

**BIS ECONOMIC PAPERS**

**No. 46 – October 1996**

**BANKING CRISES IN EMERGING ECONOMIES:  
ORIGINS AND POLICY OPTIONS**

**by**

**Morris Goldstein and Philip Turner**

**BANK FOR INTERNATIONAL SETTLEMENTS**

**Monetary and Economic Department**

**Basle**

BIS Economic Papers are written by members of the Monetary and Economic Department of the Bank for International Settlements and published by the Bank. The aim of the papers is to stimulate discussion of the topics with which they deal. The views expressed in them are those of their authors and not necessarily the views of the BIS.

© Bank for International Settlements, 1996.  
CH-4002 Basle, Switzerland

All rights reserved. Brief excerpts may be reproduced or translated provided the source is stated.

ISBN 92-9131-044-1

ISSN 1021-2515

## Contents\*

Introduction . . . . .	5
Factors behind banking crises . . . . .	8
Policy options for strengthening banking systems . . . . .	32
Conclusion . . . . .	56
Annex: Two examples of disclosure of the financial condition of banks . . . . .	59
References . . . . .	64

\* Mr. Goldstein is the Dennis Weatherstone Senior Fellow at the Institute for International Economics, Washington D.C., and a former Deputy Director of the Research Department at the International Monetary Fund. He was a consultant in the Monetary & Economic Department of the BIS when this paper was written. The authors are grateful to Ib Madsen who was responsible for most of the statistical work; thanks are also due to Stephan Arthur, Chris Bennett and Karsten von Kleist. They are also most grateful to the central banks who contributed much of the data. Helpful comments were received from Andrew Crockett, Charles Freeland, Judith Hunter, Carmen Reinhart, Jozef Van 't dack and Bill White. Christine Mapes and Joyce Ogilvie Steuri typed several drafts most efficiently.

## Tables

1. The volatility of macroeconomic indicators and banking aggregates over the period 1980–95 . . . . .	12
2. Indicators of the structure of the banking industry . . . . .	19
3. Rules on maximum exposure to a single borrower . . . . .	22
4. Required and actual capital ratios . . . . .	26
5. Indicators of profitability and concentration in the banking industry . . . . .	29
6. Foreign-owned banks' percentage shares of total assets . . . . .	35
7. Deposits at the central bank as a percentage of loans to the non-government sector . . . . .	39
8. Loan loss reserves and non-performing loans . . . . .	48
9. Summary of prompt corrective action provisions of the Federal Deposit Insurance Corporation Improvement Act of 1991 . . . . .	52

## Graph

Issuance terms for international bonds, 1994–1996 Q2: maturity and spread . . . . .	33
---	----

## Introduction

There is a natural inclination to think of financial crises as rare events. Yet banking crises have become increasingly common – especially in the developing world. Lindgren et al. (1996) have reported that over the 1980–96 period at least two-thirds of IMF member countries experienced significant banking sector problems. In many regions, almost every country has experienced at least one serious bout of banking trouble. Moreover, the incidence of banking crises in the 1980s and 1990s has been significantly higher than in the 1970s, and much higher than in the more tranquil period of the 1950s and 1960s. Honohan (1996) goes even further, arguing that the frequency and size of financial crashes during the last quarter-century is “unprecedented” – much worse than was experienced prior to 1950.

There are two reasons why banking problems in the emerging economies merit particular attention: first, the serious consequences for the local economies and, secondly, the fallout on other countries as international financial markets have become more integrated.

Banking crises in developing countries have been far more severe during the past 15 years than those in industrial countries. Caprio and Klingebiel (1996a) have recently put together a comprehensive database on banking crises in both industrial and developing countries for this period. According to their estimates of losses or resolution costs, the most severe industrial country banking crisis was that of Spain (1977–85), where estimated losses reached almost 17% of GDP. Next (in descending order) came Finland (1991–93) at 8% of GDP, Sweden (1991) at 6% and Norway (1987–89) at 4%; the US saving and loan crisis (1984–91) cost about 3% of GDP, and the resolution costs of the current bad loan problem in Japan will be high. In the developing world, by contrast, Caprio and Klingebiel identify more than a dozen episodes in which losses or resolution costs exceeded 10% of GDP, including the recent cases of

Venezuela (18%), Bulgaria (14%), Mexico (12–15%) and Hungary (10%); in several cases (Argentina, Chile and Côte d'Ivoire), losses were greater than or equal to 25% of GDP. While such estimates are inevitably imprecise, the greater severity of banking crises in developing countries is a common finding of several different studies (see, for example, BIS (1996), Lindgren et al. (1996) and Sheng (1996)).

Concern about these banking crises is hardly surprising. Bank difficulties or failures are presumed to generate more serious negative externalities for the rest of the economy than those at either other kinds of financial firms or non-financial firms. These externalities take a variety of forms. The use of public money to recapitalise insolvent banks can seriously handicap efforts to control budget deficits.<sup>1</sup> Even if public expenditure on rescuing banks is viewed as a (domestic) transfer rather than as a real economic cost, it can push the authorities toward less benign ways of financing the deficit (e.g. the inflation tax); moreover, the rescue itself can sap the incentives for private creditors to monitor the behaviour of banks in the future.

If recapitalisation takes the form of weak banks cutting back lending and widening spreads, the lower availability and higher cost of bank credit can undermine the real economy, particularly for small and medium-sized firms which have fewer alternative sources of financing. In general, a decline in economic activity precedes the outbreak of a banking crisis so that it becomes difficult to isolate the independent effect of the crisis on output during and after the event.<sup>2</sup> Nevertheless, there is widespread agreement that a banking crisis is likely to amplify a downturn;<sup>3</sup> in addition, the worsening of information and adverse selection problems that typically occurs during a financial crisis (as it is the least creditworthy borrowers who will be prepared to pay high interest rates) means that the quality of investment is likely to suffer; that is, saving will not flow to its most productive uses.<sup>4</sup>

Serious banking problems also create difficulties for monetary policy. They may not only distort the normal relationships between monetary instruments and the intermediate and final targets of monetary policy, but

<sup>1</sup> Edwards (1995) shows how large-scale public bailouts of banks have complicated efforts at fiscal consolidation in Latin America over the past two decades.

<sup>2</sup> See Kaminsky and Reinhart (1995), Mishkin (1994) and Sheng (1996).

<sup>3</sup> See Lindgren et al. (1996), Johnston and Pazarbasioglu (1995) and Bernanke (1983).

<sup>4</sup> See De Gregorio and Guidotti (1992) and Mishkin (1994).

they may also compromise the overall stance of monetary policy. Fears of pushing an already strained banking sector over the edge may constrain the monetary authorities from tightening monetary policy to deal with, for instance, a loss of confidence by foreign investors or a rise in incipient inflationary pressures. Banking sector weaknesses explain, as much as anything else, why the Mexican authorities (in April–December 1994) both sterilised so heavily after private capital flows tailed off and engaged in large-scale substitution of lower-yielding, dollar-indexed tesobonos for higher-yielding peso-denominated cetes.<sup>5</sup> Both actions were aimed at limiting the rise in interest rates and buying time for the banks to recover – but, in the end, magnified the decline in international reserves and allowed a currency crisis to widen into a debt crisis.<sup>6</sup> More generally, recent empirical research reveals that banking crises have often been a leading indicator of balance-of-payments crises in emerging markets during the last 15 years.<sup>7</sup> Finally, banks in developing countries typically operate the payments system, hold the bulk of financial assets, are major purchasers of government bonds, and provide the liquid credit needed by fledgling securities markets.

Banking crises in emerging economies can also be costly for industrial countries, particularly as the importance of emerging countries in the world economy and in international financial markets has grown. Developing countries nowadays purchase about one-quarter of industrial country exports. In 1992–94, they received about 40% of global inflows of foreign direct investment.<sup>8</sup> At end-1995, banks in the BIS reporting area had outstanding claims against developing countries of over \$717 billion (about \$46 billion more than their liabilities to these countries).<sup>9</sup> Over the period 1990–95, developing countries issued over \$133 billion of bonds in international financial markets; at the time of the Mexican crisis, non-residents held about 80% of the tesobonos held outside the banking system.<sup>10</sup> Portfolio equity flows into developing countries in the 1990s approached \$128 billion. While still very low (about 2%), the share of emerging markets in the portfolios of industrial country institutional

<sup>5</sup> Between 1991 and mid-1994, the share of non-performing loans in the Mexican banking system doubled – from about 4% to 8%.

<sup>6</sup> See Calvo and Goldstein (1996) and Leiderman and Thorne (1996).

<sup>7</sup> See Kaminsky and Reinhart (1995).

<sup>8</sup> See Qureshi (1996).

<sup>9</sup> See BIS (1996).

<sup>10</sup> See BIS (1995).

investors has increased sharply over the past five years, and optimal portfolio calculations suggest that this share should continue to rise towards the emerging market share (13%) of global stock market capitalisation.<sup>11</sup> Honohan (1996) estimates that since 1980 the resolution costs of banking crises in all developing and transition economies have approached a quarter of a trillion dollars.<sup>12</sup> Since the late 1970s, all IMF drawings have been made by developing countries. In short, to the extent that banking crises depress developing countries' growth and foreign trade, strain their ability to service and to repay private capital inflows, and eventually add to the liabilities of developing country governments, industrial countries are very likely to feel the repercussions.

This paper therefore discusses the factors responsible for banking problems in developing countries and the policy options that are available for reducing the frequency and severity of these crises. The paper does not address the question of financial fragility more generally; in addition, it concentrates on issues of crisis prevention rather than those of crisis management and bank restructuring.<sup>13</sup> Most of the examples are drawn from the experience of the emerging economies rather than from either the transition economies or the low-income developing countries.

The paper is structured as follows. The next section takes up the origin of banking crises in emerging economies, focusing on eight general problems. The following section then identifies, and comments on, the policy prescriptions that have often been proposed to deal with each of these problems. Examples of recent reforms in some emerging economies are also discussed. Some brief concluding remarks follow in a final section.

### **Factors behind banking crises**

It would be convenient for both diagnosis and prediction if banking crises in emerging markets could be attributed to just one or two factors. But

<sup>11</sup> See Levine (1996).

<sup>12</sup> Honohan (1996) arrives at this figure by first regressing resolution costs against bank balance-sheet losses for those countries where data are available for both variables; he then uses that regression to estimate bank crisis resolution costs for those developing countries where data are available only on balance-sheet losses.

<sup>13</sup> Sheng (1996) provides a useful set of principles to guide bank rescue and restructuring efforts.

research on the origins of banking crises strongly suggests that this is not the case.<sup>14</sup> The leading culprits that have been identified are the following:

*(i) Macroeconomic volatility: external and domestic*

The very nature of banks makes them vulnerable to large relative price changes and to losses of confidence. Because bankers are presumed to know the creditworthiness of their borrowers better than anyone else, their loans are illiquid and difficult to mark to market. They typically borrow short and lend long. They operate with high leverage (low capital) and on a fractional reserve basis (i.e. hold relatively small amounts of cash). Deposits are redeemable at par, and depositors are assured that they can get immediate access to liquidity – but only if not everyone tries to withdraw funds simultaneously. If volatility sharply alters the relationship between the values of bank assets and liabilities – beyond the ex ante protection provided by bank capital, specific loan loss reserves and reserve requirements against bank deposits – banks can become particularly vulnerable. Volatility in emerging markets derives from several sources – both external and domestic.

One external source is the relatively large fluctuations in the terms of trade. When banks' customers suddenly find that the terms of trade have turned sharply against them, their ability to service existing loans is likely to be impaired. Caprio and Klingebiel (1996a) report that 75% of the developing countries in their sample which experienced banking crises suffered a terms-of-trade decline of at least 10% prior to the crisis (with an average fall of 17%). Kaminsky and Reinhart (1995) likewise identify terms-of-trade deterioration as one of the stylised facts preceding banking crises in small industrial countries and in emerging markets. Hausmann and Gavin (1996) estimate that the standard deviation of changes in the terms of trade in Latin American emerging markets (at roughly 15% per year) is about twice as high (on average) as in industrial countries over the past 20 years. Volatility in the terms of trade is particularly pronounced for countries with high export concentration (e.g. Venezuela, Ecuador); small economies, usually less diversified than larger ones,

<sup>14</sup> See BIS (1996), Caprio and Klingebiel (1996b), Folkerts-Landau et al. (1995), Gavin and Hausmann (1996), Honohan (1996), Kaminsky and Reinhart (1995), Lindgren et al. (1996), Meltzer (1996), Rojas-Suárez and Weisbrod (1995a, 1996b), Sheng (1996) and Sundararajan and Baliño (1991).

typically face unusually large fluctuations in their terms of trade (as well as in other sources of volatility). Other things being equal, countries with relatively low export diversification are more susceptible to banking crises.<sup>15</sup>

Volatility in international interest rates, and the induced effect on private capital flows, is another important external factor. Not only do fluctuations in international interest rates affect (either directly or indirectly) the cost of borrowing for emerging markets, but they also alter (at the margin) the relative attractiveness of investing in emerging markets. Indeed, empirical evidence suggests that movements in international interest rates can explain between one-half and two-thirds of the surge in private capital inflows to developing countries in the 1990s.<sup>16</sup> Viewed in a longer-term perspective, the volatility of net private capital flows to developing countries has been marked. For example, Latin American developing countries saw net private capital inflows move from about 6% of host-country GDP in 1981 to practically nil during the 1983–90 period, back up to 4% in 1991, and then even higher, to 5–6% over the 1993–95 period.<sup>17</sup> Similarly, for Asian developing countries which are members of APEC, net inflows in the capital account roughly doubled (as a share of host-country GDP) from 1984–88 to 1989–93.<sup>18</sup> Incompletely sterilised capital inflows boost bank deposits and tempt banks to increase lending even at the expense of lower credit quality. This plants the seeds of trouble when the boom collapses (see below). And when capital flows out unexpectedly as a result of a loss of confidence, there is a danger that a sudden withdrawal of bank deposits will force a “fire sale” of bank assets. Because creditor-country interest rates are driven by economic forces in those countries themselves, some of the volatility in private capital flows facing emerging markets is beyond their control.

Real exchange rates are the third member of the external volatility trio. Real exchange rate volatility can cause difficulties for banks either directly (when there is a currency or maturity mismatch between bank liabilities and assets) or indirectly (when exchange rate volatility creates large losses for bank borrowers). Hausmann and Gavin (1995) report that (owing to highly variable inflation rates) the volatility of real exchange

<sup>15</sup> See Caprio and Klingebiel (1996a) and Gavin and Hausmann (1996).

<sup>16</sup> See Calvo et al. (1993) and Dooley et al. (1994). Goldstein (1995) provides a survey of these studies.

<sup>17</sup> See Hausmann and Gavin (1995).

<sup>18</sup> See Khan and Reinhart (1995).

rates of 22 Latin American developing countries has been about twice that of industrial countries over the past two decades. BIS calculations (1996) of the volatility of exchange rates for a sample of Asian and Latin American emerging markets point to a similar conclusion; they also confirm that such exchange rate volatility has been higher in Latin America than in Asia. Recall too that the short-run variability of nominal and real exchange rates for the key-currency (the dollar, the DM and the yen) countries was much greater during the floating rate period (1973–96) than it was during the preceding two decades. Kaminsky and Reinhart (1995) observe that sharp real exchange rate appreciation typically precedes a banking crisis. One reason for this may be the adverse effect on the profitability of the tradables sector. Another may be that the high real domestic interest rates often associated with real exchange rate appreciation or with disinflation encourage residents to denominate their borrowing in foreign currencies, thus exposing themselves to large foreign exchange rate risks.<sup>19</sup>

On the domestic side, both growth and inflation rates are often highly volatile. Assessing credit risk becomes harder when growth and inflation rates fluctuate widely. For example, a company's credit history under hyperinflation may not be a good guide to its performance in a more stable environment. One of the more robust conclusions of the empirical literature on early-warning signals of financial crises is that sharp contractions in economic activity increase the probability of banking (and balance-of-payments) crises. Hausmann and Gavin (1995) calculate that the volatility of growth rates – and particularly the frequency and duration of recessions – in Latin America has been considerably larger over the past two decades than in industrial countries; differences with respect to the volatility of inflation rates are greater still. Caprio and Klingebiel (1996b) report that the volatility of growth and inflation rates was on a rising trend over the 1960–94 period for countries experiencing systemic banking crises over this period, while no such trend was evident for countries experiencing less severe or no banking difficulties.<sup>20</sup> Table 1 shows that emerging markets (particularly those in Latin America) displayed

<sup>19</sup> See Sheng (1996) on the close association in the 1980s between high real interest rates and banking problems.

