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# **The Evolving Asian Financial Architecture**

**Graham Bird and Ramkishen Rajan**

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**Adelaide University**  
**Adelaide 5005 Australia**

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## **The Evolving Asian Financial Architecture**

**Graham Bird and Ramkishen Rajan**

Surrey Centre for International Economic Studies, University of Surrey, England  
[G.Bird@surrey.ac.uk](mailto:G.Bird@surrey.ac.uk)

and

School of Economics, University of Adelaide, Australia  
[ramkishen.rajana@adelaide.edu.au](mailto:ramkishen.rajana@adelaide.edu.au)

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## 1. Introduction

The debate about reforming the international financial architecture began in the mid 1990s in the aftermath of the Mexican peso crisis in 1994. However, it was really the East Asian crisis of 1997-98 that breathed life into the debate and helped to shape it. The debate has subsequently centered on trying to prevent crises happening and on dealing with them effectively and efficiently when they do. In addressing these central issues it has ranged over many topics, including domestic financial reform, debt and crisis management, exchange rate policy, and the role of the International Monetary Fund (IMF).

Viewed from a political economy perspective it was always unlikely that the debate would lead to fundamental reform of the world's monetary system. After all, the global economy was performing quite well in the second half of the 1990s according to most conventional indicators, so what was the justification for reform? Contagion turned out to be much more of a *regional* than a *global* phenomenon. And, in any case, there has not been a clear consensus around how the underlying financing and adjustment mechanisms that define the international monetary system should be changed. Of course, things have happened and changes have been made but it is difficult to describe these as altering the international financial architecture. They have tended to be relatively modest.

At the same time while, as expected, reform at the *global level* has been slow and piecemeal and is likely to remain so, there may be more potential for reform at the *regional level*. Amongst Asian economies, the crisis of 1997-98 imposed severe economic costs, and, in some cases, social and political costs as well. The strength and sustainability of the recovery from crisis still remains in some doubt, such that the motivation for reform may not have been entirely lost (Park, 2001b). There may consequently be a better chance for reforming the Asian financial architecture. But what form would this take?

This Essay examines key aspects of a new Asian financial architecture. It describes and evaluates progress, identifies the remaining issues that have to be resolved, and addresses the prospects for future reform. In particular, it asks the following questions. First, to what extent have the domestic financial deficiencies that contributed to the crisis in 1997-98 been put right? Have domestic

financial and corporate systems been strengthened adequately? Second, what are the lessons for exchange rate policy in the region? Did the fixation with pegged exchange rates help to cause the crisis, and is the appropriate implication that Asian economies should opt either for firm fixity in the form of a common regional currency or for flexible exchange rates? Third, in providing short term liquidity in the midst of a crisis is there a role for regional arrangements? If so, could this lead to the establishment of an Asian Monetary Fund (AMF) and what would be the division of labor between it and the IMF?

In what follows we attempt to work through each of these questions. To anticipate a little, our broad conclusion is that there is significantly more scope for a new Asian financial architecture than for a new international financial architecture. Indeed, there are signs of evolution in this direction. However there are also potential pitfalls that need to be avoided. Appropriately designed and implemented, a new Asian financial architecture does not threaten multilateral reform but may support and protect the world's financial system.

## **2. The Debate About a New Financial Architecture**

### **2.1 Reforming the International Financial Architecture**

According to some observers the debate about a “new international financial architecture” was launched at the Halifax G7 summit in 1995 and, to all extents and purposes, concluded at the Cologne summit in 1999 (Kenen, 2001). Like many initially appealing and catchy phrases, the “international financial architecture” has at best been only vaguely defined with different contributors to the debate laying the emphasis in different places. But, broadly speaking, the topics covered have included the provision of economic and financial information, domestic financial supervision and regulation, liability management, crisis lending and management and reform of the international financial institutions, particularly the IMF (Table 1). The background to the debate was set by the Mexican peso crisis in 1994. This had demonstrated, if demonstration were needed, that international capital was now highly mobile and that capital volatility - both sudden inflows and sudden outflows of capital - could cause severe economic problems. Before the architecture debate really got going, the Bretton Woods Commission and others had spent some time

discussing ways of dealing with capital volatility and the potential need for larger amounts of emergency lending. However, the architecture debate was taken a stage further by the East Asian crisis in 1997.

