insist on the formal bankruptcy of the borrower before a loan can be written off: the motive in this case is often to guard against the write-off of loans to connected parties (especially bank directors).

While there is general agreement on the need for rigorous loan classification rules, there is some controversy about the timing of measures to tighten these rules. It has been argued that regulatory rules should not be tightened when macroeconomic conditions are adverse

Table 9
NPLs provisioning requirements
As a percentage of original loan value

	Performing	Substandard	Doubtful	Loss
China	general 1			
India	general 0.25 from March 2000	10	20–50 (coll.) 100 (uncoll.)	100
Hong Kong . . .		20	50	100
Indonesia	general 1	15	50	100
	special mention 5			
Korea	normal 0.5; precautionary 2	20	75	100
Malaysia	general 1.5	20	50	100
Philippines . . .	general 1 (2 by Oct 1999)	25	50	100
	specific mention 2			
Singapore		10 (of unsecured portion)	50	100
Thailand	pass 1 special mention 2	25	50	100
Argentina		25		
Brazil		20 (coll.) 50 (not coll.)	50 (coll.) 100 (not coll.)	100
Chile	potential risk 1; expected loss 20	60	90	100
Colombia	subnormal 1 deficient 20	20	50	100
Mexico	low risk 1	20 (medium risk)	60 (high risk)	100 (irrecoverable)
Peru	generic 0.6 special mention 1.5	8 (with guarantees) 30 (without guarantees)	28 (with guarantees) 60 (without guarantees)	54 (with guarantees) 100 (without guarantees)
Venezuela	generic 2			
Czech Republic .	watch 5	20	50	100
Hungary	watch 0–10	11–30	31–70	71–100
Poland		20	50	100

coll = collateralised.

Sources: Central banks; Caprio (1998); World Bank (1998).

¹⁰ The terms “provisions” and “allowances” are used interchangeably in this paper. They are sometimes referred to as “reserves” but this usage may be misleading.

because the very sharp change in reported bad loans that would result might undermine confidence. However, market suspicions that something is being hidden can hurt confidence much more than telling the truth. Only in exceptional cases, therefore, should the application of rigorous standards be postponed and any postponement should be of relatively short duration.

Valuation of collateral

A second major area of fact-finding that will need to be undertaken when a bank runs into difficulties concerns the *valuation of collateral*. In theory, most (large) bank loans are collateralised, and this should provide a means by which a bank, or a restructuring agency taking over its affairs, can recoup the value of a loan from a delinquent borrower. In practice, however, the collateral is often worth considerably less than its book value (particularly when asset prices have been depressed by the crisis). Moreover, the underlying value of the collateral can be recovered only if bankruptcy procedures operate efficiently.¹¹

Collateral takes many forms and the valuation rules that apply should reflect this. The most common collateral for commercial or housing loans is real estate. Because property prices are variable, many supervisors (Chile, Korea, Poland) issue guidelines on the ratio of loan value to collateral. For example, several supervisory authorities limit mortgage loans to around 70% of valuation (Hong Kong, Hungary, India). In some countries, guarantees by third parties also play an important role (Mexico, Poland, Venezuela). In Hong Kong, Malaysia and Singapore, bonds and shares are widely used as collateral. In countries where securities are permitted as collateral, more rigorous and specific guidelines (often mark-to-market rules with accompanying calls for margin payments) are generally in place. This is appropriate as capital markets may be thin (indeed 'locking-in' securities as collateral will make markets thinner). For consumer loans, the object of the loan usually serves as collateral.

As aggregate demand weakens during banking crises, collateral values often drop steeply. Moreover, a large number of simultaneous "fire sales"

¹¹ Chapter 6 of World Bank (1989) discusses how bankruptcy law and collateral rules evolved with the development of banking and limited liability companies.

caused by banks or restructuring agencies realising collateral from bad loans would magnify the falls in asset prices. This raises the question of how long restructuring agencies should hold assets (this is addressed below).

The credibility of measures to realise collateral or other steps to enforce repayment of loans depends on an efficient, rapid and transparent legal process. Bankers in Argentina, Brazil, Malaysia and Thailand have often noted that deficiencies in their legal systems have created a culture of non-repayment, rendering threats of legal action against delinquents ineffective. Long cases are expensive, and justice delayed is justice denied. Realising pledged assets through the courts has often taken years in eastern Europe, India, Mexico, Peru and Thailand,

Table 10
Bankruptcy procedures

	Typical length of time	Priority of banks' secured loans	Priority of banks' unsecured loans
China		after BF, W, T	after BF, W, T
India	a few years		
Hong Kong . . .	4–6 months	first claim	after SC, BF, W, T
Indonesia		high	n.a.
Korea	6–8 months	after BF, W, T	after BF, W, T, SC
Philippines . . .	within a year	after T, W	after T, W, SC
Singapore	under 3 months		after SC, W, T
Thailand	years		
Brazil	6–12 months	after BF, W, T	after W, T, BF, SC
Chile	2–3 years	after BF, W, T	after BF, W, T, SC
Colombia			after BF, W, T, SC
Mexico	1–7 years	after W	after W, SC, T
Peru	2–12 months	first claim	after SC, W
Venezuela	lengthy		
Czech Republic .	a few years	after BF, T, W	after BF, T, W, SC
Hungary	2 years		
Poland		after BF, W	after BF, W, SC, T
Saudi Arabia . .	6–12 months	first claim	after SC, BF, T
South Africa . .	6–12 months	after BF, T, W	after BF, T, W, SC

BF = bankruptcy fees; W = wages; T = taxes; SC = secured claims.

Source: Central banks.

although recent legislation in several countries should improve this. By contrast, proceedings take about half a year in Hong Kong and Korea and even less in Singapore. A weak legal system exacerbated banking problems in Saudi Arabia in the 1980s, but the system is now much improved.

The law may set priorities in the distribution of assets among unsecured claims. Even in the jurisdictions without explicit rules, however, it is usual to give priority for the administrative expenses of the bankruptcy proceedings, generally followed by employee and government claims (Table 10).

Corporate debt restructuring

Most of the NPLs of a banking system in trouble are usually loans to non-financial enterprises which are no longer able to service their debts. Policies to deal with these NPLs will depend also on policies to deal with corporate debts.

Supporting viable companies

During crisis periods, firms with reasonable longer-term prospects faced with recession and exceptionally high interest rates may find that they are temporarily unable to service their debts. Although such firms are technically insolvent, it is often desirable to ensure that a distressed firm can continue as a going concern. Not only would this reduce disruption in the real economy, but it may also result in banks and other creditors recouping more than they would by closing the firm (and scrapping its assets or selling them immediately at a very low price). Such arrangements should not of course impede the liquidation of companies with no long-term future.

Arrangements for helping corporations through temporary difficulties vary from country to country, depending on history and the structure of financial systems. In the United States, for instance, “Chapter 11” proceedings¹² involve a firm filing for bankruptcy but continuing to

operate under the same management. Managers specify how to compensate creditors in a reorganisation plan which then requires ratification by a majority of each class of creditor and shareholder. Provisions may also be made for additional loans to the debtor; such loans typically enjoy seniority. (If such support is not forthcoming, the firm is liquidated.) In Japan and Germany, by contrast, each firm usually has a single bank for most of its business; this bank will normally help resolve financial difficulties.

In the United Kingdom, an informal mechanism known as the “London Approach” has developed. Under this, a voluntary agreement among lenders to abstain from putting firms into receivership is sought. Lenders then share information and try to agree on a workout involving a sharing of losses. Unusually among advanced economies, the central bank has often been involved in these procedures, albeit in ways that have changed over the years. In the 1970s and early 1980s, the Bank of England frequently suggested possible terms for refinancing and persuaded lending banks that they should accept them. By the 1990s, the Bank had come to see itself more as a mediator or “honest broker”. The Bank of England participated in discussions concerning 160 workouts in the early 1990s recession.¹³

Some have suggested the Approach has become less workable over the years. The Bank may have less influence now that it is no longer the supervisor of banks. Furthermore, the negotiations are becoming much more complicated as firms increasingly borrow across national borders and debts are securitised. This has led to calls for standard clauses governing any future workout arrangements to be included in initial loan agreements.

Key issues in putting together arrangements for corporate debt workouts include:

- Should the talks be co-ordinated by any neutral (probably public sector) party?
- Is agreement among holders of what percentage of debt sufficient to bind the minority debt holders?
- Is there any arbitration process?

¹² After Chapter 11 of the Bankruptcy Reform Act, 1978, which relaxed the old absolute priority rule that gave creditor claims categorical precedence over ownership claims.

¹³ Smith (1996) describes the London Approach in more detail.

- Does any interim new financing to keep the business going have priority over existing debt?
- Will any government funding be provided as part of the process?

Some emerging market economies have addressed these issues and introduced procedures along the lines of the London Approach. A so-called Bangkok Approach to corporate debt restructuring was developed in Thailand during 1998. It calls for creditors to agree on a standstill, and perhaps provide new money senior to existing debt, while the firm and its advisers propose a restructuring plan. The most important principles

Table 11

General principles for corporate debt restructuring

1. To further the long-term viability of the debtor, the plan should achieve a business, rather than just a financial, restructuring.
2. If the debtor's management is providing full and accurate information and participating in all creditor committee meetings, creditors should "stand still" for a defined (e.g. 60 days) and extendable period. Restructuring should not be used to hide NPLs.
3. Debt forgiveness should only be used as a last resort and only in exchange for stocks and warrants.
4. A lead creditor institution (and within it, a specified individual) must be appointed early in the restructuring process to co-ordinate according to defined objectives and fixed deadlines. In major multicreditor cases, a steering committee which is of a manageable size while representative of all creditors, should be appointed.
5. Decisions should be made on information that has been independently verified.
6. Creditors' existing collateral rights must continue.
7. New credit extended on reasonable terms to help the debtor continue operations must receive priority status.
8. Lenders should seek to lower their risk (e.g. through improved loan collateral), rather than to increase returns (e.g. by raising interest rates).
9. Any creditor that sells his debt claim should ensure the buyer does not impede the restructuring process.
10. Creditors should take account of the impact of any action on other creditors and on potentially viable debtors.

Source: Drawn from *A framework for corporate debt restructuring in Thailand*. Published by the Board of Trade of Thailand, the Federation of Thai Industries, the Thai Bankers' Association, the Association of Finance Companies and the Foreign Banks' Association.

are summarised in Table 11: many of these principles apply to other schemes, such as those in Malaysia and Indonesia.¹⁴

Around 200 Korean financial institutions have agreed to follow the guidelines set out in the Corporate Restructuring Agreement and be subject to binding arbitration by the *Corporate Restructuring Coordinating Committee* (CRCC). Under the guidelines, a meeting can be convened by a major bank or an institution holding more than a quarter of the company's debt. There is then a standstill on debt repayments while the creditors decide how to work out the debt or whether to liquidate the company. The plan could cover extending the maturity of short-term loans, grace periods on servicing requirements and debt for equity swaps. The approval of holders of 75% of the debt is needed for a decision. If this is not obtained, the matter is arbitrated by the CRCC. The lead bank then works with the company on behalf of the creditors, with any problems arbitrated by the CRCC.

In Hong Kong, the Association of Banks released "Guidelines on Corporate Difficulties" based on the London Approach, in April 1998, with the support of the HKMA. The present scheme has been quite successful, although the need for unanimous support and the sheer number of cases means that the workout process can be protracted. In about ten cases the HKMA has become involved, persuading minority banks to agree to a reasonable proposal.¹⁵

In some cases, Asian banks have incorporated swaps of equity for some debt in corporate debt restructuring. This has the advantages of easing some pressure on the corporate borrower and allowing the bank to share in any profit recovery in exchange for continuing its risky exposure. But, supervisors need to be wary of banks taking equity positions in firms because of the risk of exposure to non-banking risks; if exceptions are made during severe cyclical downturns, supervisors will need to verify that the bank has taken proper precautions.

In Mexico, informal solutions between debtors and creditors are usually sought due to the time and cost involved in bankruptcy proceedings. Hungarian law tends to encourage the financial reorganisation of insolvent industrial enterprises, rather than liquidation. By

¹⁴ The schemes in these three economies are described in more detail in the paper on "Bank restructuring in South East Asia" in this volume and in Stone (1998).

¹⁵ Carse (1999) gives more details.

contrast, laws in the Czech Republic tilt more towards liquidation of enterprises when their current liabilities cannot be met, regardless of their longer-term prospects. Poland included debt workouts in its bank restructuring programme of 1993. The large commercial banks were only recapitalised if they adopted “conciliation agreements” with their corporate debtors deemed appropriate by the finance ministry.¹⁶ These agreements involved banks negotiating a workout on behalf of all creditors subject to the agreement of holders of at least half the debt. In practice the number of debt/equity swaps was lower than had been initially expected. Wijnbergen (1998) attributes this to a combination of bureaucratic resistance and tax laws.

Official assistance

Where problems in the corporate sector are very widespread, governments may need to be more actively involved. In 1983 the Mexican government established FICORCA, a trust fund overseen by the central bank, to provide firms with a more stable environment in which to negotiate a restructuring of their debts. Around 2,000 corporations were assisted under the scheme to restructure over \$12 billion in debt. They were able to swap their foreign debt for pesodenominated debt under a fixed government-guaranteed exchange rate and the maturity of the debt could be extended to eight years or more with a four year grace period. This meant the government assumed the foreign exchange risk, but was able to borrow on better terms than the individual firms.

A similar approach has recently been adopted in Indonesia. The *Indonesian Debt Restructuring Agency* (INDRA) was established in July 1998 to help Indonesian debtors repay their foreign currency obligations to foreign creditors (including Indonesian branches of foreign banks). It

¹⁶ Borish et al (1995) report that policymakers in the transition economies thought banks could be the lead restructuring agents as they knew more about the condition of borrower enterprises than did other agents. This assumed that for viable enterprises banks would take the lead in the financial (debt), physical (property, plant, equipment, inventories) and operational (governance) restructuring and for nonviable firms would coordinate their liquidation. However, banks, being generally inexperienced in corporate restructuring techniques, were not able to fulfil this ambitious agenda and governments had to be involved.

intermediates between the domestic debtor and the foreign creditor in servicing renegotiated debt. A condition of INDRA's participation is that creditor and debtor agree to restructure the loan so that repayments are spread over eight years or more with only interest paid for the first three years. Debt service payments are made to it in rupiah at a set exchange rate. The set rate in nominal terms is derived from the best 20-day average rate since August 1998. It is then adjusted to be stable in real terms. INDRA then pays the foreign creditor the agreed amount of dollars.

In the 1980s the Central Bank of Chile subsidised the banks to reschedule corporate and mortgage debt to give both a longer maturity and grace periods of one year for interest and five years for principal. Additionally, the central bank subsidised the rescheduling of banks' dollar denominated assets after successive devaluations, so that borrowers did not bear the full increase of the peso-denominated loan. This was an expensive exercise for the central bank.

In some emerging markets, problems in the corporate sector are so deep-seated that measures in addition to arrangements to work out their current debt are required. The governance structure of firms may need to be reformed to prevent banks that lend to them getting into further difficulties. In Korea, the government is strongly encouraging restructuring within the “chaebol”, the large conglomerates that dominate the economy. Similarly, putting the banks in China on a sound footing is likely to require the government reforming the state-owned enterprises.

Secondary debt markets

A secondary market in corporate debt is developing in Asia. The *Asia Pacific Loan Market Association* (APLMA) was established to develop standardised loan documents, facilitating sales of loans, and to compile data on them. Most sales have been of better quality loans by Japanese banks to European and US banks. While the development of a secondary market in distressed corporate debt may help some troubled banks, there is concern that it could complicate London Approach-type negotiations if it means different faces at the table at each stage of the negotiations and cause complications with insider-trading restrictions.

Assisting banks: avoiding moral hazard versus pragmatic rebuilding

Bank liquidation: a last resort?

Part of the normal competitive process in any industry is that individual firms should be allowed to fail. Allowing the weakest to exit increases the overall efficiency of the industry; conversely, maintaining over-capacity creates a more difficult environment for the stronger firms. This rationale applies also to the banking industry. As Bagehot put it, “any aid to a present bad bank is the surest mode of preventing the establishment of a future good bank”. For this reason, the European Union has sought to establish a mechanism whereby strong banks or others have some form of legal redress against government aid to competitor banks in difficulties.

Yet medium-sized or large banks are in practice rarely closed: throughout history, governments have tried to keep banks afloat.¹⁷ Indeed, a large number of countries follow a more-or-less explicit policy of not letting any bank go bankrupt. In both industrial and emerging economies, bank rescues and mergers are far more common than outright closure of the bank. Moreover, almost all countries’ legal systems distinguish between enterprise bankruptcy and bank bankruptcy. An important reason appears to be that a bankruptcy suit brought by creditors, even if the suit proves unjustified, may terminally damage confidence in a bank. Hence there is a consensus that the initiation of insolvency proceedings against a bank should be left only to the supervisor or other government agencies. Most agree that supervisors should have the power to initiate the bankruptcy process and restrict the bank’s business pending the court’s decision.

What are the main motives behind the marked reluctance to liquidate banks? Three main reasons appear to be important: the systemic threat to the financial system; the disruption of credit relations between a bank and specific borrowers; and the danger of a “credit crunch”.

