

Staff Papers No 62

**OPTIMAL POLICY MIX UNDER  
FINANCIAL CRISIS**

**Delano Villanueva  
Lim Choon Seng Vincent**



The South East Asian Central Banks (SEACEN)  
Research and Training Centre  
Kuala Lumpur Malaysia

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## FOREWORD

The current Asian financial crisis has invoked debates on how best to deal with its aftermath. As the implementation of the standard prescriptions of the IMF to deal with the financial crisis raises concerns over output loss and unemployment in the short-run, alternative measures are recommended. The paper attempts to analytically review the recent Asian financial crisis with the view to formulating an optimal policy response to a similar crisis in the future. In particular, it chooses to highlight the priority of addressing cash flow problems of the private sector and also stresses the importance of reforms to strengthen the long-term supervision and regulation framework.

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Dr. Subarjo Joyosumarto  
Executive Director  
The SEACEN Centre  
November 2000

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## OPTIMAL POLICY MIX UNDER FINANCIAL CRISIS

### *Abstract*

*This paper examines ex-post solutions to the crisis. It is noted that standard prescriptions of budgetary cuts, tax increases, currency depreciation and high interest rates were not effective. Since the source of the problems was in the private sector, not the government deficit, high interest rates necessarily led to increased debt obligations of highly leverage corporations, leading to more bankruptcy cases and bank failures. During a financial crisis, while reforms of the financial sector are absolutely essential, the timing of implementation such reforms is also important so as not to create another round of instability to the already vulnerable financial sector.*

*To avoid future financial crises, we propose a policy strategy in the longer run consists of a three-pronged approach, in the context of an open capital market: (i) Use open-market operations to neutralize the liquidity impact of capital inflows, (ii) Strengthen bank asset-liability management and risk-focused supervision, including financial disclosure requirements, to ensure that capital inflows are invested productively and safely in order to meet calls at any time on repatriation of profits, dividends, or payments of principal and interest; and (iii) Adopt a managed exchange rate policy that is consistent with economic fundamentals, supported by a strong foreign reserve position, sound money and sound banking policies, and a strong fiscal position.*

## **On Financial Crisis**

*Periodic financial difficulties are actually sign that the international capital market is functioning well. If no firm ever declared bankruptcy, the capital market would be failing its job.*

Barry Eichengreen and Richard Portes(1996)

*A well-known principle of economic theory...unregulated markets cannot be expected to find the most efficient solutions to problems involving external costs...there may therefore be a constructive role for government intervention.*

Marco Espinaso and Steven Russell(1996)

### **1. Introduction\***

The factors contributing to the financial crisis are now more or less agreeable by all parties concerned. However, policy options to bring economies out of recession during a financial crisis remain controversial. Our focus of the paper is to set up a framework to formalise the linkages between interest rates, banks' profitability, output growth and capital flows. We also attempt to analytically review the recent Asian financial crisis with the view to formulating an optimal (least cost) policy response to a similar crisis in the future.

### **2. Setting the Scenario**

A year prior to the crisis, in 1996, exports of most SEACEN countries declined sharply, owing partly to the impact of the currency appreciation against the yen and a downturn in global electronics demand. In 1996, the economic growth of Indonesia, Korea, Malaysia, Singapore, ROC, Taipei and Thailand decelerated to a supposedly more sustainable pace. The cyclical downturn did not severely affect the region, as there was no indication of domestic demand abating. Within a short time, during the first quarter of 1997, the global demand for electronics recovered partially and the slower growth rates were seen as a welcome respite from economic overheating that the region had been experiencing. However, on the benefit of hindsight, at that time, a number of leading indicators exhibited early warning signals of an impending financial crisis. The slowing of economic growth indicated

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\* An initial draft of the paper was presented at the EDI-CPBMES Workshop on Managing Capital flows in an Volatile Financial Environment, Bangkok, Thailand, 22-25 March 1999.



exchange rates. Since the 1980s, substantial capital surges have taken place in several SEACEN countries. This was made possible by over-borrowing by domestic banks<sup>2</sup> and the all-too-eager lending by internationally active banks and other financial institutions. Encouraged by large interest rate differentials and pegged exchange rates, the over-borrowing was facilitated by the subsidy provided by governments to domestic banks in terms of inadequately priced or free insurance/guarantee on bank liabilities. Easy money policy was used to bail out problem banks. Such a perverse incentive resulted in the over-borrowing syndrome argued by McKinnon and Pill (1997). Similarly, the over-lending by internationally active banks was facilitated by the blanket and free government or central bank guarantee on foreign borrowing undertaken by domestic banks.

Potential leading indicators of macro-fragility include inflation, fiscal balances, current account balances, and external debts (Mathieu, 1998). A high and variable rate of inflation is highly damaging to financial stability as long-term debt contracts are discouraged. Large fiscal deficits tend to suppress the financial system, leading to excessively high interest rates, while increasing domestic credit stemming from inconsistent fiscal policies is believed to be widely responsible for the speculative attack on national currencies and the run on central bank foreign exchange reserves (Krugman, 1979 and Flood and Garber, 1984). Large current account deficits often lead to excessive domestic and foreign borrowings. Excessive capital inflows without effective sterilization result in overvalued currencies and high real interest rates.

Did the economies really show signs of increased vulnerability? Both the Mexican and the Asian crises were preceded by unprecedented large capital inflows, exposing the vulnerability of the economies to sudden outflows.<sup>3</sup> The current account deficits, as a percentage of GDP, were relatively large for Korea, Malaysia and Thailand. However, unlike Mexico, the large current account deficits were largely associated with investment, not consumption (Bosworth, 1998). Real exchange rates were overvalued, although not considered excessive (Sachs, Velasco and Tornell, 1996). Through mid-1997, the baht gained

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2. We include "near" banks in our definition of "banks," even though de jure they are not banks. Examples are the finance companies in Thailand and merchant banks in Korea, which are de facto banks.

3. The International Monetary Fund (1998).

about 15 percent in real effective terms (Kochlar, et.al, 1998) compared to the Mexican Crisis of 94-95, although asset price inflation was rising steadily the crisis-inflicted countries were not under any excessive inflationary pressures.

However, during 1991-96, foreign short-term liabilities of banks in Korea, Malaysia, Philippines, and Thailand grew rapidly. In the case of Indonesia, it was the rapid increase in short-term foreign liabilities of Indonesian corporations, rather than those of banks, that was the cause for concern.<sup>4</sup> After 1994, the ratio of short-term debt to foreign exchange reserves exceeded one in Indonesia, Korea and Thailand, although Radelet and Sachs (1998) caution that the overall debts were not large enough to present any risks of default. Indeed, the region did not have the features of a typical balance-of-payment crisis. It entered the crisis with strong fiscal discipline and as a whole was private sector-driven and export-oriented with relatively high savings and investment rates.

Compared to the Mexican crisis, there were some other important differences. First, during the Mexican crisis, the United States, the nucleus for Mexico's growth, was in strong cyclical upswing while Japan was experiencing a deepening crisis in its own banking system (Roubini, 1998). Unlike Thailand, the U.S instituted a swift and comprehensive financial rescue of Mexico. Mexico also benefited directly from policy changes of the United States. In July 1995, a year after the crisis, the Federal Funds rate was cut by 25 basis-points, which clearly helped the resumption of capital flows to emerging markets, including Mexico (Fraga, 1996).

The Mexican crisis saw Indonesia, Malaysia, the Philippines, and Thailand collectively spent more than US\$2.5 billion to support their respective currencies.<sup>5</sup> But the region managed to weather the Mexican contagion effect rather well as it was cushioned by the pre-crisis high real output growth, low inflation, high investment rates, and strong fiscal discipline.<sup>6</sup> However, the so-called Asian Miracle and the phe-

---

4. See The World Bank (1998).

5. See Bank Indonesia (1994/1995).

6. The World Bank (1997).

that the pegged exchange rates may not be sustainable. Meanwhile, the current accounts were in protracted deficits, mainly financed by short-term capital. In Thailand, prior to the crisis, the deficit as a percentage of GDP went up to as high as 8 percent for the past two consecutive years. However, in many cases, for example, in Malaysia, the current account deficits were also due to imports of intermediate and capital goods.

The short-term capital inflows were largely intermediated by the financial system and acted as a destabilizing force in the growing economy. The concern was that domestic credit was growing rapidly, leading to increased fragility of the financial institutions. In addition, the relatively financial liberalized environment and high domestic interest rates that encouraged such large inflows prompted financial institutions to take on additional foreign exchange risk by borrowing in foreign currencies. For example, the Bangkok International Facility (BIBF) provided easy access to external financing. Most of these foreign borrowings were short-term and unhedged. For example, in Indonesia, the BIS estimated that the total outstanding unhedged borrowings at the end of first quarter 1997 amounted to US\$57.9 billion. The combination of rapid accumulation of unhedged foreign-currency indebtedness and excessive over-lending to the real estate sector became the principal factors behind the weakness of the financial system. However, the fragility, evident for sometime, was somewhat masked by rapid economic growth in the last decade. The triggering factor was a series of speculative attacks on the Thai baht in 1996. Initially, the Thai authorities were successful in fending off the pressures, albeit at the expense of temporary higher interest rates. Nevertheless, the attack on the baht created doubts in the neighbouring countries on the sustainability of *de facto* pegged exchange rates.