Why had neither the Mexican crisis nor the Asian crisis been widely anticipated? What had caused the crises? And had they been well handled? It was in the context of these questions that attention began to focus on the availability of adequate information. Perhaps, for example, prediction had been poor because the extent of forward commitments in foreign exchange markets had sometimes not been appreciated, making the adequacy of international reserves rather less than appeared, or because fiscal deficits had been inappropriately measured. Moreover, while commentators differed over the degree to which the crises were caused by illiquidity as opposed to deficient fundamentals, and indeed over what constituted “fundamentals”, few demurred from the view that weak domestic financial systems had something to do with it. In its most extreme form, inadequate risk analysis was presented as a dimension of “crony capitalism”. On this basis, reform of domestic financial systems was presented as a key step in strengthening the international financial system. The architecture debate also reinforced what appeared to have been overlooked principles about liquidity mismatches and foreign exchange risk. The dangers of borrowing short and lending long, as well as those of carrying unhedged foreign currency liabilities and the vulnerability that results, again featured prominently.

Even with improved information and superior risk analysis and liability management the architecture debate acknowledged that not all crises would be avoided. Another crucial element therefore related to the handling of crises once they occurred and the roles of private capital markets and international financial institutions. What could be done to “bail in” private creditors and to avoid a rush for the exits? Should bond contracts be redesigned to include collective action clauses? Should the IMF endorse standstills on external debt repayments? Or should the IMF become a more fully-fledged international lender of last resort (see Jeanne and Wyplosz, 2000 and Willett, 2001b and references cited therein) Should it, furthermore, modify its conditionality? These issues, and many more, featured in the architecture debate.

## **2.2 Progress To Date; Unfinished Business**

But what was the debate ever likely to achieve, and, if it has now been concluded, what has it achieved? History suggests that discrete and fundamental reform of the international financial system is an unlikely event. It occurred in 1944 at Bretton Woods but the circumstances were rather special. More arguably, it occurred in 1973 with the collapse of the Bretton Woods system but, in this case, the reform was less the outcome of a “debate” about the design of the system and more a matter of expediency; pegging exchange rates had not worked and this left little alternative to flexible rates. The Committee of Twenty (C-20) did indeed “debate” the design of the international financial system in the early 1970s, but this achieved relatively little of significance. The international financial architecture debate of the 1990s shares much more with the C-20 episode than it does with the Bretton Woods one; its achievements have been modest, and are likely to remain so.

For fundamental reform to occur a number of criteria need to be met. There has to be wide agreement that existing arrangements are not working satisfactorily and this agreement needs to include those countries that wield the greatest power in decision-making. Moreover, there has to be similar consensus on the nature of needed reform. In the latter part of the 1990s, economic performance in many of the world’s largest and most influential economies was relatively strong when judged in terms of economic growth, unemployment and inflation (although Japan was a notable exception). Moreover, in terms of the US dollar, the Japanese Yen and the euro, there is little to challenge the superiority of flexible exchange rates. There was the possibility in the mid-1990s that further financial crises could plunge the world into recession but this threat did not materialize. Although crises continued to occur in East Asia, Russia, Brazil, Turkey and Argentina, these tended to be regional affairs from which the US and Europe remained relatively insulated. There is, in any case, a Catch 22 in the link between economic crises and reform. Without a crisis why is reform needed? In the midst of a crisis there is insufficient time to pursue fundamental reform; “band aid” reform is therefore much more likely. Assuming the crisis passes, it again becomes more difficult to justify fundamental reform; after all the band-aid appeared to have done its job.

In large measure this is what has happened in the aftermath of the financial crises in Mexico and East Asia. International liquidity was injected in a somewhat ad hoc fashion. The world avoided large-scale contagion. The crises passed and the momentum for reform - as much as it existed - was lost. What has emerged is much more an attempt to formalize ad hocery.

Having discovered that, after the event, information was inadequate, the IMF has sought to enhance transparency by collecting and disseminating more information via its General and Special Data Dissemination Standards and its Policy Framework Papers. The Basel Committee has continued to fine tune its guidelines for capital adequacy and prudential supervision and regulation and the IMF has introduced Contingent Credit Lines (CCLs) to provide precautionary resources in the event of contagion from a crisis. But while the logic behind these reforms may be sound, they hardly constitute a new international financial architecture. There can be little guarantee that all relevant information is now being collected and even less that it will always be accurately interpreted. Guidelines on good practice in terms of domestic financial supervision are only helpful if implemented, but there are few structured incentives to implement them. For its part, the CCL has been heavily criticized and remains unused.