¹⁷ The emperor Tiberius halted a bank run in Rome in 33 AD by transferring funds from the Treasury to the banks for them to lend on concessional terms (see Calomiris (1989) pp. 26–27). The most famous banking crisis is probably that of the 1930s in the United States – the policy lessons from it are still being debated. For a list of post-war banking crises, see Caprio and Klingebiel (1996) and the Annex in World Bank (forthcoming).

The *systemic threat* is that a bank failure may infect other, healthy banks and financial markets more generally. There are several mechanisms of infection. One is through the payments system, where one failure may provoke a chain reaction of non-payment by other participants. This was the key focus of Bagehot’s (1873) classic study. How serious this is nowadays depends in part on the speed and efficiency of national payments systems. The experience of industrial countries is that Real Time Gross Settlement in domestic markets and better international netting arrangements have greatly reduced this risk. Another mechanism of infection is through interbank loans. However, it is not clear how far public money should make good losses by banks, which should be in a better-than-average position to monitor the health of other banks.

A final mechanism of infection works through the bank deposit market. The danger is that one failure may undermine the public’s confidence in banks generally, provoking a generalised bank run. This risk is probably particularly present in countries with a recent history of bank failure – many Latin American countries are in this category – and in countries without a credible deposit insurance scheme. The potential size of a bank run is illustrated by the Argentine experience of early 1995, when 18% of deposits were withdrawn in three months (although in this instance macroeconomic factors rather than a bank failure triggered the run). Similarly, the invasion of Kuwait led to Saudi residents withdrawing 11% of local bank deposits in August 1990.

On the other hand, where there is a long tradition of confidence in the banking system, a single bank failure is likely to prompt depositors not to withdraw from all banks in an indiscriminate way, but rather to move their funds from weak to strong banks. Hence the result would be a flight to quality, not a generalised run. The Argentine experience in 1995 is again instructive: the deposits returned to the banking system after the crisis were concentrated in larger and foreign banks. Some smaller and regional banks continued to experience difficulties and were eventually merged or liquidated.

Other reasons for not closing banks are the *fear of disrupting credit relations and causing a “credit crunch”*; a marked widening in interest rate spreads as well as a reduction in the availability of credit. Such effects have been evident in some emerging economies recently (as discussed above and shown in Table 3).

In conclusion, then, there are good reasons to hesitate before liquidating a bank. Yet it is also true that the failure to liquidate has left many countries “overbanked” or has involved large fiscal expenditure that could have been better deployed elsewhere. The authorities in Hong Kong rescued some banks in the 1980s due to systemic concerns but, when BCCI got into difficulties, the absence of such systemic implications led the authorities to allow its local offices to be liquidated. But, as they comment, “the process was nevertheless not a painless one. There were demonstrations from depositors, rumours were widespread and [short-lived] bank runs started on several other banks”.¹⁸

Finally, it might be noted that there are no international laws covering closure of banks, leaving the applicable law that of the country where the core assets reside. In the Herstatt case in 1974 bankruptcy proceedings were filed in Germany as well as in the United States. The disentanglement of branches and subsidiaries abroad and the treatment of international financial claims appear subject to ad hoc agreements.

Coordinating responses

Bank restructuring seeks to achieve many (often conflicting) goals: preventing bank runs, avoiding a credit crunch, improving the efficiency of the financial intermediation process and attracting new equity into the banking industry to economise on claims on the public finances. It is therefore not surprising that there is no unique or optimal blueprint.¹⁹

There are, however, some general lessons from successful restructuring exercises. Goodhart et al (1998, p. 18) distill three basic principles: “ensure that parties that have benefitted from risk taking bear a large portion of the cost... take action to prevent problem institutions from extending credit to highly risky borrowers... muster the political will

¹⁸ The paper in this volume on “Banking problems: Hong Kong’s experience in the 1980s.”

¹⁹ As Dziobek (1998) notes, the style of response has changed over time. In the 1930s, the most typical responses to banking crises were the introduction of additional controls and limits on competition. Now “market-based” techniques are more commonly employed. However, the degree of recent innovation should not be overstated. Government equity injections, the establishment of an asset management corporation and domestic mergers were all used in the Austrian banking crises of the early 1930s, for example.

to make bank restructuring a priority by allocating public funds while avoiding sharp increases in inflation”.²⁰ Many senior officials involved in thoroughgoing restructuring affecting banks emphasise the importance of a political consensus for dealing effectively with banking crises. In Sweden the opposition political parties were represented on the board of the Bank Restructuring Agency. A plan to deal with a widespread banking crisis will need to be bold and comprehensive if it is to carry conviction. A series of piecemeal steps – often taken at the last moment without any sure grasp of the true magnitude of the problems – may not have a credible effect on expectations, and thus may prolong the difficulties. A plan should be transparent and action should not be delayed unduly.²¹

Moreover, the plan needs to address both “stock” and “flow” problems.²² The “stock” problem is dealing with the banks’ current balance sheets; raising capital and removing NPLs. The “flow” problem is improving the quality of banks’ earnings so the balance sheet does not quickly deteriorate again. This usually involves operational restructuring to improve efficiency, which encompasses improved credit assessment, specialisation, better information systems and cost cutting.

The diversity of possible approaches to restructuring (Table 12) creates the risk that piecemeal action will be taken in an uncoordinated fashion. To guard against this, some countries have established an agency

²⁰ There have recently been some empirical studies seeking the most effective forms of bank restructuring. Klingebiel and Caprio (1996) judge the performance of 64 recapitalisation schemes on whether they led to financial deepening, moderate growth in real credit, moderate positive real interest rates and no subsequent banking crisis. On this basis, they conclude there have been few clear successes (Chile (1981–83) and Malaysia (1985–88) and to a lesser extent Philippines (1981–87) and Thailand (1983–87) were the best among the emerging economies) but the better outcomes have been when restructuring is accompanied by successful macro-reform, performance monitoring by outside auditors, tougher (and enforced) accounting and capital standards, lending halted to defaulting borrowers, and replacement of senior managers. In a similar vein, Dziobek and Pazarbaiolu (1997) suggest that progress in bank restructuring has been greater when separate loan-workout agencies are established (so long as there are enough skilled personnel to staff them) and reliance on central bank liquidity support is limited. Mergers and privatisations feature more heavily among economies making more progress.

²¹ Sweden is often taken as a model. Ingves and Lind (1996), who were closely involved in the process, say that “it was a matter of priority to start the active support measures as soon as possible ... there was no time to build a large organisation so the Bank Support Authority started with a small number of employees but instead hired many outside – mainly from abroad – consultants to benefit from their experience in other crisis situations and thus gaining valuable time.”

²² Sheng (1996).

Table 12
Restructuring methods

	Government capital injection	Asset management corporation(s)	Domestic bank merger	Foreign bank takeover
China	✓	✓	✓	
India	✓	under examination	✓	allowed
Hong Kong (in 1980s) . .	✓		✓	
Indonesia	✓	✓	✓	proposed
Korea	✓	✓	✓	allowed
Malaysia	✓	✓	✓	
Philippines (in 1980s) . .		✓	✓	✓
Thailand	✓	✓	✓	✓
Argentina			✓	✓
Brazil			✓	✓
Chile (in 1980s)	✓	✓	✓	
Colombia	✓	✓	✓	allowed
Mexico	✓	✓	✓	✓
Venezuela	✓	✓		
Czech Republic		✓	✓	allowed
Hungary	✓	✓	✓	
Poland	✓		✓	allowed
Russia	✓		✓	
Saudi Arabia (1970s & 80s)	✓		✓	
<i>Memorandum:</i>				
Finland (early 1990s) . . .	✓	✓	✓	
Norway (1988–93)	✓		✓	
Sweden (early 1990s) . . .	✓	✓		
Japan	✓	✓		

Source: Central banks.

or committee specifically charged with coordinating the parties involved in bank restructuring. For example, Thailand's government is advised by the Financial Restructuring Advisory Committee, which includes officials from the central bank and finance ministry as well as some outsiders. In Malaysia, the central bank coordinates the organisations charged with managing bad debts and injecting capital into banks.

Moral hazard: shareholders and managers

Any government rescue can weaken a private institution's sense of responsibility for its own actions.²³ It is therefore important that the terms of any rescue or bailout should not encourage irresponsible behaviour in the future: for this reason those who stood to benefit from the excessive risk-taking that led to the difficulties should pay the price. The *existing shareholders* should clearly bear a loss. In Korea, banks have been required to write down capital as a condition of assistance. Mexico took over bad loans only if fresh capital was injected by existing shareholders.

Under some much earlier arrangements, shareholders were exposed to double-liability if "their" institutions failed (i.e. they had to contribute an additional amount equal to their initial capital subscription). In a similar vein, supervisory authorities in Brazil and India have forced shareholders to put up additional capital. It is entirely appropriate for shareholders to lose more than their capital if they have been directing bank lending towards companies with which they are associated.

But not all shareholders can be held equally responsible. One example would be when losses have resulted from loans made at the behest of the government. It must also be remembered that transparency of the published accounts is essential to allow non-managing shareholders to detect signs of trouble early. Hence the importance of publishing frequent and accurate balance sheet information. In theory, the stock market might be expected to exert some automatic discipline, with the share prices of poorly managed banks falling. In practice, however, the evidence from industrial countries of the stock market's ability to detect in advance banks' problems is at best mixed. This is perhaps not surprising: the financial accounts of banks are difficult to read and the scope for misleading reporting is greater than with industrial companies. For example, until a few years ago banks in Hong Kong were allowed to use transfers to and from hidden reserves to smooth reported profits. Because the accounts are difficult to read,

²³ Following a discussion of the Barings collapse, Goodhart et al (1998, p. 140) comment "Effective control of risk, in the end, requires that it be in the economic interest of financial institution owners, managers and major liability holders. Experience shows that there is no substitute for an occasional bankruptcy to drive this point home".

credit ratings agencies, which can probe more deeply into such matters, could play an important role in informing market participants and some supervisors have incorporated them into supervisory arrangements. Argentina recently required banks to be rated by them, with ratings to be prominently displayed.

One key dilemma arises from the fact that forcing shareholders to accept the full amount of losses incurred may well mean that the shareholders are forced to give up their ownership of the bank. In practice, this will mean that the bank will become de facto state-owned. In countries with efficient state institutions that are not susceptible to corruption and with a well-established tradition of keeping economic activity in the private sector, a temporary state takeover of a private bank may work well (as in Sweden, for example). But in countries where these preconditions are not satisfied, it may be better to leave the bank with the original owners who may be more likely than government-appointed administrators to implement the necessary restructuring, ensure that loans are extended on commercial criteria and keep up the pressure to collect on bad loans.

Political considerations also enter the calculation in other ways. Bank shareholders and managers are not usually poor, and the electorate will often suspect that they work hand-in-glove with the ruling elite. A treatment of them that is seen as too favourable will often provoke a political reaction that delays effective resolution. This has been a significant constraint in Mexico and Japan. Those who have had an effective voice in management should, in particular, be held to account and may, for example, be required to surrender their shares. Under recent restructuring exercises, several Latin American authorities have made official aid dependent on a complete change of bank ownership. In contrast, much of the criticism about bank restructuring in Mexico has centred on allegations that the treatment of bank owners was too lenient, even though some of them lost their capital and control of their institutions. In part, this was because the authorities elected for arrangements that gave existing owners some incentives to put in *additional capital*.

Supervisors will need to monitor very closely indeed the quality of new capital raised by a bank in distress. Equity capital must form the key element of new capital raised because equity provides the cushion to support bank losses and is a key element of a bank's ability to compete.

However, the existing owners may be reluctant to issue ordinary equity that would dilute their control, perhaps in a significant way when equity prices are depressed. Hence there may be a certain temptation to look for other types of capital. The Basle Committee's capital standards have laid down certain important conditions for the legitimate constituents of a bank's capital base. These are summarised in Table A2.

Another approach is to allow banks a transitional period during which the owners are allowed to raise additional capital. In Thailand, for example, tighter requirements for loan-loss provisioning are being phased in over a two-to-three year transitional period. As each deadline during this period is reached, additional capital can be required. At the same time, the government offered to inject tier 1 capital; but this was subject to the condition that any bank taking up this offer would have to satisfy certain stringent conditions including meeting stricter requirements for loan-loss provisioning immediately (i.e. without a transitional period). This stance ensures that government capital is provided only when existing shareholders have lost most, if not all, of their capital. The drawback is that some banks, which need an injection of state capital, may be tempted to delay application for such assistance, thus prolonging uncertainty about the banking system.

Managers should clearly lose their "fit and proper" status in cases of localised bank failure reflecting individual or bank-specific errors. In the case of fraud they should be more harshly treated. But victims of a generalised crisis may – but not necessarily – be treated more leniently. The replacement of the bank's head, and perhaps the deputies, may be necessary to restore confidence; but this may not apply to the next level of senior management. In any case, managers can be replaced only if there are enough capable and honest people to put in place of departed managers.

In discussing the replacement of failed managers in banks, De Juan (1998) distinguishes between what he calls "war generals" and "peace generals". He suggests initially appointing on short-term contracts tough managers skilled in restructuring companies (to close subsidiaries, shrink operations and cut costs) and later appointing more conventional bankers to operate the banks.

Moral hazard: depositors

The treatment of *depositors* – both local and foreign – is much more contentious. In practice, most bank deposits are usually guaranteed because fears of a bank run at home tend to weigh more heavily with policymakers than concerns about moral hazard. Moreover, once depositors of large banks are protected (for systemic reasons), it can be seen as inequitable to deny similar protection to depositors in small banks.

But guaranteed returns may tempt depositors to put their money in high-risk, high-return banks. In the early 1980s, for instance, deposit insurance (covering not only principal but also accrued interest) allowed depositors in Argentina to seek out the weakest financial institutions as these offered the highest interest rates. This further aggravated the weakness of the overall financial system and magnified the cost of potential future restructuring efforts. It was also an important ingredient in the S&L crisis in the United States. This has led some to argue that guarantees should be limited, such limitations being announced in advance. This may take the form of explicit deposit insurance schemes (see below) or priority payment for small depositors during bank liquidations, as in Australia, Hong Kong and Malaysia.

Occasionally depositors have been forced to share some of the cost by having (part of) their deposits forcibly converted into equity or long-term debt.²⁴ It might be argued that this is justified to the extent that depositors benefited from interest payments or other services provided by a bank that could really not afford to do so.²⁵ But such action is very uncommon as it leads to many of the same problems as an outright default.

Governments may sometimes discriminate between different classes of creditors on political grounds or because of contagion fears. When the Japanese *jusen* were liquidated, banks lost all their loans to them but

²⁴ Sundararajan and Baliño (1991) cite instances in Malaysia and Uruguay of conversion to equity and in Thailand of conversions to long-term debt.

²⁵ A number of types of culpable depositors are listed by Glaessner and Mas (1995, p. 69): “bank insiders and related parties who may have benefited from excessive lending or preferential treatment; clients with deposit balances and overdue loans; official or institutional depositors that influenced lending decisions (because they had a stake in the activities in which the distressed institution concentrated its portfolio); recent depositors attracted by high interest rates, who should accept the risks implicit in those returns; or very large, informed depositors who should have exercised some market discipline.” But as a practical matter, it is hard to apply such distinctions in a crisis.

the agricultural cooperatives only lost a tenth of their loans, even though this then required public funds to meet the remaining shortfall. Milhaupt (1999) ascribes this favourable treatment to fears of causing the cooperatives to fail and the disproportionate political strength of farmers.

The treatment of *foreign bank creditors* turns in part on the need to maintain access to international capital markets. For this reason, the Norwegian and Swedish authorities both protected the holders of foreign currency deposits and subordinated debt, largely international banks; the Korean government likewise assumed responsibility for banks' debt. Governments of other countries, such as Chile and Mexico, also supported the domestic banks to meet their foreign obligations. Such action can contribute to a restoration of confidence (and may be useful in persuading creditor banks to extend loan maturities). But it does raise a major risk of moral hazard. In contrast, the Chinese authorities recently decided not to guarantee automatically the foreign liabilities of certain financial institutions (notably the ITICs). While this may have contributed to the downgrading of some Chinese banks' credit ratings in late 1998, it had the advantage of forcing lenders to monitor the intrinsic quality of investments.

To some extent, *future customers* may meet the cost of bank restructuring. One way of recapitalising banks is to engineer wider interest margins. Easier monetary policy restoring an upward-sloping yield curve would help here, as would less pressure on banks to lower loan rates. In addition, banks are likely to pass onto customers some of any increase in deposit insurance premia or taxes. However, this cannot be pressed too far as higher interest rates for smaller or newer businesses may damp any recovery.

Forestalling bank runs: deposit insurance

In many cases, financial crisis has accelerated moves to introduce and strengthen *formal schemes for protecting depositors*. The US scheme, for instance, dates back to the bank runs of the 1930s. Colombia established its scheme in 1985 after a banking crisis. The Tequila crisis forced Argentina to establish a new deposit insurance scheme in April 1995, just three years after the authorities had decided to abolish deposit insurance in favour of arrangements which gave small depositors

preference over bank assets in cases of bank liquidation. Brazil also introduced a deposit insurance scheme encompassing all financial institutions subject to liquidation or intervention following the adoption of the *Real Plan*. The increased incidence of banking crises has been associated with a rapid rise in explicit deposit insurance arrangements. Of 68 such schemes identified by Garcia (1999), 52 have been established since 1980 (and 18 extensively modified during this period).