**Table 1**  
**Ratio of Private Short-Term Debt to Reserves (Mid-1997)**  
*(Percent)*

| Country     | Short-Term<br>Debt/Reserves |
|-------------|-----------------------------|
| Indonesia   | 170                         |
| Korea       | 206                         |
| Malaysia    | 61                          |
| Philippines | 85                          |
| Thailand    | 145                         |

Sources: World Bank and the IMF.

In early May, as shorting the baht was viewed as a win-win situation, both domestic and international investors initiated several rounds of speculative attack. The Thai authorities' insistence of no devaluation of the currency necessitated maintaining high domestic interest rates and led to a substantial depletion of official reserves. When the baht was finally allowed to float, foreign investors' confidence in the Thai economy had sunk to an unprecedentedly low level, precipitating capital outflows. As creditors *en masse* became reluctant to lend, borrowers faced difficulties rolling over their short-term debts. In early 1997, Finance One, one of Thailand's largest finance companies, and subsequently a number of smaller finance companies went under. The collapse of the real estate sector finally revealed the degree of vulnerability of the financial sector.

Similarly, with the economy slowing down, Korean industrial conglomerates, *chaebols*, at which bank credit was directed, were also visibly heading for a shakedown. This was reflected by the doubling of the non-performing assets of commercial banks. The sub-standard, doubtful and estimated losses increased from 14,840 billion won at the end of 1996 to 28,529 billion won at end of September 1997. In the case of merchant banks, during the same period, total non-performing loans more than tripled. Indonesia had earlier on experienced the problem of insolvent banks. Other structural weaknesses, notably lending to connected parties, trade restrictions and monopolies that impeded competitiveness, came into the fore. Herd behaviour of economic agents accentuated the contagion risk; relatively sound economies like Malaysia, Singapore, the Philippines and ROC, Taipei were not spared despite their better supervision over the financial systems.

## **2.1 Pre-crisis**

Prior to the mid-July 1997 debacle in Thailand, the following factors characterized the macroeconomic, financial and exchange regimes in several SEACEN countries: large external current account deficits, reflecting largely private investment-saving imbalances; reasonably open capital markets; large interest rate differentials; open-ended and inadequately priced or free official safety nets; weak systems of banking, regulation and prudential supervision; and fixed or "fixed rates lite"<sup>1</sup>

---

1. Coined by Obstfeld and Rogoff (1995).

nomenon of sustained economic expansion have been challenged by Krugman (1994), who contends that the high growth rates owed to capital accumulation, not increases in productivity.

Often, a new crisis leads to new explanations, among which are moral hazards, “crony” capitalism and excessive speculation by hedge funds. The bailout of Mexico in 1994-95 by the IMF was deemed to create moral hazard as creditors were given the impression that they could not lose.<sup>7</sup> Previous banking crises in Indonesia (1995), Malaysia (1985-1988) and Thailand (1983-1987) were also resolved either through partial or full public bailouts.<sup>8</sup> The moral hazard problem leads to mispricing of risks and possibly imprudent behaviour of investors (Vásquez, 1988). Crony capitalism, on the other hand, is used to describe a design where the implicit linkages among the government, private businesses and banks are politically motivated. “Crony” capitalism leads to nepotism, corruption and insider dealing. Connected lending, often implicitly guaranteed by the government, makes market-based lending decision impossible. Hedge funds are also being widely blamed for the crisis. The Malaysian Prime Minister has called for a ban on hedge funds and other non-trade related foreign exchange trading on many occasions and subsequently imposed capital controls. The IMF, on the other hand, played down the role of hedge funds arguing that even though hedge fund managers may be the first to see the unsustainability of exchange rate pegs, whether they had led other speculators to take short positions against the Asian currencies was uncertain (Zamani, 1998).

Why did the crisis occur in 1997 and not sooner or later? We think the triggering factor was the concerted and relentless speculative attacks on the exchange rates. However, the root cause was *ipso facto* the fragile financial system engendered by inadequate supervision and prudential regulation during the period of large unrestricted capital inflows.<sup>9</sup> For example, <sup>10</sup> in Korea, connected lending between banks and corporations was permitted while in Indonesia, banking licenses

---

7. To be fair, investors in peso-dominated securities suffered losses when the peso was devalued.

8. The World Bank (1998).

9. It is generally agreed that every major financial crisis in the past five years was caused or exacerbated by fragile financial systems. See Ouattara (1998).

10. The World Bank (1998).

were easily obtainable with little screening for integrity of owners. Finance companies in Thailand and merchant banks in Korea were allowed to venture into new business without adequate improvement in supervision. This regime of free capital flows, fixed or adjustable peg and lack of monetary policy independence broke down because in the face of huge capital inflows, currency appreciation was resisted, sterilization was far from perfect and central banks did not have unlimited reserves (Lim, 1998). In the face of capital outflows, the breakdown owed to the liquidity crunch, speculative attacks, and loss of reserves in defending the exchange rates

## **2.2 Immediate Post-Crisis**

During the immediate post-crisis period, the regime was characterized by one of free capital flows, floating exchange rates and independent monetary policy. In such a “free” market environment, policy errors and delayed responses are quickly noted and penalized. In Thailand, despite the fact that the baht was appreciating in real terms due to the large current account deficit and the appreciation of the U.S. dollar, the authorities raised interest rates in order to defend the baht (Mathieu, 1998). On the other hand, Korea may not have done enough initially to avert the crisis. In trying to lessen the impact of the crisis, Korea initially used similar interventionist policies. In Malaysia, the authorities (as reported by market participants) intervened aggressively in the foreign exchange market a week after the onset of the crisis, but abandoned the defense of the ringgit one-week later. The intervention failed because market perception at that time was that domestic considerations would not allow interest rates to rise, raising further expectation of devaluation.<sup>11</sup> Malaysia’s initial perception was that the impact on output would not be so severe.

## **2.3 During the Crisis**

### **2.3.1 IMF Remedies**

Article 1(iii) of the International Monetary Fund, states that one of the purposes of the Fund is *to promote exchange stability, to maintain orderly exchange arrangements among members, and to avoid competitive exchange depreciation*. Such concern is reflected in the IMF crisis

---

11. International Monetary Fund (1998).

management that aims to restore confidence in financial markets through the reestablishment of stability in exchange rates. The IMF rescue package consists of four elements (Radelet and Sachs, 1998). (i) A loan package to support repayment of debts. Some debts were partially suspended, either based on unilateral or collective agreement; (ii) A macroeconomic framework of budget surplus, high nominal interest rates and restricted domestic credit; (iii) A reform program aiming at restructuring the financial sectors; and, (iv) Other liberalization agenda to increase transparency and competitiveness. This is to include trade reforms, privatization and implementation of “good” corporate governance.

The centrepiece of the rescue package is the comprehensive reform of the financial system. This includes (Fischer, 1998);

1. The recapitalization of undercapitalized institutions;
2. Closer supervision of weak institutions;
3. The closure of unviable financial institutions, with an associated writedown of shareholders’ capital;
4. Improvement of supervisory and regulatory systems; and,
5. Increased potential for foreign participation in domestic financial systems.

The IMF also notes that sufficient tight fiscal and monetary policies are necessary to help restore confidence and prepare the foundation for a solid rebound. The required degree of fiscal adjustment depends on, among others, “the need to contribute sufficiently to the process of current account adjustment and to the correction of earlier excesses in the public sectors [while sufficiently tight monetary policy is needed to sufficiently resist excessive exchange rate depreciation.... As fundamental policy weaknesses are addressed and confidence restored, the interest rate can subsequently be allowed to return to more normal levels, which would help to support activity, and experience suggests that premature easing can exacerbate a crisis.”<sup>12</sup>

---

12. International Monetary Fund (1997a).

By April 1998, 23 banks in Indonesia and 14 merchant banks in Korea were closed. In Thailand, 56 finance companies were shut down by December 1997. In addition, a special agency was set up to acquire impaired assets from financial institutions. The Indonesian Bank Restructuring Agency, the Thai Financial Restructuring Agency, and the Korea Asset Management Corporation were set up. In addition, tighter loan classification and provisioning rules were implemented. Furthermore, in August 1997 Indonesia and Thailand announced guarantees for depositors and creditors of banks and finance companies, while Korea undertook to guarantee the external liabilities of Korean financial institutions.

Reforms were also aimed in other areas. In Korea, the IMF identified several structural rigidities in the Korean economy. These focused on (i) Opening up of the domestic markets; (ii) Better standards of banking supervision; and, (iii) Greater transparency. Liberalization of the Korean economy is deemed to be inadequate as foreigners have limited access to local businesses, domestic financial market and the stock market. Greater transparency in the financial and corporate sectors is needed, as the corporate structure of the *chaebols* is extremely opaque with high debt-to-capital ratio. Credit evaluation of the domestic banks is lax and banks are often directed to lend to the *chaebols* by the government. A comprehensive restructuring plan was drawn up for the financial and the corporate sectors. The IMF also focused on tough Korean labour laws that made layoffs virtually impossible. Meanwhile, in Indonesia, the IMF implemented a long list of reforms including dismantling monopolies, eliminating special business privileges and fighting corruption.