<sup>20</sup> Because debt contracts in developing countries are typically of short maturity, an unanticipated decline in inflation would not be expected to directly adversely affect firms' balance sheets. Instead, the trouble comes from the high real interest rates which often accompany disinflation; see Mishkin (1996).

Table 1  
**The volatility of macroeconomic indicators and banking aggregates over the period 1980–95<sup>1</sup>**

	GDP	Inflation	Bank deposits <sup>2</sup>	Bank credit to private sector <sup>2</sup>
India . . . . .	2.2	4.1	3.4	4.6
Hong Kong . . . . .	3.4	3.5	7.9	6.9
Korea . . . . .	3.5	7.2	5.3	5.6
Singapore . . . . .	3.3	2.6	5.7	4.6
Taiwan . . . . .	2.4	5.5	6.4	8.7
Indonesia . . . . .	2.0	3.1	7.8	20.1
Malaysia . . . . .	3.0	2.4	8.8	8.4
Thailand . . . . .	2.7	4.6	6.6	6.5
Argentina . . . . .	5.5	860.0	23.5	34.4
Brazil . . . . .	3.7	767.6	20.7	32.8
Chile . . . . .	5.8	7.5	20.9	21.8
Colombia . . . . .	1.5	3.9	9.0	9.1
Mexico . . . . .	4.2	39.4	33.2	22.1
Venezuela . . . . .	4.9	21.9	12.7	16.0
<i>Memorandum:</i>				
United States . . . . .	2.1	3.1	4.4	3.4
Japan . . . . .	1.8	2.0	2.5	2.5
Germany . . . . .	1.8	1.9	5.4	3.1

<sup>1</sup> Measured as the standard deviation of annual percentage changes. <sup>2</sup> As a percentage of nominal GDP.

higher volatility in growth and inflation rates than the three largest industrial countries over the 1980–95 period, and that the countries with the most volatile macroeconomic environments were also the ones (on average) with the most volatile behaviour for bank deposits and bank credit (expressed as ratios to GDP).

*(ii) Lending booms, asset price collapses and surges in capital inflows*

According to one school of thought, banking crises are caused by excessive credit creation and unsound financing during the expansion phase of the business cycle; a crisis is triggered when the bubble bursts.<sup>21</sup> Three

<sup>21</sup> See, for example, Kindleberger (1978).

features of recent experience provide support for this thesis: both bank lending booms and declines in equity prices have often preceded banking crises;<sup>22</sup> those emerging economies that received the largest net private capital inflows have also been those which experienced the most rapid expansion in their commercial banking sectors;<sup>23</sup> and, finally, part of the capital inflow surge during the 1990s might be regarded as a bubble built on over-optimism about the effects of policy reform in host countries.<sup>24</sup> This argument rests on presumptions that discriminating between good and bad credit risks is harder when the economy is expanding rapidly because many borrowers are at least temporarily very profitable and liquid; that sharp swings in real estate and equity prices intensify these crises because of high loan concentration; and that asset price declines depress the market value of collateral.

Nonetheless, the empirical evidence on the effects of lending booms and equity price declines in banking crises has been mixed. Gavin and Hausmann (1996) find that bank lending booms have typically preceded banking crises in Latin America, as well as in some industrial countries (Finland, Norway, Sweden, Japan and the United States). Likewise, Kaminsky and Reinhart (1995) find that lending booms have moderate predictive power for banking crises in emerging markets and small industrial countries. In contrast, drawing on a larger sample, Caprio and Klingebiel (1996b) conclude that, outside Latin America, the link between lending booms and bank crises becomes quite weak.<sup>25</sup> As for sharp declines in equity prices, Kaminsky and Reinhart (1995) find they are among the best leading indicators of banking crises – better than lending booms. Equity prices may act (along with a decline in the terms of trade and the onset of recession) as an exogenous trigger that reduces the profitability of bank debtors, shatters the mood of euphoria and unleashes a downward spiral. Mishkin (1994) also finds evidence that equity price declines are a useful indicator of financial crises, but probably a contemporaneous rather than a leading one. The BIS (1996) reports that the volatility of equity prices in emerging economies has been much greater than that in large European industrial countries over the past decade. Folkerts-Landau et al. (1995) and the BIS (1996) have also emphasised that

<sup>22</sup> See Gavin and Hausmann (1996) and Kaminsky and Reinhart (1995).

<sup>23</sup> See Folkerts-Landau et al. (1995).

<sup>24</sup> See Krugman (1995).

<sup>25</sup> Honohan (1996) draws the same conclusion.

the large scale of private capital flows relative to the size of equity markets in emerging economies means that these countries may have to live with a significant degree of volatility in equity prices for some time. The Venezuelan banking crisis is but one example of a crisis that was preceded by a violent boom-bust equity market cycle. The lack of consistent data on property prices in developing countries has prevented much systematic examination of their influence;<sup>26</sup> nevertheless, the bursting of property price bubbles has been a feature of many banking crises in industrial and developing countries.<sup>27</sup>

*(iii) Increasing bank liabilities with large maturity/currency mismatches*

One indicator of financial deepening as economies develop and mature is a rising ratio of broad monetary aggregates to GDP. Yet not all such increases are benign. If the growth of bank liabilities is very rapid relative to both the size of the economy and the stock of international reserves, if bank assets differ significantly from bank liabilities as to liquidity, maturity and currency of denomination, if bank capital and/or loan-loss provisions have not expanded to compensate for the volatility of bank assets, and if the economy is subject to large shocks to confidence (some stemming from external events beyond its control), then one can have a recipe for increased banking system fragility. Several authors have argued that this is just what has happened over the past two decades or so.

Honohan (1996) notes that, driven by technological innovation and deregulation, the ratio of M2 to GNP for 59 developing countries increased sharply over the 1980–93 period (from 28 to 35% in unweighted terms, and from 32 to 48% in weighted terms) – without a commensurate increase in bank capital. Rojas-Suárez and Weisbrod (1995b) show that on the eve of banking crises, the loan loss reserves of banks of three Latin American countries were no higher than those of large banks in the United States despite the higher risks.

Calvo and Goldstein (1996) argue that advances in technology and information processing, combined with financial liberalisation, have made

<sup>26</sup> This raises the broader question of whether there would be dividends from collecting internationally comparable data on key variables that have a bearing on the health of the banking system (e.g. property prices, loan default rates, interest rate spreads).

<sup>27</sup> See Caprio et al. (1994). The BIS (1996) has also shown that a deflated series of property and equity prices has borne a close relationship with swings in private real credit growth in industrial countries over the last quarter-century.

it much easier for residents of emerging economies to alter the currency composition of their bank deposits.<sup>28</sup> Examining the origins of the Mexican crisis, they note that, as a result of rapidly rising ratios of M2 to GNP over the 1989–94 period and a precipitous decline in international reserves in 1994, the gap between Mexico's liquid banking liabilities and its stock of foreign exchange available to meet those liabilities in case of a run widened progressively. Before the 20th December devaluation, the dollar value of M2 had climbed to a level almost five times higher than the maximum level of international reserves the country had ever recorded. Several other emerging economies had gaps of one-half to one-third that of Mexico (e.g. Chile and Brazil) and thus, by this measure, were much less vulnerable to attack. Rojas-Suárez and Weisbrod (1995b) document that deposit runs have been much more prevalent during the early stages of Latin American banking crises than those in industrial countries. Dollarisation of deposits will not necessarily solve the problem because depositors will keep funds (dollarised or not) in domestic banks only if they are confident that the banking system has sufficient access to international reserves to cover liquidation into dollars.

When domestic interest rates are high, the temptation for the banking system and bank customers to denominate debt in foreign currency can be particularly strong. For instance, banks may have recourse to short-term, foreign-currency-denominated borrowing in the interbank market to fund longer-term bank loans. Such strategies can come badly unstuck when a devaluation occurs. Sheng (1996) reports that in 1980 developing country banks had a net foreign liability exposure of \$81 billion – which subjected them to large revaluation losses from subsequent devaluations under structural adjustment programmes. A more recent example is that of Mexico. Between December 1993 and December 1994, the Mexican peso declined from 3.1 to 5.3 to the dollar and the foreign-currency-denominated liabilities of Mexican banks jumped from 89 billion pesos to 174 billion pesos; at the same time, the credit risk on their loans increased as interest rates rose and as economic activity fell.<sup>29</sup> Bank customers can also find themselves caught by currency mismatches: the BIS (1996)

<sup>28</sup> In this regard, the IMF (1995) reports that most of the pressure on Mexico's foreign exchange reserves in 1994, and particularly just before the devaluation, came not from foreign investors but rather from Mexican residents sending their funds abroad.

<sup>29</sup> See Mishkin (1996), who also highlights the sharp deterioration in the net worth of private Mexican firms attributable to the December 1994 peso devaluation.

reports the results of a survey which indicated that (at the time of the crisis) almost 60% of the financial liabilities of large and medium-sized Mexican companies were denominated in foreign currencies – even though foreign sales were less than 10% of their total sales.

A large unhedged debtor position in foreign exchange not only makes banks and their customers more vulnerable but also makes it harder to deal with a banking crisis once it occurs. This is because some of the traditional crisis-management strategies – easier monetary policy to reduce real interest rates and currency devaluation to reduce the real value of existing local-currency denominated obligations – will be much less effective when debts are denominated in foreign currencies.<sup>30</sup>

Similarly, the risks of maturity mismatches are typically higher for banks in the emerging markets because they have less access to longer-term sources of funding (on the liability side) and receive less assistance from securities markets in increasing liquidity and in spreading risks (on the asset side) than do banks in the industrial world. In Germany, for example, 45% of the liabilities of depository institutions are long and medium-term bonds; in Japan, roughly one-third of the financial system's liabilities are classified as insurance reserves, trust funds or bonds.<sup>31</sup> A history of high inflation, currency devaluation and negative ex post real returns on bank deposits has left banks in many developing countries with few sources of longer-term financing. The lack of deep government bond markets can likewise act as a handicap to banks with a pressing need for liquidity. Risk-sharing opportunities for banks may also be more limited. For example, if property companies finance themselves exclusively with bank loans (rather than supplementing bank finance with equity offerings) and if there is practically no securitisation of mortgages, then banks will be more likely to grant loans with loan-to-value ratios that are too high, thus exposing themselves to sharp declines in real estate prices.<sup>32</sup> Nonetheless, a considerable amount of short-term borrowing by banks in emerging economies continues. For example, BIS (1996) figures suggest that (as at end-1995) two-thirds of total bank credit to Asian developing countries were in the form of short-term interbank lines.

<sup>30</sup> See Mishkin (1996).

<sup>31</sup> See Rojas-Suárez and Weisbrod (1995b).

<sup>32</sup> See BIS (1996).

*(iv) Inadequate preparation for financial liberalisation*

Few question the long-term benefits of financial liberalisation for developing countries. But such reforms inevitably present banks with new risks which, without the proper precautions, can increase the danger of a banking crisis. When interest rates are liberalised, banks may lose the protection they previously enjoyed from a regulated term structure of interest rates which kept short-term rates below long-term rates. More generally, the volatility in interest rates tends to rise, at least during the transition.<sup>33</sup> Rapid rates of credit expansion have often paradoxically coincided with high real interest rates in the wake of financial liberalisation.<sup>34</sup> Lifting restrictions on bank lending often releases pent-up demand for credit in the liberalised sectors (e.g. real estate, securities activities).<sup>35</sup> Lowering reserve requirements permits banks to accommodate increased loan demand – as does the inflow of foreign capital, often attracted by reforming economies. Yet bank credit managers reared in an earlier controlled financial environment may not have the expertise needed to evaluate new sources of credit and market risk. At the same time, the entry of new competitors (foreign and domestic) may well increase the pressures on banks to engage in riskier activities. Easier access to offshore markets may also allow banks to evade domestic restrictions on riskier activities. One example of this is the use of customised derivative contracts in offshore markets to circumvent restrictions on net open positions in foreign exchange. Unless the supervisory and regulatory framework is strengthened before the liberalisation of financial markets, bank supervisors may have neither the resources nor the training needed to adequately monitor and evaluate these new activities.

Some or all of these risks associated with inadequate preparation for financial liberalisation have been linked to banking crises, in Brazil, Chile, Indonesia, Mexico, several Nordic countries, the United States and Venezuela, among others. Kaminsky and Reinhart (1995) note that in 18 of the 25 banking crises in their sample, the financial sector had been liberalised some time during the previous five years. Also, they find that

<sup>33</sup> In this regard, the BIS (1996) reports that the volatility of short-term interest rates in emerging economies was considerably higher than in several large European industrial countries during the past decade.

<sup>34</sup> See Galbis (1993), Kaminsky and Reinhart (1995) and BIS (1996).

<sup>35</sup> Caprio et al. (1994) report that banks tended to expand their real estate lending immediately after financial sector liberalisation or the relaxation of lending guidelines.

proxies for financial liberalisation (namely, increases in real interest rates and in the size of the money multiplier) helped to predict banking crises.

*(v) Heavy government involvement and loose controls on connected lending*

Both factors have played an important role in the generation of banking crises because they allow the political objectives of governments or the personal interests of bank insiders (owners or directors) to intrude on almost all aspects of bank operations, damaging bank profitability and efficiency. While these intrusions are also present in some industrial countries, the frequency and severity of the problem are generally regarded as being greater in developing countries.

Despite increased privatisation, state-owned banks still retain a significant – and sometimes even dominant – share of bank assets in many emerging economies: see Table 2. In some countries with a federal structure, regional or provincial governments also own banks and operate them in pursuit of their particular objectives. A recent survey of 129 countries carried out by the Basle Committee on Banking Supervision (Padoa-Schioppa (1996)) found that the State had a significant participation in bank capital in nearly half of the countries, with most developing country regional groups reporting extensive government ownership (e.g. 91% for the West and Central African Group; 60–67% for the Gulf Co-operation Council, Seanza Forum and Arab Banking Committee; and 57% for the Central and Eastern European Group). These figures would be even higher if computed under a broader concept of indirect ownership. The same survey also reported that banking systems with relatively high state ownership tend to be more concentrated and less open to foreign institutions, as well as to show greater recourse to the public financing of bank bailouts.

Loan decisions of state-owned banks are much more likely to be subject to explicit or implicit government direction than those of privately owned banks. Most state-owned banks were indeed established to allocate credit to particular sectors of the economy. All too often, however, the creditworthiness of the borrowers does not receive sufficient weight in the credit decision, with the result that loans of state banks can become a vehicle for extending government assistance to ailing industries. Moreover, because these banks are shielded from competition, have their losses covered by the government and are sometimes protected from

Table 2  
**Indicators of the structure of the banking industry**

	Bank share in financial inter- mediation <sup>1</sup>	Share of state- owned banks <sup>2</sup>	Non-interest operating costs	Net interest margins
	1994		As a % of total assets <sup>3</sup>	
India . . . . .	80	87	2.6	2.9
Hong Kong . . . . .	–	0	1.5	2.2
Korea . . . . .	38	13	1.7	2.1
Singapore . . . . .	71	0	1.4	1.6
Taiwan . . . . .	80	57	1.3	2.0
Indonesia . . . . .	91	48	2.4	3.3
Malaysia . . . . .	64	8	1.6	3.0
Thailand . . . . .	75	7	1.9	3.7
Argentina . . . . .	98	36	8.5	9.2
Brazil . . . . .	97	48	6.0	6.8 <sup>4</sup>
Chile . . . . .	62	14	3.0	6.1
Colombia . . . . .	86	23	7.3	8.3
Mexico . . . . .	87	28	3.9	5.1
Venezuela . . . . .	92	30	5.7	8.1
<i>Memorandum:</i>				
United States . . . . .	23	0	3.7	3.7
Japan . . . . .	79	0	0.8	1.1
Germany . . . . .	77	50 <sup>5</sup>	1.1	1.4

Note: Operating costs and net interest margins are shown before loan loss provisions.