The existence of guarantees for banks' deposits helps the process of bank restructuring in at least two ways. Firstly, it defuses political pressure for delays in resolving the banking problems which depositors might otherwise exert. A system-wide deposit insurance scheme also means that depositors in different failed banks are treated similarly, which leads to public support for resolution measures. This had been a problem in the Venezuelan banking crisis of 1994. Second, it could prevent an avalanche of lawsuits from depositors, which could unnecessarily delay or even block the resolution of a bank crisis. This was one reason why the Hong Kong authorities introduced in 1995 a scheme to ensure that small depositors receive priority payment in the case of the liquidation of a licensed bank.

There are, of course, other reasons for introducing a system of deposit insurance. One is to protect small depositors who cannot be expected to monitor the soundness of their bank's asset portfolio. Another is to promote savings and better exploit the benefits of a large-scale payments system. Level-playing-field considerations may also argue in favour of an explicit deposit insurance scheme. Where such a scheme does not exist, depositors may uncritically avoid smaller financial institutions in favour of state-owned banks (which enjoy implicit protection), large banks (which may be considered too-big-to-fail) or foreign banks (which may be able to rely on financial backing in their home countries).

Any assessment of the merits of deposit insurance depends on the trade-off between the greater financial stability today that insurance provides and the potential problems of bank fragility tomorrow that moral hazard risks may create. This trade-off depends to a large extent on the conditions on which deposit insurance is provided and financed (Table 13). In particular, the extent of the coverage provided by deposit insurance and its pricing are two important influences on the degree of moral hazard.

One way to minimise moral hazard is to impose a *ceiling on the size of deposit covered*: in this way, large depositors are held responsible for monitoring the deposit-taking institutions. The IMF suggests, as a rule-of-thumb, a maximum coverage of twice per-capita income. Garcia's (1999)

Table 13
Deposit protection schemes

China	Informal stated policy of protecting the interests of depositors; more formal system for medium and small-sized deposit-taking financial institutions is planned
India	Deposit Insurance and Credit Guarantee Corporation; established 1962; limit of rupee 100,000 per person
Hong Kong	No formal scheme is in place, but since 1995 small depositors (less than HK\$ 100,000) receive priority payment
Indonesia	Informal promise in late January 1998 to guarantee commercial bank obligations to depositors and creditors; formal scheme is under study
Korea	Korea Deposit Insurance Corporation; established 1996; limit of won 20 million after 2001 and interim arrangements
Malaysia	No deposit protection scheme in place
Philippines	Philippines Deposit Insurance Corporation insures deposits up to peso 100,000.
Singapore	No deposit protection scheme in place
Thailand	Financial Institutions Development Fund; unlimited
Argentina	New deposit insurance fund for financial institutions (FGD run by SEDESA); established in 1995; limit of US\$ 30,000 per person
Brazil	Credit Guarantee Fund for financial institutions; limit of <i>real</i> 20,000 per person
Chile	State deposit guarantee system for time deposits; limit of 90% of deposit up to 120 Unidad de Fomento (about US\$ 3,700); demand deposits enjoy priority over other deposits and are fully guaranteed by the central bank
Colombia	Guarantee Fund for Financial Institutions (FOGAFIN); established in 1985; pays 75% of deposit with limit of pesos 10 million per person per institution
Mexico	Under the previous scheme (via FOBAPROA), there was a full implicit guarantee. Under the present scheme, implemented in January 1999 (via IPAB), there will be limited guarantee of approximately US\$ 100,000 per person, to be gradually reached by 31 December 2005
Peru	Insurance Deposit Fund; established in 1991; current limit of NS 62,822 (about US\$ 18,000) per person
Venezuela	Bank Deposit Guarantee and Protection Fund (FOGADE) established 1985; legal limit of Bs 4 million per person, but reimbursements of up to Bs 10 million were made in mid-1994

Table 13 (cont.)
Deposit protection schemes

Czech Republic	Deposit Insurance Fund; established in 1994; limit of 90% of deposit up to crown 400,000
Hungary	National Deposit Insurance Fund; established in mid-1993; limit of forint 1 million (about US\$ 5,000)
Poland	Banking Guarantee Fund; established in 1995; limit of € 1,000; 90% reimbursement between € 1,000 and 5,000; to be increased to € 20,000 prior to EU-membership
Russia	Law on Compulsory Insurance of Bank Deposits; limit of 90% of deposit up to 250 times minimum wage
Israel	No deposit protection scheme in place
Saudi Arabia	No deposit protection scheme in place
South Africa	No deposit protection scheme in place (but is under consideration)
<i>Memorandum:</i>	
European Union	<i>EU Directive on deposit guarantee schemes of May 1994; minimum protection of € 20,000</i>
Japan	<i>Deposit Insurance Corporation; limit of yen 10 million</i>
United States	<i>Federal Deposit Insurance Corporation and the National Credit Union Administration; limit of US\$ 100,000</i>

Source: Central banks.

survey found insurance typically covered 90% or more of accounts by number but only around 40% of the total value of deposits. For the emerging economies in this paper, the limits typically applied range from the equivalent of \$2,000 to \$20,000. In Mexico coverage will reach approximately \$100,000 by end-2005. In Argentina and Brazil, too, the ceiling is high.

Additional limitations of coverage have also been imposed. One increasingly common practice is to limit each depositor to a single claim (whatever the number of deposits they might hold). Another is to cover (a little) less than 100%; as in Chile, Colombia, Czech Republic and some other European countries. A third is to design arrangements for refunds in such a way that some value of the deposits is lost. Depositors may receive reimbursements spread over several years: for example, depositors of failed finance companies in Thailand in the mid-1980s were paid over a 10-year period without interest. The authorities may also maintain some discrimination as to the nature of deposits protected and the type of institution. Of the schemes surveyed by Garcia (1999),

27 excluded all or some foreign currency deposits and 45 do not cover interbank deposits. 16 guarantee only, or mainly, household deposits. Chile covers demand deposits in full (to protect the payments system) but limits coverage of time deposits. In Argentina deposits that pay more than 200 basis points above the reference rate are not insured.

A second technique is to design *pricing policy to minimise moral hazard*. Ideally, insurance premia should:

- be set high enough to cover the expected reimbursements that would need to be made in the event of one or more bank failures.
- vary with the riskiness of the individual bank – with weak or poorly capitalised banks being forced to pay more. (There is a strong case for deposit insurance schemes being compulsory to avoid adverse selection and simplify matters for small depositors. This could be opposed by the healthiest banks. Another argument for risk-related premia is that they should reduce this opposition.)

In practice, however, both ideals may be difficult to attain. Given the difficulties of forecasting the timing, depth and spread of a financial crisis, it may be virtually impossible for the insurance fund to quantify the expected cost of a banking crisis.²⁶ Moreover, since any shortfall would usually be made up by the public sector, the deposit insurance agency may be less inclined to try to price risk accurately. (However, arrangements could be devised to cover any shortfall with a government loan to the deposit insurance agency, which then has to increase premia in order to repay).

Designing appropriate risk-related premia for individual banks is complicated. It is very difficult for any outsider to assess ex-ante banking risk. The “best” assessment would draw on factors such as the quality of management but the premia charged would need to be based on objective criteria such as capital ratios so they can be justified to the bank, and to the courts should the bank challenge the ruling. Another problem is that premia set too precisely would be prohibitively expensive for already weak institutions. Furthermore, the actual loss will also depend on how quickly the supervisory agency controls or closes a bank

²⁶ It is also hard to build up sufficient reserves even once an expected cost is calculated. Garcia (1999) cites 17 countries with a target level for the fund, often expressed as a proportion of insured deposits. However only four of these countries have actually accumulated sufficient funds to meet their target.

as losses develop. Nevertheless, discriminating according to the nature of the institution insured, its credit rating or its past performance has become more prevalent in recent years, with a third of the countries surveyed by Garcia now using some form of risk adjustment. In Colombia, for instance, banks have to pay a higher insurance premium than savings and loans institutions. In the United States, risk-responsive premia are levied. Similarly, in Argentina factors such as the rating of an insured institution by the Superintendency of Financial Institutions, the size of its equity capital and the size of provisions to cover potential loan losses, play a role in determining the institution's monthly payments to the Deposit Insurance Guarantee Fund. An alternative approach might be to accept in the scheme only those institutions which have a proven record of sound risk management. Still another approach is to make a grouping of banks liable for its members' losses (mutual liability insurance) and so promote peer pressure for sound bank management.

While they may significantly reduce the degree of moral hazard, such restrictions run the risk of eroding the stability-promoting characteristics of deposit insurance. Is a depositor's tendency to withdraw a deposit from an unsound bank materially greater if it involves losing 100% of the deposit (i.e. no insurance) than when it involves a loss of, say, 25% (i.e. capped insurance)? Another question is whether the announced limitations to insurance coverage are in fact credible. Unless an insolvent bank is liquidated – still the exception rather than the rule – the negative net worth of a bank in need of restructuring tends to be borne by the public sector, thus implicitly offering total deposit insurance.

A privately funded deposit insurance scheme may not be adequate to cope with a generalised banking crisis. Furthermore, the government may feel obliged to offer a broad guarantee of all deposits to restore confidence, regardless of the modalities of the deposit insurance scheme. (It is hard to judge whether such guarantees will be necessary: in Venezuela, there were no bank runs on two occasions when the largest bank failed but there were runs the third time it happened.) Sweden and Finland offered full coverage during the Nordic banking crisis but have since limited it. Even in those countries where a number of banks were liquidated in recent years, there were no reported losses to depositors associated with these closures. In the past, the absence of explicit

insurance has not prevented the actual extension of protection in a crisis. Chile's experience in the late 1970s is one case in point. The rapid increase in the number of financial institutions in Chile, and the resultant difficulties in adequately supervising them, compelled the authorities to renounce depositor protection. But when the government rescued the first bank that got into difficulties soon thereafter, the public quickly assumed that its deposits were covered by implicit protection. A "no protection" policy is never very credible for banks regarded as "too big to fail".

Even when the deposit insurance scheme contains features to limit moral hazard, it will still need to be supported by action to strengthen regulatory and supervisory practice, promote higher capital adequacy standards and stimulate greater transparency and disclosure. Yet, once these steps have been taken, it might be argued that deposit insurance is no longer necessary. This view has been taken in Hong Kong and Singapore.²⁷

Timing the introduction of a deposit insurance scheme is a difficult question. On the one hand, Garcia (1999, p. 10) regards "starting a deposit insurance scheme while the banking system is unsound" as a "departure from best practice" as it is likely to lead to a scheme with very wide coverage. On the other hand, restoring public confidence and avoiding runs are important elements in restoring the health of the banking system, which would argue for an earlier introduction.

In some recent crises, governments have given blanket guarantees to virtually all bank liabilities. At the same time, plans were announced for more limited deposit insurance schemes. Deciding when to withdraw the blanket guarantee, leaving depositors with a formal deposit insurance scheme will be delicate.

Sheng (1996, p. 47) stresses that if a deposit insurance scheme is established, the agency needs adequate powers: "The creation of deposit insurance schemes with insufficient resources or legal powers to deal with the problems can be disastrous. These institutions give the illusion of a responsible agency without the substance. Deposit protection agencies in Kenya and the Philippines were not provided with sufficient resources to deal with the rising level of bank problems, and in the end the rescuer had to be rescued."

²⁷ However, both are reviewing the need for deposit insurance.

General assistance

In many cases, the central bank or the government will decide to help the banking system without attempting to change the structure of either ownership or management. This may be the case particularly when the banking system as a whole is in difficulty. There are several ways this can be done: by extending central bank credit, relaxing regulations, easing monetary policy, giving tax breaks, assisting private capital raising, shifting government deposits and assisting borrowers.

The first central banks were established to provide *lender of last resort facilities*. The classical Bagehot (1873) prescription was to “lend unlimited amounts to solvent but illiquid banks at penal interest rates”. The difficulty lies in distinguishing between illiquid and insolvent banks, given that many bank assets do not have a ready market value.²⁸ For this reason, central banks usually prefer to lend against collateral. Even with collateral, the ability to provide liquidity may be limited by macroeconomic considerations. For example, central banks operating fixed or quasi-fixed exchange rate regimes may be constrained in the amount of liquidity they can provide.

However, even limited support can buy time while solutions to underlying solvency problems are explored. Because the timing of resolution measures can be dictated by the withdrawal of liquidity support, central banks have a powerful weapon to force the bank owners to accept the terms of resolution decided upon. Central banks may prefer to maintain some ‘constructive ambiguity’ about the conditions under which they will provide assistance so as to discourage banks from relying on it. The worst case is to announce pre-specified rules and then not adhere to them.²⁹

Accountability requires that details of central bank liquidity support be disclosed at some time. However it may not be desirable to announce it immediately because of the risk of triggering a run on the banks concerned. In 1991 the Bank of England organised discreet liquidity support for some small banks who were unable to continue funding

themselves from the interbank market following the BCCI collapse and steep falls in property prices which had raised concerns about their asset quality. Details were only revealed a couple of years later once the pressure had passed.

There is always a danger that government reluctance to provide longer-term finance for troubled banks will lead to reliance on central bank liquidity that is too prolonged. In effect, central banks may, in a crisis, be induced to provide some *longer-term finance* for troubled banks. This may be inadvertent if short-term loans cannot be repaid. In Venezuela, for example, eight banks thought to have been solvent used special liquidity lines to meet withdrawals, but were subsequently unable to repay. In other cases, finance is deliberately long-term, with the aim of maintaining a stable banking system during a financial crisis and giving banks sufficient time to restructure. One example of more explicit longer-term assistance is provided by the National Bank of Poland, which purchased both shares and low-yield long-term bank bonds. Deliberate, longer-term lending by the central bank is often contingent on the receiving bank presenting a plan indicating the actions to be taken, the projected financial impact and the time required to resolve its difficulties (Table 14). In Indonesia, some central bank liquidity support is at present being converted into government equity in the recipient banks. When the central bank lent to the banks in Finland in 1991, the loans had a rate of interest that increased over time to encourage banks to repay early.

Relaxing regulations is another possible approach. White (1991) notes that as the S&Ls in the United States first incurred significant losses during 1980–82, mostly due to maturity mismatches, the main policy response was to allow them to offer first adjustable rate mortgages, then consumer credit and commercial real estate loans. While reducing the concentration on home loans, this permitted the S&Ls to move into riskier lending where they lacked experience. This expansion of activities was not matched by increased resources for supervisors: the number of examiners was reduced. Around the same time, interest rate ceilings on deposits were eased. The limit on deposit insurance was raised and the minimum net worth requirement lowered from 5% of liabilities to 3% and this was calculated on a 5-year average. Assets could be reported at higher values than standard accounting rules allowed (including liberal provisions for “good will”

²⁸ As an example, a US study cited by Garcia (1999, p. 23) found that 90% of lender of last resort credit extended by the Federal Reserve went to banks that subsequently failed.

²⁹ Enoch et al (1997) discuss this in more detail.

acquired during take-overs) and losses written off over ten years. It is now generally accepted that these measures only made the eventual cost of restructuring the industry even higher.³⁰

Reducing reserve requirements (or raising the interest paid on them) is another way of helping banks. For instance, Brazil released some reserve requirements on sight deposits to provide finance for the purchase of the time deposit certificates issued by institutions participating in its bank restructuring scheme. Allowing banks more flexibility in the assets they hold may also raise their profitability, but at the risk of further reducing their asset quality.

A more *expansionary monetary policy*, resulting in very low short-term interest rates and a steeper yield curve, may assist banks directly (by widening their net interest margins) and indirectly (by stimulating demand). Such a policy was pursued with some success by the Federal Reserve in the early 1990s. As the recent crisis has eased, yield curves in Asia have reverted to an upward slope, which should assist the banks.

However, if monetary policy becomes too expansionary, it may weaken confidence. In addition, an extremely low level of interest rates may have the effect of relaxing pressure for effective resolution because the carrying cost of bad loans is kept low. It has been suggested that Japanese banks' lack of urgency in addressing their problems stems in part from the low costs to banks of carrying non-performing assets.

A more extreme version is to run a very loose monetary policy in the hope that *high inflation* would raise banks' income, erode the real value of NPLs and increase collateral values. Such an approach was used in Latin America in the early 1980s and has (arguably) been used more recently in some Eastern European countries. However, whatever its temporary benefits, high inflation in the medium term will weaken banks and cause them further problems during any subsequent disinflation.

Generally, relatively little use has been made of *special tax privileges* for banks under restructuring, perhaps because troubled banks are making losses anyway. Brazil, however, has used tax incentives to encourage takeovers: the bank that is taken over can deduct the value of

³⁰ Goldstein and Folkerts-Landau (1993, p. 22) suggest this as one of two key unheeded lessons from banking crises: "what was a profitable activity for early entrants can become a significant source of losses if later arrivals expand the size of that activity beyond reasonable risk/return trade-offs and their own expertise."

NPLs and the acquiring bank receives a credit equal to the difference between the price of the acquisition and the book value of the stock acquired. In addition, some countries grant tax incentives to stocks and bonds issued in relation to the restructuring exercise (Table 14).

Governments may *assist the raising of private capital*. For example, Chile offered cheap government loans for equity purchases in banks and tax credits for taking up new issues. Government agencies in Chile and the Philippines have helped underwrite new equity issues by troubled banks.

In some cases, governments have supported a troubled bank by *transferring deposits* of public sector bodies to it. This has two disadvantages: it increases the exposure of the government to the troubled bank (in a very non-transparent way) and it may weaken the bank from which the deposits are withdrawn.