The IMF has undertaken a number of internal reviews covering the range of its lending facilities, conditionality and quotas, but at present it is difficult to pick out any changes that are much more than cosmetic. For example, abandonment of the Buffer Stock Financing Facility which had not been used for fifteen years, or the contingency component of the Compensatory and Contingency Financing Facility that had not be used for eight years, represents house-cleaning rather than a new architecture. Add to this little progress on the redesign of bond contracts and on debt standstills, and it remains hard to be up-beat about the achievements of the architecture debate. Issues have been aired and modest and piecemeal modifications have been made; but a new architecture, hardly!

Is this situation likely to change? Perhaps it is over-ambitious to expect rapid reform. Clearly a global depression of 1930s proportions could in part recreate the circumstances that allowed success at Bretton Woods in 1944, although the unanimity of views relating to what is

wrong and what needs to be done might not be so easily replicated<sup>1</sup>. In reality, the continuing pivotal role of the US dollar along with the often apparently inexhaustible supply of liquidity with which the US may finance its current account balance of payments deficit rules the US out as a major advocate of fundamental reform. Similarly, the probability must be close to zero that any current member of the Euro zone or the European Union (EU) for that matter will need to turn to the IMF for financial assistance. For the Europeans, reform at the regional level has largely replaced their direct interest in global financial reform, unless contagion from a crisis elsewhere, as for example in Russia, becomes/threatens to become a problem. The increasing indifference shown by the major economic powers to economic crises elsewhere in the world has been exemplified by the benign neglect shown by the US for the crisis in Argentina in 2001/2. This situation seems unlikely to change in the near future.

The conclusion would therefore seem to be that while there may be scope for modest financial reform or redesign at the global level - the importance of which should probably not be understated - the scope for establishing anything approaching a new international financial architecture is strictly limited. However, the reasons that make a new architecture unlikely at the global level may simultaneously make it much more likely at a regional level.

### **2.3 The Asian Financial Architecture**

Looking at the issues that have gone to make up the architecture debate, and taking an Asian perspective rather than a global one, there is more reason to believe that there is both more scope for reform and more motivation to pursue it. In the main it was the Asian economies that suffered the costs of the 1997-98 crisis. These costs were substantial, representing shortfalls in output of up to 40 per cent. Significant declines in living standards were involved. Moreover, with recessions of this size, even renewed economic growth takes some time to bring an economy back to where it was before. The costs therefore linger on. While contagion at the global level was muted, this was not the case amongst Asian economies where, having been triggered by events in

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<sup>1</sup> According to Eichengreen and James (2001), one reason why international financial reforms are not occurring at a faster pace is because the recent financial crises do not appear to have threatened the global trading system.

Thailand, the crisis spread to Korea, Indonesia and other regional economies. Even those that escaped the worst excesses of contagion were still adversely affected via trade effects, interest rate effects and exchange rate effects, let alone the effects of a pessimistic psychological band wagon (Rajan, 2002a). Life became more difficult for all economies in the region. Subsequent research has confirmed the regional nature of contagion. Against this background, there may be relatively strong support within the region for reform which minimizes its vulnerability to future crises and contagion. Even those countries that managed to circumvent the 1997-98 crisis reasonably unscathed may believe that they might not be so fortunate on a subsequent occasion and could therefore have a vested interest in reform.

What about the regional hegemonic power? Unlike the US, for whom the 1990s were a decade of economic success, Japan has been apparently trapped in a low level equilibrium. Indeed, the Japanese recovery that flickered in 1996 was hardly helped by the Asian crisis in the following two years. While the US may appear to have been largely unconcerned by the crisis in Brazil in 1999 or the one in Argentina in 2001, it is reasonable to presume that Japan would be much more concerned about further economic crises in Asia and has a direct interest in seeking to avoid them (Chang and Rajan, 1999). While there is always the possibility that inertia will set in as the 1997-98 crisis becomes a more distant memory, this is less likely at the regional level where the full force of the crisis was experienced than at the global level, where many influential economies managed to effectively bypass the crisis.

So for the Asian economies there is a much clearer picture that something was wrong with the situation that existed in 1997-98, and, given the analysis above, the presumption that reforms at the global level are unlikely to provide adequate mechanisms for dealing with future crises may create a momentum for regional reform. There is also a broadly shared diagnosis among Asian economies of what went wrong and therefore what needs to be put right.