The IMF's resolution to the crisis has been without critics. The criticisms were directed mainly at the fiscal and monetary tightening which led to higher interest rates. The initial fiscal program for Thailand involved a tightening equivalent to 3 percent of GDP, aimed at producing a one percent fiscal surplus. For Indonesia, a tightening equivalent to 1.2 percent of GDP was planned. According to the IMF, the short-run effect of the policy adjustment is for domestic growth and to a lesser extent, output growth to slowdown. Subsequently the current account deficits would move in line with the rest of the economic fundamentals, dissipating panics in the financial market. In Mexico, the IMF policies had worked extremely well and fast. Interest rates, which went up as high as 70-80 percent for several months, gradually eased once the exchange rate stabilized (Goldstein, 1998).



In the Asian crisis, the IMF had expected that a similar policy strategy of restrictive policy that brought Mexico out of the crisis would bring about similar results. It did not anticipate the severity of the shocks. The ailing Asian currencies failed to stabilize quickly enough and high interest rates had to be maintained for a prolonged period against the backdrop of a recessionary economy. This caused corporate debt to pile up, consisting mainly of domestic currency debts, in addition to the increase in foreign currency debt obligations (Wade and Veneroso, 1998b). The argument was not a question of expenditure switching or reduction but that macroeconomic policy was simply too tight.

However, to be fair, in line with macroeconomic projections, *ex-ante* monetary and fiscal policies were actually not excessively tight<sup>13</sup>, and the IMF showed a greater degree of *flexibility* in the implementation of policies, particularly fiscal policy. It is interesting to note that Malaysia's economic initial adjustment programme significantly tightened fiscal and monetary policies. Interest rates were gradually increased and the classification of non-performing loans was tightened. Public infrastructure projects were postponed. Malaysia has since reversed its policy stance following a sharp contraction in economic growth.

As noted by the IMF, "the centrepiece of each programme is not a set of austerity measures to restore macroeconomic balance, but a set of far-reaching structural reforms" (Camdessus, 1998). However, the closure of banks, as part of structural reforms, was heavily criticized for creating panics, leading to several bank runs. The IMF did recognize the possibility but argued that any delay in policy adjustments would probably have resulted in larger losses, thus perpetuating banking sector problems.<sup>14</sup> This is because of the "combination of a weak financial system and inadequate macroeconomic policies — with weakness in one area feeding on and exacerbating problems in the other" (Fischer, 1998).

---

13. The World Bank (1998).

14. International Monetary Fund (1997b).

### **3. Dynamics of a successful stabilization program**

According to the “Disaster Myopia” theory (Herring, 1998), people tend to form subjective probabilities on the basis of the “availability heuristic.” When a shock does occur, although the reoccurrence of another shock may be unlikely, “Disaster Myopia” would ensure that the subjective probability of a subsequent shock materializing is greater than the actual probability, resulting in further loss of confidence. The loss of confidence can also be exacerbated by asymmetric information or inaccurate appraisal of the economic situation (Stiglitz and Weiss, 1981 and Fischer, 1997). Immediately after the crisis, two main issues warrant attention. First, how does one deal with market sentiment and second, how to institute structural reforms in the volatile economic environment. As confidence in the economy is hard-won and easily squandered and lost, dealing with market sentiment proves to be a sticky issue.

During a financial crisis, the success of any stabilization program depends on the dynamics of policy actions. In similar fashion to implementing financial liberalization, the *timing* and *sequencing* of policy implementation during a crisis are generally very important. In the IMF approach, exchange rate depreciation is dampened by higher interest rates. Then one waits for confidence to return. On the other hand, the aims of more relaxed monetary and fiscal policies are to boost output first, then generate confidence thereby restoring exchange rate stability. We, therefore, argue that in order to restore confidence, the foremost corrective macroeconomic measures must be to implement policies that must be seen as *tangible* and which can precipitate a fast response, i.e., resumption of financial flows to viable corporations. At the same time, structural reforms should be initiated without delay in order to maintain investor confidence.

In particular, with reference to the present crisis, we recommend the following actions for crisis management:

1. Recognize that financial crisis is often worse than it appears to be;
2. Stabilize the exchange rates through flexibility in monetary policy;
3. Give priority to resolving short-term banking problems while simultaneously restructuring the banking and corporate sectors;
4. Adopt flexibility in fiscal policy to restore high quality economic growth; and,
5. Internalize the economic cost of reforms.

### **3.1 Recognizing that financial crisis is often worse than it appears to be**

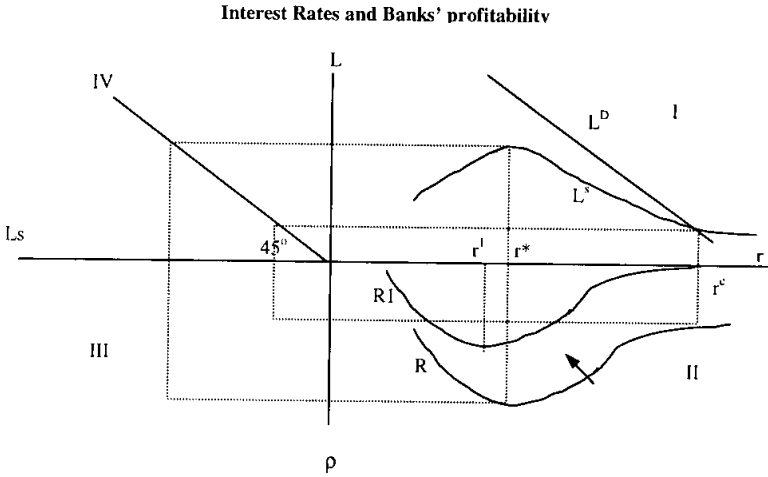
The adverse impact of a financial crisis is often more severe than it appears to be. The duration and severity of the present crisis was not foreseen because inconsistent policy action is often left unpunished in good times. Up to the very eve of the crisis, the region was considered a very good investment prospect. It was exactly under this consideration that capital continued to flow into the region.<sup>15</sup> In Thailand, the baht is never seen as unsustainable in good times but in bad times, Thailand lost considerable amount of reserves in defending the pegged exchange rate. When reserves were not enough to cover the outstanding short-term debts, international credit agencies repeatedly downgraded the sovereign credit ratings. Consequently, further expectation of devaluation caused lenders to rush to withdraw their lending and speculators to attack the national currency and the stock markets.

Due to their ability to manage the impact of the 1994 Mexican crisis and consistent strong economic growth just prior to the crisis, the authorities may have treated the initial spread of turbulence as conventional. It is thus important to realize that the root cause of a financial crisis is often home grown and therefore a slightest exogenous shock could quickly develop into a crisis of confidence. Once a financial crisis erupts, deficiencies in oversight and delay in policy response can enhance the propagation mechanism. For instance, Korea may have been better off now had the government, immediately prior to the Thai crisis, taken specific steps to dispell fears about its creditworthiness. Korea only requested IMF assistance six months after the onset of the crisis. Malaysia may have insulated itself better had it imposed *selective* capital controls immediately after the crisis erupted in Thailand. Admittedly, the conclusion is pure speculation as there is no guarantee that capital controls or faster policy actions would work *ex-ante*. In fact, if the contagion effect were to turn out to be only temporary, then *ex post*, the decisions would have been extremely costly. Nevertheless, due to increased globalization, it is reasonable to assume that exogenous shocks can be very damaging and the correct response is to avoid delay in implementing the necessary policy action.

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15. United Nations (1998).

Graph 1

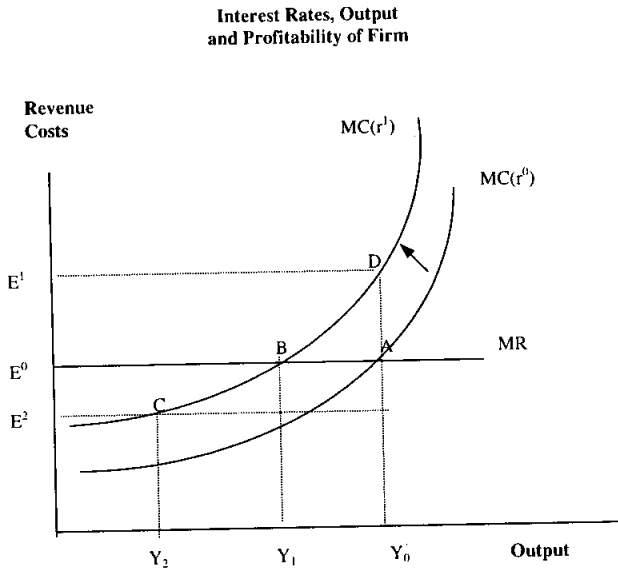


In Graph 1<sup>†</sup>, Quadrant I shows demand ( $L^d$ ) and supply, ( $L^s$ ) of loanable funds as functions of interest rate  $r$ . According to Stiglitz and Weiss (1981), the expected return of banks  $\rho$ , is equal to the product of the probability of repayment,  $P$  and the interest rate,  $r$  charged:  $\rho = rP(r)$ . In theory, the probability of repayment is equals to or less than one. In practice, uncertainty and asymmetric information ensure that  $P < 1$ . If  $r > r^*$ , adverse selection and adverse incentive effect set in, leading to a decline in the amount of credit offered. Correspondingly, the expected return ( $\rho$ ) declines as higher interest rate means a more than proportionate decrease in the probability of repayment ( $P$ ). In the graph above, market clearing interest is at  $r^c$  but the optimal interest rate in term of expected return is  $r^*$ . As financial crisis leads to macroeconomic instability, the variance and covariance of project returns will increase. All projects would be affected in the same manner, either favourably or unfavourably. The supply and demand curves are likely to shift backward (in Quadrant I; not shown) as banks are likely to be more risk adverse while demand of credit is likely to decline. In this case, the  $R$  curve shifts to  $R1$  where at any interest rate, the expected return ( $\rho$ ) is lower. For curve  $R1$ , the optimal interest rate is now at  $r^1$ , where banks maximize the expected return. But if interest rate is increased beyond  $r^1$ , the probability of repayment ( $P$ ) would fall faster than prior to the crisis (as higher interest rates worsen corporate balance sheets and increase bankruptcy cases) and therefore, the expected return of banks approaches zero ( $\rho \rightarrow 0$ ) at a much faster rate than the pre-crisis curve of  $R$ .