<sup>1</sup> Assets of banks as a percentage of the assets of banks and non-bank financial institutions.

<sup>2</sup> Percentage share of assets. For India, 1993. For Argentina, June 1996. <sup>3</sup> Average of 1990–94.

<sup>4</sup> 1992–94. <sup>5</sup> Not strictly comparable.

Sources: IBCA Ltd. and central banks.

closure on constitutional grounds, they tend to have lower incentives to innovate, to promptly identify problem loans at an early stage and to control costs. Overstaffing and overextended branch networks are more prevalent. And their loan loss performance is usually inferior to that of their private counterparts. One-third of total loans in Argentina's public banks were non-performing at the end of 1994, compared with 10% for private banks. Of \$20 billion in non-performing loans in the December 1994 portfolio of Banespa – owned by São Paulo state in Brazil – more

than half was owed by the state. Non-performing loans in China, India and Indonesia have also been particularly heavy in the state sector.<sup>36</sup> Consistent with this other evidence, the countries in Table 2 with the highest shares of state banks are, on average, also the ones with the higher operating costs and the higher incidence of non-performing loans.

But government involvement in (or implicit taxation of) the banking sector extends well beyond the operation of state-owned banks. Even when banks are privately owned, governments may still influence the allocation of credit to particular sectors, extend favourable loan discounting privileges to certain borrowers, prevent private banks from engaging in certain profitable banking activities, require banks to hold government bonds at below market interest rates, impose high reserve requirements or taxes on banks, and direct banks to borrow in foreign currencies and assume the currency risk.<sup>37</sup> As documented by Folkerts-Landau et al.'s (1995) study of APEC developing countries, banks in Indonesia, Korea, Malaysia, the Philippines and Thailand have, at some time over the past two decades, been subject to regulatory requirements or pressures to allocate fixed proportions of their loan portfolios to particular sectors. In Korea, for example, policy loans accounted for almost half of commercial bank loans even ten years after banks were privatised.<sup>38</sup> Increased reserve requirements on healthy banks were used in Argentina in the 1980s to finance lending to troubled institutions; similarly, Mexico used reserve requirements in the 1980s to finance large budget deficits.<sup>39</sup> Banks thus became “quasi-fiscal” agents for the government.<sup>40</sup>

“Connected lending” refers to loans extended to banks’ owners or managers and to their related businesses. It is a more common practice among universal banks and development banks. The risks are primarily ones of lack of objectivity (sometimes even fraud) in credit assessment and undue concentration of credit risk. The failure of a few large related borrowers, or a collapse of a particular sector of the economy, can wipe out a bank’s capital. De Juan (1996) argues that, because the bank will be unlikely to deal with connected borrowers on an arm’s-length basis and because the borrower’s access to liquidity will be guaranteed, information

<sup>36</sup> See BIS (1996).

<sup>37</sup> Most countries do not offer any remuneration on banks’ reserve requirements.

<sup>38</sup> See Nam (1993).

<sup>39</sup> See BIS (1996).

<sup>40</sup> See Honohan (1996) and Lindgren et al. (1996).

flows from the borrower to the creditor will suffer and incentives both to appoint top-quality management in such a company and to identify (and make provision for) bad loans will be low. In his view, such practices contributed to the Spanish banking crisis of the 1980s. Lindgren et al. (1996) and Sheng (1996) likewise cite connected lending as a key bank governance problem and one that has contributed to banking problems in Argentina, Bangladesh, Brazil, Chile, Indonesia, Malaysia, Spain and Thailand.

Most countries have regulations on the maximum exposure that their banks can assume vis-à-vis a single borrower or connected set of borrowers. Table 3 provides a picture of such exposure limits for a group of emerging economies. According to the Basle Committee's recent survey, 90% of countries do not allow lending to a single customer to exceed 60% of a bank's capital, and about two-thirds of countries maintain a stricter standard of 25% of capital. The share of countries with the stricter exposure standard was higher for developing countries than for industrial ones (some of which are in transition to lower percentages).<sup>41</sup> The same survey also indicated that over three-quarters of developing countries report that they apply more severe requirements for exposures to parties related to the bank (connected lending) and almost all regard related borrowers as one risk. The main question is how far exposure limits are effectively implemented in practice. Folkerts-Landau et al. (1995) note that monitoring of exposure limits by bank supervisors has in the past been undermined by the use of dummy accounts and fictitious names by borrowers, as well as by a lack of authority for bank examiners to trace the use of funds once deposited in accounts.

*(vi) Weaknesses in the accounting, disclosure and legal framework*

Banks do not operate in a vacuum. To the extent that the institutional structure in which banks carry out their business is weak, their performance will be adversely affected. While there are significant differences across emerging economies, most analysts regard existing accounting systems, disclosure practices and legal frameworks as hindering the operation of market discipline and the exercise of effective banking

<sup>41</sup> See Padoa-Schioppa (1996).

Table 3  
**Rules on maximum exposure to a single borrower**

India	<b>25%</b> of capital and free reserves
Hong Kong	<b>25%</b> of capital (group of connected borrowers is treated as single exposure)
Korea	<b>15%</b> of capital
Singapore	<b>25%</b> of capital funds (for locally-incorporated banks: paid-up capital and published reserves; for foreign bank branches: borrowings from head office, other overseas branches and other banks). Group of connected borrowers is treated as a single borrower
Taiwan	<b>3</b> and <b>15%</b> of net worth for a natural and a juridical person, respectively
Indonesia	<b>20%</b> of capital for groups of affiliated borrowers; <b>10%</b> for a single person
Malaysia	<b>30%</b> of capital (paid-up capital, reserves and provisions)
Thailand	<b>25%</b> of (first tier) capital
Argentina	<b>15%</b> of net worth for non-affiliated clients (25% if collateralised). Applies to a single customer as well as to a consolidated group. Loans and other financing for affiliated clients cannot generally exceed the client-owned capital
Brazil	<b>30%</b> of net worth
Chile	<b>5%</b> of capital and reserves (up to 30% if in FOREX for exports and if guaranteed)
Colombia	<b>10%</b> of primary capital (25% if guaranteed by capital other than client's)
Mexico	<b>10%</b> (30%) of net capital for individuals [corporations] (or 0.5% [6%] of net capital of all banks)
Venezuela	<b>10%</b> of paid-up capital and reserves
Russian Federation	<b>50–100%</b> of capital depending on bank's founding date and type
Israel	<b>15%</b> of equity capital
South Africa	Prescribed percentage of capital and reserves. Exposure may not exceed 10% of banks' net qualifying capital and reserves without prior approval from the Board of Directors of the bank or a committee appointed by them for this purpose
<i>Memorandum:</i>	
United States	<b>15%</b> of capital (10-25% state-chartered banks)
Japan	<b>20%</b> of capital (up to 40% including guarantees and exposure through subsidiaries)
Germany	<b>25%</b> of capital (after transition to EU standards)

Sources: Central banks.

supervision; these weaknesses also often work to the detriment of bank profitability.<sup>42</sup>

Neither private investors nor bank supervisors will be able to monitor and to discipline errant banks without accurate, current, comprehensive and transparent information on their creditworthiness, as well as on the creditworthiness of their customers. In many countries, the accounting conventions for classifying bank assets as impaired or non-performing are not tight enough to prevent banks from making bad loans look good by lending more money to troubled borrowers (“evergreening”). Where loan classification depends only on the payment status – rather than on evaluation of the borrower’s creditworthiness and the market value of collateral – it will be easier for bankers and their loan customers to collude in concealing losses by various restructuring, accrual and interest capitalisation devices. If non-performing loans are systematically understated, loan loss provisioning will be inadequate, and the reported measures of bank net income and bank capital will be systematically overstated.<sup>43</sup> Gavin and Hausmann (1996) show that the publicly reported figures on the share of non-performing loans gave little hint of the banking crises in Chile and Colombia in the early 1980s. Similarly, Rojas-Suárez and Weisbrod (1996c) observe that, on the eve of banking difficulties, reported ratios of non-performing to total loans in several Latin American emerging economies were much lower in relation to the size of the subsequent banking problem than were those in Finland and the United States; the same authors found that banks in some Latin American economies were reporting positive net income even during banking crises. In a number of APEC developing countries, loans are classified as non-performing only after the loan has been in arrears for at least six months, and in some cases bank management itself – rather than bank supervisors – set the classification criteria.<sup>44</sup> Such distortions in the identification of “true” non-performing loans may also explain why bank capital by itself does not have higher predictive power for identifying subsequent bank failures.<sup>45</sup> It also explains De Juan’s (1996) advice to bank

<sup>42</sup> See BIS (1996), Caprio and Klingebiel (1996a, 1996b), Folkerts-Landau et al. (1995), Honohan (1996), Lindgren et al. (1996), Meltzer (1995), Padoa-Schioppa (1996), Rojas-Suárez and Weisbrod (1995a, 1995b, 1996b) and Sheng (1996).

<sup>43</sup> See Sheng (1996).

<sup>44</sup> See Folkerts-Landau et al. (1995).

<sup>45</sup> See Lindgren et al. (1996).

supervisors to focus their attention on the “good” loan portfolio – not the “bad” one.

Distinguishing healthy from unhealthy banks is often hindered by the absence of financial statements on the consolidated exposure of banks, by the lack of uniform reporting requirements for banks within a country, by differences in accounting standards across countries, by the lack of published key financial data on individual banks, by the absence of serious penalties for submitting inaccurate reports to supervisors or the public and by the paucity of private credit ratings for banks in the larger emerging economies. For example, the Basle Committee’s recent survey indicated that 20% of countries still do not consolidate financial and prudential information on banks’ global operations.<sup>46</sup>

The legal framework, along with the statutory authority of bank supervisors, also matters. If the legal system makes it difficult and time-consuming either for banks to seize or to transfer the collateral behind delinquent loans, or for debtors to pledge collateral for bank loans, or to adjudicate cases of corporate or individual bankruptcy, then both banks’ credit losses and the cost of borrowing for firms will be (abnormally) high. Rojas-Suárez and Weisbrod (1996c) cite the case of a legal prohibition in Mexico on using movable property (e.g. inventory) as collateral for short-term business loans; as such, borrowers have to pay the (higher) unsecured rate for those loans. Similarly, if bank supervisors lack the statutory authority to issue “cease and desist” orders to banks, or to prevent corporate affiliations that hinder effective supervision, or to specify accounting practices, or to close insolvent banks, then their potential contribution to curtailing excessive risk-taking and to limiting bank rescue costs will be constrained. Several writers have argued that legal uncertainties about the status of creditors in the event of default have likewise constrained the growth of close substitutes for bank deposits (e.g. money market mutual funds, commercial paper) in many emerging economies.<sup>47</sup>

*(vii) Distorted incentives ...*

A system of crisis prevention can be expected to operate well only if the main actors face the proper incentives to discourage excessive risk-taking

<sup>46</sup> See Padoa-Schioppa (1996).

<sup>47</sup> See Rojas-Suárez and Weisbrod (1996c).

and to take corrective action at an early stage. Bank owners, managers and creditors, as well as bank supervisors, each need to “have something to lose” if they fail to act in a manner consistent with their mandate. As with banking systems in industrial countries, it has frequently been argued that the present incentive structure in banking in the emerging economies is part of the problem.<sup>48</sup>

... for bank owners ...

At least three factors affect the incentives faced by bank owners: bank capital, their share in the costs of any bank restructuring, and the franchise value of the bank. Bank owners (shareholders) will be more likely to appoint good managers and to elect good directors, and so ensure that their agents do not put the bank’s solvency in danger, when they have their own funds at risk. Bank capital therefore serves a twofold function: it provides a cushion against unusual losses and it promotes better governance. In a parallel vein, if a bank becomes insolvent, incentives in the future will be affected by who bears the cost of restructuring. Incentives for prudent behaviour will be encouraged if those who benefited from risk-taking absorb most of the costs when that risk-taking goes awry, that is, if shareholders, along with large holders of certain long-term liabilities (e.g. subordinated debt), are the first to lose their money.<sup>49</sup> The franchise value of the bank (i.e. the profitability of a banking licence) is relevant because owners who are enjoying a handsome rate of return from normal banking operations should be less tempted, *ceteris paribus*, to put that return in jeopardy by engaging in high-risk activities. Weisbrod et al. (1992) offer evidence that the franchise value of banks in the United States and Japan has declined over the last few decades, and that this has contributed to excessive risk-taking. In the case of emerging economies, however, the policy implications are less clear: just as too easy entry and too much competition can be harmful to risk-taking incentives, too much concentration in banking may confer monopoly advantages on incumbents (to the detriment of efficiency in banking services).

Table 4 presents risk-based capital requirements and actual risk-based capital ratios for a sample of emerging economies; for comparison, ratios

<sup>48</sup> See BIS (1996), Caprio and Klingebiel (1996b), Goldstein (1996c), Honohan (1996), Lindgren et al. 1996), Meltzer (1996) and Padoa-Schioppa (1996).

<sup>49</sup> Rojas-Suárez and Weisbrod (1995c) regard this as the first principle of successful bank restructuring.

Table 4  
**Required and actual capital ratios**  
 In percentages

	Capital adequacy ratio (national requirements)	Actual risk-based capital ratio (1995)
India . . . . .	8	9.5 <sup>1</sup>
Hong Kong . . . . .	8 <sup>2</sup>	17.5 <sup>3</sup>
Korea . . . . .	8	9.3
Singapore . . . . .	12 <sup>4</sup>	18.7 <sup>4</sup>
Taiwan . . . . .	8	12.2
Indonesia . . . . .	8	11.9
Malaysia . . . . .	8	11.3
Thailand . . . . .	8	9.3
Argentina . . . . .	12	18.5
Brazil . . . . .	8 <sup>5</sup>	12.9
Chile . . . . .	8 <sup>6</sup>	10.7
Colombia . . . . .	9	13.5
Mexico . . . . .	8	11.3
Israel . . . . .	8	10.5 <sup>7</sup>
South Africa . . . . .	8 <sup>8</sup>	10.1
<i>Memorandum:</i>		
United States . . . . .	8	12.8
Japan . . . . .	8	9.1

Notes: (1) Several European countries have significantly higher capital ratios.  
 (2) Definitions sometimes differ from those applied by the Basle Committee.

<sup>1</sup> Relates only to public sector banks. <sup>2</sup> 12% for some banks; 16% for some non-banks.

<sup>3</sup> Relates to locally incorporated authorised institutions and is on a consolidated basis.

<sup>4</sup> Based only on Tier 1 capital. <sup>5</sup> Plus 1.5% on notional value of swap operations. <sup>6</sup> Legislation at present before Parliament. <sup>7</sup> 1994. <sup>8</sup> For some banks, higher ratios.

Sources: Central banks.

are also presented for the largest industrial countries.<sup>50</sup> Virtually all of the emerging economies listed in the table have adopted a capital requirement that meets or slightly exceeds the Basle minimum standard; only Argentina and Singapore among the countries shown in the table have set a national requirement that is much higher. Turning to actual ratios, banks in several emerging economies (Argentina, Colombia, Hong Kong and

<sup>50</sup> According to a recent survey of the Basle Committee, 92% of countries apply a Basle-like risk-weighted capital approach (although not necessarily the 8% ratio); see Padoa-Schioppa (1996).