This diagnosis comprises a number of elements. First, weak domestic financial systems make economies vulnerable to crises. Weakness can result from inadequate risk analysis, maturity mismatches and an inappropriate exchange rate denomination of assets and liabilities. Second, pegging the value of a currency fairly firmly to the US dollar may lead to economic and financial

problems, irrespective of what genus of currency crisis model is adopted. Where devaluation eventually occurs its “balance sheets” effects can rapidly transform a currency crisis into a domestic financial crisis, such that the devaluation itself has short-run recessionary effects. Third, once international reserves have been depleted to some threshold level, and in the absence of sufficient private capital inflows, there will be little option other than to turn to the IMF; unless measures to block capital outflows are envisaged. International reserves that are deemed adequate before a crisis, or even more than adequate, can rapidly disappear such that reserve depletion offers little other than a very short-term response. On top of this, reserve depletion which is unsterilized will have significant recessionary domestic monetary effects. Sterilization will however offset improvements in the current account of the balance of payments. Although economic fundamentals may not have been entirely sound, problems of illiquidity certainly contributed significantly to the dimensions of the 1997-98 crises.

This analysis implies that to minimize the risks of future crises and to mitigate the effects of crises, reform needs to address these issues; issues that have largely constituted the agenda of the architecture debate. What follows on from this is, in many ways, rather unsurprising. The debate about a new international financial architecture was very much stimulated by the East Asian crisis. As the debate took shape it therefore focused on the issues that had been particularly apposite in the case of that crisis. And yet, the nature and the very title of the debate suggested that the resolution of the problems associated with the East Asian crisis required action at the international level. The argument in this Essay is that significant reform at the global level is unlikely; something that events seem to be confirming. Reform at the regional level has a higher chance of success. This reform should cover domestic financial systems, exchange rate regimes and regional liquidity arrangements. The remainder of this Essay fleshes out some of these issues in some detail.

### 3. Financial Containment and Restructuring in Asia:

#### 3.1 What has Been Done

Financial sector restructuring has been presented as an essential element in structural adjustment programs in the East Asian economies (Lane and Associates, 1999). There are broadly two phases in resolving financial system distress; “containment” and “restructuring”.

The containment or "distress resolution" phase occurs during the onset of a financial crisis when there has been a loss of confidence in the financial system. The primary strategic consideration here is to stabilize the financial system and to prevent a credit crunch and an economic slowdown, which then exacerbates financial difficulties. This usually involves providing large-scale liquidity support to financial institutions. The secondary aim is to limit losses. This may involve closing unviable banks, mergers or even nationalization. In order to prevent bank panics, government guarantees on liabilities of existing banks may also be issued<sup>2</sup>. As the Indonesian experience illustrates, a failure to “contain” may exacerbate financial turbulence with potentially severe sociopolitical repercussions<sup>3</sup>. Empirical analysis by Honohan and Klingebiel (2000) reveals that unlimited deposit guarantees, open-ended liquidity support and repeated recapitalizations are among the factors that can significantly add to the fiscal costs of banking crisis and restructuring<sup>4</sup>.

Having been through the containment stage, the five East Asian economies worst impacted by the 1997-98 crisis, Indonesia, Malaysia, South Korea, Thailand, and the Philippines (henceforth referred to as the Asia-5 economies), are now embarked on a process of rehabilitation and

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<sup>2</sup> There is an important practical issue of being able to decide between *illiquid* but solvent versus *insolvent* financial institutions. As noted by Lindgren et al. (1999) of the Thai debacle

The selection of nonviable institutions to be closed relied largely on liquidity indicators, such as borrowing from the central banks...The liquidity triggers typically included the size of central bank credit as a multiple of bank capital. Only later, as more information became available either through special audits or the supervisory process, could solvency indicators be used as criteria for choosing nonviable institutions (p.34).

<sup>3</sup> Two problems faced by Indonesia in particular but also the other crisis-hit economies during the phase were (a) acute loss of macroeconomic confidence following excessive monetary creation to provide liquidity to the distressed financial system, and (b) the sudden (and non-transparent) closure of insolvent financial institutions.

<sup>4</sup> Accordingly, they favor a “strict” approach to crisis resolution rather than an “accommodating” one.

restructuring<sup>5</sup>. At the risk of generalizing, governments in the Asia-5 economies have attempted to restructure their financial systems by:

- closing down commercial banks and finance companies;
- merging some existing institutions and nationalizing others;
- permitting foreign investment into the financial sector;
- injecting public funds to recapitalized viable banks;
- putting in place systematic asset resolution strategies.

Table 2 provides some information on the measures taken by the regional economies to restructure financial systems.