<sup>†</sup> Graph adopted with modification from Figure 1, in Villanueva, Delano, and Abbas Mirakhor (1990). See also Stiglitz, Joseph E., and Andrew Weiss (1981).

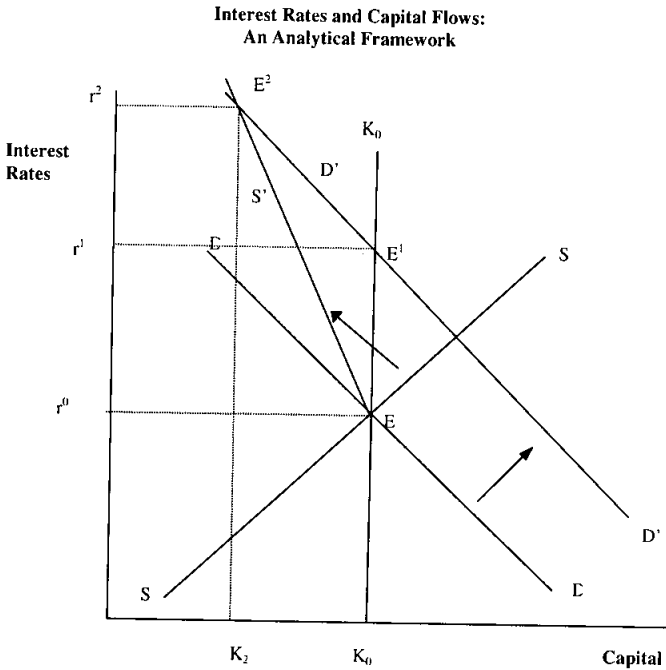
## Graph 2

### Interest Rates and Profitability of firms



In Graph 2, for firms that have proportionally large loans, interest cost forms a large part in the production cost. Maximum profits are defined by the equality between marginal cost and marginal revenue ( $MC = MR$ ). With interest rate  $r^1 > r^0$ , the marginal cost schedule shifts backward to  $MC(r^1)$ , with profit maximizing output contracting from  $Y_0$  to  $Y_1$ . If output is maintained at  $Y_0$ , the firm will make losses (a loss of  $E^1 - E^0$  per unit). During financial crisis, following deflation ( $E^0 \rightarrow E^2$ ), optimal production (equilibrium at C) declines further to  $Y_2$ . If output is still maintained at  $Y_0$ , with the higher interest rate ( $r^1$ ), firms can incur even bigger losses (a loss of  $E^1 - E^2$  per unit), following deflation.

Graph 3



In Graph 3, suppose the initial equilibrium is at point  $E$ , the intersection of the supply curve for capital,  $SS$  and the demand curve for capital,  $DD$  at the market clearing interest rate at  $r^0$ . On the onset of the crisis, assuming that there is a need for additional capital inflows. The demand curve shifts upwards to  $D'D'$  and if the supply becomes inelastic ( $K_0K_0$ ), equilibrium is achieved at a higher interest rate,  $r^1$ . As the crisis unfolds, the supply curve could in fact be backward bending ( $S'E$ ). This is because a higher interest rate weakens corporate balance sheets, increases the probability of loan default, and thus lowers bank profits (Graph 1), resulting in a further loss of confidence and thus leading to economic recession (Graph 2). The interest rate may have to be prohibitively high ( $r^2$ ) to achieve equilibrium at  $E^2$ , with the supply of capital reduced (despite  $r^2 > r^1$ ) from  $K_0 \rightarrow K_2$ .

### 3.2 Stabilizing exchange rates

**3.2.1 Interest Rate Shock.** According to Mishkin (1996), a central bank should pursue expansionary policy to stimulate growth if inflation is moderate and debt contracts are mostly denominated in domestic currency with longer maturities. In this case, a loose monetary policy would reflate the economy, thereby increasing the net worth of households and corporations by lowering their debt burdens. Also, increases in asset prices such as real estate and stocks would further aid economic recovery. In contrast, if most of debts are short-term and denominated in foreign currency, an expansionary policy is likely to cause a further deterioration in the balance sheet of banks and corporations when the currency depreciates. In addition, the expected reflation would not substantially appreciate the net worth households and corporations because debts are short-term. The first scenario is common in developed countries while the second is more applicable in developing countries. Mishkin also argues that depreciation is almost unacceptable for small developing countries. Only large economies such as the United States, with large reserves have the flexibility in using expansionary monetary policy because the associated depreciation may prove intolerable for smaller countries. Restrictive monetary policies would have never been implemented in times of crisis in the United States as it was one of the mistaken policies to tackle the 1930s Depression (Cooper, 1998).

However, the Asian crisis involves high leverage corporate debts as opposed to national debts. A crisis inflicted by weakness of the financial system put limits on exchange rate adjustment through changes in interest rates. High interest rates were perceived by markets as being inherently unstable, making defensive interest rate policies to maintain existing exchange parities ineffective (Ötler and Pazarbasioglu, 1994). This was also apparently the case of the European ERM crisis of 1992-1993 (Ito and Portes, 1998). During a crisis, tightening monetary policy can cause a decline in both demand and supply of bank credit. In the “*bank lending view*,”<sup>16</sup> a credit “*crunch*” can come about through a downward shift in the supply of loans, forcing borrowers to reduce their spending. The resulting higher interest rates may constrict liquidity and increase the risk of bad debts and non-performing loans. The increase in the probability of loan default translates into lower expected

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16. See Berger and Udell (1998) for a fuller discussion.

return on banking lending (Graph 1). Higher interest rates also affect the riskiness of bank earnings as loan losses are more likely. Furthermore, if banks have to pay a higher interest rate to depositors, they also face additional interest rate risk if their assets consist of long-term loans at fixed interest rates (Demirgüç-Kunt and Detragiache, 1998). Therefore, a sharp increase in interest rates can increase the number of banking failures (Flannery, 1981). The supply of loan is further reduced during a crisis as banks in a bid to rebuild their equity capital seek to reduce credit risk.

In the *“balance sheet/financial accelerator”* view, higher interest rates impair collateral values and worsen corporate balance sheets, making them less creditworthy. As alternative sources of financing are not readily available, firms with positive net present values may also find it difficult to access to loans (Sushkla. et al., 1993), exacerbating macroeconomic difficulties (Bernanke, 1993). Furthermore, with a sharp rise in interest rates, firms are forced to reduce production (Graph 2), leading to a major recession. In addition, the direct linkage between capital flows and interest rates is blurred during a crisis as market participants are likely to look at other key indicators. In times of uncertainty, the supply curve of capital with respect to interest rates could in fact be “backward” bending, forming the “Laffer” curve (Graph 3), exacerbating the initial credit crunch. In fact, when interest rates are excessively high, cash flow difficulties and debt burdens of corporates and banks are intensified. Consequently, not only would there be no fresh inflows but capital outflows could be expected, exerting pressure for further exchange rate depreciation.

The externalities generated by higher interest rates on firms and financial institutions are difficult to ignore. When corporates and banks are not fundamentally sound and carry large non-performing loans, higher interest rates cause more bankruptcies. Generally, high leverage in the corporate sector with the banking sector overexposed to the same sector impairs the effectiveness of higher interest rates. In addition, the reasons for domestic credit creation should be examined carefully and specifically addressed before policy prescriptions are recommended for a crisis country (Goldberg, 1991). Credit creation per se may not necessarily lead to serious financial imbalances. It is entirely possible that a sharp deceleration to credit creation could be very damaging to economic activity if a large part of the previous domestic credit was used to finance ongoing investment projects.



### **3.2.2 Maintaining an open capital account?**

Since the Fifty-Second Annual Meetings of the IMF and the World Bank in Hong Kong, PRC in 1997, the IMF has been working on an amendment of the Article of Agreements to promote capital account liberalization. The benefits of capital account liberalization are many (Fischer, 1997). Capital account liberalization is said to promote economic development. Free capital movements broaden risk diversification, giving investors greater returns, as well as induce a more efficient global allocation of savings and investments. Access to foreign capital markets is facilitated, while supporting the multilateral trading system. However, full capital liberalization should be pursued only under the following preconditions:

1. A stable economy with sound macroeconomic management; and,
2. Comprehensive financial reforms, taken to include adequate supervision and prudential controls.