Some countries have put in place *programmes that support borrowers* as an indirect way of supporting banks. Such programmes may be particularly useful when borrowers have reached the stage where the incentive to continue repayments is much reduced, such as when collateral value is less than the outstanding debt. The main drawback, however, is that debtors may stop servicing their debts with the expectation that the government will increase its support in a subsequent programme. These programmes vary from those assisting borrowers in foreign currency (e.g. Chile) to others which assist specific industries (e.g. the Agricultural, Livestock and Fisheries Loan Support Programme of Mexico) or low- and middle-income families with mortgages (e.g. the recent measures in Colombia) (Table 14).

In Mexico, the sharp rise in nominal interest rates as inflation rose sharply after the 1995 devaluation had the effect of concentrating the real repayment burden of variable rate loans in the early years of a loan. To deal with this, the authorities helped banks to restructure a significant proportion of loans into fixed rate indexed loans.³¹ Other measures included, for small debtors, sizeable interest rate relief and, for large enterprises, the replacement of liabilities at Mexican banks with long-term bonds issued by the government. Mortgagors and other debtors were subsidised on condition that they adhere to the rescheduled

³¹ See the paper "Policy responses to the banking crisis in Mexico" in this volume.

Table 14
Official support measures

	Support by Central Bank	Tax concessions*	Support for borrowers
India			Govt support for some sick industries
Hong Kong (in 1980s)	liquidity support by Exchange Fund		
Indonesia	yes; converting some to Govt equity	no	Jakarta Initiative encourages out of court settlements
Korea	yes; some extended over a year; some 1% below usual i/r	yes on real estate and securities sales	agreement with banks to support viable illiquid firms; CB raised credit ceiling and cut i/r for loans to small firms; Govt contributed to credit guarantee institutions
Malaysia			support for some companies
Philippines	emergency advances	no	none
Thailand	not from CB but from FIDF	no	none
Argentina		no	none
Brazil	only LOLR liquidity assistance	yes	not to support the banks
Chile (in 1980s) . . .	yes	yes for investors buying bank equity	CB subsidised borrowers after devaluation, subsidised maturity extensions and i/r cuts for household and productive loans
Colombia	yes	no	Govt low-i/r loans to families behind on mortgage repayments
Mexico	not by CB but some from deposit insurance fund	no	UDI created to hold constant real value of loans; other programmes to help debtors facing volatile i/r support for mortgagees
Peru	only LOLR liquidity assistance	no	none
Venezuela		no	none
Czech Republic	LOLR	no	considered
Hungary	banks excused from reserve requirements	no	Govt bought many debts of 12 large SOEs; banks got 90–100% of book value
Poland	yes (penal i/r)	no	none
Saudi Arabia	yes (1970s–80s)	no	none

Govt = government; CB = central bank; SOE = state-owned enterprises; FIDF = Financial Institutions Development Fund; i/r = interest rate; LOLR = lender of last resort.

* In addition to allowing tax deductions for write-off or provisioning of bad and doubtful loans.

Source: Central banks.

programme of debt servicing. Under one of the Mexican schemes the support provided by the government increased in proportion to the amount of new credit provided by the banks. One goal of such measures was to avoid a culture of default developing. However, the programmes were not entirely successful because the real value of debt was maintained while real asset values continued falling: the resultant situation of negative equity created incentives to default on the loans. It is important to avoid government assistance to borrowers becoming a regular feature of the financial system, which may erode payment discipline.

Capital injections

A direct way of helping troubled banks is by *capital injection* by government agencies (Table 15). Such injections are usually not offered to all banks. In theory, it is necessary to draw a three-way distinction between those banks strong enough not to require government capital, those viable only with a capital injection and those unlikely to survive even with substantial assistance. Only banks in the middle category should then be eligible. Making this three-way distinction operational, however, is far from simple. The use of simple numerical criteria (subject of course to auditing to ensure realistic valuations done on a reasonably comparable basis) seems to be the most transparent approach.³² Indonesian supervisors relied on capital ratios. In Sweden a computer-based forecasting model was used to predict a bank's financial development over the next three-to-five years, which formed the basis for this classification. However, many subjective elements (notably, for instance, the quality of management) could also enter into consideration.

The design of both sides of such transactions must take account of the incentives created for owners to manage their banks effectively.

³² In Sweden each bank had to compile a comprehensive list of all problem loans. These were then grouped, so that if one branch had an NPL to a company all the bank's loans to that company were regarded as suspect. Particular emphasis was given to valuing property. A special property valuation board of independent experts developed standards for the banks to apply and verified the accuracy of a sample of each bank's valuations. If a bias was discovered, the restructuring authority would adjust the bank's accounts accordingly. All the valuations by banks were required to be based on common assumptions about the macroeconomy and sensitivity analyses to these assumptions were also required.

One side concerns the nature of banks' liabilities transferred to the government. There are arguments for the government injecting pure equity. This will count as Tier 1 capital; it will enable the government to ensure the bank undertakes genuine operational restructuring; it does not impose any repayment burden on a weak bank; and, finally, the government will share fully in the increased value created as the bank recovers.

However, often governments instead inject some form of Tier 2 capital³³ such as subordinated bonds. This may be because they feel it inappropriate for the government to have a controlling role in the bank; or it may be because it costs the government less. Preference shares, equity warrants or options could also be issued to allow the government to share in any subsequent post-crisis recovery in the value of the bank. As they explicitly rank behind deposits and other credits, such instruments do not reduce the ability of the bank to attract funds from private sources.

The second side of the transaction is what the government uses to pay for the shares or bank-issued liabilities it acquires. Capital injections usually take the form of government bonds. This raises tactical issues of the kind of bonds best employed. While zero-coupon bonds mean the government does not need to provide immediate cash, it does not help banks to meet interest payments on deposits. They may also tempt governments to postpone the repayment of the bonds. Tradable bonds make it easier for banks to fund lending to the private sector by selling the bonds, which may help avoid a credit crunch. However, they carry the risk that banks may resume the risky lending to the same (often connected) borrowers who caused them to get into previous difficulties. A compromise might be to use bonds that can only be sold after a set period. (Of course, in some emerging markets there is not an active bond market on which to trade them.) In some jurisdictions, offering a coupon slightly lower than the standard government bond would encourage banks to hold onto the bonds by making the face value (counted as capital) greater than the market value. However, large departures from market values have to be avoided if the accuracy of banks' financial statements is not to be compromised. While government

³³ The distinction between these two types of capital is set out in Table A2.

Table 15
Public sector capital injections and privatisations

	Public sector equity contribution	Disposal	Privatisation of SOBs
India	Govt has recapitalised some SOBs	holdings diluted by issues of shares	partial by issues of shares
Hong Kong (in 1980s) . .	Govt bought 3 banks via IBRA, subject to restructure plan	sold to private banks planned	n.a. planned
Korea	Govt & DIF	planned	
Malaysia	special agency (Danamodal) funded by CB and bonds		
Thailand	MoF up to 2.5% car, jointly thereafter		in preparation
Brazil	no		yes
Chile (in 1980s)	CB	replaced by subordinated debt after 2–4 years	no
Colombia	DIF		auctioned
Mexico	DIF	equities to be auctioned	18 banks privatised 1991–92
Venezuela	DIF replenished capital of 3 banks, funded by loan from CB and equity from Govt	banks sold within 2–3 years	
Czech Republic	no	n.a.	in preparation
Hungary	10% of GDP spent bringing car up to 8%	sold to foreigners	
Poland	CB acquired shares in 4 banks	shares in most banks sold at auction; some sold to existing large shareholder	all sold by end-1998
Russia	CB bought shares		
Saudi Arabia (in 1960s) .	CB acquired shares of directors not repaying loans		Govt share diluted by new share issues
Saudi Arabia (in 1980s) .	Public Investment Fund invested in shares at CB's behest		

Govt = government; CB = central bank; DIF = deposit insurance fund; MoF = ministry of finance; SOBs = state-owned banks; car = capital adequacy ratio.
Sources: Central banks; Drees and Pazarbaşıoğlu (1998).

bonds are generally fixed-rate instruments, it could be argued floating-rate bonds would provide a better match with banks' assets.

Capital injections are often carried out by separate government agencies, and so do not appear directly in the government budget. In Mexico, the deposit insurance agency (FOBAPROA) purchased subordinated debt instruments convertible to capital either if the bank's capital deteriorated further or after five years. This gives an incentive to banks receiving aid both to halt any further deterioration in their capital and to repay these loans before the five-year period elapses. FOBAPROA funded this by a loan from the central bank that in turn required banks to place extra deposits with it. Five banks received this type of support during 1995 and were able to repurchase the subordinated debt within two years.

In Malaysia a special institution, Danamodal, was established, with some initial finance from the central bank but mostly funded from the issue of government-guaranteed 5–10 year zero-coupon bonds. Some of these bonds were sold to the healthy banks, which were required to subscribe to them using funds released from a decrease in their required reserve ratio. Danamodal takes a management role in those banks in which it buys equity, seeking improvements in operational efficiency and possibly merger partners.

Capital injections are usually highly conditional. In Thailand banks receiving capital injections are required to meet more rigorous provisioning requirements, which will reduce the stake of existing shareholders. Once government capital has rebuilt the capital adequacy ratio up to 2.5%, further injections will have to be matched by private sector capital injections. The new capital has preferred status over existing capital. In some countries, assistance has been made conditional on management changes, properly defined procedures for dealing with NPLs and strict limits on new lending (especially to related or delinquent borrowers).³⁴

³⁴ Such conditions may depend on the health of the bank. For example, in the new recapitalisation scheme for Japanese banks, banks with a capital adequacy ratio between 0–2% are eligible to receive capital only if they agree to drastic management and structural reforms, provided that their continued operation is deemed indispensable to the regional economy. Banks with a capital adequacy ratio in excess of 8% are eligible to receive capital only if they agree to acquire a failing bank or it is deemed necessary to prevent a credit contraction. Banks with capital of between 8% and 4% are required to undertake various restructuring efforts that could include resignations of top management and reductions in shareholder capital.

In some cases, banks may be reluctant to accept such capital injections, even if stringent conditions are not attached. Commenting on an earlier recapitalisation fund established in Japan in 1998, Milhaupt (1999, p. 27) says "bank managers were reluctant to accept capital from the fund out of the fear that their institutions would be perceived as weak by the market. Ultimately, 21 banks received virtually equal and insignificant amounts of new capital."

In assessing how much capital to inject, governments or their agencies must avoid giving some banks a competitive edge over others. Lifting the capital ratios of some assisted banks above others (or above those of unassisted banks) would be inequitable and could undermine the competitive process.

Intervention: discretion versus rules

If banks are not to be allowed to fail, it is essential that corrective action be taken while the bank still has an adequate cushion of capital. This is particularly important since low or negative capital will tempt bank managers to try desperate remedies such as offering very high interest rates on deposits to fund credit to high-risk borrowers ("gambling for resurrection"). The Basle Committee has strongly endorsed the need for supervisors to take timely corrective action when banks fail to meet capital adequacy ratios or other prudential requirements. Yet one of the commonest complaints about bank supervisors is that they intervene too late in problem banks.³⁵ This has led many observers to suggest that interventions should be guided by rules rather than left to the discretion of supervisors.

The case for automatic rules is that they will lead to prompter action, which is important as the costs of restructuring a bank are likely to rise the longer that action is delayed. Several arguments can be advanced to support this case. Forbearance, or hoping the problem will solve itself, is always tempting, especially given the usual lack of precise information

³⁵ De Juan (1998) observes that in twenty years' experience he knew of no cases where regulators closed a bank that would have been viable but many insolvent banks were allowed to stay open. Goldstein and Folherts-Landau (1993, p. 21) observe that forbearance in the US S&Ls crisis "produced very poor results because many institutions used the extra time not to adjust but to redouble their bets." Jordan (1998) suggests the banking crisis in New England was resolved at far less cost because action was taken quickly and strict regulatory oversight prevented bankers increasing the riskiness of their operations.

Table 16
United States FDICIA System

Capital level trigger	Mandatory and discretionary actions
10% > car > 8% or 5% > core > 4% car < 8% or core < 4%	Cannot make any capital distribution or payments that would leave the institution undercapitalised Must submit capital restoration plan; asset growth restricted; approval required for new acquisitions, branching and new lines of business
car < 6% or core < 3%	Must increase capital; restrictions on deposits' interest rates and asset growth; may be required to elect new board of directors
car < 4% or core < 2%	Must be placed in conservatorship or receivership within 90 days; approval of the FDIC for: entering into material transactions other than usual core business, extending credit for any highly leveraged transaction; changes in accounting methods; paying excessive compensation or bonuses
car = capital adequacy ratio; core = core capital.	

about the extent of a bank's problems. If a large number of banks are simultaneously in trouble, there may be no political will to contemplate the short-run costs of radical action.³⁶ Other factors may also make supervisors cautious. Closing a whole bank may destroy value in the sound parts of its operations. Supervisors may fear that intervention in one bank could spark a run on others, as occurred in Indonesia in November 1997. They may hope a merger will resolve the problem or be awaiting a comprehensive set of reforms for the banking system as a whole. They may also fear legal consequences: in Argentina, judges forced the central bank to compensate the shareholders on the grounds that a bank was solvent at the time of intervention, and that the insolvency actually resulted from mismanagement during the intervention. Rule-based methods of intervention, especially if enshrined

³⁶ The incentives for regulators to delay are discussed further in Glaessner and Mas (1995). Factors raised in the literature include regulators' reluctance to alienate politicians, "regulatory capture" due to strong personal relations developing between supervisors and senior bankers (particularly if both come from a well-educated elite or if supervisors hope to move to better paid jobs in banks) or clashes between different government agencies. Where there are multiple supervisory agencies, banks may engage in "regulatory arbitrage"; shopping around for the laxest regulator. Sometimes constitutional or other legal reasons present supervisors acting against banks owned by the finance ministry or regional governments.

in legislation, may be particularly helpful for supervisors who operate in an environment of strong political pressures. They may also help counter a frequent bureaucratic preference for delay.

The best-known example of rules are the compulsory quantitative triggers (in relation to bank capital levels) for action by the supervisors set in the 1991 US Federal Deposit Insurance Corporation Improvement Act (FDICIA).

Similar rules have been adopted in some industrial economies and in a number of emerging economies (Table 17). Once capital falls below 8–9%, such rules typically require banks to draw up plans for re-capitalisation, limit or prohibit dividends and impose limits on risk-taking. Restrictions often involve limiting new acquisitions or restricting interest rates on deposits. When capital falls to very low levels, the authorities can force mergers or acquisitions, or proceed to closure. Such rules, however, have yet to be applied to a large bank – in such a case some believe that greater discretion would inevitably condition supervisors' responses. In Chile, the authorities can act in a forward-looking way: if they estimate that current losses may bring a bank's capital ratio down to critical levels in the subsequent six months, they can start imposing restrictions.³⁷

Other emerging markets do not rely on a rule-based framework for policy actions. The first case for discretion is that the multifaceted aspects of a bank's operations that determine its viability cannot be reduced to a single number. Second, the appropriate response to banking difficulties will to some extent depend on the cause and the context of the difficulties. Finally, discretion may also allow the supervisory authorities to encourage a bank's top management to take action well before difficulties are manifest in the accounts.³⁸ Supervisors will often prefer to do this secretly.

³⁷ Capital/asset ratio is not the only variable used by Chilean authorities to trigger the intervention in a bank. They also take into consideration the frequency of accessing the central bank emergency liquidity window and the premium above the average cost of funding that individual banks offer to attract funding.

³⁸ As someone at the centre of the resolution of the US S&L crisis, Ryan's (1996) comments are worth quoting: "[after determining whether equity capital was positive or negative], we looked at management. If the capital level was poor but management, in our judgement, was good, our typical approach was to give management more time to try to work out the problem. And, in fact, some financial institutions that would have failed the capital test, but that had good management that we left in place, survived and are thriving today. Not shutting those institutions down saved US taxpayers billions of dollars."

Table 17

Other explicit structured early intervention frameworks

Country	Capital level trigger	Mandatory and discretionary actions
Korea	8% > car > 6%	Issue management improvement recommendation, including rationalisation of branch management and restrictions on investments, new business areas and dividends
	car < 6%	Issue management improvement measures; including freezing new capital participation, disposal of subsidiaries, change management, draw up plan for merger, take-over by a third-party
	distressed institution ¹	Issue management improvement order; including cancellation of stocks, suspension of board of directors; merger, take-over or request the Finance Ministry to revoke banking licence
Argentina	car < 11.5%	Bank is fined, must submit recapitalisation plan, limit deposit raising, pay no dividends or bonuses and is restricted in opening branches
Chile	car < 8% or core < 3%	Bank has to raise new capital; if unable supervisors prohibit extension of new credit and restrict the acquisition of securities (those issued by central bank)
	car < 5% or core < 2%	Bank has to prepare credit restructuring agreement (expanding debt maturity, capitalisation of credits and subordinated bonds, forgiveness of debt). If the agreement is not approved by supervisors (first) and bank creditors (second) the bank is declared under liquidation
Colombia	car < 9%	Re-capitalisation plan agreement with supervisor to be carried out in one year. Discretionary application of sanctions
	car < 50% of Tier I	Supervisors take immediate possession after approval of Finance Ministry
Czech Republic	car < 5.3% ²	Plan to increase capital; restrictions on acquisition of new assets, interest rates on deposits, credit to related parties
	car < 2.6% ²	Revoke banking licence

car = capital adequacy ratio; core = core capital.