With regard to asset resolution, all the regional economies except Thailand have transferred nonperforming loans (NPLs) from banks to centralized Asset Management Companies (AMCs)<sup>6</sup>. In Thailand, banks were initially left individually responsible for establishing their own AMCs. The Thai government did establish the Financial Restructuring Authority (FRA) in October 1997 to review rehabilitation plans of the 58 suspended finance companies and to oversee their liquidation (all but two were shut down). An asset management company was also set up centrally but only as a buyer or bidder of last resort for the lowest quality assets in order to prevent a fire sale of assets of the 56 closed finance companies (Rajan, 2001).

Referring to Table 3, all the economies had, by 1999, made some headway in reducing nonperforming loans (NPLs). NPL ratios for commercial banks in Korea and Malaysia fell to less than 10 percent, due in part to rapid economic recovery (i.e. banks have to some extent grown out of their problems). In contrast, NPLs remained high in Thailand (about 30 percent), perhaps reflecting the Thai government's preference for a more market-oriented approach to financial restructuring. However, according to some estimates, between one fifth and a third of the NPLs in Thailand are “strategic” in the sense that borrowers, while able to repay, have been unwilling to do so since legal

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<sup>5</sup> Only an overview is provided here. For detailed discussions of financial restructuring in the Asia-5 economies, see ADB (2000), ARIC (2000, 2001a), Claessens et al. (2000), Kawaii (2001), Lindgren et al. (1999) and World Bank (2000a,b). Park (2001b) provides an overall assessment of the financial and corporate restructuring in the East Asian economies.

<sup>6</sup> See Klingebiel (1999) for a detailed discussion of cross-country experiences with the use of AMCs in banking

recourse by creditors tends to be rather ineffective (discussed below). Interestingly, Thailand has announced that a centralized AMC is to be established to carve out NPLs of the state and private banks, which, as noted, remain stubbornly high (ARIC, 2001a,b and Park, 2001b).

### **3.2 What Still Needs to be Done?**

A report on the Asia-5 economies describes the state of events relating to the cleaning up of the banks' balance sheets by the AMCs in the following way (ARIC, 2000).

During 2000, debt restructuring through...(AMCs) has made further progress in Korea and Malaysia, as well as Indonesia...The Korea Asset Management Corporation (KAMCO) purchased more than 50 percent of the banking system's NPLs by July 2000 and had disposed of the 40 percent of those it had acquired. Danaharta had acquired a little more than 40 percent of NPLs in the Malaysian banking system by August 2000, amounting to about 15 percent of the country's GDP. It is estimated that, as of June 2000, Danaharta had disposed of 61 percent of the NPLs under its jurisdiction. In Indonesia, it is estimated that more than 75 percent of the total NPLs in the banking system, amounting to 60 percent of GDP, are now under IBRA's control. However, uncooperative and politically powerful debtors, and an inadequate legislative and regulatory environment have hampered the recovery of asset values in the country. As of June 2000, only 0.35 percent, representing corporate loans, of acquired NPLs has been disposed of by IBRA...In Thailand, it was reported that almost all the loans of closed financial institutions acquired by the Financial Sector Restructuring Agency (FRA) had been disposed of by December 1999. No data on debt restructuring by commercial banks are available, but some banks are reportedly back to profitability (pp. 12-3).

Thus, while these transfers have helped to recapitalize banks and reduce NPLs, the disposal of assets by the AMCs has been rather slow. This has been due, at least partly, to the fact that the assets transferred to the AMCs are corporate and not real estate which are easier to restructure. Additional factors such as political influence and uncertainties, powerful debtors and lack of interested buyers, inadequate bankruptcy and foreclosure laws and opaqueness in operations and processes, are cited as reasons for the slow asset disposal in the regional economies (ARIC, 2000, 2001a,b).

Failure to adequately address banking sector problems can be a severe impediment to corporate debt resolution and restructuring. Indirect evidence of market concerns regarding lack of progress in financial restructuring in the Asia-5 economies is captured by trends in the ratio of the financial stock index to the overall (general) stock index (ARIC, 2000). This ratio recovered to its pre-crisis level only in Malaysia. At the other extreme, the ratio is only about one quarter of its pre-crisis

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crisis resolutions.

level in Indonesia and it has deteriorated rapidly recently in the case of the Philippines. The indices in Korea and Thailand are stuck at about half their pre-crisis values. All of this appears to suggest that there is continuing concern about the health of the financial systems in the Asia-5 economies, with the possible exception of Malaysia.