Singapore) maintain risk-based capital ratios that are both significantly higher than the minimum standard and also higher than the ratios in the larger industrial countries. But all this should not obscure another message from Table 4: banks in most of the emerging economies shown do not appear to have risk-based capital ratios significantly higher than those in the larger industrial countries – despite the higher-risk environment they face. On top of that, some would argue that bank capital ratios in industrial countries may themselves be a poor yardstick; for example, not only did US banks maintain much higher capital ratios before the introduction of deposit insurance, but competitors of banks in the United States (finance companies, insurance companies, etc.) have generally maintained much higher capital ratios – leading some analysts to conclude that banks have (inappropriately) substituted explicit and implicit government guarantees for private capital.<sup>51</sup>

Comprehensive information on the treatment of shareholders during episodes of bank restructuring in developing countries is unfortunately not available. However, Rojas-Suárez and Weisbrod (1996a) conclude that the failure to penalise shareholders was a key shortcoming of some unsuccessful bank restructuring programmes in Latin America in the early 1980s.

There is no consensus on how best to measure the franchise value of banking in the emerging economies. A popular measure (shown in Table 5) is the average return on assets. But some analysts have expressed scepticism about the standard accounting measures of bank profitability. Some also feel that the short-term orientation of financial systems in many emerging economies (especially in Latin America) requires a different definition of franchise value. Rojas-Suárez and Weisbrod (1995) argue instead that the franchise value of banks should be defined as the ability to cover their deposit liabilities with liquid funds. One indicator of this in developing countries is the ability of banks to police the liquidity of their borrowers and to attract deposits. On this argument, banks that maintain low ratios of cash to deposits and high ratios of loans to deposits are viewed as being confident in the liquidity of their assets and thus more serious about policing their borrowers. However, low cash-to-deposit ratios and high loan-to-deposit ratios may

<sup>51</sup> See Meltzer (1996).

simply reflect imprudence, or expectations of too easy access to central bank or government finance in case of trouble.<sup>52</sup> Table 2 above gave some indicators of banking efficiency and of the franchise value of banks in some emerging economies and in the largest industrial countries. Great variation across emerging economies makes generalisation hazardous. Nevertheless, banking efficiency (i.e. as proxied by operating costs and net interest margins) in most emerging economies appears lower than in the larger industrial countries (with the difference being considerably greater for Latin American countries than for Asian ones). Concentration, as measured by the share of the five largest banks in total assets shown in Table 5, is higher in most emerging economies than in the largest industrial countries. Judging from the figures on asset returns, there is little to suggest that the franchise value of a banking licence in most emerging economies is currently particularly high.<sup>53</sup>

... *for managers* ...

Ensuring that banks maintain good credit and internal risk management systems is the job of bank managers and directors: poor management has often been singled out as the leading cause of bank failures. Here, too, poor oversight and imprudent behaviour should in principle incur a cost. In practice, the multiplicity of causes of bank failure – some beyond the control of managers – serves to blur the issue, especially if managers have hard-to-replace experience. However, Caprio and Klingebiel (1996b) found that senior management was changed in the majority of bank restructuring cases in their sample (of mostly developing countries); at the same time, there were some prominent examples of systemic bank

<sup>52</sup> Perhaps a better indicator is the ratio of deposits to GNP, with a high ratio suggesting that market participants have confidence in the bank's ability to meet its liabilities. Examining these proxies for franchise value in a set of Latin American developing countries, Rojas-Suárez and Weisbrod (1995) conclude that the franchise value of banks in the region improved between the 1980s and the 1990s. They acknowledge that these ratios would not be good measures of the franchise value of banks in industrial countries but claim that this is because the different financial structure and track record on inflation in the latter does not require banks to be as active in enforcing liquidity among borrowers or in maintaining the confidence of depositors.

<sup>53</sup> Again, returns for banks in industrial countries may not be a good yardstick. As noted earlier, some have argued that increased competition from non-banks has forced down the franchise value of a banking licence in the United States and Japan to the point where it encourages excessive risk-taking by banks. In addition, the profitability of banks in Germany – where hidden reserves are important – is not well captured by these figures on average returns. Moreover, the average return figures for Japan presumably reflect the current bad loan problem and therefore are not likely to be representative of returns during more normal periods.

Table 5  
**Indicators of profitability and  
concentration in the banking industry**

	Average rate of return on assets <sup>1</sup>	Five largest banks <sup>1</sup> share of deposits or assets <sup>2</sup>
India . . . . .	-0.2	47.3
Hong Kong . . . . .	1.7 <sup>3</sup>	39.7 <sup>4</sup>
Korea . . . . .	0.6	38.1
Singapore . . . . .	1.1	39.0
Taiwan . . . . .	0.7	55.9
Indonesia . . . . .	0.7	
Malaysia . . . . .	1.3	34.8
Thailand . . . . .	1.3	59.6
Argentina . . . . .	1.4	37.5
Brazil . . . . .	0.1	54.9
Chile . . . . .	1.1	46.7
Colombia . . . . .	2.3	24.5
Mexico . . . . .	1.3	61.9
Venezuela . . . . .	1.4	57.2
Russian Federation . . . . .	..	29.0
Israel . . . . .	0.4	85–90
South Africa . . . . .	0.8	82.0
<i>Memorandum:</i>		
United States . . . . .	0.8	13.8
Japan . . . . .	0.1	27.3
Germany . . . . .	0.2	16.7

<sup>1</sup> Average 1990–94; for Argentina, Hong Kong and South Africa, 1991–94, and for India, 1991–95. <sup>2</sup> In 1994; for Germany and India, 1995 and for Argentina and Singapore, May 1996. <sup>3</sup> Locally incorporated licensed banks only. <sup>4</sup> Total deposits include both domestic and foreign currency deposits.

Sources: IBCA Ltd., OECD and central banks.

failures (e.g. Hungary in the 1990s) where senior managers of restructured banks were merely reassigned to other posts.

... for bank depositors ...

The potential contribution of bank depositors to market discipline in emerging economies is limited by the quality of accounting systems and by the extent of public disclosure. Some analysts have argued that

government bailouts have undermined their incentive to monitor the creditworthiness of banks.<sup>54</sup> The main target of such criticism is usually de facto, not de jure deposit insurance. The Basle Committee's recent survey finds that over 70 countries (all but one from the developing world) at present have no formal deposit insurance; among those that do offer deposit insurance, Lindgren et al. (1996) report that the typical arrangements offer partial coverage (usually for small retail depositors). Other analysts argue that depositors are probably too small, too dispersed and too financially unsophisticated to exert much discipline.<sup>55</sup> In this perspective, it is discretionary government intervention to bail out large, wholesale creditors or owners of insolvent banks that is the main problem. Meltzer (1996), for example, cites the case of the Uruguay government which bailed out 28 branches of foreign banks in the 1980s, after their parent banks had refused to renew their loans unless the government provided a rescue.

*... and for supervisors*

Finally, there is the old argument that the political and legal background may encourage bank supervisors to delay the closure of an insolvent bank or the imposition of corrective measures.<sup>56</sup> Given the greater government involvement in banking in emerging economies and the extent of banking or industrial connections, pressures on bank supervisors for regulatory forbearance may well be greater than they are in industrial countries. Not only can closure or restrictions on bank behaviour elicit strong protests from powerful interest groups, but such action can also embroil the supervisor in legal action. Whatever happens, acknowledgement of significant problems at a large bank may subject the supervisor to sharp criticism for not having detected the problem earlier. Yet the costs of delay can be high. For example, the slower supervisors are to close an insolvent bank, the greater the dangers that losses will multiply, as owners or managers "gamble for resurrection". One common answer to potential political pressures is to place supervision in a politically independent government agency or in the central bank. Another possible answer is to reduce the discretion available to supervisors. Some countries (notably the United States) have adopted a more rule-based supervisory regime,

<sup>54</sup> See Meltzer (1996), Caprio and Klingebiel (1996b) and McKinnon and Pill (1994).

<sup>55</sup> See Padoa-Schioppa (1996).

<sup>56</sup> See Kane (1989) and Benston and Kaufman (1988).

where particular corrective actions are mandated once bank capital hits successive capital zone trip-wires.<sup>57</sup> However, many observers do not accept the wisdom of constraining the discretion available to supervisors: some stress the importance of supervisors detecting problems, and encouraging corrective action, well before they have become manifest in below minimum capital levels. Others emphasise the important role that supervisors can play in continuously fostering good risk management practices.

*(viii) Exchange rate regimes*

The exchange rate regime can affect vulnerability to speculative attack, the way in which the real value of impaired bank assets is adjusted downwards and the ability of the central bank to act as lender of last resort to illiquid but solvent banks.

A poor track record on inflation and the lack of any obvious alternative to the exchange rate as a nominal anchor led many emerging economies to adopt exchange-rate-based stabilisation plans in the 1970s and 1980s. These plans were often successful in cutting inflation but were also accompanied by significant real exchange rate appreciation. In some cases, heavy market pressure forced a return to greater exchange rate flexibility, often entailing massive devaluation. Gavin and Hausmann (1996) find that unsustainable exchange rate pegs have contributed more to the relatively high volatility of growth rates in Latin American developing countries over the past two decades than any other factor. Also, as noted earlier, sharp appreciation of the real exchange rate has been shown to be a useful leading indicator of banking crises.<sup>58</sup>

Fixed exchange rate regimes have also been criticised for increasing the fragility of the banking system to external adverse shocks. Gavin and Hausmann (1996), for example, argue that, under fixed rates, an adverse shock will lead to a balance-of-payments deficit, a decline in the money supply and higher domestic interest rates. The reduced availability and higher cost of credit will put pressure on banks and their customers and add to any problems associated with the effect of the shock itself on the

<sup>57</sup> The “prompt corrective action” guidelines are contained in the Federal Deposit Insurance Corporation Improvement Act (FDICIA). This is discussed further in the section below. See also Benston and Kaufman (1993).

<sup>58</sup> See Kaminsky and Reinhart (1995) and Goldstein (1996c).

quality of bank assets. Under flexible rates, by contrast, the shock will be associated with a depreciation of the nominal exchange rate and a rise in the domestic price level, which will serve to reduce the real value of bank assets and bank liabilities to a level more consistent with bank solvency.

With a fixed exchange rate, the central bank must ensure that any liquidity it injects into the system to provide temporary assistance to illiquid but solvent banks does not undermine its exchange rate obligations.<sup>59</sup> A recent noteworthy example was Argentina's response to the large liquidity shock to the banking system that followed the Mexican crisis in early 1995. Because of its currency board arrangement and the specific provisions of the Convertibility Law (80% of the monetary base had to be backed with foreign currency assets), the central bank had to perform a delicate balancing act and ensure enough liquidity to prevent a contagious bank crisis but not so much as to exceed the parameters of the exchange rate commitment.<sup>60</sup> Fortunately, it had some other instruments at its disposal (a decrease in reserve requirements in particular).

### **Policy options for strengthening banking systems**

Some of the main suggestions for strengthening banking systems in these countries are summarised in this section, mostly following the same sequence as in the previous section.

#### *(i) Reducing or living with volatility*

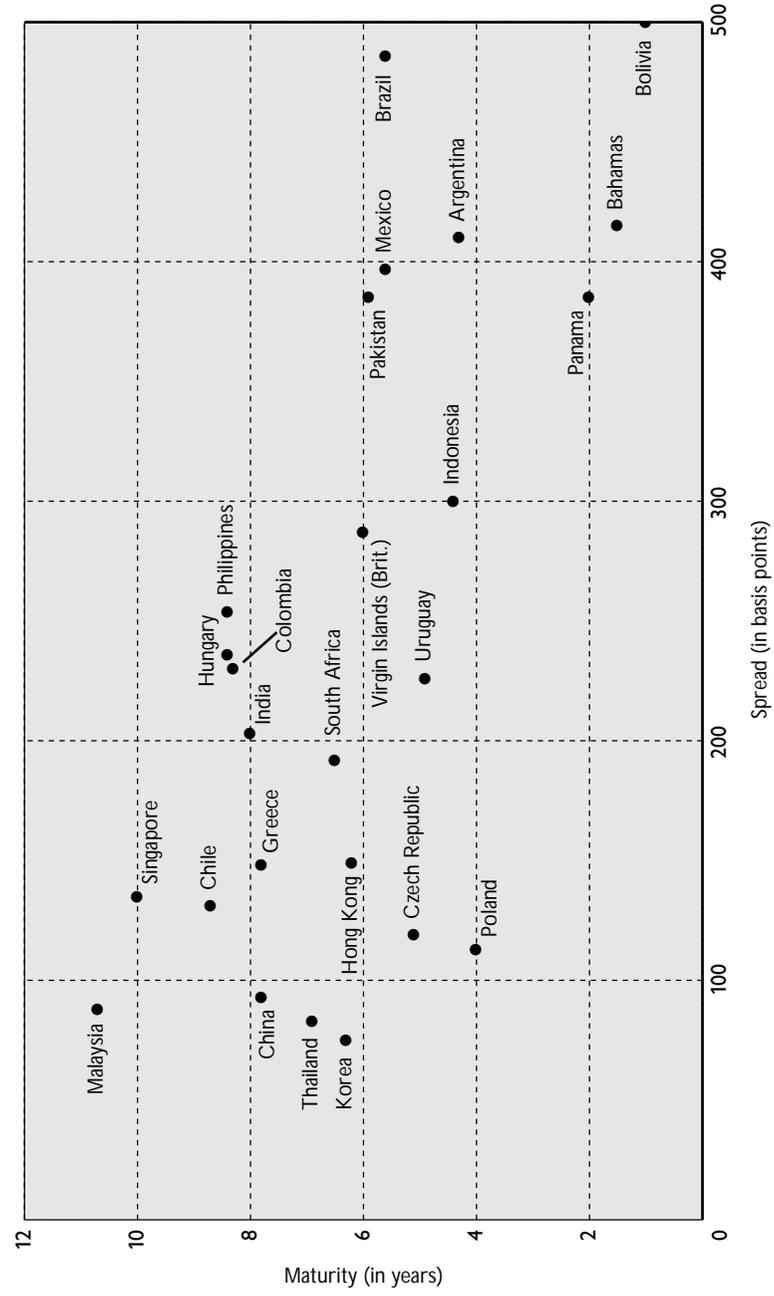
Banking systems in emerging economies operate in relatively volatile environments. There are essentially four ways of dealing with this problem: reducing those components of volatility that are under the home country's control; reducing exposure to volatility via diversification; buying insurance against volatility; and holding a larger cushion of financial resources against volatility-induced losses.

More disciplined monetary and fiscal policies help to contain volatility. In this context, it is useful to underline the basic complementarity

<sup>59</sup> Technically speaking, a currency board cannot create the money it lends as a lender of last resort; it can act as the lender of last resort if the funds are obtained elsewhere (e.g. from official borrowing abroad). Cavallo (1996) has stated that Argentina is in the process of creating an institution that can serve as lender of last resort to the financial system there.

<sup>60</sup> See Fernandez (1996).

**Issuance terms for international bonds, 1994–1996 Q2: maturity and spread**



Sources: Euromoney and BIS.

between macroeconomic and financial stability. One increasingly important aspect of this complementarity is the dependence of terms of borrowing in international capital markets on the perceived creditworthiness of the borrower. The graph illustrates that both interest rate spreads and maturities on international bond issues have differed markedly across countries during the past two years; for example, East Asian borrowers enjoyed in 1995 maturities almost three times longer than, and average spreads about half as large as, borrowers in Latin America. As hinted at earlier, there is a potential virtuous circle at work. With greater macroeconomic stability and fewer bad surprises for asset holders, the structure of the financial system will adapt in ways (e.g. longer maturities, a more diversified structure of financial assets) that make banks less vulnerable to shocks.