### **3.2.3 Capital Controls**

In a consistent macroeconomic policy framework, whether exchange rates can be managed successfully depends on two critical points: whether one can successfully track the equilibrium real exchange rate, so that fundamentals-driven speculators are held at bay; and whether there is enough credibility to avoid speculative attacks. Though theoretically possible, determining the level of equilibrium real exchange rate and avoiding speculative attack may not be so easy in practice. Furthermore, owing to the thinness of currency and stock markets in this region, the aggressive actions of speculators have magnified effects on exchange rates and stock prices. For example, shorting activities in the U.S. stock and currency markets, which are very deep, have much smaller impact on the U.S. dollar and U.S. stock prices than the same activities in any other SEACEN countries.

A financial crisis can potentially set back years of liberalization. As the crisis prolongs, market-based techniques may become problematic since there is an urgent need to preserve some degree of monetary autonomy. Furthermore, the notion that a financial crisis is caused by market failure makes market-based techniques lose some punch. In addition, macroeconomic instability and the weak banking system during

the immediate post-crisis period may necessitate temporary capital controls to break the linkage between interest rates and exchange rates. As the country moves deeper into the crisis, capital controls may be called upon to maintain a functioning asset market, as well as to address stabilization that lacks credibility.<sup>17</sup> Krugman (1998) notes that "extreme situations demand extreme measures," urging crisis-inflicted countries to consider using capital controls. The case of Thailand also showed that free capital movements and pegged exchange rates could prove to be a dangerous mix.

### **3.2.4 Policy response of Malaysia: an act to follow?**

Malaysia experienced a banking crisis in the recession years of 1985-86. Because of declining asset prices, banks with overexposure to the property sector accumulated large non-performing loans. Dishonest, fraudulent and inefficient management compounded the situation.<sup>18</sup> To expedite action, several new provisions were enacted to vest the central bank greater powers to implement rescue packages for ailing financial institutions. Among them, the central bank, with the approval of the Minister of Finance, was allowed to grant loans or purchase any shares of a licensed bank or finance company. The rescue package then included injecting new capital, revamping top management of ailing institutions as well as encouraging mergers. In the second stage, statutory reserves and the minimum liquidity requirement of commercial banks were reduced to relieve the tight liquidity situation. Nevertheless, interest rate control had to be introduced to ensure that lending rates declined accordingly. Earlier on, speculative pressures hampered efforts to increase liquidity.

The current policy strategies of Malaysia are similar to those of the 1985-86 crisis. Confronted with the possibility of a further depreciation of the already ailing exchange rate, the Malaysian authorities in an effort to pursue similar expansionary policy strategy felt that some form of capital controls, including fixing the exchange rate was necessary. Malaysia at the time of crisis did not have specific policy regarding its exchange rate, unlike Indonesia and Philippines which operated on a trading band system. There are two obvious reasons why the Malaysian authorities chose to implement selective capital controls and to fix the

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17. The World Bank (1997).

18. Bank Negara (1989).

ringgit against the U.S. dollar on September 1, 1998 (Zeti, 1998). Since April 1998, higher interest rates offered by offshore centres were a concern because of increasing outflow of ringgit. Furthermore, in view of the relative openness of the Malaysian economy, the potential instability to the ringgit caused by the outflow could create vulnerability to the real economy. Capital controls were imposed on the following:<sup>19</sup>

1. Ringgit-dominated transactions among non-residents;
2. Outflows of short-term capital by requiring such inflows to remain in the country for a minimum period of one year; and,
3. Imports and exports of ringgit by travellers, both residents and non-residents, were restricted; and, Malaysian investment abroad required prior approval.

Trade transactions both in the goods and services had to be settled only in foreign currencies but there was no control on current account transactions. Repatriation of interest, dividends, fees commission and rental income from portfolio investments and other forms of ringgit assets and foreign direct investment inflows and outflows including income and capital gains were not restricted.

Following Malaysia, several countries voiced their desire to implement some form of capital controls. Malaysia could choose to impose capital controls because at the time of implementation, its external position remained strong. The current account balance were favourable and this led to the continued build-up of the foreign reserve position. Furthermore, the ringgit was, observed by market participants at that time, pegged to the US dollar at a rate consistent with the overall macroeconomic environment. Furthermore, because of the relative low inflation prior to the crisis, monetary policy was *not needed* to target inflation directly, giving flexibility in using changes in the interest rate as a transmission mechanism to promote growth. On this point, Mishkin (1996) argues that implementing expansionary monetary policy in crisis-inflicted countries may, instead of “shoring up weakened balance sheets” of corporates and banks, lead to a rise in expected inflation, interest rates and depreciation of the currencies, thus worsening the

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19. Zeti (1998).

crisis. Apart from wanting to preserve the monetary and fiscal policy autonomy, one possible reason for the authorities' eagerness to implement capital controls was that selective capital controls had been used very successfully in the past to deal with the contagion effect of the Mexican crisis. Nevertheless, there was a fear that the expansionary budget may result in the deterioration of the current account, forcing the authorities to lift capital controls eventually. Furthermore, if the neighbouring countries also implement capital controls, the *collective maneuvering* of capital controls may not be desirable. Ironically, Malaysia should be able to reap the maximum benefit of capital controls as long as the neighbouring economies remain in malaise. This is because invidious comparison vis-à-vis its neighbouring countries is bound to happen and capital controls are perceived to be detrimental to investors' confidence.

Nevertheless, our position is the same as that advanced by Obstfeld (1998) and Rogoff (1998): Capital controls do not provide a long-term solution to macro-stability. If the fundamentals are misaligned, as in the case for most crises, prolonged capital controls are unlikely to yield any beneficial long-term effect. Owing to their positive effects on economic growth and development, open capital markets should be encouraged in tandem with improvements in prudential regulation and supervision, as well as provision of accurate, comprehensive, and low-cost financial information to global capital markets. On the other hand, owing to the temporary breathing space they could generate, the authority may be tempted to postpone any significant reforms. The recommendation is to avoid using capital controls except in extreme situations. Generally speaking, capital controls should be eschewed, except in the short run and only temporarily when severe structural deficiencies in banking, regulatory, and supervisory systems hamper the effectiveness of market-based instruments in achieving the twin objectives of sound money and sound banking.

### **3.3 Giving priority to short-term banking Problems**

#### **3.3.1 Short-term banking problems**

Any policy response to a financial crisis must make a clear distinction between an insolvent borrower and an illiquid borrower (Radelet and Sachs, 1998). If creditors collectively are reluctant to lend, then illiquid borrowers can become insolvent. Panics and bank runs which

destruction of confidence can happen very fast. The closure of several banks in Indonesia led to widespread panics. Moral hazard problems aside, the national authorities may have had little choice but to implement a system of blanket guarantees to protect depositors *immediately*, thus preventing a run on the entire financial system. It is interesting to note that in larger U.S. banks, depositors are protected in at least two ways (Herring, 1988). First, the lender of last resort option is normally utilized only after the bank becomes insolvent. This gives creditors not covered by explicit guarantee time to withdraw before the bank is terminated. Second, authorities resolve only truly insolvent financial institutions. In between, relevant regulatory authorities provide assistance while keeping the banks open. Indonesia, Korea, Malaysia and Thailand have all since issued formal deposit guarantees.

Loan losses during a financial crisis reduce bank capital, leading to a deterioration of the capital adequacy ratio. In a crisis, banks' balance sheets must be repaired to prevent further panics and to avoid systemic risk; ailing banks must be restructured before their positive net worth evaporates.<sup>20</sup> Early resolution of non-performing loans and new injection of capital to resume flows to provide liquidity to a distressed corporate sector must be done immediately to stop the cascade of bankruptcies. The first necessary step is to recapitalize the banks up to international standards to make them less vulnerable to further shocks. In that sense, injection of new capital may lead to a Pareto improvement. Recapitalization by nature can be implemented relatively quickly, conditional on available resources. Since the regulatory authority has guaranteed deposit liabilities of banks, recapitalization is a step to formalize the process without additional cost.<sup>21</sup> As was done in Thailand, the new capital injection can be done on a preferred basis whereby government bonds can be used to exchange preferred shares and subordinated debts.<sup>22</sup> However, the conditionality that is attached to the authorities' liquidity support aimed at facilitating transparent and equity loss sharing is an important consideration.

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20. The World Bank (1997).

21. The World Bank (1998).

22. Nimmanahaeminda (1998).

### **3.3.2 Structural Reforms**

The present crisis involves more than just a generalized default of bonds and loans. The crisis is driven by weak financial fundamentals indicating that reforms are necessary sooner rather than later. However, in a constrained setting, policymakers have a dilemma as to the timing of such financial reforms. The two important prerequisites are macroeconomic stability and a sound banking system; these two requirements are precisely lacking during a financial crisis. Policymakers have to consider the state of the macroeconomy before implementing any reforms. Given the depressed state of the economies, deep and ambitious restructuring, the result of which is often only seen in the long run, may exacerbate the crisis in the short-run, leading to a perception that the restructuring is unsustainable, thereby losing its credibility. Possible policy slippages and lags in implementation would then be anticipated. Therefore, priority must be made on stabilization, as immediate and deep financial reforms may result in large short-term potential economic and welfare losses, further adding *chaos* to the financial system.