¹ Defined as one whose liabilities exceed their assets, have incapable management (because of a major financial scandal), have excessively large amount of NPLs, have suspended payment on deposits or borrowing from other financial institutions or are deemed by the authorities as unable to pay deposit claims without outside financial support. ² Based on the current minimum capital adequacy ratio of 8%.

Source: Central banks.

Table 18

Discretionary policies of intervention

Economy	Situations allowing authorities to act	Measures
India	bank activities detrimental to depositors	authorities can instruct or remove managers
	car < 8%	infusion of new capital by government (SOBs), rights issue (private banks) or parent (foreign)
Hong Kong	extreme cases	assist take-over by strong bank
	car falls below the minimum (In practice, the HKMA sets an informal "trigger" ratio above the statutory minimum capital ratio)	HKMA may take control of the bank. It will first discuss remedial action or give directions (e.g. stop taking deposits). It can appoint an Adviser or Manager
Indonesia	before, BI would put pressure on banks whose car fell below 8%. Now banks with car below 4% may participate in re-capitalisation programme.	banks required to implement plan to raise capital; may replace management
Singapore	banks unable to meet obligations, doing business detrimental to depositors or creditors, affecting the public interest or not complying with 12% min car	MAS could restrict or suspend operations, after ringfencing banks and instructing them to take necessary actions
Brazil	illiquidity, insolvency, large losses due to bad management, serious violation of laws and regulations or abnormal events	intervention: suspension of normal activities, removal of directors. After 6 months, either return to normal activities or extrajudicial liquidation or bankruptcy; temporary Special Management Regime (RAET): removal of directors and implementation of adjustment programme. The authority can authorise the merger, take-over, transfer of stock-holding control or decree extrajudicial liquidation; extrajudicial Liquidation: cancellation of office of the managers and Audit Committee members
Mexico	irregular operations affecting the stability or solvency of the institution or the public interest	can declare receivership-intervention
Peru	non-compliance with a set of restrictions (liquidity, forex exposure, etc.) suspension of payments or non-compliance with recovery plan; or loss of half risk-based capital	regular inspection of the bank and recovery plan, possibly through a Board of Creditors intervention by authorities for one day, then bankruptcy procedure

Table 18 (cont.)

Economy	Situations allowing authorities to act	Measures
Venezuela	car <8%	if recapitalisation plan fails, new lending and dividends can be prohibited, directors removed and supervisors appointed
Hungary	minor infringement	higher reporting obligations; negotiate Plan of Action
	more serious infringement	on-site examination; revise internal regulation; may prohibit payment of dividend or earnings to managers
	seriously undercapitalised (car <4% for 90 days)	supervisory commissioners on site. prescribe sale of certain assets. proscribe attainment of certain car
Poland	imminent loss (or danger of insolvency) programme does not work	bank has one month to draft acceptable programme of action, implemented under Curator's supervision; extraordinary meeting of shareholders, possible replacement of management, take-over or liquidation if situation does not improve in six months
Saudi Arabia . . .	solvency or liquidity at serious risk liabilities exceed capital by 15 times	appoint advisor; remove directors, limit or suspend new loans or deposits, require other actions; bank has 1 month to increase capital or deposit 50% of excess liabilities in central bank

car = capital adequacy ratio.

Source: Central banks.

Those supervisory regimes which allow some degree of “constructive ambiguity” are not necessarily easy on banks. For example, in Singapore the minimum capital adequacy ratio is 12% and in Hong Kong the supervisors have stepped in to require banks to take additional precautions in property lending when overheating has emerged. Both their banking systems have proved resilient in the recent Asian crisis. Table 18 shows the main actions the national authorities are allowed to take under discretionary regimes. In a number of countries, a “curator” or “administrator” can be appointed by the supervisory authorities to manage a bank’s affairs until it either once again meets prudential ratios or is regarded as “sound” by the supervisors.

In conclusion, it might be noted that some supervisory arrangements incorporate a blend of discretion and rules. For instance, the less rigid criteria under some discretionary regimes are accompanied by some quantitative “triggers”, with the actions taken often similar to those in a rule-based system. Also, some of the rules-based systems are yet to be tested in a banking crisis: some more discretion may be used in practice. A recent report by a Willard sub-group led by Draghi and Guidotti (1998) suggested the compromise that supervisors could rely on automatic triggers but with a regulated procedure for overriding them. Whatever regime is in place, supervisors should have legal immunity for actions taken in good faith.

Managing bad assets

Who manages the bad assets?

One choice faced in a restructuring programme is whether to *separate the management* of bad debts from the originating bank. The case for leaving the loans with the originating bank is that the bank knows the borrower (it also allows the credit relationship to be rehabilitated if the loan is eventually repaid). This is more relevant for loans to enterprises (i.e. which are non-homogenous and for which bank-client information flows are more important) than for real estate loans. The argument for “carving out” the bad loans is that the originating bank may be less objective and may even continue lending to delinquent debtors. Furthermore, a bank preoccupied with managing bad debts may become very risk-averse, with little time or inclination for new lending. It is easier to give separate transparent goals if different people are charged with the ongoing banking operations and the resolution of bad loans. Moving bad assets off the balance sheet would also facilitate finding another bank to buy the troubled bank without complicated guarantee arrangements covering the NPLs.

However, there is also a case for not moving *all* NPLs away from the bank. It is desirable for the bank to maintain some experience with work-out procedures; this was one reason why in Sweden small NPLs were generally left with the bank. It is also unfair to the better managed banks if the distressed banks end up with no NPLs. In the Swedish case

the authorities aimed to leave the problem banks with a ratio of bad loans to assets similar to that of the other banks.

Another possibility is for a government agency to buy the NPLs from the bank but the bank to keep managing them and the two to share any value recovered. However it is hard to devise such arrangements in a manner that gives the selling bank a strong incentive to pursue the borrowers very diligently. This problem is addressed in Annex B.

Another choice is whether to *centralise the ownership* of the bad assets. In the cases shown in Table 19, a decentralised approach was adopted, with each troubled bank being split into a “good bank” and a “bad bank”. This approach is probably best when only one or a few banks are in serious difficulty. It may also be preferable for industrial loans because the preservation of bank-client relationships can be desirable if the experience and familiarity of the loan officer with the borrower outweighs the risk that the problem is being left with someone who may have been responsible for it. It is important when such an approach is followed that the “bad bank” does not end up with all the “bad staff” as well as the “bad assets”. In Hungary, the bad banks issued bonds, guaranteed by the government, which were bought by the good banks. In Poland, bad banks were not established as separate entities but many banks were required to establish a special organisational section for the management of impaired quality loans.³⁹

The alternative approach, used by the HLAC (and its successor the RCO) in Japan and currently by Malaysia and Korea, is to establish a single asset management corporation to purchase NPLs from a number of banks: in effect, there will be one large “bad bank” for the whole banking industry. This seems to be becoming the predominant approach. When there are a large number of banks in difficulty, and where the assets acquired have a certain degree of homogeneity (e.g. real estate), a single entity may reap economies of scale and make the best use of scarce managerial talent. A centralised AMC may be better placed to negotiate restructuring agreements with large delinquent borrowers than would a large number of small banks. Further, a centralised AMC

³⁹ See Kawalec et al (1994). Their explanation is of interest. “We did not believe in our ability to create ... a strong central institution [with] high quality staff ... which could resist political pressure. We also felt that the centralised solution [would] not address banks’ lack of experience in handling credit.”

Table 19
Examples of good bank/bad bank

		Troubled bank	Good bank	Bad bank
Australia	. . . . . 1994	State Bank of South Australia	Bank of South Australia, later sold to domestic bank	South Australia AMC
Brazil	. . . . . 1995	Bamerindus	sold to foreign bank	liquidated
Brazil	. . . . . 1998	Bank of Rio de Janeiro	sold	awaiting liquidation
China	. . . . . 1999	China Construction Bank	continues as CCB	Xinda AMC
Czech Republic	. 1995	Agrobanka	sold	liquidated
Finland	. . . . . 1991	Skopbank	nationalised; parts sold to foreign bank	gradually selling assets
Finland	. . . . . 1993	Savings Bank of Finland	eventually taken over by Arsenal	Arsenal
Finland	. . . . . 1993	STS Bank	sold to domestic bank	STS Bank, controlled by government agency
Hungary	. . . . . 1994–96	Magyar Hitel Bank, Mezobank	sold	
Sweden	. . . . . 1992	Nordbanken	continued as Nordbanken	Securum, gradually selling off assets
Sweden	. . . . . 1992	Gota Bank	merged with Nordbanken	Retriva, gradually selling off assets
Thailand	. . . . . 1998	Bangkok Bank of Commerce	sold to Krung Thai Bank	sold to subsidiary of Bangkok Bank of Commerce
Venezuela	. . . . . 1994	Banco Latino	branch network sold off	

Sources: Central banks; Drees and Pazarbaşıoğlu (1998).

may also be able to consolidate properties used as collateral to different banks to realise a better return on them, if necessary by purchasing complementary property to get a viable development site.

In Thailand, the loans have stayed on the books of the finance companies while the restructuring agency arranges auctions to sell off either the loans or the underlying collateral. More commonly, the AMC has its own balance sheet and buys the impaired assets from the banks.

Table 20
Treatment of bad assets

Separate management			
Central ownership		No	Yes
	No	Normal treatment of NPLs	good bank/bad bank (Table 19)
	Yes	Mexico	Danaharta (Malaysia) KAMCO (Korea)

It is generally thought the AMC should be independent of the central bank and the finance ministry, although operationally it may use its premises or ancillary services. The AMC usually has its own board and reports to the cabinet and/or legislature. Particularly when cronyism and corruption have been significant causes of the problems in banks, it is important that the AMC operates in a very transparent and objective manner. While some staff will come from banks to bring their experience of loan problems, many will come from outside the domestic banking system. They may be organised into project groups managing a specific cluster of connected assets.

The AMC should be structured with appropriate incentives so that management and staff seek a fairly quick resolution rather than unnecessarily prolonging the life of the AMC to protect their own jobs. A further category of incentive may be needed to induce key staff to stay when the AMC is nearing the end of its operations.

Japan has tried variants of both types. The banks established a type of private sector AMC, the Japanese Cooperative Credit Purchasing Company, to which they sold NPLs but, while providing the banks some tax benefits, it failed to resolve the banking crisis. In November 1998, the government launched a new scheme under which a troubled bank would be taken under government control after a report from the Inspection Agency. The NPLs of these “bridge banks” are to be transferred to the Resolution and Collection Organisation, funded by the deposit insurance corporation. The remaining “good banks” are to become subsidiaries of a new government holding company, and will be sold within five years.

Brazil has tried some different approaches. They split some banks into good and bad banks. The good bank kept all deposits and some of the assets of the “old bank” (under central bank intervention). The acquiring bank was free to choose the assets it wanted to keep in its portfolio (with no interference from the central bank). PROER finance fills the resultant gap in the balance sheets, providing an asset for the good bank and a bad bank liability.⁴⁰ The official finance was conditional on a change in bank ownership. The guarantees offered by the bad bank consisted mainly of federal debt securities (low risk) and credits against the indirect federal government administration. In the latter case, the bank was required to offer collateral valued at 120% of PROER financing. More recently, legislation has authorised the formation of financial companies who will specialise in the purchase of credits, including NPLs, although so far only one such company has been formed.

Purchase of assets

There are a variety of approaches to the purchase of NPLs. Using a uniform price (e.g. a fixed proportion of book value, as in Sweden) permits a quick transfer without the delays that haggling over terms with the banks inevitably entails. The disadvantage is that assets are mispriced and banks will have an incentive to sell their worst NPLs to the AMC for more than they are worth while retaining the NPLs with better prospects.

An alternative is to set a price that can be adjusted later (e.g. in the light of the eventual proceeds from selling the collateral). In Korea, KAMCO initially experimented with such an approach. However, this soon proved impractical (as prices of assets continued to fall in the recession, banks would have been forced to pay money back to KAMCO; in addition the price adjustment process itself proved to be time-consuming). Malaysia has experimented with a “one-way” price adjustment mechanism: if the AMC eventually sells the acquired asset for more than it pays the bank, the bank is given 80% of the profit.

The general practice for determining the price at which the asset is purchased has been to pay a discounted present value or “market value

⁴⁰ This is described in more detail in the paper “Restructuring the banking system: the case of Brazil” in this volume, which includes a numerical example.

in normal times". This value would be higher than could be realised in an immediate "fire sale" but would still imply a loss for the owners of the banks. Loans can be divided into broad categories. For instance, non-collateralised loans would be brought at a deep discount, (perhaps a tenth or less of book value) but collateralised loans would get a better price (often about half the book value). However, in Mexico FOBAPROA acquired bad loans from the banks above market value.

Other measures may be necessary to facilitate the process. In Malaysia, special legislation ensures that the AMC has a clear title to assets purchased and does not need the permission of the borrower to purchase the loan from the bank.

A common method is for the AMC to "purchase" impaired assets with government-guaranteed bonds. By the time the bonds mature, it is hoped the AMC will have sold off the assets. If it has paid a market price for the assets purchased, the AMC should therefore make minimal calls on the government budget. If the economy recovers strongly, it may even make a profit. Such bonds can be zero-coupon (Malaysia and Mexico) or interest-bearing (Korea) (the choice of bonds is discussed above). Until recently, the deposit insurance agency in Colombia bought bad assets with a repurchase agreement. However, the recent emergency programme envisages asset purchase by private asset recovery companies, which will receive funding from, inter alia, income from the controversial new 0.2% surcharge on withdrawals from banks.

While participation in the scheme is generally "voluntary", there are usually powerful incentives for banks to join. In some cases, any recapitalisation assistance is made dependent upon the sale of bad loans to the AMC. Because banks will usually find the scheme attractive, participation can be subject to conditions. In the Czech Republic, for example, participation was made contingent on reductions in high-risk activities, improved operational procedures and potentially even replacement of top management. In Mexico, for every two pesos of bad loans bought by the AMC, existing shareholders were required to contribute an additional peso in capital.

Management and sale of assets

The AMC is then faced with the question of how to deal with the assets acquired. One alternative is to sell them almost immediately and with

minimal preconditions. The risk here is that a large sale of weak assets (e.g., commercial property) may depress prices well below "fundamental" values. Another risk is that the assets may be repurchased at a deep discount by the previous owners who remain in default on their original bank loan. This may create moral hazard risks and, perhaps more important, undermine the political acceptability of restructuring policies. For these reasons, asset sales by the AMC may include restrictions on any subsequent resale over a certain period.

The alternative is for the AMC to manage the assets for some time and sell them off gradually. This solution is costly (particularly in countries where interest rates are high) and the risk is that asset prices may decline further during this period, particularly if the AMC staff do not have the skills for managing the assets. AMCs may operate for only a year (when a country opts for rapid sale) or for five to ten years (when the policy of gradual sale is adopted). Sweden had initially thought its AMC would operate for fifteen years but subsequent calculations comparing the holding costs of the assets they held with likely price rises led them to adopt a five-year period instead. The RTC in the United States operated for around seven years. White (1991), drawing on his experience with the S&Ls, comments that "typically, five years or more are required before all of the assets of a liquidated thrift or bank are sold or otherwise liquidated." One question is whether legislation establishing the AMC should incorporate a maximum period an asset can be held by the AMC before being sold.⁴¹

An AMC can use several procedures to sell bad loans or the underlying collateral. In the United States, for instance, the RTC was mandated to (i) minimise losses to taxpayers, (ii) sell the assets quickly and (iii) limit the impact on real estate and financial markets. As these three goals were inconsistent, it needed to develop solutions that represented compromises between them. In selling assets it followed standard procedures set out in detailed manuals, rather than discretion.

A major problem is how to price the assets purchased by the AMC from banks. In negotiations with private buyers, the authorities will have

⁴¹ Wijnbergen (1998) cites the example of an Italian state holding company established in 1948 with a mandate to sell its holdings but which was still in operation half a century later. He also warns that in Slovenia the Bank Rehabilitation Agency became a very interventionist owner.

to find a balance between striking a “tough” pose to obtain good value for the assets disposed and setting conditions sufficiently attractive to ensure speedy sale. This will not be easy.

The RTC contracted out many of the sales using competitive bidding. Before bidding, the RTC grouped together portfolios of fairly homogenous assets and estimated a recovery value for each, which formed the basis for a performance standard that the RTC monitored. Around 100 contractors successfully bid to manage the sale of these portfolios and, by end-1992, they had around US\$19 billion under management.

A variety of methods was used for sales of less homogenous assets. Assets, or portfolios of assets, were sometimes offered at a list price and sometimes auctioned. In some cases, the RTC encouraged sales by offering “seller finance”, i.e. lending to the buyers. Especially in its latter stages, the RTC made extensive use of securitisation to sell loans; in this way, the loan could be split into smaller lots, which could then be sold to much smaller buyers. It formed a pool of similar types of loans which was then transferred to a trust fund that issued pass-through certificates collateralised by the pool of loans. At the behest of credit rating agencies, the RTC contributed to a reserve fund that could make good defaults on the loans up to a certain amount. This was much easier in the United States than in most emerging economies as there were already well-developed markets for asset-backed securities.

To encourage sales, the AMC may guarantee buyers of impaired assets against losses. This has been done in Spain and Thailand. Such guarantees enable an asset to be sold at a higher price. It is very hard to get information on the quality of an NPL or its underlying collateral so prospective purchasers need to undertake a major and time-consuming “due diligence” in the absence of guarantees.