A particularly relevant financial aspect of diversification for emerging economies is the role of foreign-owned banks. Because their portfolios are less concentrated in lending to firms in the host country and because they usually have access to external sources of liquidity and foreign exchange (from their parents abroad), they will be able to weather a shock to the local economy better than domestic banks.<sup>61</sup> They may also be more insulated from government pressure. However, their activities have often been concentrated in servicing their compatriot foreign enterprises (with trade credit and the like). A somewhat different argument that is sometimes made is that easier foreign entry may reduce the franchise value of a bank, and may lead some domestic banks to fail.

Table 6 shows that the share of foreign banks in total banking assets differs widely across emerging economies. In Hong Kong, Chile and Malaysia – which have quite robust banking systems – the share of foreign banks ranges from very high to moderately high; in contrast, the foreign share is quite low in Korea, Mexico and Venezuela. Among the transition economies, the Czech Republic was open to foreign participation early in its reform period. In short, there can be advantages for the stability of the banking system in a volatile environment in not having local banks get all the business. In a similar vein, restrictions that severely limit the portfolios of home banks to the local market work against the principle of diversifying banking risk; these restrictions should therefore be carefully reviewed to see whether they have another compelling rationale that outweighs their diversification liability.

<sup>61</sup> See Gavin and Hausmann (1996).

Table 6  
**Foreign-owned banks' percentage shares of total assets**

India . . . . .	7.3
Hong Kong . . . . .	78.0*
Korea . . . . .	5.1
Singapore . . . . .	80.0
Taiwan . . . . .	4.7
Indonesia . . . . .	3.7
Malaysia . . . . .	15.9
Thailand . . . . .	7.1
Argentina . . . . .	21.7
Brazil . . . . .	9.4
Chile . . . . .	21.4
Colombia . . . . .	3.6
Mexico . . . . .	1.2
Venezuela . . . . .	1.2
Russian Federation . . . . .	2.2
Israel . . . . .	0.0
South Africa . . . . .	3.3
<i>Memorandum:</i>	
United States . . . . .	22.0
Japan . . . . .	1.8
Germany . . . . .	3.9

*Note:* Figures refer to latest available year.

\* Refers to all overseas-incorporated authorised institutions.

*Sources:* OECD, central banks and Ministries of Finance.

Market instruments that can provide protection against volatility in international interest rates, commodity prices and exchange rates (via swaps, futures, options and the like) have expanded significantly over the past decade, and can reduce risks for creditworthy banks as well as for their customers. This insurance can be expensive just at the times when concern about volatility is the greatest, but this cost has to be weighed against the moral hazard risks associated with inadequate reliance on self-insurance. The challenge here is often to see that internal risk management systems are reliable enough (including controls over individual traders and the separation of trading from back-office functions) to ensure that these instruments do not themselves generate credit or

market risk losses rather than reduce them (recall the unhappy experiences of Codelco, Barings and Daiwa).

Finally, there is the option of banks in emerging economies holding higher levels of capital to compensate for their more volatile operating environment. The Basle risk-weighted standard was always intended as a minimum which national regulations could supplement as circumstances warranted. It is perhaps surprising that the authorities in most emerging economies have thus far chosen not to set national capital standards that are much above the Basle international standard; nor have their banks (with several important exceptions) maintained actual capital ratios much above those found in countries with more stable operating environments.<sup>62</sup> Given the volatility figures reviewed in the above section, it is quite possible that default rates differ greatly between borrowers in industrial countries and those in emerging economies within a given risk-weight class of the Basle standard.<sup>63</sup> Accounting weaknesses and legal impediments to banks' recovery of delinquent loans may also argue for high bank capital ratios in these countries. Higher capital would certainly provide a greater safety margin and better incentives against excessive risk-taking than exist at present. Another possible approach is to more finely differentiate between different risks within the broad asset category. One way to do this is to use the bank's own assessment of the relative riskiness of different loans as embodied by the interest rates it charges. For example, recent Argentine regulations on credit risk impose higher risk weights on loans with higher interest rates. Under these provisions, the risk weights range from 1 (for peso loans with interest rates of 18%) to 6 (for peso loans with interest rates at 78%).<sup>64</sup>

*(ii) Defending against lending booms, asset price collapses and surges in private capital flows*

Proposals for defending against bank lending booms encompass at least two sets of issues. One is how host countries ought to manage macro-economic and exchange rate policies to best deal with volatile private capital flows. A second is what types of supervisory practices might

<sup>62</sup> See Table 4 above, BIS (1996), IMF (1996), Gavin and Hausmann (1996) and Lindgren et al. (1996).

<sup>63</sup> The recent amendment to the Basle standard for market risk may well not capture the kind of volatility most relevant to banking losses in emerging economies.

<sup>64</sup> Interest rates applying in April 1996.

moderate swings in bank lending and prevent a wholesale deterioration in credit quality.

#### *Macroeconomic policies*

On the first issue, Montiel (1996) has recently surveyed and analysed the policy responses of 14 emerging economies which collectively received roughly 70% of total portfolio and direct investment flows to developing countries over the 1989–93 period. Four of his conclusions are particularly relevant for this paper. First, controls or taxes on capital inflows (e.g. quantitative restrictions on foreign borrowing, requiring banks with foreign exchange liabilities to maintain a non-remunerated account at the central bank equal to a specified ratio of such liabilities) did in some cases manage to slow inflows, at least temporarily.<sup>65</sup> Second, many emerging economies have found that substantial capital inflows followed the removal of restrictions on capital outflows; thus, while removal of such restrictions may well have positive welfare implications for the long run, it does not contribute much to the solution of the capital inflow problem. Third, large-scale sterilisation operations – which were employed by 12 of the 14 countries in the group – were capable of restraining the growth of the monetary base but were much less effective in insulating asset markets from external financial influences.<sup>66</sup> Indeed, very large increases in equity and real estate prices were often recorded during the periods of heavy inflows. And, fourth, countries which allowed some nominal exchange rate flexibility and kept monetary and fiscal policies tight to limit inflation (e.g. Bolivia, Costa Rica, Indonesia, Korea, Malaysia and Thailand) showed few signs of real exchange rate appreciation and consumption booms – factors that often increase the vulnerability to Mexico-type financial crises. In contrast, those countries which used the exchange rate as a nominal anchor, defended by monetary policy with fiscal policy left basically unchanged (e.g. Argentina, Chile, Colombia, Egypt, Mexico and

<sup>65</sup> Gavin et al. (1996) conclude that the effectiveness of capital controls diminishes over time – but also that (on the basis of the experiences of Chile and Colombia) perfect effectiveness is not necessary to provide helpful protection against international financial turmoil. The IMF (1995) has likewise acknowledged that temporary controls or taxes on capital inflows may in some circumstances be warranted (as part of a broader policy package to modify the effects of surges in capital inflows).

<sup>66</sup> In line with the general proposition that countries subject to large swings in private capital flows would be well advised to treat all positive developments as temporary and all negative ones as permanent, Summers (1996) advises host countries to be much more restrained in sterilising capital outflows than in sterilising inflows.

the Philippines), typically experienced both real exchange rate appreciation and consumption booms. In short, a combination of tight fiscal policy, some nominal exchange rate flexibility, some sterilisation and perhaps some temporary controls/taxes on capital inflows can limit vulnerability to a subsequent crisis.

*Reserve requirements, variable capital requirements and other supervisory tools*

A key issue is whether bank lending booms are discouraged more effectively by high reserve requirements or by binding capital constraints. Although the trend has been towards lower reserve requirements in emerging economies, deposits at the central bank still represent a high percentage of loans to non-government in a number of countries: see Table 7. Increases in reserve requirements are one of the traditional instruments of monetary control. To take a recent example, strong credit growth following the implementation of the Real Plan in Brazil induced the central bank to increase reserve requirements on almost all liabilities of the financial sector.

Reserve requirements have been criticised as a method of restraining lending booms on two counts.<sup>67</sup> First, because such requirements are costly to banks, they can encourage substitution of other forms of liquidity for bank deposits, putting banks at a competitive disadvantage with little improvement in monetary control.<sup>68</sup> The empirical evidence is less than conclusive. Rojas-Suárez and Weisbrod (1996b) find no apparent relationship between the level of reserve requirements (on demand and time deposits) in seven Latin American developing countries and the real growth in domestic liquidity. They attribute this result to substitution towards short-term government or central bank securities, important liquid assets in some of these countries. On the other hand, Montiel (1996), drawing on a wider sample of Asian and Latin American emerging economies, reports that increases in reserve requirements were important in keeping the size of the money multiplier under control in host countries during the surge period. Similarly, Reinhart and Reinhart (1995) find that increases in reserve requirements (used in developing countries

<sup>67</sup> Reserve requirements also serve a function as a prudential instrument to counter unexpected liquidity shocks at banks; see the discussion later in this section.

<sup>68</sup> Remunerated reserve requirements can, however, mitigate this.

Table 7  
**Deposits at the central bank as a percentage of loans  
to the non-government sector**

	1994	1995
India . . . . .	20.3	16.4
Hong Kong . . . . .	0.1	0.1
Korea . . . . .	7.5	7.9
Singapore . . . . .	6.7	6.5
Taiwan . . . . .	9.9	8.7
Indonesia . . . . .	0.5	1.1
Malaysia . . . . .	0.0	0.2
Thailand . . . . .	1.2	1.4
Argentina . . . . .	5.8	1.4
Brazil . . . . .	15.5	11.5
Chile . . . . .	5.5	5.0
Colombia . . . . .	27.4	21.8
Mexico . . . . .	0.0	0.0
Venezuela . . . . .	48.5	34.9
<i>Memorandum:</i>		
United States . . . . .	3.2	2.4
Japan . . . . .	0.6	0.6
Germany . . . . .	1.7	1.3

*Sources: Central banks and IMF International Financial Statistics.*

as a tool for sterilising the increase in domestic liquidity arising from foreign exchange intervention) have a noticeable temporary effect both in widening spreads between bank deposits and lending rates and in lowering narrow and broad money expansion.

The second criticism of reserve requirements is that they make no distinction between strong and weak banks: they reduce the attractiveness of deposits and loans at all banks. It would be better to focus on preventing lending booms at “weak” banks, that is at banks that are undercapitalised and that do not have good internal systems of credit assessment (e.g. no independent internal oversight of lending decisions by a proper credit review committee).

Binding capital requirements, perhaps supplemented with disaggregated peer group analysis of individual banks, would stand a better chance (so the argument goes) of preventing a sharp decline in credit quality in

the face of large capital inflows – without penalising well-run banks.<sup>69</sup> This would be in line with a broader regulatory philosophy that well-capitalised banks require lighter supervision and should be granted more latitude in their activities than undercapitalised ones.<sup>70</sup> Malaysia introduced a two-tier regulatory system along these lines in December 1994. Others are more sceptical that capital requirements can restrain lending booms; instead, they argue that one way or another, the monetary authorities will need to “lean against the wind” to limit credit expansion.<sup>71</sup>

But what about risks specifically linked to the collapse of asset prices or to the emergence of consumption booms? One answer is to discourage the allocation of credit to sectors that are particularly interest rate sensitive (since it is interest rate fluctuations that drive much of the swings in private capital inflows) or that help to fuel the consumption boom. In Hong Kong, for example, a recent guideline encourages banks with a property exposure of more than 40% of loans to reduce or to stabilise the proportion. In addition to avoiding undue concentration of credit risk, a realistic valuation of collateral is helpful. Again, the Hong Kong authorities reduced what they regard as acceptable loan-to-value ratios from 80–90% in 1990 to 60–70% by 1993; Taiwan’s banks have likewise reduced loan-to-value ratios for property by a similar amount.<sup>72</sup> Bank loans to finance speculative activity in securities markets can be made subject to the same types of risk-protection mechanisms commonly found on organised exchanges (i.e. bankers should hold collateral, frequently marking it to market; require increased margins when the borrower’s position deteriorates; and ask for current information on the consolidated exposure of the borrower). Countries as different as Brazil and Singapore have similarly used various types of restrictions (e.g. minimum downpayments, maximum repayment periods) to contain credit-financed consumer booms in recent years. Finally, central bank moral suasion has continued to play a role in both limiting credit expansion and modifying its composition.

<sup>69</sup> Rojas-Suárez and Weisbrod (1996b) support this view. They also show that variations in capital standards across a set of Latin American emerging economies do not show any clear relationship to inter-country differences in real loan growth. They attribute this result, however, not to irrelevance of bank capital for the growth of risky assets, but rather to poor accounting conventions that lead reported bank capital to differ from true capital.

<sup>70</sup> This philosophy is reflected in some of the key provisions of recent US banking legislation (for example, the FDICIA of 1991).

<sup>71</sup> See Gavin and Hausmann (1996), for example.

<sup>72</sup> See BIS (1996).

*(iii) Reducing liquidity/maturity/currency mismatches*

Liquidity and maturity mismatches are an intrinsic characteristic of banking. An infrastructure of institutional and regulatory practices has evolved (deposit insurance, an official lender of last resort, an interbank market, liquidity and reserve requirements for banks, etc.) to discourage bank runs and to prevent localised liquidity shocks from leading to a failure of solvent banks. The question is what kind of mechanisms/operating guidelines would be particularly helpful to banks in emerging markets in limiting their exposure to, and vulnerability from, such mismatches.

One option is to keep bank reserve requirements high enough during normal times that they can be reduced to provide a quick source of liquidity to the banking system during episodes of exceptional liquidity strains.<sup>73</sup> One example is Argentina's experience in early 1995 when it was hit with the "tequila effect" of the Mexican crisis. Between December 1994 and March 1995, approximately \$7.4 billion left the Argentine banking system (some 16% of total deposits). By reducing in stages what were previously relatively high reserve requirements (from 43% to 30% on sight deposits, and from 3% to 1% on time deposits), the central bank was (by that channel alone) able to move \$2.4 billion back into the system.<sup>74</sup> In contrast, because Mexico had (as part of financial liberalisation) already reduced reserve requirements to a very low level, it could not inject liquidity through this channel. A similar line of argument is sometimes put forward for encouraging banks in emerging markets to hold a significant share of government bonds: the banks can respond to a negative liquidity shock by selling government bonds rather than being forced to sell their illiquid loans at "fire-sale" prices.

In some cases, access to liquidity may not be enough and access to foreign exchange may also be needed. As noted in the previous section, it is now much easier for holders of bank deposits in emerging economies to move their funds abroad when they sense an increase in currency or default risk. Also, the greater international integration of capital markets has made it less likely than before that financial disturbances will remain localised in their country of origin. Masson and Mussa (1995) report that roughly one-third of 49 industrial and middle-income developing

<sup>73</sup> Gavin and Hausmann (1996) have taken this view.

<sup>74</sup> See Fernandez (1996).

countries suffered a maximum, monthly reserve loss equal to 100% or more of their IMF quotas during the 1985–93 period. A national lender of last resort will not necessarily be able to meet such needs without an adequate stock of international reserves or ready access to borrowed reserves. As argued earlier, bank creditors can become nervous when bank liabilities are growing rapidly relative to the stock of international reserves. Recent empirical studies suggest that vulnerability to currency and banking crises in emerging economies is inversely related to the country's holdings of international reserves; for example, “early-warning” indicators of financial crises (such as debt-to-GDP ratios, current account imbalances and exchange rate misalignment) appear to send more reliable signals when the country has relatively low holdings of international reserves.<sup>75</sup> A healthy cushion of international reserves appears therefore to have taken on added importance. Co-operative measures among central banks can also help to discourage bank runs or capital flight: one example is the recent repo agreement among a group of Asian central banks to establish mutual lines of assistance (based on holdings of Treasury securities in their reserves).