Since the purpose of reforms and restructuring is to ensure that entities emerge stronger and more efficient, strong exit policies should be introduced to ensure that only viable institutions remain. The “too big to fail” mentality can then be eliminated. Nevertheless, intervention strategies such as takeover and liquidation should only be pursued only after shocks have dissipated. For example, liquidation can easily lead to capital flight and, by driving down asset prices, simultaneous liquidation during bad times only serves to transfer values to the speculators. Furthermore, if the limit on foreign ownership is lifted, foreign-owned “vulture” funds are likely to acquire troubled banks and corporations.<sup>23</sup> For financial institutions, in times of turmoil, it is virtually impossible to know the true value of bank net assets. Thus, foreign investors may be able to acquire bank assets for next to nothing. In such a case, the shift in ownership may be difficult to justify on equity grounds and this may add to public resentment of foreign investors

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23. Financial reforms may involve liberalization of foreign ownership of financial institutions. Indonesia and Thailand have taken steps towards 100 percent foreign ownership, while Malaysia has opted for limited ownership. In addition to providing competition, foreign participation brings in technological innovations to the financial industry.

taking over domestic industries (Nunnenkamp, 1998). Also, were the financial system already very weak, reforms such as closing banks may well trigger an outright systemic risk (Lindgren, 1998).

In due time, mergers and acquisitions should be encouraged between relatively strong institutions to improve resilience, as mergers between strong and ailing financial institutions would only result in a “dilution” effect. For government-owned banks, if the problems are due to poor management, steps must be taken to replace the entire management. Acquisition and merging guarantee, like in Malaysia, may be put in place to prevent any reduction in the value of the acquired assets after a certain period. Removing tax disincentive of mergers is another option. Besides mergers and acquisitions, strategic alliance between different types of financial institutions aimed at an ultimate universal banking system is likely to result in improved efficiency and productivity. Universal banking may indirectly create greater transparency. Under the present system, the line of demarcation of activities of financial institutions such as commercial banks and finance companies is not as clear-cut. Commercial banks often get around it by opening subsidiaries and affiliates to expand their financial services. This could indirectly conceal their true financial standings. Indonesia, Korea and Thailand have all revised or enacted new bankruptcy laws, which among others deal with foreclosure of collateral.

A concerted effort to restructure debts of illiquid and insolvent corporations is the key to the *final* resolution to the crisis.<sup>24</sup> How this should be done remains an elusive and a complicated issue. The practicality of identifying insolvent banks is very difficult. Litan (1998) suggests that assets and liabilities of banks and corporates should be valued under a pre-determined exchange rate to see whether the negative net worth is in excess of a certain percentage, say 20 percent of the assets. If the threshold margin were exceeded, then the concerned firms would be forced to merge or go under liquidation. Otherwise, they would be eligible for debt workouts with lenders to negotiate some form of debt restructuring to give restructured banks and firms “a reasonable chance of survival.”

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24. Many have argued that policy for revitalizing the banking sector should be done simultaneously with the restructuring of private debt.

But is liquidity relief better than debt relief? Liquidity relief may be better than outright debt forgiveness as the current constraint on investment as a result of credit rationing is eliminated, while debt relief just reduces the debt stock (Bowe and Dean, 1997). If the marginal product of investment is greater than the real interest rate, in the long run, the increased in liquidity ensures that the surplus output generated by increased investment can then used to reduce the debt burden. Cline (1996) notes that if a crisis is caused by capital outflows, the country is far from insolvent and rescheduling of debts will be more appropriate than forgiveness. On the other hand, Bulow and Rogoff (1990) argue that debt relief and liquidity relief merely give excuses for not quickly solving the inherent problems of the debtor countries. Meanwhile, Diwan and Rodrik (1992) recommend both liquidity and debt relief to increase investment to spur growth. As a form of mobilizing resources, formal rollover, standstill on debt payments, reduction of reduced payments on debt-servicing obligation and liquidity relief must be negotiated immediately. As private domestic debts are the source of the problems, national authorities may have no choice but to consider reducing debt burdens if firms are unable to privately take steps to reduce their leverage. This can be done through a government funded institution to buy shares and debts of ailing companies.

Appropriate reforms would strengthen the banking system. However, there must be also reforms to strengthen the long-term supervision and regulation to develop a strong code of "safe and sound" financial regulations. The long-run aim of improvement in supervision is not to protect these industries. On the contrary, market forces should be allowed to play their part. However, the supervisory authority should not overreact as all banks, prudent or imprudent, could be equally affected by a financial crisis. Bank supervision such as indiscriminately requiring all banks to increase loan loss provisions and requiring all banks to be more conservative in evaluating credit risk such as setting higher credit standards may result in a credit crunch. However, a caveat for easier credit is to make sure that only deserving sectors get the necessary credit as credit growth may potentially end up as distress borrowing, resulting in even larger non-performing loans. In addition, the regulatory authority as well as the public must be able to access accurate and timely information. Strict public disclosure of the current condition of financial institutions must be initiated *without delay* as bank assets are by nature opaque.



### **3.4 Mobilizing Resources**

#### **3.4.1 Fiscal Policy**

Economic growth of the crisis-inflicted countries has fallen to unprecedented levels and with exports slow to recover, Keynesian policies, which have an almost immediate impact on output, become attractive propositions. Stimulating growth by reflation is suggested by macroeconomic theory when there is excessive credit leverage on property and stocks and inflation is low. A boost in domestic demand can compensate a decline in exports. Fiscal measures for the corporate sector, together with financial and corporate restructuring, can help achieve a sustainable and high-quality economic growth.<sup>25</sup> Fiscal measures can also boost growth prospects to restore confidence. However, there are at least two aspects to be considered. First, how to maximize the multiplier effects and second, how to ensure that the fiscal deficit is not inflationary. During a crisis, the “leakage” is minimized as the marginal propensity to import out of government expenditure is offset by import compression and lower income. Financing persistent budget deficits without international capital may result in a rise in real interest rates, rising deficits and larger issuance of bonds (Rojas-Suárez, 1992). However, as the region entered the crisis with solid budget positions (Bergsten, 1998) and debt levels before the crisis were also manageable, there was no need for a “*Ponzi*”<sup>26</sup> type of financing.

#### **3.4.2 Small and Medium Scale Industries**

As mentioned before, on a microeconomic level, the cash flow of the corporate sector has to be enhanced. It is estimated that during the recent financial crisis, two-thirds of the firms in Indonesia, two-fifths in Korea and one-fourth in Thailand suffered losses that exceeded their equity.<sup>27</sup> However, the necessity of large-scale conglomerates needs to be examined. The Korean case indicates that encouraging large-scale conglomerates may not necessarily be the right approach. On the other

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25. The World Bank (1998).

26. Refers to “a situation in which cash payments on debt are met by increasing amount of debt outstanding.” See Minsky, (1982).

27. The World Bank (1998).

hand, small and medium scale industries could adjust their marketing strategies more easily, giving them flexibility in responding to external shocks. However, during a financial crisis, more attention should be directed to small and medium scale businesses as they are likely to experience a disproportionate share of the loss of funding because of a higher degree of informational opacity (Berger & Udell, 1998). Furthermore, smaller firms have fewer close substitutes for bank loans (Hancock and Wilcox, 1998). In addition, monetary policy shocks associated with a financial crisis affect the growth and investment of smaller manufacturers more than large ones (Gertler and Gilchrist, 1994).

Due to the credit crunch, many exporters missed the opportunity to earn large profits following the currency depreciation.<sup>28</sup> The national authorities must devise financial plans for the exporting sectors. For example, specialized financing facilities could be set up to provide direct or guaranteed loans (Radelet and Sachs, 1998). Another particular useful short-term intervention to resume financial flows is the “debtor-in-position (DIP)” financing.<sup>29</sup> Enhanced security is given by the national authorities to creditors willing to advance new loans to viable projects.

### **3.4.3 Social Reforms**

The social impact of a financial crisis is loss of real income directly as a result of unemployment or indirectly because of inflation. Higher inflation as a result of depreciation/devaluation has an asymmetric effect across the population where the poorest will be worst affected. In the developing world, there is no unemployment insurance and workers normally depend on lifetime employment for security. However, the crisis also affected the middle class who saw their savings virtually disappeared following the stock market crash. The World Bank estimates that as much as US\$400 billion in equity value in East Asia was wiped out following the crisis.<sup>30</sup>

In addition, the financial crisis translates into lower revenue for the government, resulting in lower social expenditure. Jobs are lost follow-

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28. *ibid.*

29. *ibid.*

30. *ibid.*

ing downsizing of the private and the public sectors. Consequently, targeted social safety nets should be a top priority for policymakers. The benefit of adjustment, in particular that of fiscal policy, must trickle down to the poor and middle-income groups. Social instability is one factor that can prevent the return of investors' confidence.