But such guarantees have the disadvantage of giving rise to contingent liabilities of very uncertain size for the government. A second drawback is the risk of moral hazard: if the government undertakes to make good any future losses, there is little incentive for the buyer to get the most out of the loans purchased. To limit this risk, guarantees usually cover less than 100% of the value of the asset and are limited in duration. In effect, future losses are shared between the government and the purchaser. (The situation is analogous to the case discussed in Annex B). A similar form of sweetener is to give the buyer the option of returning the assets for a (usually full) refund within a set period. The RTC in the

United States adopted this after finding that prospective purchasers were taking a very long time to assess the quality of assets offered for sale. The terms of these “putbacks” varied across different types of assets, but usually allowed returns for up to a year. In practice, about a third of overall assets sold were put back, although the proportion was around half for some mortgages and negligible for securities.⁴²

Another alternative, raised by Fries and Lane (1994), is for the AMC to get a return on physical assets by leasing them rather than selling. While not much used in practice, this avoids the problem of potential buyers being reticent to commit themselves to outright purchase before a lengthy evaluation. The lessee may later become a purchaser. One disadvantage is that a lessee has less incentive to maintain the asset.

Most of the current AMCs are still in the early stages of operation. The most advanced is the agency managing the NPLs of finance companies in Thailand. It sold physical assets, car loans and residential mortgages for around half the book value during 1998. However, December’s much heralded “world’s biggest asset sale” of corporate loans (many property related) with a face value of over \$10 billion, was a disappointment, with few bidders and low bids. Some of these assets have since been sold subject to profit-sharing arrangements while others were resubmitted in March 1999 where many were purchased by another government agency.

There is some concern about market saturation in Asia, especially if similar sales start to occur in Japan or by Japanese banks withdrawing from Asian markets. In such circumstances, those countries that manage to complete their sales of assets quickly will do better than those that delay.

Ownership changes

Mergers of domestic banks

Domestic mergers and takeovers often constitute the least costly way of restructuring the banking system. In many cases, a consolidation of the banking system may be desirable even without the impetus of a crisis:

⁴² For more details on the experiences discussed in this and the preceding five paragraphs, see Dellas et al (1996).

the economy may be “overbanked” and some banks may be inefficient. Mergers alone can remedy isolated problems in small banks. A large well-capitalised bank can readily absorb any NPLs thus acquired; and the quality of management can be improved. But it is an open question whether merging two weak banks can create a strong single bank. While there may be synergies or cost reductions from eliminating overlapping branches, the immediate practical difficulties in merging cultures, linking computer systems, dismissing excess staff and so forth can be formidable. It may therefore be unrealistic to expect mergers to produce the quick cost reductions needed in a crisis.

Nevertheless governments do tend to intensify their efforts to promote mergers in the aftermath of banking crises. Mergers can be encouraged by some form of “moral suasion”, a suggestion that the authorities would view it favourably if a large bank were to take over a troubled small one. Temporary exemptions may be granted from prudential requirements. Takeovers likely to be delayed or blocked due to concerns about market concentration in normal times may be waved through in a crisis.

However, in cases where problems are more widespread, potential buyers may be harder to attract. In such cases, the authorities often first “clean” weaker banks’ balance sheets by moving the NPLs into a separate bad bank or asset management corporation (see above). While this can improve the long-run viability of the new bank it is likely to make the exercise considerably more expensive for the government. It may still be more cost-effective than taking the bank into public ownership as a private buyer may pay more than the net assets of the bank for its “franchise value” or customer network.

However, forcing a healthy bank to assume a heavy burden of bad loans – admitted or concealed – may be counterproductive in restoring a willingness to lend, particularly if such action is taken when the banking system as a whole faces difficulties. In addition, the search for a healthy bank prepared to accept a weak bank under such conditions may prove fruitless and can delay necessary restructuring.

During the 1980s crisis in Hong Kong, financial assistance in the form of guarantees and liquidity support was provided to four troubled banks to facilitate their takeover by private sector entities, and three were taken over by the government itself. This was done because allowing these banks to fail might have had systemic implications and

could have had an impact on the value of the HK dollar at a time of political uncertainty. But the authorities did not rescue any of the twenty smaller financial intermediaries that experienced severe difficulties, as these did not have systemic implications.

Foreign takeovers

In a systemic banking crisis, the difficulty of finding enough large and healthy domestic banks has led governments to invite foreign banks to take over domestic banks. This may have other benefits too.⁴³ Foreign banks are less likely to engage in connected lending. They may improve the quality and availability of financial services in the domestic market by increasing competition and applying new skills and technology.⁴⁴ They may have faster and cheaper access to international capital markets and liquid funds (via parent banks). The additional oversight by foreign supervisors may make them sounder. In some cases, adopting a liberal approach has been a condition of entry for international “clubs” (notably the OECD). Some emerging economies may be too small to have a purely domestic banking system that is adequately diversified.

Nevertheless, governments often face domestic pressure to keep foreign banks out. Political sensitivities may be particularly acute if it is thought local banks are being sold too cheaply or if taxpayers’ money had already been used to support them. The entry of foreign banks will also intensify competition (especially if they use their deep pockets to subsidise early losses), and may cause some domestic banks to fail. Foreign bank entry may be restricted to maintain the ‘franchise value’ of domestic banks. This may encourage domestic shareholders to contribute new equity into them.

Governments may be reluctant to have banking systems dominated by banks from a single country, in case problems in that country lead to the subsidiaries cutting back their operations. For this reason, they may

⁴³ A recent study by Claessens, Demirguc-Kunt and Huizinga (1998) suggests that an increase in the foreign share of bank ownership tends to reduce profitability and overhead expenses in domestically owned banks, so the general effect of foreign bank entry may be positive for bank customers. The number of foreign entrants seems to matter more than their market share, suggesting that local banks respond to the threat of competition.

⁴⁴ Kono and Schuknecht (1998) find that the liberalisation of financial services trade leads to less distorted and less volatile capital flows, not the contrary.

seek to “diversify” foreign owners. Many authorities feel it is desirable to keep some banks for whom the domestic market is their prime focus; otherwise domestic lending – notably to small businesses – may be neglected. A limited knowledge of local industry (and often few branches outside the major cities) might militate against lending to small businesses. There are high setup costs to establishing a branch network, especially if there are already strong local retail banks. For this reason, in economies such as Hong Kong, foreign banks have used the inter-bank market for much of their funding. This in turn may have meant local banks put more funds into the inter-bank market and made fewer domestic loans. The net effect may be that large companies gain better access to loans at the expense of small companies.

Even if welcome, foreign banks may be reluctant to enter. For instance, they may not be allowed to maintain majority ownership. Or they may find the risks too great, especially where balance sheet data are not credible, or there are concerns about operational aspects (e.g. “year 2000” computing problems). Furthermore, some foreign banks may believe that waiting will enable them to buy the troubled banks even more cheaply at a later date. In any event, having suffered heavy losses, many global banks may now wish to reduce their emerging markets’ exposure.

Notwithstanding these impediments, in practice, rules have been relaxed and foreign banks have increased their presence in most economies. Majority foreign ownership is now permitted in Indonesia. While foreign banks may now take a majority stake in domestic banks in Thailand, they can only retain it for ten years and this appears to have been a significant deterrent to foreign banks. In contrast, a 30% ceiling on foreign ownership of banks has been retained in Malaysia.

In Mexico, recent legal reforms removed the restriction limiting foreign ownership in those banks with substantial market share. In 1995, the Brazilian government abolished the requirement that foreign banks have a minimum capital double that required for domestic banks. The Brazilian authorities have also provided financial assistance to foreign banks taking over troubled domestic banks (although fees levied on new entrants covered some of these expenses). The Russian government is considering whether to raise the limit on foreign presence in the domestic banking sector from its current 12% of capital in the system. Table 21 shows how the share of foreign institutions in Latin

America and central Europe has increased rapidly. It understates foreign influence as it only includes banks with majority foreign ownership. For example, while there are no majority-owned foreign banks in Saudi Arabia, eight banks have significant foreign shareholder participation of up to 40%. This, in addition to management contracts,

Table 21
Foreign and state-owned banks
As a percentage of assets

	Foreign banks		State-owned banks	
	1994	1998	1994	1998
China	0	0	100	99
India	8	8	87	82
Hong Kong . . .	72	77	0	0
Indonesia	4	..	48	85 ¹
Korea	5	6	19	28
Malaysia	21	20	9	7
Philippines . . .	10	..	19	..
Singapore	80	..	0	0
Thailand	6	13	7	29
Argentina	22	30	36	30
Brazil	9	14	48	47
Chile	20	32	14	12
Colombia	4	31	23	19
Mexico	1	18	28	0
Peru	19	22	0	3
Czech Republic .	13	25	20	19
Poland	3	17	76	46
Russia	2	14	..	36 ¹
Saudi Arabia . .	0	0	0	0
South Africa . .	3	5	5	2
<i>Memorandum:</i>				
Australia	14	17	22	0
Germany	4	6 ²	50	47 ²
Japan	2	4 ²	0	15 ²
United States . .	22	20 ²	0	0

Note: Refers to shares of banks with majority foreign and state ownership respectively.

¹ June 1999. ² Three largest state-owned banks. ³ 1997.

Sources: Central banks; Kamin, Turner and Van 't dack (1998), Table 4; IMF (1998b), Table 3.6; BIS estimates based on Fitch IBCA Ltd. data.

gives foreign shareholders significant control over assets of the Saudi banking system.

Prolonged public ownership

The final mechanism is for the state, or one of its agencies, to take over the banks in trouble temporarily. Most industrial countries have found themselves obliged to do this; in some cases, initial reluctance to nationalise banks delayed effective action. For example, the Long-Term Credit Bank and Nippon Credit Bank were found insolvent and taken into state ownership only after having received substantial public funding on earlier occasions. The challenge during these temporary state takeovers is to run the banks on commercial lines and sustain efforts to collect on bad loans. The danger is that banks remain in public hands for many years, either because the authorities do not find potential buyers/terms of purchase satisfactory or because favoured borrowers/employees lobby for continued public ownership. As a countervailing weight to such political considerations, the United States requires the FDIC to reprivatise any problem bank it acquires under recent “bridge bank” legislation within two years. Japan’s RCO is not generally allowed to retain more than 50% of a bank’s equity for more than one year (although this period can be extended for a further two years).

Many countries have a number of state-owned banks (SOBs), either established to achieve certain goals or nationalised for political reasons long ago. Where these are in financial difficulties, privatisation is often an important element of a longer-run bank restructuring programme. This is particularly desirable where state ownership has been the primary cause of banking difficulties. The inherited bad loan problem in transition economies in the early 1990s, as well as in China more recently, is the result of previous lending not being subject to market discipline. A large proportion of their loan book consisted of “directed” loans to public-sector enterprises, often large loss-making enterprises. Restructuring the banks may then require restructuring the large public-sector enterprises as well. In other cases, credit provided by the public banks has been predominantly to the (federal or state) government, sometimes at below market rates.

SOBs’ operations may be inefficient. Since they are typically backed by the full resources of the government, their funding costs are lower. But

this gives rise to a contingent liability, which may be called just when the government is least well-placed to meet it. In some cases, supervisory standards have been less stringent for SOBs.

Privatisation has been widespread in the 1990s. The nationalisation trends in the aftermath of the early 1980s debt crisis have been reversed decisively in the current decade. (Information on privatisations is given in Table 15 and Table 21 illustrates their effect on SOBs’ market shares.) A large number of countries are in the process of further privatisation of banks while this process has only recently started in India and China. All the transition economies are privatising banks, with Hungary having gone the furthest so far.

Brazil illustrates the additional complications that can arise in federal systems. Since the Real Plan in 1994, the federal government has aimed at a “Reduction of the Participation of the Public Sector in the Financial System”,⁴⁵ with the current 31 SOBs, who account for a large proportion of bank assets, probably being cut to nine. However, the SOBs are registered in the individual states and one of their main “functions” in practice (notwithstanding relevant legislation) had been to provide credit to the controlling states. Consequently, the federal plan has not been accepted by six out of 28 states. The history of Banco do Estado de São Paulo – Banespa, the largest Brazilian SOB – is of particular interest. The federal government used the need of the State of São Paulo for refinance as a lever to secure agreement to put the bank under federal government jurisdiction. The bank is now in a position to be privatised.

The government may divest itself of a bank either in one go or gradually. Selling the whole bank to a single buyer may achieve the highest price as a premium may be paid for control. Selling it to another bank may best allow synergies or cost reductions to be achieved. Moreover, care must be taken that the highest bidder does not want the bank so they can engage in a new round of connected lending. However if a single buyer is not found, trying to sell all of a large bank at once

⁴⁵ There are basically three approaches envisaged. The first is immediate liquidation. A second approach encompasses either privatisation or transformation into a development agency. In any of these events, the restructuring costs are to be fully covered by the federal government. In the third, very flexible, approach, “clean-up”, the federal government covers half the cost, subject to approval by the central bank, while the National Treasury has to be convinced that the state government is able to financially support the other half.

could depress share prices and reduce the return to the government. A gradual sale may also be more politically acceptable. A public float (or even more so, “voucher privatisation”) may be attractive in terms of broadening share ownership but may leave effective control of the bank in the hands of the existing management. This happened with two large banks in Chile.

A particularly thorny question that often arises in selling off SOBs is the treatment of loans that could well turn bad at some future date. Potential buyers usually request some form of guarantee. Brazil and Korea have both used mechanisms that allow buyers to sell back assets found to be bad during the first months of ownership. Discussions on the sale of two Korean banks to a foreign buyer apparently foundered on this issue: the buyer wanted the banks’ loans to heavily indebted borrowers to be discounted even if such loans were still being serviced normally.

Conclusion

Governments and central banks have dealt with banking crises and restructured their banking systems in many ways. There is no panacea: what needs to be done depends very much on circumstances. But some common ingredients of all successful programmes can be discerned. The government must be willing to recognise the scale of the problem as soon as possible. It should strongly support supervisors who want to close insolvent banks (as the supervisors are likely to be subject to strong criticism from vested interests at such times). The government should also, if necessary, be prepared to commit substantial fiscal resources to fixing the problems in the banking system. In both cases early action is likely to prove cheaper in the long run. Transparent arrangements must be adopted at an early stage to deal with NPLs so that a core of healthy banks can continue to facilitate economic development. The process of saving the banking system does not necessarily mean saving existing bank shareholders or managers (the moral hazard risks are too great); but it requires pragmatism in devising arrangements that avoid untoward dislocation. Improvements in supervisory procedures are usually necessary to prevent problems recurring.

These guidelines are easier to state than to put in effect. Part of the difficulty is political. But part of it is also conceptual and administrative.

It is bound to be hard to predict how specific measures will affect expectations and the incentives of owners to ensure their banks are properly run – which will often be decisive for success or failure. Much will also depend on the macroeconomic environment. Because of this complicated mix of influences, there is a great need for highly-trained and politically independent supervisors to administer effective bank restructuring. Governments need to make sure that adequate resources and the necessary support are provided so that this crucial task can be effectively carried out.

Annex A: Preventive measures

Prudential requirements

Prudential requirements centre on banks holding adequate capital and avoiding it being eroded by poor credit practices such as connected or concentrated lending. Adequate and comprehensive risk management and control systems are needed within the banking sector.

A landmark initiative by banking supervisors has been the publication, in September 1997, of a set of 25 Core Principles for effective banking supervision. The principles are comprehensive and were formulated and endorsed by experts of both industrial and emerging market economies. Some of the more important are reproduced in the box.

The primary cushion against losses and a driving force promoting better governance is bank capital. Virtually all major emerging market economies have adopted minimum capital adequacy standards that meet the requirement established in the Basle Capital Accord (see Table A1) which distinguish between “core” or “Tier 1” capital and “secondary” or “Tier 2” capital (Table A2). In a number of countries, such as Argentina, Brazil and Singapore, the capital requirements well exceed the basic norm and actual ratios are higher still. In addition, all economies specify a minimum amount of start-up capital, typically between the equivalent of US\$ 5 million and US\$ 120 million. The amount reflects the balance between promoting liberal entry of new banks, so as to enhance competition, and limiting the risk of bank failures.

It is often argued that the Basle risk-weighted standards, developed for industrial countries, may not be entirely appropriate for banks in many emerging market economies. The overall minimum ratio, 8%, may be too low for banks operating in much more volatile macroeconomic environments.⁴⁶ As Caprio and Vittas (1995) note, it is also well below the capital ratios maintained by banks in OECD economies during their own industrialising phase. Recent amendments to the Basle Capital Accord, such as capital charges for the degree of market risk faced by individual banks, only partly address this problem. In Argentina, loans at higher interest rates require additional capital backing while in South Africa, more capital must be held against mortgage loans exceeding 80%

⁴⁶ See Table 1 in Goldstein and Turner (1996).