Efforts to limit the scale of short-term, foreign-currency-denominated borrowing – by both banks and their customers – should perhaps have even higher priority. As argued by Dooley (1995), because currency and rollover risk in emerging economies can be influenced strongly by events beyond the borrower's control (e.g. changes in international interest rates), because some borrowing countries have a history of devaluation and debt restructuring, and because other constraints in the economy may limit the scope for an aggressive interest rate defence of an exchange rate parity, borrowers (including banks) in emerging economies should be cautious about taking on much foreign currency debt; the variance of borrowing costs over time also counts – not just the average level. Moreover, shifting the risk to bank borrowers by denominating bank loans in foreign currency may just mean swapping currency risk for credit risk. By the same token, a high share of short-term debt makes it easier for creditors to run at the first sign of trouble and gives the authorities little time to react to unfavourable developments in the financial sector. A key challenge in most emerging economies is therefore to build broader and deeper longer-term credit markets. Better macroeconomic performance,

<sup>75</sup> See Sachs et al. (1996).

pension reform and a strengthening of the legal infrastructure would contribute to the development of such markets. In the meantime, the monetary and regulatory authorities in emerging economies will need to monitor closely any rapid build-up of short-term, foreign-currency denominated borrowing by their banks, and be prepared to limit rapidly growing liquidity or currency mismatches.

*(iv) Preparing better for financial liberalisation*

Of the extensive literature on the appropriate sequencing of financial liberalisation, three points are key for present purposes. First, if entry of new banks or privatisation of formerly state-owned banks is part of the liberalisation process, it is important to ensure that the new owners/managers of those banks pass the “fit and proper” test. Chile’s experience of the 1970s provides a cautionary tale.<sup>76</sup> Newly privatised banks were sold to rapidly expanding – and not fully solvent – conglomerates (the *grupos*), which used them to finance the acquisition of firms. During this process, the new bank owners engaged in risky and financially questionable operations, and accumulated a large stock of bad loans – much of it to interrelated companies owned by the same conglomerate. The public, perhaps because of an implicit government guarantee on deposits, did not distinguish between solid and troubled banks. The episode ended in a major crisis in 1982–83 when some of the largest Chilean banks became insolvent and had to be taken over by the government. To take two more recent examples, a lax entry policy led to a deterioration in credit quality and to bank insolvencies in Poland in the early 1990s, and low capital requirements for new banks in Russia – and the absence of effective penalties/personal liability clauses – probably contributed to the scale of current difficulties.<sup>77</sup>

Second, bank supervision needs to be strengthened before liberalisation. Supervisors need to be trained to be better able to determine which banks have the expertise to cope with the new and expanded activities permitted by liberalisation. They also need to be able to evaluate the risks involved as the expansion of these new activities proceeds. Again, earlier

<sup>76</sup> The account of Chile’s experience is based on Edwards (1995).

<sup>77</sup> Hong Kong’s banking crisis in 1982 also probably owed something to bank entry policies in the late 1970s, and to the effect of intensified competition on risk-taking. As a result of that experience, Hong Kong now applies a minimum asset size of \$16 billion for foreign banks, along with stringent authorisation procedures.

failures are instructive.<sup>78</sup> Up to the late 1970s, Nordic (Finland, Norway and Sweden) banks operated in a highly regulated financial system where there were controls on interest rates and capital flows, and officially directed bank credit. Competition was inhibited and banks earned considerable rents; indeed, in the early 1980s some Nordic banks were among the most profitable in the world. The rise of non-bank financial institutions (e.g. finance companies) that escaped existing regulation, in conjunction with the emergence of new markets, led to pressure for financial liberalisation. The lifting of quantitative restrictions on bank credit and the dismantling of interest rate controls was followed in each country by a significant rise in the ratio of bank lending to GNP, along with a growing concentration of loans on higher-risk activities, including real estate and (especially in Finland) financial market speculation. Bank supervisors were not well equipped to control risk-taking in this new liberalised environment. In Finland, for instance, supervisors were apparently hampered by the opaque status of large financial and industrial groups, by the lack of authority to determine the extent of equity and lending interconnections within the group, and by insufficient staff to conduct adequate and timely bank examinations. Supervisory shortcomings have also played an important role in the overextension of Mexican banks in the liberalised world of the 1990s.

If the decision has been made to go ahead with financial liberalisation before the regulatory and supervisory framework has been upgraded, there is a second-best argument for limiting private capital inflows, or for imposing speed limits on the expansion in bank lending – at least until the quality of the supervisory regime has caught up with the pace of liberalisation.

*(v) Reducing government involvement and connected lending*

Views on the appropriate role of government in the banking sector still differ significantly across countries. Four possible policy options merit explicit mention. One option would be to enhance the transparency of government involvement in, and taxation of, the banking system. Recognising that such quasi-fiscal operations are typically undertaken to circumvent legislative and political constraints on fiscal policy, the IMF (1996) has

<sup>78</sup> The following summary of the Nordic banking crises of the early 1990s is taken from Goldstein et al. (1993).

recently recommended including government subsidies to, or revenues from, involvement with the banking system in central government budget statements. In a similar vein, the opportunity cost of such government involvement would be clearer to the public if figures on the performance of state-owned banks (relative to privately-owned ones) were published; as noted earlier, the incidence of bad loans has typically been greater in state-owned banks than in privately-owned ones, and the public could be made more aware of that difference.

A second option is to get state-owned banks to operate more like commercial enterprises. Many countries have tried this, but with only mixed results. In many cases, the internal culture of such banks exhibits a strong resistance to change. A third option, assuming that some government-directed lending is unavoidable, is to ask the major solvent banks to each “do their bit” by allocating a small percentage of their loans to needs of high political priority. This may be safer and less destructive of incentives to monitor credit quality than concentrating such problems in one institution. This approach has at times been followed in South Africa.

Fourth – and most directly – there is the option of privatising state-owned banks. Even though there may still be some resistance to change in the absence of a competitive domestic structure of the industry, this is the most promising avenue for putting banking on a sounder footing. But much depends on who the new private owners of the banks are. As noted by Honohan (1996), if the new owners are not “fit and proper”, the result of privatisation may simply be to exchange public sector inefficiencies for private sector incompetence or even fraud. This reinforces the arguments made earlier for careful screening of banking licences – even if it slows down the pace of privatisation.

Turning to connected lending, most countries already have explicit prudential limits in place. It is noteworthy that New Zealand – which has decided to jettison many traditional regulatory guidelines in favour of increased public disclosure and market discipline (more on this below) – has opted to retain a mandatory prudential limit on connected lending. In order to discourage excessive levels of connected lending, three measures warrant mention. First, countries should work towards ensuring that the accounting and legal framework permits supervisors to verify that reported connected-lending exposure is accurate. Second, greater transparency would make bank creditors more aware of the concentration of credit risk (and possible departure from arm’s-length

transactions) at individual banks. Chile's banking law, for example, specifies mandatory disclosure of loans to related industrial and commercial groups (also, loans to different members of the group are consolidated).<sup>79</sup> Third, it would be useful to establish threshold reporting limits (to bank supervisors) on connected lending that are below the maximum limit to give supervisors an early indication of high or rising exposure to connected parties.<sup>80</sup>

*(vi) Strengthening the accounting, disclosure and legal framework*

Much of what would be helpful in this wide-ranging area follows from the discussion in the section about existing weaknesses. To begin with, there is a pressing need for stricter asset classification and provisioning practices that reduce the scope for delay in recognising bad loans and that encourage banks to provision adequately against loan losses. Towards this end, more emphasis needs to be given to an evaluation of the borrower's current creditworthiness and less latitude accorded to loans that are being kept current only because of the extension of new loans ("ever-greening"). Where the time period over which a loan can be in arrears before it is classified as non-performing is much longer than best practice, that time limit should be reduced (i.e. closer to 90 days).<sup>81</sup> The high volatility of asset prices in emerging economies also makes it more important to take due account of underlying – rather than temporarily inflated – market values and to value conservatively and realistically the collateral underlying bank loans.

Chile's banking law has several features conducive to good provisioning practice: banks classify into four risk groups based on a current assessment of the repayment capacity of the borrower, the borrower's past record, and the value of collateral, rather than on past-due payments. Chilean practice has also moved towards market accounting without accepting the principle as a formal requirement (e.g. a bank's net worth is adjusted several times a year to reflect prospective losses and current economic values).<sup>82</sup> The Mexican authorities have recently tightened accounting rules and expect that this will lead to a doubling in the amount of past-due loans reported.

<sup>79</sup> See Meltzer (1996).

<sup>80</sup> See Basle Committee (1992).

<sup>81</sup> Sheng (1996) cites the case of one South Asian country where, until recently, loans that were not serviced for more than three years were still treated as performing.

<sup>82</sup> See Meltzer (1996).

Almost all developing country supervisors report (in the Basle Committee's survey) that they do assess the adequacy of the provisioning made by banks. But where provisioning guidelines are unclear or weak, they should be tightened. Table 8 provides a snapshot of the coverage ratio for bad loans (i.e. the ratio of loan loss reserves to non-performing loans) in a sample of emerging economies. Without pretending too much precision, three observations stand out: (i) there is very wide variation in coverage across countries; (ii) on average, the emerging economies with the highest share of non-performing loans (Mexico, Indonesia and Venezuela) tend to display the lowest provisioning coverage; and (iii) there are some notable exceptions (e.g. Argentina and Malaysia) where coverage in the face of a relatively high incidence of bad loans looks relatively strong.

How far the results of detailed bank supervision should be published is a controversial question. In Chile, inspectors from the Superintendency of Banks and Financial Institutions (SBIF) visit the banks regularly and evaluate the risk of its assets, with the purpose of quantifying estimated losses and monitoring the impact of any non-provisioned losses on the solvency of the bank. The SBIF then publishes each quarter information on the quality of banks' assets and capital position (e.g. loans and other assets with their estimated losses; provisions; the capital convergence ratio and the credit risk structure). The Superintendency also publishes information on the credit risk rating of all short and long-term securities issued by banks.

The public disclosure of basic information on bank performance, bank income and bank balance sheets needs to become a more widespread and harmonised process. The annex contains two examples of the type of published information that it would be useful to have – both for the banking sector as a whole and on individual banks. The first example shows the aggregate data that are published quarterly for approximately 3,000 national banks in the United States. The second example shows the quarterly disclosure requirements for individual banks under New Zealand's new supervisory regime.<sup>83</sup> In both cases, the published information allows bank creditors and investors to get a timely picture of bank profitability, bank capital, impaired assets, provisioning and exposure

<sup>83</sup> Because banks in New Zealand are foreign-owned, and thus subject to home-country supervision overseas, some observers question the applicability of reliance on disclosure to other countries in different circumstances.

Table 8  
**Loan loss reserves and non-performing loans**

	Loan loss reserves <sup>1</sup> (A)	Non-performing loans <sup>2</sup> (B)	Coverage ratio i.e. A/B
	as a percentage of total loans		
India . . . . .	–	19.5 <sup>3</sup>	–
Hong Kong . . . . .	2.2 <sup>2</sup>	3.1	0.71
Korea . . . . .	1.5	1.0	1.50
Singapore . . . . .	–	–	1.20
Taiwan . . . . .	1.1	2.6	0.42
Indonesia . . . . .	2.6	11.2	0.23
Malaysia . . . . .	9.6	8.2	1.17
Thailand . . . . .	1.7	7.6	0.22
Argentina . . . . .	10.2 <sup>2</sup>	10.5	0.97
Brazil . . . . .	1.6	5.9	0.27
Chile . . . . .	3.5	1.0	3.50
Colombia . . . . .	1.9	2.5	0.76
Mexico . . . . .	3.1 <sup>4</sup>	14.8	0.21
Venezuela . . . . .	7.0	17.7	0.40
<i>Memorandum:</i>			
United States . . . . .	2.7	1.6	1.69
Japan . . . . .	1.0	3.3	0.30

*Note:* These figures may not be strictly comparable.

<sup>1</sup> Average 1990–94. <sup>2</sup> Average 1994–95. <sup>3</sup> Relates only to public sector banks. <sup>4</sup> Average 1992–94.

*Sources:* Office of the Comptroller of the Currency, IBCA Ltd. and central banks.

to certain classes of loans. Under New Zealand’s new banking law, much of this information is summarised in a one or two-page note that must be displayed prominently in every bank branch – making interpretation easier for small depositors.

New Zealand’s disclosure policy for banks raises two other issues that are of wider relevance for emerging economies. One is the contribution that national bank supervisors can make towards monitoring compliance with disclosure requirements, requiring a correction of false or misleading statements, and initiating legal proceedings against banks for issuing false or misleading information. The quality of information is all-important. In this regard, ensuring that more banks (in both industrial and emerging

economies) prepare statements according to International Accounting Standards (with a common industry format) would improve the quality of disclosure, as it would facilitate comparisons among banks (both within and across countries).<sup>84</sup>

The second issue concerns the role that credit ratings issued by private credit-rating agencies can play in enhancing market discipline. Note that under the New Zealand regime every bank must prominently display its credit rating (along with any recent changes in that rating); if the bank has not obtained a credit rating, it must disclose that fact. Similarly, government auditors in Chile assign each bank a summary credit rating similar to US CAMEL (Capital, Assets, Management, Earnings and Liquidity) ratings and publish it in major newspapers, while private rating firms offer their appraisal twice a year. Argentina recently required banks to be rated by credit-rating agencies, with ratings displayed with the interest rates offered for different types of deposit. While there continues to be controversy over the leading-indicator value of credit ratings, increased efforts by emerging economies to widen the number of banks that receive ratings from independent, internationally recognised credit-rating agencies should improve incentives for good management and serious internal risk control.

On the legal side, banks and their supervisors in emerging economies could each do their job better if legal reforms removed outdated impediments to the pledging, transfer and seizure of loan collateral, and enhanced the statutory authority of supervisors to carry out their oversight and corrective action responsibilities.

*(vii) Improving incentives for bank owners, managers and creditors, and for bank supervisors*

This too is an area that covers a lot of ground. Fortunately, most of the relevant proposals can be grouped into the following five categories: incentives tied to bank capital; greater personal liability for bank directors; steps to limit the disincentive effects of explicit or implicit government guarantees; more rule-based supervisory regimes; and international prudential standards.<sup>85</sup>

<sup>84</sup> A second possibility would be to accept the Generally Accepted Accounting Principles (GAAP) used in the United States; see White (1996) for a comparison of these competing accounting standards.

<sup>85</sup> Proposals to establish "narrow banks" are not discussed in this paper.

As argued earlier, higher capital requirements can improve the incentives for bank owners and implementation of the Basle standards in developing countries. Banks in most emerging economies, given their relatively volatile environment, should probably hold more capital. But capital is typically more expensive to raise than bank deposits (in part because shareholders are less likely to be bailed out when a bank fails than depositors). How can banks be encouraged to increase capital beyond national (minimum) requirements? One incentive can be created by making a bank's range of permitted activities and its regulatory burden a function of the level of its capital. Better capitalised banks could thus be allowed to do more or be subject to less intrusive regulatory oversight. For example, US banks with risk-based capital ratios greater than 10% are permitted to take brokered deposits, whereas those with ratios of between 8 and 10% are prohibited from doing so (except with FDIC approval).

Another possibility is the issuance of subordinated debt, where the purchaser would not expect to be bailed out. Other countries have increased the personal liability of managers and directors.<sup>86</sup> Under New Zealand's new banking law, the management of a bank is to be replaced when a bank is insolvent or is likely to become so. Under the Federal Deposit Insurance Corporation Improvement Act of 1991 (usually referred to by the acronym FDICIA) in the United States, supervisors are mandated to restrict the pay of bank officers when bank capital falls into the 3–6% range. In New Zealand, bank directors also face serious criminal and civil penalties (including imprisonment, fines and unlimited personal liability for depositors' losses) for false or misleading statements. The objective should be to find an incentive structure that enforces accountability on bank managers and directors but is not so forbidding as to discourage capable individuals from taking up these posts.

There have been several approaches to combating the moral hazard of explicit and implicit government guarantees. One is "co-insurance": de jure coverage of deposit insurance is usually less than complete (i.e. reimbursements are less than 100% or are subject to a ceiling) in industrial and developing countries alike.<sup>87</sup> This is meant to increase the incentive to monitor the health of a bank; some feel that it also helps to build a constituency for strong supervision (since depositors would share the

<sup>86</sup> See Caprio and Klingebiel (1996b).