### **3.5 Concerted Efforts?**

There have been many proposals as regards collective efforts for the early resolution to the crisis. Financial globalization means greater spillover effects—beneficial and adverse—but it is precisely due to increased integration of the financial markets that concerted efforts can produce a *synergy* effect. Bergsten(1998) proposes the “Concerted Asian Recovery Programme” in which fiscal and monetary stimulus are undertaken simultaneously by various countries. The centrepiece of this proposal is for Japan to take the lead. The World Bank believes that a 1 percent GDP increase in fiscal-deficit spending of Japan, Asia NIEs, ASEAN4 and China could generate East Asia's economic growth by as much as 2 percentage points of GDP.<sup>31</sup> Bergsten also argues that if the all the countries involved lower interest rates at the same time, there would not be any fear of destabilizing intraflows from one country to another. Another ‘concerted’ proposal is the Asian Monetary Fund (AMF) to coordinate monetary cooperation. The AMF, a parallel of the IMF, can handle a situation that is unique to Asia, with “conditionalities limited to stabilization rather than the IMF-type structural reforms.” (Wade and Veneroso, 1998a). The main criticism of the AMF is that its very own existence might justify future bailouts (Bergsten, 1997). Concerted efforts related to economic policy require careful coordination, and experiences have shown that it is virtually impossible to form any kind of consensus on domestic economic policies.

## **4. In the Longer run: A Proposed Policy Strategy**

Once a crisis erupts, even if the banking system were relatively strong, the ensuing large capital flight would derail its stability. For example, the magnitude of the current crisis, according to the Institute of International Finance (IIF) was on the order of a reversal of net outflow of US\$12 billion in 1997 compared to an inflow of US\$97

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31. ASEAN4 comprises Indonesia, Malaysia, the Philippines and Thailand.

billion in Indonesia, Korea, Malaysia, Philippines and Thailand. As liberalization is unavoidable, the prerequisite for *macroeconomic stability* is to strengthen the financial system.

Our policy strategy in the longer run consists of a three-pronged approach, in the context of an open capital market: (i) Use open-market operations (OMO) to neutralize the liquidity impact of capital inflows, (ii) Strengthen bank asset-liability management and risk-focused supervision, including financial disclosure requirements, to ensure that capital inflows are invested productively and safely in order to meet calls at any time on repatriation of profits, dividends, or payments of principal and interest; and (iii) Adopt a managed exchange rate policy that is consistent with economic fundamentals, supported by a strong foreign reserve position, sound money and sound banking policies, and a strong fiscal position. The above policy strategy is the ideal one, over the medium- and long-term term. In the short term, where the institutional systems of sound banking practices and risk-based supervision and disclosure requirements are not fully in place, which may constrain the effectiveness of OMO, the 'second best' policy is to use selected capital controls *on a temporary basis, while strengthening prudential supervision and the public disclosure framework*. In so doing, our suggested mechanism is the 'price' channel first, and then as a last resort the 'quantity' channel.<sup>32</sup>

Where the systems of sound banking and risk-focused supervision are well in place, the full play of market forces should be encouraged. Here, we distinguish two models, depending on the extent of the role of supervision and disclosure requirements. One model is the Monetary Authority of Singapore/Hong Kong Monetary Authority (MAS/HMA) model, in which a code of 'Core Principles for Effective Bank Supervision' is enforced through an intensive role for supervisors (Annex A).

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32. The IMF classifies capital controls into the following categories: (1) via price: (a) dual or multiple exchange rate system: imposes different exchange rates for different types of commercial and financial transaction; (b) taxation of cross border financial flows or income; (c) residual category of indirect restrictions or regulations, including among others, limitations on interest payments on deposits accounts of non-residents and other measures to limit capital flows, though not prohibit them outright; and, (2) via quantity: administrative controls on foreign direct investment, foreign equity transactions, foreign exchange transactions, and short-term external positions of commercial banks.

The other is the New Zealand (NZ) model, in which the role of supervision is minimal and the emphasis is placed on the truthful and comprehensive public disclosure, at quarterly intervals, of the financial condition of individual banks, backed up by criminal and civil penalties for false or misleading statements (Annex B). The NZ model, where it is feasible beyond New Zealand, has distinct advantages over the MAS/HMA model, that is, the NZ model minimizes outlays on supervision (which can be very costly) as well as minimizes the potential for regulatory/supervisory forbearance.

There are lessons to be learned from the experiences of Korea and Taiwan. Here are two export-oriented countries with exports that are roughly of similar size.<sup>33</sup> Up until the 1997 crisis, both countries adopted a cautious approach to capital account liberalization, mindful of the weak capacity of the banking system to intermediate sizable flows of capital from abroad. In Korea, the number of merchant banks, with functions similar to commercial banks, rose from only 6 in 1993 to 30 by 1996, when all the investment finance companies were permitted to convert to merchant banks as part of the financial deregulation plan. With little expertise on international finance, but on the belief that the government will not let banks fail, merchant banks borrowed short-term funds from abroad and relent or invested the proceeds in long-term projects, mainly in South East Asian and other emerging markets, resulting in currency and maturity mismatches between borrowing and lending. Of course, the lack of expertise in international finance also applied to the commercial banks<sup>34</sup>. In Taiwan, the asset bubble in the second half of 1980s and its deflation in 1990s taught Taiwan to be more prudent in lending and not to over-react to financial flows. Moreover, just prior to the crisis, there were some incidences of bank runs on the domestic financial institutions and this have provided the government some experiences to handle problem financial institutions more efficiently Wang(1999).

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33. Except that in Korea, export conglomerates ('chaebols') dominate, while in Taiwan it is the small and medium size export firms.

34. Non-performing loans (NPLs) of commercial banks doubled to Won 22 trillion or 6.4 percent of total credit in a period of 9 months. The corresponding NPLs of merchant banks stood at Won 3.9 trillion (nearly 3 percent of total credit), three times the level 10 months earlier. By March 1998, NPLs of the entire financial sector amounted to Won 56.5 trillion, or 13 percent of GDP (Park, 1998).

#### **4.1 Open Capital Markets, Which One Is Better, MAS/HMA or NZ Model?**

Singapore, Hong Kong, and New Zealand all have open capital markets. While the first two countries rely on a strict implementation of the Basle Core Principles for Effective Bank Supervision and intensive off-site and on-site examination and supervision of banks, the third country relies less on supervision and more on public disclosure of the condition of individual banks to enhance the effectiveness of market discipline.

In deciding which one to adopt, it is instructive to consider the many prerequisites for the applicability and success of the NZ model, as enunciated by the Governor of the Reserve Bank of New Zealand (Brash, 1997):

1. Absence of depositor insurance (explicit or implicit) and *absence of government or central bank guarantee on other bank liabilities including foreign borrowing and other placements abroad* (italics added);
2. Supervisory requirements are kept to a minimum;
3. Bank is domestically-owned, where no other bank stands behind it;
4. Mostly privately owned banks;
5. Frequent comprehensive disclosures, supported by robust accounting standards and a legal framework governing bank directors' duties on sound bank management and stiff penalties for any breaches of those duties;
6. Banking system should initially be in a strong position;
7. Appropriate 'infrastructure' must be in place (corporate law; accounting and audit standards; financial news media);

The above list suggests that the NZ model is not immediately applicable to most of the SEACEN countries, except perhaps in Singapore (Hong Kong is not a member of SEACEN). On the other hand, the MAS/HMA model has its own institutional requirements that only

Singapore and Hong Kong, being international financial centres, had fully met. Banking systems in most SEACEN countries that strictly and fully comply with the Basle Core Principles are virtually non-existent, because the institutional requirements are as tough as those for the NZ model. Therefore, a proposal set out by Wallison (1998) has some merit for the developing Asian countries. The attractiveness of the Wallison proposal stems from its salutary effects without requiring extensive sophistication and training of the regulators and the regulated. The crucial elements relate to rules governing *credit concentration* and *connected lending*.

#### **4.1.1 Credit concentration**

The minimum rules for the restrictions are that (Wallison, 1998, pp.7-8):

1. "They would apply to loans to one borrower and any other borrowers related to that borrower or guaranteeing the exposure to that borrower;
2. They would apply to loans to particular sectors of the economy;
3. They would apply to collateral on which the lender is relying for assurance of payments; and
4. They would impose a limitation equal to a percentage of the bank's capital for each of these categories."

Wallison provides a concrete example. An oil company applies for a bank loan to purchase oil drilling equipment, collateralized by oil drilling equipment. Under his framework, the bank could lend up to, say 15 percent of its capital, but not if all its loans to the oil sector would exceed, say 50 percent of its capital, and not if say, 20 percent of its loans in the aggregate were already collateralized by oil drilling equipment. These standards could easily be enforced by supervisors through an objective analysis of specific numerical values.

#### **4.1.2 Connected lending**

The easiest standard would be to prohibit lending by a bank either to companies affiliated with it, or to companies or

individuals affiliated with the officers or directors of the bank, or to the officers or directors of the bank. Of course, part of the disclosure to the supervisor should be the relationships between a bank's controlling parties and its borrowers, with stiff and strictly enforced penalties for nondisclosure.

Or, as in the U.S., limits as percentage of bank capital can be imposed on lending to affiliated companies or individuals. The U.S. numbers are 15 percent of capital to any one borrower, and 20 percent to all affiliated borrowers as a group. These limits are supported by strict collateralization with liquid assets, and the requirement that all these transactions be made on an "arms-length" basis.

The above prudential rules are simple to understand and enforce, which are their strengths. They must be backed up with credible and sizable penalties on erring individuals as well as companies—in the U.S. via supervisory action and shareholder suits and in New Zealand via criminal and civil liabilities according to the banking code.