Core Principles of Banking Supervision

- Banking supervisors must be satisfied that banks have management information systems that enable management to identify concentrations within the portfolio and supervisors must set prudential limits to restrict bank exposures to single borrowers or groups of related borrowers.
- In order to prevent abuses arising from connected lending, banking supervisors must have in place requirements that banks lend to related companies and individuals on an arm's-length basis, that such extensions of credit are effectively monitored, and that other appropriate steps are taken to control or mitigate the risks.
- Banking supervisors must be satisfied that banks have adequate policies and procedures for identifying, monitoring and controlling country risk and transfer risk in their international lending and investment activities, and for maintaining appropriate reserves against such risks.
- Banking supervisors must be satisfied that banks have in place systems that accurately measure, monitor and adequately control market risks; supervisors should have powers to impose specific limits and/or a specific capital charge on market risk exposures, if warranted.
- Banking supervisors must be satisfied that banks have in place a comprehensive risk management process (including appropriate board and senior management oversight) to identify, measure, monitor and control all other material risks and, where appropriate, to hold capital against these risks.
- Banking supervisors must determine that banks have in place internal controls that are adequate for the nature and scale of their business. These should include clear arrangements for delegating authority and responsibility; separation of the functions that involve committing the bank, paying away its funds, and accounting for its assets and liabilities; reconciliation of these processes; safeguarding its assets; and appropriate independent internal or external audit and compliance functions to test adherence to these controls as well as applicable laws and regulations.
- Banking supervisors must determine that banks have adequate policies, practices and procedures in place, including strict “know-your-customer” rules, that promote high ethical and professional standards in the financial sector and prevent the bank being used, intentionally or unintentionally, by criminal elements.
- Banking supervisors must set prudent and appropriate minimum capital adequacy requirements for all banks. Such requirements should reflect the risks that the banks undertake, and must define the components of capital, bearing in mind their ability to absorb losses. At least for internationally active banks, these requirements must not be less than those established in the Basle Capital Accord and its amendments.
- An essential part of any supervisory system is the evaluation of a bank's policies, practices and procedures related to the granting of loans and making of investments and the ongoing management of the loan and investment portfolios.
- Banking supervisors must be satisfied that banks establish and adhere to adequate policies, practices and procedures for evaluating the quality of assets and the adequacy of loan loss provisions and loan loss reserves.

– Basle Committee on Banking Supervision (1997)

Table A1
Prudential ratios

	Capital (% to risk-weighted assets)	Minimum capital	Liquidity ratio	Required reserve ratio
China	8	RMB 1 bn	25	8
India	8	rupee 1 bn	25	10
	(9 by March 2000)			
Hong Kong . . .	10–12	HK\$ 150 mn	25	0
Indonesia	4	rupiah 3000 bn		3–5
	(12 by end-2001)			
Korea	8	won 100 bn (national) 25 bn (regional)	30	3
Malaysia	8	ringgit 20 mn	15	4
	(10 by end-1999)			
Philippines . . .	10	peso 2–5 bn	7	7–10
Singapore	12	S\$ 1.5 bn	18	3
	(at least 10% Tier I)			
Thailand	8.5		6	0
Argentina	11.5	US\$ 5–15 mn	20	
Brazil	11	real 9.3 mn	none	75 (demand) 20 (time)
Chile	8	US\$ 25 mn	*	9 (demand) 3.6 (time)
Colombia	9	US\$ 24 mn		16 (demand) 2.5 (medium term) 0 (long term)
Mexico	8	US\$ 13 mn	**	0
Peru	8.7	NS 16.9 mn	8 (domestic) 20 (foreign)	7 (local currency) 38 (foreign currency)
	(9 by end-1999)			
Venezuela	8	Bs 1.2–3 bn	none	19
Czech Republic .	8	Crown 500 mn		5
Hungary	8	forint 2 bn		12
Poland	8	€ 5 mn		
Russia	8	€ 5 mn		
Israel	8	NIS 10 mn		8
Saudi Arabia . .	8	SR 250 mn	20	7 (demand) 2 (time)
South Africa . .	8	R 50 mn (soon R 250 mn)	5	2.5

* 100% on demand deposits over 2.5 times capital; 10% on foreign currency deposits.

** 10% of profits allocated to reserve fund until equal to capital.

Sources: Central banks; Kamin, Turner and Van 't dack (1998), Table 2.

Table A2
Definition of external capital

Tier 1	Paid-up share capital/common stock (Tier 1 must be at least half of the total).
Tier 2	Hybrid debt instruments subject to four requirements: <ul style="list-style-type: none"> – unsecured, subordinated and fully paid-up – not redeemable at the initiative of the holder or without prior consent of the supervisory authority – available to participate in losses without the bank being obliged to cease trading – debt service obligations can be deferred (as with cumulative preference shares) Subordinated debt: <ul style="list-style-type: none"> – must have minimum original term to maturity of over five years (during the last five years to maturity, a cumulative amortisation factor of 20% a year will be applied) – must be subject to adequate amortisation arrangements – no more than 50% of core capital

of valuation. On the other hand, if capital requirements are too much harsher than elsewhere, it may drive banks away.

The weights currently assigned to each of the several classes of credit risk may not always be appropriate in an emerging market economy context. For instance, credit risks involved in corporate lending may be much higher and accounting and legal practices differ. Uniform weights within a particular class of borrowers are simple but do not reflect differences in risk. In Argentina, for instance, risk weights on loans are varied according to the interest rate charged (assuming the level of this rate reflects the bank's assessment of the relative riskiness of the loan).⁴⁷

A key bank governance problem that has contributed to banking problems, notably in Chile, Indonesia and Korea, is “connected lending”, i.e. the extension of loans to bank owners and senior staff, as well as to related companies. While these have the advantage of being to companies whose affairs are well-known to the bank, they are often not

⁴⁷ This perceived need for greater risk differentiation is a rather universal phenomenon. In industrial countries, too, the conceptual approach to banking supervision has moved away from reliance on simple numerical standards to greater focus on qualitative aspects of bank governance as well as greater dependence on internal risk control models for determining individual banks' capital requirements.

subject to objective credit assessments, not monitored sufficiently closely and their non-performance is often neglected and not provisioned. As one central banker put it, “it is easier to rob a bank from inside”. In Brazil it is a criminal offence for banks to lend to their directors, senior management or related companies without permission from the central bank. Harder to monitor is lending to “friends” of directors and senior management.

Many fragile banking sectors are also marked by excessive loan concentrations. Large exposures to a single borrower and excessive loan exposures to particular economic sectors mean banks are unduly vulnerable to specific shocks. Sometimes, such narrowness is caused by government-directed lending and regulations specifying minimum proportions of loan assets to be invested in particular economic sectors, or promoted by the use of implicit or explicit government guarantees. In those countries where banking institutions tend to be specialised or operate in only a local area, vulnerability to large loan concentrations is often great. Moreover, a strong rise in asset prices, in particular in real estate prices, can fuel a vicious circle as bank lending accelerates on the strength of commensurately rising collateral values. When these asset price bubbles eventually burst, large loan concentrations in the affected sectors sometimes present banks with insurmountable problems.

Most emerging market economies have prudential limits to bank exposures to related borrowers or single borrowers or corporate groups (Table A3). Limits of at most 30% of capital are set to single borrower exposures in all economies. These individual exposure limits are combined with an overall limit to large exposures. In general, banks are also subject to limits on loans to related parties. Much greater cross-country variety characterises these prudential limits, although one common feature is that they tend to be significantly more restrictive than limits on exposures to a single borrower. By contrast, the table suggests that prudential limits on sectoral loan concentrations are not very common. Notable exceptions are the limits on property sector exposure which were imposed in Hong Kong until 1998, limits on the share of the increase in deposits which Indian banks are permitted to invest in equity or convertible debt instruments, and restrictions on property or share related loans in Singapore. At the same time, government prescriptions with regard to the composition of banks’ loan portfolios also seem to have become less common in recent years.

Table A3
Loan exposure limits

	Related parties (% to capital)	Single borrowers (% to capital)	Sectors
China	max loan to shareholders = their equity holding prohibited	10	
India		25 (connected group 50)	equity and convertible debt limited to 5% of rise in deposits
Hong Kong . . .	aggregate 10	25	limit on property lifted 1998
Indonesia	10	20	loans for land prohibited 1997
Korea		15 (connected group 45) aggregate 500	
Malaysia	prohibited	25	
Philippines . . .	aggregate 100	25	real estate limited to 20% of loans
Singapore	Unsecured credit facilities to related parties ≤ \$5,000	25 aggregate of loans 15% or more of capital is limited to 50% of loan portfolio	limits on property, equity, securities
Thailand		25	
Argentina	5 (collateralised 10) aggregate 20	15 (collateralised 25) aggregate 300	
Brazil	10	25	no
Chile	aggregate 100	5 (collateralised 30)	
Colombia	20	10 (collateralised 25)	no
Mexico	aggregate 100	individuals 10 corporates 30	
Peru	aggregate 75	10–30	rules on loan concentration
Venezuela	prohibited	10 (connected group 20)	
Czech Republic	20	25 aggregate ten largest borrowers; 230	
Hungary	15	25	
Poland	25	aggregate 800 25 aggregate 800	

Table A3 (cont.)

	Related parties (% to capital)	Single borrowers (% to capital)	Sectors
Russia	20 aggregate 50	25 aggregate 800	
Israel	aggregate 10	15 (group 30) aggregate of top six 100	
Saudi Arabia . .	10 aggregate 50	25–50 aggregate 800	
South Africa . .	under review		
<i>Memorandum:</i>			
Australia		30	
EU guideline . . .		25	
Japan		20	
		aggregate 800	

Source: Central banks.

Most countries allow banks to determine how loans are allocated across sectors. Partial exceptions are the minimum lending requirements imposed on specialised financial institutions in Colombia, the advisory prescriptions concerning lending to priority sectors in India, the specification of the share of local-currency lending that Korean banks should extend to small and medium-sized enterprises and the incentives for loans for particular sectoral and regional projects (as well as preferential credit to agriculture) in Venezuela.

The Saudi Arabian Monetary Agency established a credit information service in the 1980s which provides information to banks on large exposures and permitted banks to exchange information on delinquent borrowers. Both measures should help banks in their credit assessments.

An essential part of bank activity is the transformation of maturities: short-term deposit liabilities are invested in longer-term loan assets. Even if the maturity of loans is kept short-term, borrowers, especially those using the funds to finance longer-term investments, typically count on loans being rolled over. Maturity mismatches between bank assets and bank liabilities expose banks to two major types of risk. First, any shock which reduces the short-term funding sources of banks (e.g. a

sudden drying-up of deposits or (foreign) interbank credit lines) will aggravate the essential nature of illiquidity of banks. Banks may try to liquidate some assets, but if no liquid market exists for most assets, this may be possible only at the cost of a sharp reduction in the quality of bank assets. A problem of illiquidity can then spill over into one of insolvency. Especially in emerging market economies, in which longer-term capital markets and securitisation have not developed much and bank assets are predominantly non-marketable, maturity mismatches and illiquidity risks are likely to be pronounced. Secondly, typical maturity mismatches in banks heighten interest rate risks, with a rise in interest rates often eroding the banks' asset side much more than their liability side, possibly to the point of rendering them technically insolvent. While increased reliance on lending at variable interest rates lessens the interest rate risk, it would tend to increase credit risk if rising debt servicing payments force borrowers into default.

The recent turmoil in the Asian region showed how exposure to foreign currencies can result in financial sector crisis. With uncovered interest arbitrage conditions favouring funding of local operations by borrowing abroad, many Asian banks, or enterprises borrowing from them, built up large net foreign exposures. On top of the currency transformation came usually a maturity transformation as well, as funds were typically borrowed abroad on a short-term basis and on-lent domestically at longer maturity. When exchange rates moved in an adverse direction and foreign funding sources were cut off, banks were faced with an often deadly cocktail of foreign exchange risk, liquidity risk and credit risk (given that many domestic entities had borrowed in foreign currency).

A number of mechanisms are available to limit the vulnerability of banks to currency or maturity mismatches. One approach is to impose limits on these exposures (Table A4). Although a number of countries specify quantitative limits to maturity mismatches (or make specific recommendations) for a variety of maturity bands in many countries no regulations exist or banks are asked to specify their own limits and to monitor and regularly report them. One important reason why precise rules are only infrequently specified is the great variety of scenarios (with regard to expected roll-over ratios or price responses to asset sales) that can be devised, with often sharply diverging implications for bank liquidity.

Table A4
Foreign exchange and maturity limits

	Foreign currency exposure	Maturity mismatch
India	bank must obtain approval for its OP limits	cash-flow mismatches in 1–14 and 15–28 days maturity ranges $\leq 20\%$ of outflows
Hong Kong	overnight OP (excl. HK\$/US\$ position) of local banks $\leq 5\%$ of K (15% for experienced institutions)	bank should adopt own limits which should in general $< 10\%$ for up to 7 days and $< 20\%$ for up to one month
Indonesia	maximum net OP 20% of K	no formal guidelines
Korea	15% of K (overbought or oversold)	requirement to match assets and liabilities in local currency; limits on gap ratios for various time buckets for fx operations
Malaysia	each bank has individual net OP limit	
Philippines	maximum short position of 20% of K temporarily suspended; max. long position 5%	
Singapore	no formal limits; banks must establish, monitor and report self-determined limits	banks have to manage and report their maturity gaps
Thailand	maximum overbought position of 15% of K; maximum oversold position 15%	
Argentina	no formal guidelines; K requirement associated with fx position	positive mismatches are required for a number of maturity ranges and a variety of scenarios
Brazil	limits on bought and sold positions. New policy will relate fx exposures to K requirements	no formal guidelines
Chile	absolute weighted sum of net currency positions $< 20\%$ of K, with weights reflecting currency volatility and ratings of the country of issuance	limits on interest rate and residual maturity (30 and 90 days) gaps relative to capital
Colombia	OP between -5% and 20% of K	liquidity gap calculations are made to evaluate liquidity risk
Mexico	Limit of 1.83 times core K	banks have to cover with liquid assets largest mismatch among different maturity bands
Peru	net liabilities $\leq 2.5\%$ of K; net assets $\leq 100\%$ of K	mismatch should be “reasonable”
Venezuela	maximum OP of 15% of K	no formal limits

Table A4 (cont.)

	Foreign currency exposure	Maturity mismatch
Czech Republic . .	OP in any currency should $\leq 15\%$ of K; OP of non-convertible currency $\leq 2\%$ of K; overall OP $\leq 20\%$ of K	no formal limits
Hungary	absolute sum of OPs $\leq 30\%$ of K	no formal limits; banks should determine and monitor maturity management on their own
Poland	limit of 15% K in any currency; limit of 30% for overall net position; limit of 40% for absolute sum of OPs	no quantitative limits
Russia	maximum OP 30% of K	
Israel	no formal limits	no formal limits
Saudi Arabia . . .	no formal limits	no prescribed limits
South Africa . . .	maximum net OP 15% of K	

K = capital; fx = foreign exchange; OP = open position.

Source: Central banks.

The use of prudential limits appears much more widespread with regard to foreign exchange exposures. Limits, expressed as a share of capital, are generally put on the size of banks' open positions in foreign currency. In some countries, these limits are quite detailed. In Poland, for instance, separate limits exist for open positions in individual currencies, for the overall net position and for the absolute sum of both oversold and overbought positions. In Chile, overall positions are calculated using weights that reflect volatility and country ratings of the component foreign currencies. Very few countries, however, specify formal prudential rules with regard to the foreign exchange exposure of enterprises borrowing in foreign currency from the banks, although the latter are often assumed to monitor such exposures (e.g. Hungary, India, Saudi Arabia and Singapore).

Another defence against illiquidity stemming from growing maturity mismatches is to impose liquidity requirements on banks. Table A1 shows that banks in many emerging market economies are subject to a liquidity requirement, amounting to as much as 30% of deposits. In Hong Kong, banks are moreover required to establish an internal liquidity management policy, whereas in Poland a financial liquidity monitoring system is promoted and banks are required to build up a fund for

general banking risks. Reserve requirements could also be instrumental in dealing with a more generalised increase in bank illiquidity. As illustrated by Argentina in 1995, reductions in reserve requirements imposed on banks can release a significant amount of liquidity in the banking sector. As Table A1 shows, most countries impose reserve requirements, but only in a limited number of cases are they high enough to make reductions in them an effective instrument in combating system-wide illiquidity.

Ensuring sound management of credit exposures, however, is not only a question of formulating appropriate prudential limits, but also one of adequate supervision and enforcement. Use of dummy accounts and fictitious names, or legal impediments, can undermine the monitoring of exposures by supervisors and bank examiners. All countries have put in place management sanctions in the case of infringements of the prudential regulations on loan exposures. These sanctions include firing and disqualification of senior staff, fines, making management financially responsible for all losses related to violations of prudential (and internal) regulations and even imprisonment in a number of countries (such as Colombia, Hong Kong, Indonesia, Saudi Arabia and Singapore). However, these punitive instruments are not always very effective. In Brazil, for instance, legislative action may be required to raise fines for violations to more realistic levels, increase the central bank's discretionary power in approving bank managers and make criminal proceedings more effective.

Transparency, disclosure and auditing

The prudential rules discussed above need to be enforced, requiring checks on data reported by banks. This is done by on-site inspections and use of external auditors. Increasingly, more information on banks' performance is being publicly released and they are being rated by agencies.

A balance, likely to reflect the maturity of the domestic financial system, needs to be struck between active supervision and reliance on market forces to discipline banks' performance. For example, Hong Kong recently replaced a guideline on banks' property exposure by full disclosure of these exposures, relying on market participants' judgement of their acceptability.