<sup>87</sup> See Lindgren et al. (1996).

costs of weak supervision).<sup>88</sup> Others doubt that partial deposit insurance coverage significantly strengthens discipline because the de facto treatment of depositors after bank failures is often more generous than de jure arrangements. In addition, partial coverage may delay the closure of an insolvent bank (because of the need to negotiate with depositors). In any case, small depositors may be too dispersed or too unsophisticated to exert much (deposit withdrawal) pressure on weak banks. A second possibility is risk-weighted deposit insurance premiums, whereby riskier banks pay more for insurance. In most cases, however, the difference in insurance premium rates across banks is far less pronounced than differences in actuarial failure rates would imply.<sup>89</sup> A third possibility is to provide deposit insurance through mutual liability (making groups of banks liable for members' losses): this may serve to mobilise peer pressure.<sup>90</sup>

Perhaps the most interesting approach to the moral hazard role of government guarantees is the “structured early intervention and resolution” (SEIR) proposal of Benston and Kaufman (1988) – much of which was ultimately incorporated into recent US banking legislation (FDICIA), and subsequently into that of several other countries. On the assumption that deposit insurance is probably politically inescapable, SEIR structures the regulatory or supervisory response to emerging bank difficulties by seeking to mimic the pressures that the private uninsured bondholders would exert on debtor firms if there were no government guarantees.<sup>91</sup> It does this by imposing a graduated regulatory response (e.g. restrictions on dividends and asset growth, closer monitoring and so on) as bank capital crosses multiple capital zone “tripwires”; see Table 9. If these graduated pressures are unsuccessful, the regulators are required to close the bank before the market value of the bank's capital turns negative. Hence losses to the public are minimised; only the bank's shareholders and uninsured depositors are put at risk.

By making much of the supervisory response mandatory, and thus limiting the supervisor's discretion, the SEIR proposal may also serve to offset the pressure on bank supervisors to delay prompt corrective

<sup>88</sup> See Honohan (1996).

<sup>89</sup> Benston and Kaufman (1993), for example, level this criticism at risk-weighted insurance premiums for US banks (under FDICIA).

<sup>90</sup> See Caprio and Klingebiel (1996b).

<sup>91</sup> FDICIA also seeks to limit disincentive effects by setting mandatory haircuts for uninsured depositors.

Table 9  
**Summary of prompt corrective action provisions of the  
 Federal Deposit Insurance Corporation Improvement Act of 1991**

Zone	Mandatory provisions	Discretionary provisions	Capital ratios (%)			
			Risk based			
			Total	Tier 1	Leverage	Tier 1
1. Well capitalised			>10	>6	>5	
2. Adequately capitalised	1. No brokered deposits, except with FDIC approval		> 8	>4	>4	
3. Undercapitalised	1. Suspend dividends and management fees 2. Require capital restoration plan 3. Restrict asset growth 4. Restrict deposit interest rates* 5. Pay of officers restricted	1. Order recapitalisation 2. Restrict inter-affiliate transactions 3. Restrict deposit interest rates 4. Restrict certain other activities 5. Any other action that would better carry out prompt corrective action	< 8	<4	<4	

Table 9 (cont.)

Zone	Mandatory provisions	Discretionary provisions	Capital ratios (%)	
			Risk based Total	Leverage Tier 1
4. Significantly undercapitalised	<ol style="list-style-type: none"> <li>1. Same as for Zone 3</li> <li>2. Order recapitalisation*</li> <li>3. Restrict inter-affiliate transactions*</li> <li>4. Restrict deposit interest rates*</li> <li>5. Pay of officers restricted</li> </ol>	<ol style="list-style-type: none"> <li>1. Any Zone 3 discretionary actions</li> <li>2. Conservatorship or receivership if fails to submit or implement plan or recapitalise pursuant to order</li> <li>3. Any other Zone 5 provision, if such action is necessary to carry out prompt corrective action</li> </ol>	< 6	<3
5. Critically undercapitalised	<ol style="list-style-type: none"> <li>1. Same as for Zone 4</li> <li>2. Receiver/conservator within 90 days*</li> <li>3. Receiver if still in Zone 5 four quarters after becoming critically undercapitalised</li> <li>4. Suspend payments on subordinated debt*</li> <li>5. Restrict certain other activities</li> </ol>			<2

\* Not required if the primary supervisor determines that action would not serve the purpose of prompt corrective action or if certain other conditions are met.

Source: Board of Governors of the Federal Reserve System.

action. Rules may be particularly welcome to supervisors who operate in an environment of strong political pressures. On the other hand, as Meltzer (1996) has pointed out, such rules may force the closure of some banks that would have become viable later: there are costs in acting too early as well as too late.<sup>92</sup> As shown in Table 9, FDICIA, while requiring US bank supervisors to impose certain sanctions, leaves others to their discretion.<sup>93</sup> Japan also plans to establish a prompt corrective action system from April 1998. Chile's banking law also includes several important pre-commitment features.<sup>94</sup> For example, a bank must capitalise if its net worth falls 40% below its value at the beginning of the year. In addition, a deposit rate 20% above the industry average, three calls within a year for emergency central bank assistance and any failure to meet a liquidity requirement all trigger a regulatory response.

Finally, there is the broader issue of what can be done to strengthen the political incentives to implement banking reform. A banking crisis itself should lead to the adoption of an improved incentive or supervisory framework: Caprio and Klingebiel (1996b) note a number of prominent cases (e.g. Argentina, Chile and Hong Kong). But their wider analysis of 64 cases of bank restructuring reveals that there have been relatively few success stories.

Another source of pressure for reform can come from host countries where banks want to do business. If the host country is not satisfied that the home country is implementing effective supervision, it can refuse a banking licence. Such pressures have been included both in national legislation and in the Basle Committee's Minimum Standards paper of 1992.<sup>95</sup> This strategy can be very effective. Nevertheless, such pressure can weaken the principle of preserving home-country leadership of banking supervision; in addition, it could on occasion be used as an excuse to restrict competition.

A third mechanism is voluntary international standards or guidelines (some of which may subsequently become mandatory when embodied in national legislation). Such guidelines are deliberately not all-inclusive but

<sup>92</sup> It could be argued, for example, that whereas regulatory forbearance aggravated the US saving and loan crisis, it smoothed the resolution of the developing-country debt crisis in the 1980s.

<sup>93</sup> Benston and Kaufman (1993) have criticised FDICIA for being less severe, less mandatory and less prompt than they had suggested.

<sup>94</sup> The following description relies on Meltzer (1996).

<sup>95</sup> See White (1996) and Padoa-Schioppa (1996).

cover only a few key aspects, where different national systems have common ground. Good examples are the Basle Committee's Concordat and its Capital Accord, the G-30's best practice guidelines on internal risk management and disclosure for derivatives, and the IMF's recently agreed Special Data Dissemination Standard. Even if such standards are voluntary, knowledge by market participants of who is, and who is not, meeting the standard establishes market incentives for slow movers. These incentives can help to overcome such local stumbling-blocks to reform as entrenched opposition from interest groups or concerns about the competitive impact of unilateral adoption. At the same time, the specificities of national banking systems are respected.

Some analysts have argued that the banking systems of developing countries need much more extensive standards and that compliance requires more explicit monitoring. Goldstein (1996b) has proposed that the time is ripe for an international banking standard that would go beyond existing Basle Committee agreements (on capital adequacy, consolidated supervision and co-operation between home and host-country banking supervisors) to cover many of the factors most responsible for banking crises in developing countries. Such factors include the high volatility of the operating environment, heavy government involvement, connected lending, intense political pressure on bank supervisors and so on. However, a single standard may not be flexible enough to accommodate the variety of country circumstances. In addition, the approach raises many thorny operational issues: how would the standards be set? If they were to be monitored, who would do the monitoring? What would be the incentives for countries to adopt such standards?

*(viii) Preventing the exchange rate regime from compromising crisis prevention/management*

On the complex issue of a country's choice of exchange rate regime two points are relevant for present purposes. The first is that several emerging economies have avoided the heightened vulnerability associated with a seriously overvalued fixed exchange rate by making a transition to one of several forms of flexibility. Changes in exchange rate arrangements have ranged from a simple widening of bands during periods of heavy capital market pressure to the adoption of a crawling band (à la Chile, Colombia and Israel). Some have changed to managed floating along with

domestic inflation targets. The empirical evidence suggests that abandoning rigid exchange rate commitments has not (at least so far) led to any significant deterioration in inflation performance in these countries.<sup>96</sup> The second point is that if the authorities nevertheless decide that a fixed exchange rate or a currency board is the most suitable regime for their circumstances, then they ought to make contingency arrangements for how lender-of-last-resort operations for illiquid but solvent banks can be carried out.

## Conclusion

Banking crises in emerging economies have multiple causes. The bad news is that there is therefore no single solution. Part of the story is the more volatile environment (external and internal) in which banks in these countries operate – along with a reluctance in many countries, at least so far, to address, or to compensate for, that volatility with diversification, insurance and higher bank capital. Part of it reflects a tendency for banks (much like those elsewhere) to lend too recklessly during the upswing of the business cycle – a tendency that has been exacerbated by large-scale capital inflows that are ultimately intermediated by the banking system. Part of it is a rapid expansion in bank liabilities in a context in which the normal liquidity/maturity mismatches of banks are magnified by an excessively short-term orientation of the financial system, relatively little support from securities markets, a sometimes heavy reliance on foreign-currency-denominated debt and the relatively high variability of international reserves, interest rates and the exchange rate. Part of it results from implementing financial liberalisation before the supervisory and regulatory system has been strengthened sufficiently to manage prudently the new risks involved. Part of it is an accounting, disclosure and legal framework that impedes the potential contribution of market discipline to monitoring and penalising excessive risk-taking. Part of it is an incentive framework that neither gives bank owners, managers and depositors enough to lose if excessive risks are taken nor supervisors enough institutional protection against pressures for delay in implementing corrective action. And part of it is exchange rate arrangements that, whatever other

<sup>96</sup> See Montiel (1996) and Gavin et al. (1996).

merits they may have, have not been conducive to effective crisis prevention and management in the financial sector.<sup>97</sup>

The good news is that there are several possible policy measures that can significantly reduce the incidence of each of these factors underlying banking crises. Greater macroeconomic stability, a larger role for foreign-owned banks, the wider use of market-based hedging instruments and higher levels of bank capital would all help either to reduce volatility or to make the consequences for the domestic banking system less damaging. Limiting the allocation of bank credit to particularly interest-rate-sensitive sectors, close monitoring of lending by weakly capitalised banks and employing the right mix of macroeconomic and exchange rate policies would similarly limit vulnerability to lending booms, asset price collapses and surges of capital inflows. Maintaining an ample cushion of both liquid assets and international reserves, and adopting a cautious attitude towards short-term, foreign-currency-denominated borrowing can limit banks' liquidity or currency mismatches and discourage runs on both bank and government liabilities. Careful screening of applicants for banking licences along with a prior strengthening of training in, and resources for, banking supervision can reduce the risks that often go hand-in-hand with financial liberalisation. The privatisation of state-owned banks and enhanced efforts to increase the transparency of implicit and explicit government taxation of the banking system should help to put more of the banking system on a commercial footing – with sizable dividends in terms of efficiency and lower loan losses. The more effective implementation of existing restrictions on connected lending would reduce undue concentration of credit risk and discourage favouritism (and fraud) in credit allocation. Stricter asset classification and provisioning practices could reduce the all-too-frequent “evergreening” of bad loans and provide satisfactory protection against loan losses. Fuller and more internationally harmonised public disclosure of bank soundness and performance – with a greater role for private rating agencies – can help to strengthen market discipline. Considerable scope exists too for tilting the incentives for bank owners, managers and creditors in the direction of

<sup>97</sup> In a detailed examination of 29 systemic banking crises, Caprio and Klingebiel (1996b) concluded that political factors (government interference and connected lending) were important in at least one-third of the crises, volatility factors (primarily, terms-of-trade deterioration and recession) in one-half to two-thirds of them, and deficient bank management and poor supervision and regulation – broadly defined – in two-thirds to four-fifths of all cases.

bank soundness. In this connection, higher bank capital, higher personal liability for poor management or oversight and increased recourse to co-insurance for depositor losses (with uninsured bank creditors bearing a higher proportion of the losses) would each improve the structure of incentives. The introduction of some rule-based, prompt corrective action elements into the bank supervisory process may, in circumstances where supervisors face strong political pressures for forbearance, enhance supervisory effectiveness.

Several countries are going through a difficult period of banking sector restructuring, and are attempting to address the consequences of, inter alia, earlier failures of prudential oversight. These failures, and the lessons learnt from banking difficulties worldwide, have naturally prompted national authorities almost everywhere to take a good look at their safeguards against banking crises and other systemic financial problems. In some emerging economies, policy measures have been taken to make the domestic banking system more robust and to improve the quality of banking supervision. In many others, these questions are under active consideration. The frequency and severity of banking crises in developing countries over the past decade and a half argue against complacency. Reforms need to be more widely shared and deeply rooted than was the case in the past. Fixing the problems of the banking sector will require a sustained commitment. The ways that international co-operation, in several guises, can encourage or sustain this commitment is clearly an issue that requires urgent consideration.

**Annex**  
**Two examples of disclosure of the financial condition of banks**

*A. Aggregate positions: data for national banks in the United States*

<i>Income</i>	<i>Balance sheet</i>	<i>Performance ratios</i>
Net income	Assets	Return on equity
Net interest income	Loans	Return on assets
Non-interest income	Real estate	Net interest margin
Non-interest expense	Commercial & industrial	
Loan loss provision	Non-current loans <sup>1</sup>	Loss provision to loans
Gains on securities sales, net	Other real estate owned	Net loan loss to loans
Extraordinary income	Securities not in trading a/c	Non-current loans to loans
Net loan loss		Loss reserves to loans
	Total liabilities	Loss reserves to non-current loans
	Total deposits	
	Domestic deposits	Loans to assets
	Loan loss reserve	Loans to deposits
		Equity to assets
	Equity capital	Estimated leverage ratio <sup>2</sup>
	Total capital	Estimated risk-based capital ratio

*Note:* These aggregate data cover around 3,000 banks and are published quarterly.

<sup>1</sup> Ratio of estimated Tier 1 capital to estimated tangible total assets.

<sup>2</sup> Sum of loans and leases 90 days or more past due plus loans not earning the contractual rate of interest in the loan agreement.

*Source:* Office of the Comptroller of the Currency, *Quarterly Journal*.

*B. Individual positions: New Zealand's new disclosure regime for banks*

The aim of bank supervision in New Zealand is to maintain a sound and efficient financial system. The protection of depositors is not an aim in itself; there is no deposit insurance.

### *Registration of banks*

Bank registration entitles the institution to use the word “bank” in its name; but registration is not required to conduct banking business.<sup>3</sup> The Reserve Bank of New Zealand is responsible for deciding on applications for bank registration subject to certain conditions:

- Total capital of at least 8% of the banking group’s risk-weighted credit exposures, of which at least one-half must be Tier 1 capital.<sup>4</sup>
- Group’s credit exposure to major shareholders and related entities not permitted to exceed:
  - (a) 15% of Tier 1 capital in the case of lending to a non-bank;
  - (b) 75% of Tier 1 capital in the case of lending to a bank.
- Locally incorporated banks to have at least two independent directors and a non-executive chairman.

### *Reserve Bank action when a bank’s capital falls below requirements*

Recent reforms introduced a more structured approach with the aim of reducing the scope for regulatory forbearance by the banking supervisor.