## **5. Conclusion**

During the crisis, standard prescriptions of budgetary cuts, tax increases, currency depreciation and high interest rates did not help to avoid exchange rate overshooting and capital outflows. Since the source of the problems was in the private sector, not the government deficit, high interest rates necessarily led to increased debt obligations of highly leverage corporations, churning out bankruptcy cases and bank failures. In such cases, priority must be to address the cash flow difficulties of both corporates and banks and to restructure the private-sector debts. Delays in implementing reforms will not make the problem go away but accelerating reforms during volatile circumstances may not bring about the much-needed financial stability. Ultimately, the decisions hinge on the timing of such reforms. Once financial indicators show some degree of stability, foreclosure and bankruptcy arrangements should then be initiated, with creditors made responsible for part of the losses.

For the longer-run strategy, we conclude that either the MAS/HMA or NZ model, albeit ideal framework to reach in the long run, may not be immediately applicable to the majority of the SEACEN countries, in view of their many institutional capacity-building and infrastructural



requirements. A more practical strategy is that of Wallison, under which simple numerical limits are placed on credit concentration and connected lending (elements included in the Basle Core Principles). We agree with Wallison that with effective enforcement of these two reforms in the SEACEN countries, the banking systems in this region would be in a stronger position to withstand the next 'financial tremors'.

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## **List of Core Principles for Effective Banking Supervision**

### ***Preconditions for Effective Banking Supervision***

1. An effective system of banking supervision will have clear responsibilities and objectives for each agency involved in the supervision of banking organizations. Each such agency should possess operational independence and adequate resources. A suitable legal framework for banking supervision is also necessary, including provisions relating to authorization of banking organizations and their ongoing supervision; powers to address compliance with laws as well as safety and soundness concerns; and legal protection for supervisors. Arrangements for sharing information between supervisors and protecting the confidentiality of such information should be in place.

### ***Licensing and Structure***

2. The permissible activities of institutions that are licensed and subject to supervision as banks must be clearly defined, and the use of the work "bank" in names should be controlled as far as possible.
3. The licensing authority must have the right to set criteria and reject applications for establishments that do not meet the standards set. The licensing process, at a minimum, should consist of an assessment of the banking organization's ownership structure, directors and senior management, its operating plan and internal controls, and its projected financial condition, including its capital base; where the proposed owner or parent organization is a foreign bank, the prior consent of its home country supervisor should be obtained.
4. Banking supervisors must have the authority to review and reject and proposals to transfer significant ownership or controlling interests in existing banks to other parties.
5. Banking supervisors must have the authority to establish criteria for reviewing major acquisitions or investments by a bank and ensur-

ing that corporate affiliations or structures do not expose the bank to undue risks or hinder effective supervision.

### ***Prudential Regulations and Requirements***

6. Banking supervisors must set prudent and appropriate minimum capital adequacy requirements for all banks. Such requirements should reflect the risks that the banks undertake, and must define the components of capital, bearing in mind their ability to absorb losses. At least for internationally active banks, these requirements must not be less than those established in the Basle Capital Adequacy Accord and its amendments.
7. An essential part of any supervisory system is the evaluation of a bank's policies, practices and procedures related to the granting of loans and making of investments and the ongoing management of the loan and investment portfolios.
8. Banking supervisors must be satisfied that banks establish and adhere to adequate policies, practices and procedures for evaluating the quality of assets and the adequacy of loan loss provisions and loan loss reserves.
9. Banking supervisors must be satisfied that banks have management information systems that enable management to identify concentrations within the portfolio and supervisors must set prudential limits to restrict bank exposures to single borrowers or groups of related borrowers.
10. In order to prevent abuses arising from connected lending, banking supervisors must have in place requirements that banks lend to related companies and individuals on an arm's-length basis, that such extensions of credit are effectively monitored, and that other steps are taken to control or mitigate the risks.
11. Banking supervisors must be satisfied that banks have adequate policies and procedures for identifying, monitoring, and controlling country risk and transfer risk in their international lending and investment activities, and for maintaining appropriate reserves against such risks.

12. Banking supervisors must be satisfied that banks have in place systems that accurately measure, monitor and adequately control market risks; supervisors should have powers to impose specific limits and/or a specific capital charge on market risk exposures, if warranted.
13. Banking supervisors must be satisfied that banks have in place a comprehensive risk management process (including appropriate board and senior management oversight) to identify, measure, monitor and control all other material risks and, where appropriate, to hold capital against these risks.
14. Banking supervisors must determine that banks have in place internal controls that are adequate for the nature and scale of their business. These should include clear arrangements, for delegating authority and responsibility; separation of the functions that involve committing the bank, paying away its funds, and accounting for its assets and liabilities; reconciliation of these processes; safeguarding its assets; and appropriate independent internal or external audit and compliance functions to test adherence to these controls as well as applicable laws and regulations.
15. Banking supervisors must determine that banks have adequate policies, practices, and procedures in place, including strict “know-your-customer” rules, that promote high ethical and professional standards in the financial sector and prevent the bank being used, or unintentionally, by criminal elements.

### ***Methods of Ongoing Banking Supervision***

16. An effective banking supervisory system should consist of some of both on-site and off-site supervision.
17. Banking supervisors must have regular contact with bank management and thorough understanding of the institution’s operations.
18. Banking supervisors must have a means of collecting, reviewing analysing prudential reports and statistical returns from banks on a solo and consolidated basis.
19. Banking supervisors must have a means of independent validation of supervisory information either through on-site examinations or use of external auditors.

20. As essential element of banking supervision is the ability of the supervisors to supervise the banking group on a consolidated basis.

### **Information Requirements**

21. Banking supervisors must be satisfied that each bank maintains adequate records drawn up in accordance with consistent accounting policies and practices that enable the supervisor to obtain a true and fair view of the financial condition of the bank and the profitability of its business, and that the bank publishes on a regular basis financial statements that fairly reflect its condition.

### ***Formal Powers of Supervisors***

22. Banking supervisors must have at their disposal adequate supervisory measures to bring about timely corrective action when banks fail to meet prudential requirements (such as minimum capital adequacy ratios), when there are regulatory violations, or where depositors are threatened in any other way. In extreme circumstances, this should include the ability to revoke the banking license or recommend its revocation.

### ***Cross-border Banking***

23. Banking supervisors must practice global consolidated supervision over their internationally-active banking organizations, adequately monitoring and applying appropriate prudential norms to all of the business conducted by these banking organizations worldwide, primarily at their foreign branches, joint ventures and subsidiaries.
24. A key component of consolidated supervision is establishing and information exchange with the various other supervisors involved, primarily host country supervisory authorities.
25. Banking supervisors must require the local operations of foreign banks to be conducted to the same high standards as are required of domestic institutions and must have powers to share information needed by the home country supervisors of those banks for the purpose of carrying out consolidated supervision.

### **Individual Positions: New Zealand's New Disclosure Regime for Banks<sup>1</sup>**

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>2</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 percent of the banking group's risk-weighted credit exposures, of which at least one-half must be tier 1 capital.<sup>3</sup>
- Group's credit exposure to major shareholders and related entities not permitted to exceed: (a) 15 percent of tier 1 capital in the case of lending to a nonbank and (b) 75 percent of tier 1 capital in the case of lending to a bank.
- Locally incorporated banks to have at least two independent directors and a nonexecutive chairman.

#### ***Reserve Bank Action When a Bank's Capital Fails Below Requirements***

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

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<sup>1</sup> Excerpted from Goldstein (1997), pp.98-101.

<sup>2</sup> However, compliance with disclosure and other requirements contained in the Securities Act is required.

<sup>3</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 percent, it believes the retention of the capital requirement offers benefits in terms of international credibility, at little, if any, marginal costs to banks.”

- 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 compiled with; (b) no increase in exposure to related parties from the level prevailing when capital requirements first breached; and (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 that complies with the limit.
- If a bank's tier 1 capital fall below 3 percent 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 at the first practicable opportunity.

### ***Form of Disclosure***

- Quarterly, with 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 branch and include:

- *Credit rating.* If the bank has one, it must disclose the credit rating 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 preceding the balance date. A bank with no credit rating must prominently state that fact.<sup>4</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 it exceeds 10 percent 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 percent and 20 percent of the group's equity, the number between 20 percent and 30 percent and so on.
- *Connected lending.* Amount of credit exposure to connected persons, based on peak exposure over the accounting period.
- *Profitability* and statement as to *whether liabilities are guaranteed* another party.

### **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 2 capital and credit exposure (both on- and off-balance-sheet) for bank and the banking group.
- *Funds management.* Information on securitization, unit trusts, superannuation funds, and other fiduciary activities. Explanation of measures in place to minimize 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.

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<sup>4</sup> The initial intention of imposing a mandatory rating on all banks was abandoned in the face of opposition from smaller banks that argued that this would impose unnecessary costs on them.



- *Risk management systems.* Description of internal audit function and extent to which systems are 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 that 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 risk) and whether those systems are being properly applied;
- Whether the banking group's exposures to related parties are contrary to the interest of the banking group;
- Whether the bank is complying with its conditions of registration; and
- 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 that, 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 bank and recommend that a bank be placed under statutory management.

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