The influence of recent banking crises on the drive towards greater disclosure is less clear. On the one hand, heavy bank losses, often borne by the taxpayer, have prompted many national authorities to strengthen disclosure requirements. Argentina and Mexico are prominent recent examples. On the other hand, some supervisory authorities, while supporting greater disclosure in principle, fear that full public knowledge of the true financial state of banks could undermine confidence and that genuine progress towards better disclosure cannot be made when banks are weak. Furthermore, market participants' incentives do not always coincide with the public interest goal of establishing a sound banking system.

Both supervision and market discipline depend on transparent, timely, comprehensive and accurate information on the wide array of risks taken by banks.⁴⁸ In addition, market or supervisory oversight should be able to monitor the quality of financial institutions' internal systems for managing, evaluating and controlling risk exposures.

Under the Core Principles, effective banking supervision should include on-site examinations and regular contacts with bank management to verify information provided by financial institutions and identify inherent problems. The qualitative aspects of bank operations are likely to be best evaluated and monitored through direct examinations within the supervised institution itself.

An important practical problem, especially in emerging market economies, is that civil service conditions of employment are often not attractive enough to retain qualified supervisors, sharply limiting the scope for regular and effective on-site examinations. Reliance on external auditors may remedy this problem, as long as their independence is not compromised by being chosen and paid by the banks themselves. Good communication between the supervisory agency and the external auditors is necessary. Many countries use external auditors for on-site supervision and reporting irregularities or internal control weaknesses to the supervisory authorities (including Chile, the Czech Republic, Hong Kong, Hungary, India, Mexico and Poland).

⁴⁸ Key risks are credit risk, country and transfer risk, market risk, interest rate risk, liquidity risk, operational risk, legal risk and reputational risk.

Annex B: Sharing the recovery of non-performing loans

One possible model for assisting a troubled bank deal with NPLs is for a government agency to buy them for less than market value but share the proceeds of any value realised from them. In this model the loans would be left with the originating bank to manage. The challenge is to devise a system where the bank retains a strong incentive to chase the delinquent borrowers or manage well any collateral assets acquired.

A bank with a portfolio of NPLs has to consider how many resources to put into dealing with them. Graph B1 portrays the amount recovered as a non-linear function of expenditure on dealing with three types of NPLs: the Good, the Bad and the Ugly.

The Good are borrowers who are only behind with repayments due to temporary difficulties and will repay all their obligations, or alternatively had offered collateral still worth more than the loan. (This is why the recovery curve starts up the y-axis from the origin.)

The Bad are borrowers who are insolvent with worthless collateral and, no matter how much effort it puts in, the bank will not recover anything. This is why the recovery curve tends to an asymptote short of 100%.

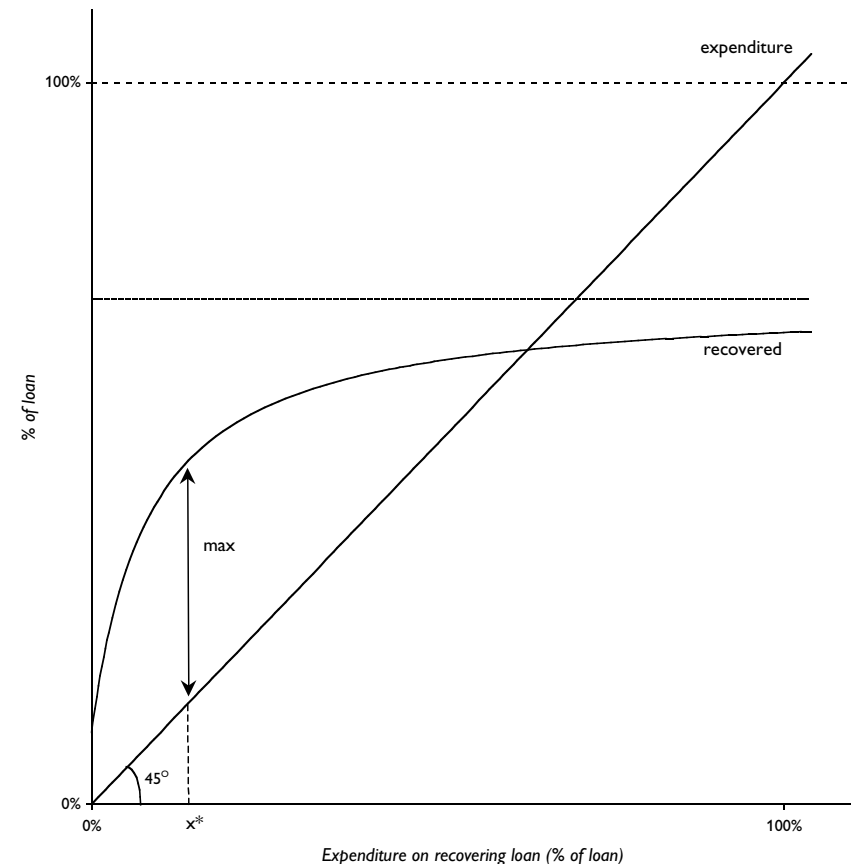
The Ugly are the in-between cases: borrowers who are trying to avoid repaying but can repay if placed under duress, or are well-intentioned but needing assistance to organise their affairs, or with collateral which can yield a return but only if managed carefully.

The optimal strategy for the bank is to spend x^* , the amount which maximises the gap between the recovery and expenditure lines.

The position when the government agency becomes involved is shown in Graph B2. Suppose the agency pays the bank 5% of face value for the portfolio of NPLs but shares equally any value recovered. The graph shows that the bank now spends less and a smaller proportion of the original loans are recovered.

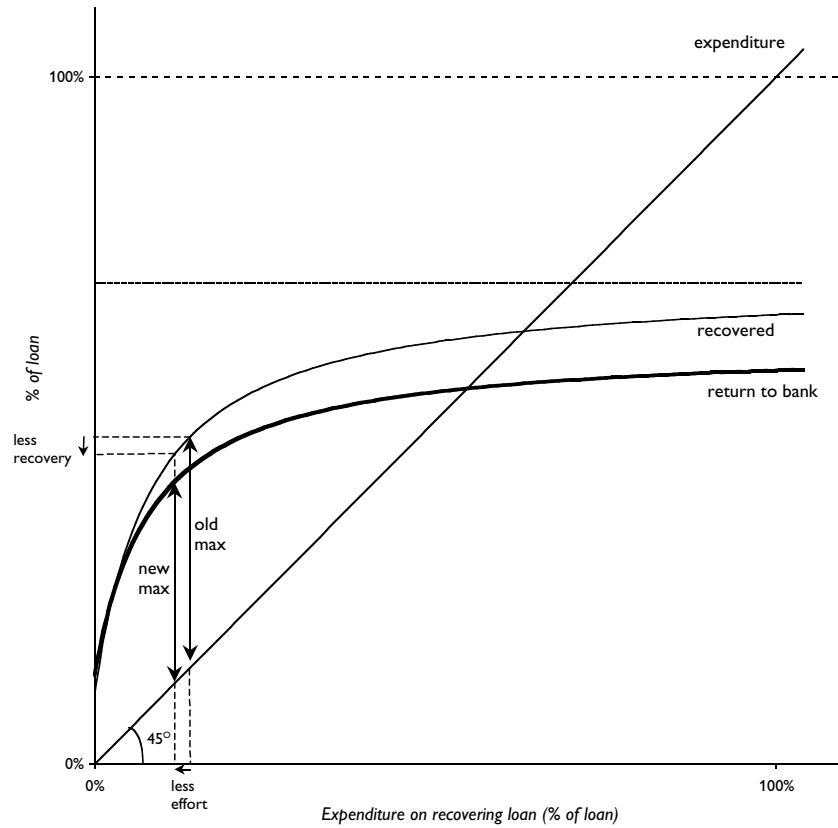
If the government agency pays the bank a larger proportion of face value and in return takes a larger proportion of any value recovered, then the bank may now make no effort to recover the loans at all. This is illustrated in Graph B3.

Graph B1
No government involvement



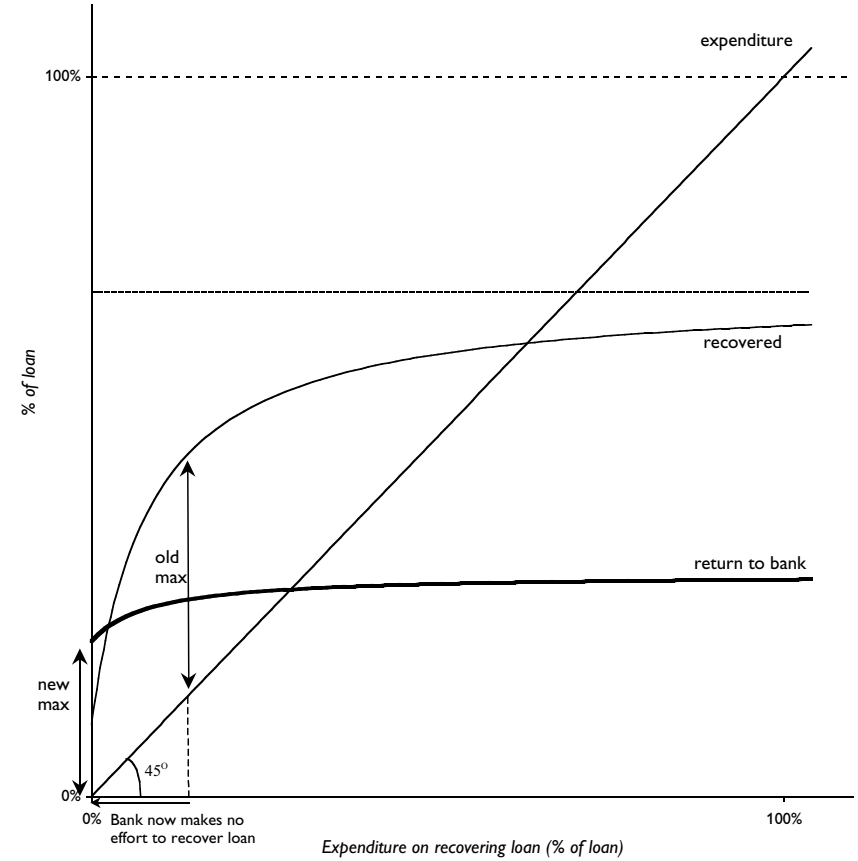
Graph B2

Government pays 5% of face value of loan and shares recovery 50/50



Graph B3

Government pays 10% of face value and lets bank keep on 5% recovery



The same idea can be represented algebraically. Denoting the proportions good, bad and ugly by G , B and U respectively; then a plausible functional form relating repayment (y) to banks' expenditure (x) is given by

$$y = G + U - \frac{1}{(x + 1/U)}$$

Note that when $x = 0$, $y = G$ and as x increases y approaches $G + U$.

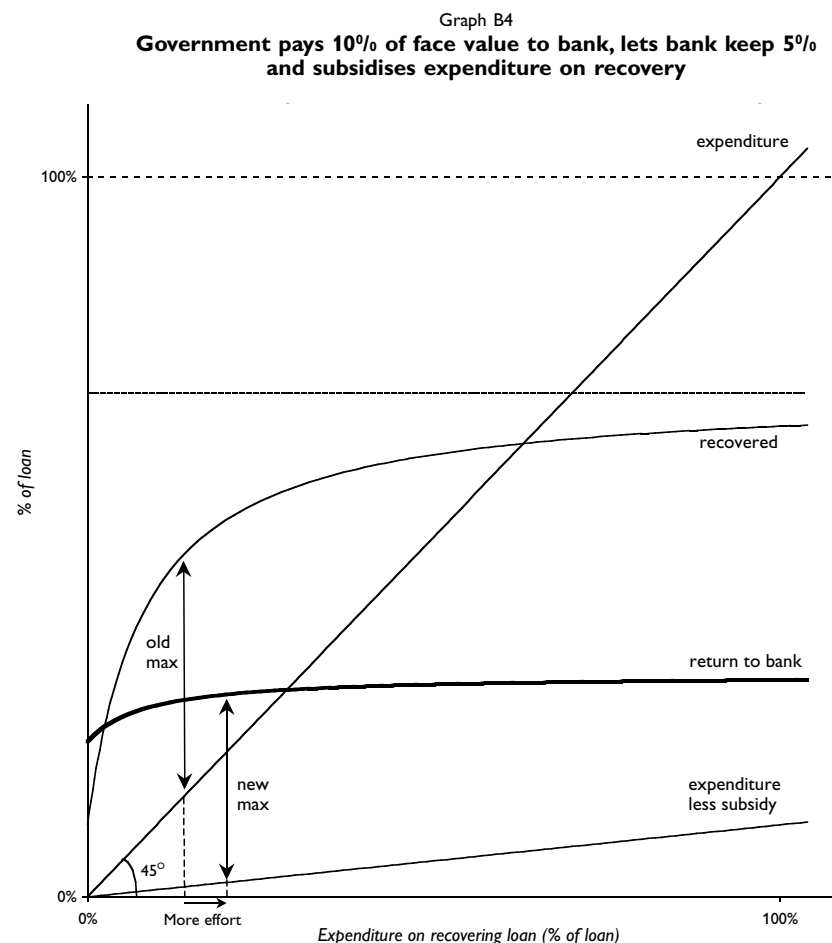
In the simple case, the bank seeks to maximise its profit $\pi = y(x) - x$ which it does when $x = 1 - 1/U$. This plausibly implies that the bank will make more effort the greater the number of ugly (potentially recoverable) loans.

In the case where the government agency makes a payment P to the bank in exchange for taking $(1 - s)$ of the amount recovered, then the bank is trying to maximise $\pi = P + s \cdot y(x) - x$. Solving for x gives

$x = \sqrt{s} - 1/U$, which plausibly implies the larger the share kept by the bank, the more effort it puts in. When $s = 1$, the optimal x is the same as in the simple case. But whenever $s < 1$, x is below the amount spent in the simple case.

(The bank will only take part in the sharing scheme if its profit in this case is greater than in the simple case. It can be shown that this requires $P > (1 - s)(G + U) - (1 - \sqrt{s})$. That is, the agency could offer a lower payment for bad loans (so that the recovery curve intersects the y -axis closer to the origin) in return for allowing banks to keep a higher proportion of the eventual recovered amount (so making the return-to-the-bank curve steeper). This makes the bank increase efforts to recover the loan. Setting these parameters requires the government agency to judge how much of taxpayers' money it can spend and the socially desirable amount of expenditure on loan recovery.)

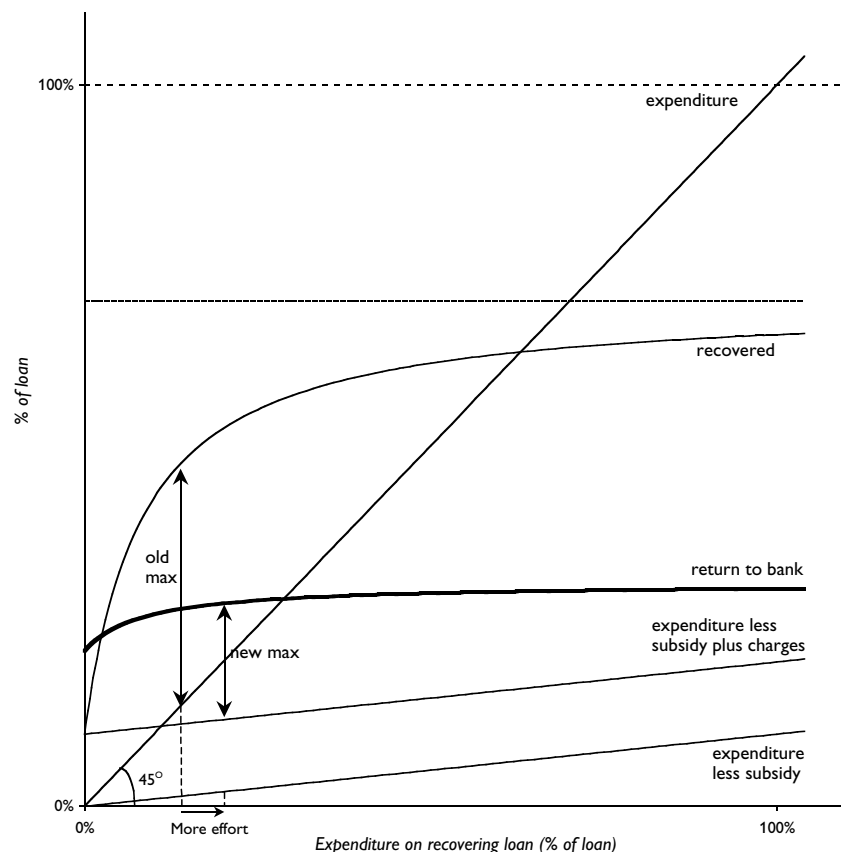
In theory, further steps could be taken by the government to avoid these disincentive effects. The government could directly subsidise the banks' expenditure on loan recovery (perhaps through tax deductions) if these expenditures are conducted by an identifiable unit within the bank (although such provisions could well be subject to abuse; the bank may switch more general expenditure to this unit). As shown in Graph B4 a large subsidy may even lead the banks to recover more than in the original case. The obvious disadvantage is that the government is now spending even more on bank restructuring.



The agency could try to recoup some of its expenditure by charging the bank a fixed amount to participate in the scheme (as shown in Graph B5). Such a flat fee, if not too large, has no effect on incentives to recover loans. The size of the fee could be set at auction. Of course, such arrangements add further to the complexity of the exercise and may delay it considerably.

Graph B5

The government pays 10% of face value to bank and lets bank keep 5% of recovery, the government subsidises expenditure on recovery but also charges banks for participation in the scheme



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