- If a bank’s Tier 1 or total capital falls below the limits noted above, the bank would have to submit to the Reserve Bank a plan for restoring capital, including the following elements:
  - (a) no dividends paid until the minimum capital requirements have been complied with;
  - (b) no increase in exposure to related parties from the level prevailing when capital requirements first breached;
  - (c) if reduction in capital results in a bank being in breach of the limit on related party exposures, the bank would be required to reduce its exposure to a level which complies with the limit.
- If a bank’s Tier 1 capital falls below 3% of risk-weighted exposures, gross credit exposures must not be increased from the level which occurred when capital first fell below this limit.

The plan would be published in the bank’s public disclosure statement at the first practicable opportunity.

<sup>3</sup> However, compliance with disclosure and other requirements contained in the Securities Act is required.

<sup>4</sup> At the time of announcement, the Reserve Bank noted, “Although the Bank considers that disclosure alone, without minimum requirements, should provide sufficient incentives for banks to at least adhere to the international norm of 8%, it believes the retention of the capital requirement offers benefits in terms of international credibility, at little, if any, marginal costs to banks”.

### *Form of disclosure*

- Quarterly.
- Two main forms, one brief (“Key Information Summary”) and the other longer (“General Disclosure Statement”). A Supplemental Disclosure Statement discloses details of any guarantee arrangements and conditions of registration imposed by the Reserve Bank.
- At the half-year and end-of-year, disclosure statements must be published not later than three months after the relevant balance date. In the first and third quarters of a bank’s financial year, banks have only two months to publish the disclosure statements, given that in these quarters the disclosure statements are of an abbreviated nature.

### *Key Information Summary*

This one or two page note must be displayed prominently in every bank branch and include:

- Credit rating. If the bank has one, it must disclose the credit rating given to its long-term senior unsecured liabilities payable in New Zealand. It must also disclose the name of the rating agency, any qualifications (e.g. “credit watch” status) and any changes made in the two years preceding the balance date. A bank with no credit rating must disclose prominently that fact.<sup>5</sup>
- Capital adequacy. Risk-weighted capital ratios, as measured using Basle capital requirements.
- Impaired assets. Amount and specific provisions held against them.
- Exposure concentration. Disclosed when exceeds 10% of group’s equity; disclosure is based on group’s peak lending to individual customers over the accounting period. Disclosed as the number of exposures between 10% and 20% of the group’s equity, the number between 20% and 30% and so on.
- Connected lending. Amount of credit exposure to connected persons, based on peak exposure over the accounting period.
- Profitability and a statement as to whether liabilities are guaranteed by another party.

<sup>5</sup> The initial intention of imposing a mandatory rating on all banks was abandoned in the face of opposition from smaller banks which argued that this would impose unnecessary costs on them.

### *General Disclosure Statement*

Contains all the information in the Key Information Summary but in greater detail and additional information such as:

- Capital and exposure information. Detailed information on Tier 1 and Tier 2 capital and credit exposures (both on and off balance sheet) for the bank and the banking group.
- Funds management. Information on securitisation, unit trusts, superannuation funds and other fiduciary activities. Explanation of measures in place to minimise risks that might affect the banking group's balance sheet.
- Sectoral information. Credit exposure by industry sectors and geographical areas. Main sources of funds by geographical area, by product and by counterparty type.
- Risk management systems. Description of internal audit function and extent to which systems subject to review.
- Market risk exposures. Banking group's exposure to changes in interest rates, foreign exchange rates and equity prices. Market risk disclosure is for the bank's whole book – both the banking book and the trading book. These disclosure requirements give banks the option of calculating interest rate risk using the Reserve Bank model (based on the Basle market risk model) or using their own model, provided that it produces a result which is at least as conservative as the Reserve Bank model. Both peak and end-of-period exposures must be disclosed.
- Detailed information on asset quality and credit exposure concentration.

### *Directors' attestations and legal responsibilities*

Every disclosure statement must contain attestations signed by every director of the bank. The attestations relate to:

- Whether the bank has adequate systems in place to monitor and manage the banking group's business risks (including credit risk, concentration risk, equity risk, foreign exchange risk, interest rate risk and liquidity risk) and whether those systems are being properly applied;
- Whether the banking group's exposures to related parties are contrary to the interests of the banking group;

- Whether the bank is complying with its conditions of registration;
- That the disclosure statement is not false or misleading.

Directors face serious criminal and civil penalties (including imprisonment, fines and unlimited personal liability for depositors' losses) for false or misleading statements. Directors may also incur common law liability if they allow the bank to continue to accept funds on the basis of a disclosure statement which, although not false or misleading when signed, has become false or misleading as a result of subsequent material adverse developments.

#### *Reserve Bank's responsibilities*

Under the disclosure framework, the Reserve Bank:

- Will monitor banks' disclosure statements to maintain a sound understanding of the financial condition of the banking system.
- Will monitor banks' compliance with disclosure requirements and conditions of registration. The Reserve Bank also has the power to require a bank to correct and republish a disclosure statement found to be false or misleading.
- Can initiate legal proceedings against a bank and its directors if a statement is thought to be false or misleading.

The Reserve Bank retains extensive crisis management powers under its Act, including the powers to appoint an investigator, give directives to a bank and recommend that a bank be placed under statutory management.

Sources: Geof Mortlock "A new disclosure regime for registered banks". Reserve Bank of New Zealand *Bulletin* (March 1996) and Peter Nicholl "Market-based regulation". Paper presented to IBRD Conference on Preventing Banking Crises (April 1996).

## References

- BIS (1995): *65th Annual Report*. Basle: Bank for International Settlements.
- BIS (1996): *66th Annual Report*. Basle: Bank for International Settlements.
- Basle Committee on Banking Supervision (1992): *Report on international developments in banking supervision*. Report Number 8. Basle, September.
- Benston, George and George Kaufman (1988): "Regulating bank safety and performance" in W. Haraf and R. Kushmeider (eds.), *Restructuring banking and financial services in America*. Washington: American Enterprise Institute, pp. 63–99.
- Benston, George and George Kaufman (1993): "Deposit insurance reform: a functional approach-comment." *Carnegie-Rochester Conference Series on Public Policy*. Vol. 38, pp. 41–49, June.
- Bernanke, Ben S. (1983): "Non-monetary effects of the financial crisis in the propagation of the great depression." *American Economic Review*, Vol. 73, pp. 257–276.
- Calvo, Guillermo and Morris Goldstein (1996): "Crisis prevention and crisis management after Mexico: what role for the official sector?" in Calvo et al.
- Calvo, Guillermo, Leonardo Leiderman and Carmen Reinhart (1993): "Capital inflows and real exchange rate appreciation in Latin America: the role of external factors." *IMF Staff Papers* Vol. 40, No. 1, March, pp. 108–150.
- Calvo, Guillermo, Morris Goldstein and Eduard Hochreiter (Eds., 1996): *Private capital flows to emerging markets after the Mexican crisis*. Washington: Institute for International Economics.
- Caprio, Gerard and Daniela Klingebiel (1996a): "Bank insolvencies: cross-country experience." Washington: World Bank, unpublished, April.
- Caprio, Gerard and Daniela Klingebiel (1996b): "Bank insolvency: bad luck, bad policy, or bad banking?" Paper presented to Annual World Bank Conference on Development Economics. Washington: World Bank, April.
- Caprio, Gerard, Izak Atiyas and James Hanson (1994): *Financial reform: theory and experience*. Cambridge: Cambridge University Press.
- Cavallo, Domingo (1996): "Comment on Gavin et al."
- De Gregorio, Jose and Pablo Guidotti (1992): "Financial development and economic growth." IMF Working Paper No. 92/101, Washington: International Monetary Fund, December.
- De Juan, Aristobulo (1996): "The roots of banking crises: microeconomic issues and regulation and supervision," in Hausmann and Rojas-Suárez (Eds., 1996a), pp. 83–102.
- Dooley, Michael (1995): "Managing the public debt." Paper presented at World Bank conference on "Managing economic reform under capital flow volatility," Washington, 30th May–2nd June.

Dooley, Michael, Eduardo Fernandez-Arias and Kenneth M. Kletzer (1994): "Recent private capital inflows to developing countries: is the debt crisis history?" NBER Working Paper No. 4792, Cambridge: National Bureau of Economic Research, July.

Edwards, Sebastian (1995): "Public-sector deficits and macroeconomic stability in developing economies," in Federal Reserve Bank of Kansas City, *Budget deficits and debt: issues and options*. Kansas City: Federal Reserve Bank of Kansas City, pp. 307–374.

Fernandez, Roque (1996): "Capital flows and the liquidity shock," in Calvo et al. (Eds., 1996).

Folkerts-Landau, David et al. (1995): "Effects of capital flows on the domestic financial sectors in APEC developing countries," in Khan and Reinhart.

Galbis, Vincente (1993): "High real interest rates under financial liberalization: is there a problem?" IMF Working Paper No. 93/7. Washington: International Monetary Fund.

Garber, Peter (1995): "Managing risks to financial markets from volatile capital flows: the role of prudential regulation." Economics Department, Brown University, Providence, Rhode Island, unpublished.

Gavin, Michael et al. (1996): "The macroeconomics of capital flows to Latin America: experience and policy issues," in Hausmann and Rojas-Suárez (Eds., 1996b), pp. 1–40.

Gavin, Michael and Ricardo Hausmann, (1996): "The roots of banking crises: the macroeconomic context," in Hausmann and Rojas-Suárez (Eds., 1996a), pp. 27–63.

Goldstein, Morris (1996a): "From Halifax to Lyon: what has been done about crisis management?" *Princeton Essays in International Finance No. 200*. Princeton: International Finance Section, Economics Department, Princeton University.

Goldstein, Morris (1996b): "The case for an international banking standard." Washington: Institute for International Economics, unpublished, August.

Goldstein, Morris (1996c): "Presumptive indicators/early warning indicators of vulnerability to financial crises in emerging market economies." Washington: Institute for International Economics, unpublished, January.

Goldstein, Morris (1995): "Coping with too much of a good thing: policy responses for large capital inflows in developing countries." Policy Research Working Paper No. 1507, Washington: World Bank, September.

Goldstein, Morris, David Folkerts-Landau et al. (1993): *Exchange rate management and international capital flows*. IMF World Economic and Financial Surveys. Washington: International Monetary Fund, April.

Hausmann, Ricardo and Helmut Reisen (Eds., 1996): *Securing stability and growth in Latin America*. Paris: OECD Development Centre and Inter-American Development Bank.

Hausmann, Ricardo and Michael Gavin (1995): "Macroeconomic volatility in Latin America: causes, consequences, and policies to assure stability." Washington: Inter-American Development Bank, unpublished, July.

Hausmann, Ricardo and Liliana Rojas-Suárez (Eds., 1996a): *Banking crises in Latin America*. Washington: Inter-American Development Bank and Johns Hopkins University Press.

Hausmann, Ricardo and Liliana Rojas-Suárez (Eds., 1996b): *Volatile capital flows: taming their impact on Latin America*. Washington: Inter-American Development Bank and Johns Hopkins University Press.

Honohan, Patrick (1996): "Financial system failures in developing countries: diagnosis and prediction." Washington: International Monetary Fund, unpublished, June.

- IMF (1995): *International Capital Markets*. IMF World Economic and Financial Surveys. Washington: International Monetary Fund, August.
- IMF (1996): *World Economic Outlook*. IMF World Economic and Financial Surveys. Washington: International Monetary Fund, May.
- Johnston, R. Barry and Ceyla Pazarbasioglu (1995): "Linkages between financial variables, financial sector reform, and economic growth and efficiency." IMF Working Paper No. 95/103, Washington: International Monetary Fund, October.
- Kaminsky, Graciela and Carmen Reinhart (1995): "The twin crises: The causes of banking and balance of payments problems." Board of Governors of the Federal Reserve System and the International Monetary Fund, manuscript.
- Kane, Edward (1989): *The S & L insurance mess: how did it happen?* Washington: The Urban Institute Press.
- Khan, Mohsin and Carmen Reinhart (Eds., 1995): *Capital flows in the APEC region*. IMF Occasional Paper No. 122. Washington: International Monetary Fund, March.
- Kindleberger, Charles (1978): *Manias, panics and crashes*. New York: Basic Books.
- Krugman, Paul (1995): "Dutch tulips and emerging markets." *Foreign Affairs*, Vol. 74, pp. 28–44, July/August.
- Leiderman, Leonardo and Alfredo Thorne (1996): "The 1994 Mexican crisis and its aftermath: what are the main lessons," in Calvo et al. (Eds., 1996).
- Lindgren, Carl-Johan, Gillian García and Mathew I. Saal (1996): *Bank soundness and macroeconomic policy*. Washington: International Monetary Fund.
- Levine, Ross (1996): "Stock markets: a spur to economic growth." *Finance and Development*, Vol. 33, March, pp. 7–10.
- Masson, Paul and Michael Mussa (1995): "The role of the Fund: financing and its interaction with adjustment and surveillance." Washington: International Monetary Fund.
- McKinnon, Ronald and H. Pill (1994): "Credible liberalizations and international capital flows: the overborrowing syndrome." Palo Alto: Stanford University, unpublished.
- Meltzer, Allan (1995): "Sustaining safety and soundness: supervision, regulation, and financial reform," Washington: World Bank, December.
- Mishkin, Frederick (1994): "Preventing financial crises: an international perspective," *Manchester School*, Vol. 62, pp. 1–40.
- Mishkin, Frederick (1996): "Asymmetric information and financial crises: a developing country perspective." Paper prepared for World Bank Annual Conference on Development Economics, Washington, 25th–26th April.
- Montiel, Peter (1996): "Policy responses to surges in capital inflows: issues and lessons," in Calvo et al. (Eds., 1996).
- Nam, Sang-Woo (1993): "Korea's financial markets and policies." Seoul: Korea Development Institute, unpublished, October.
- Padoa-Schioppa, Tommaso (1996): Address to the 9th International Conference of Banking Supervisors, Stockholm, 12th–14th June.
- Qureshi, Zia (1996): "Globalization: New opportunities, tough challenges." *Finance and Development*. Vol. 33, No. 1, March, pp. 30–33.
- Reinhart, Carmen M. and Vincent R. Reinhart (1995): "On the use of reserve requirements in dealing with capital flow problems." University of Maryland at College Park: Center of International Economics Working Paper No. 16, November.

Rojas-Suárez, Liliana and Steven Weisbrod (1995): *Financial fragilities in Latin America: the 1980s and the 1990s*. IMF Occasional Paper No. 132. Washington: International Monetary Fund, October.

Rojas-Suárez, Liliana and Steven Weisbrod (1996a): "The do's and don'ts of banking crisis management," in Hausmann and Rojas-Suárez (Eds., 1996a), pp. 119–57.

Rojas-Suárez, Liliana and Steven Weisbrod (1996b): "Achieving stability in Latin American financial markets in the presence of volatile capital flows," in Hausmann and Rojas-Suárez (Eds., 1996b), pp. 61–92.

Rojas-Suárez, Liliana and Steven Weisbrod (1996c): "Building stability in Latin American financial markets," in Hausmann and Reisen.

Sachs, Jeffrey D., Aaron Tornell and Andrés Velasco (1996): "Financial crises in emerging markets: the lessons from 1995." *Brookings Papers on Economic Activity*, Washington, 1996(1), pp. 147–215. Sheng, Andrew: *Bank restructuring: lessons for the 1980s*. Washington: World Bank.

Summers, Lawrence (1996): "Comments" on Gavin et al.

Sundararajan, V. and Tomás Baliño (Eds., 1991), *Banking crises: cases and issues*. Washington: International Monetary Fund, 1991.

Weisbrod, Steven, Howard Lee and Liliana Rojas-Suárez (1992): "Bank risk and the declining franchise value of the banking systems in the United States and Japan." IMF Working Paper No. 92/45. Washington: International Monetary Fund, June.

White, William (1996): "International agreements in the area of banking and finance: accomplishments and outstanding issues." BIS Working Paper No. 38. Basle: Bank for International Settlements, October.

World Bank (1996): *World debt tables*. Volume 1. Washington: World Bank.