Slow progress towards corporate debt restructuring is the single biggest obstacle towards improving banks' balance sheets and, consequently, domestic credit availability, particularly to small and medium-sized enterprises<sup>7</sup>. Table 4 summarizes progress with corporate restructuring in four of the five crisis-hit economies. By and large, corporate restructuring has lagged behind financial sector restructuring. Korea has been the front-runner, having introduced measures to strengthen corporate governance, with Indonesia making the least progress. However, even in Korea, while there have been some reductions in the debt-equity ratios of the largest chaebols, corporate restructuring remains a daunting task. Operational restructuring of ailing corporates has not kept pace with restructuring of their financial obligations in terms of reducing debt-equity ratios (through rescheduling debt and lengthening the maturity of corporate debt). The ARIC (2001b) has made the following observation

Ultimately, an improvement in debt servicing capacity requires a return to operational profitability. Progress in operational restructuring of the corporate sector has generally been patchy in all five crisis countries. There are several constraints on operational restructuring of the corporate sectors, including excessive concentration of ownership of businesses, political interference, worker resistance, inadequate insolvency and bankruptcy laws, and ineffective judiciary (p.13).

Notwithstanding efforts to introduce or make more effective bankruptcy laws in all the countries, the judicial systems in a number of them remain rather weak. The ARIC (2000) summarizes the situation as follows

Bankruptcy courts, particularly in Indonesia and Thailand, may have difficulty coping with the backlog of cases that is likely to build up. If institutions prove to be ineffective in resolving the debt overhang, this will bode badly for international investment and could again threaten bank capital...Following restructuring, some debtors have run into difficulties anew. It would seem that the needed operational reforms do not always accompany balance sheet restructuring. Capacity utilization rates are, in general, on the rise, but substantial excess capacity remains in some sectors. Resistance to the painful changes that are required will ultimately have an adverse effect on competitiveness and foreign investor sentiment (p. 22).

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<sup>7</sup> SMEs have been especially hard hit by the credit crunch, particularly since many are in the nontradable sector. In Thailand, small firms and households account for half of the NPLs (ADB, 2000 and World Bank, 2000a,b).

While crisis countries have made some important strides with regard to bank recapitalization and rehabilitation, concerns exist about the future path of policy reforms. There are signs of waning reform commitments following the global economic slowdown and domestic political concerns, especially so in the case of Indonesia.

There can be little room for complacency, particularly since some of the long-term reforms to enhance the overall efficiency and robustness of the domestic financial system as well as operational corporate restructuring remain to be tackled. A partial list of such measures might include limiting government guarantees and, where these are deemed necessary, ensuring that they are explicit and appropriately priced; diversifying financial systems to reduce dependence on bank intermediation through the development of equity, insurance and bond markets<sup>8</sup>; enhancing the transparency in the financial system and improving *ex ante* incentives, developing an efficient bankruptcy regime, as well as strengthening corporate and financial governance structures (such and protecting the rights of minority shareholders).

While all these measures are critical, a key difference between the crisis-hit economies (Thailand in particular) and the less affected ones, was the lax prudential regulations (either *de facto* or *de jure*) of the private sector in the former. At least part of this was due to the misunderstanding of the concepts of *liberalization* versus *reform*. In the haste to liberalize their economies (the financial sector in particular), so as to integrate with the global economy in a market-consistent manner, some of the East Asian economies essentially “threw caution to the wind”. A well-functioning market economy does *not* mean no government intervention per se; financial globalization requires the role of government to be shifted from being an active participant (through, for instance, state ownership of banks and other monopolies) to one that focuses on acting as an independent, objective “mediator”, “rule-maker” and “enforcer”. To this end, a strong and independent bank supervisory function free

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<sup>8</sup> The need to develop domestic and regional bond markets has been belatedly recognized by the regional economies. The Bank of Thailand’s former governor, Chatu Mongkol Sonakul, recently noted

(T)he biggest challenge to us all must be how the crisis could have been avoided in the first place. If can turn back the clock and have a wish, my list may be long. But high in its ranking would be a well functioning Thai baht bond market...a bond market provides a basic infrastructure for the development of the financial system and the overall economy. The bond market is an important alternative to bank lending (comments presented at the ADB Conference on Government Bond Market and Financial Sector Development in Developing Asian Economies, Manila, March 28-30, 2000).

from political interference is essential, as is establishing a comprehensive regulatory and supervisory framework. Measures here include limiting bank exposures to the property sector, strengthening lending guidelines, and ensuring that international banking and accounting standards are met<sup>9</sup>.

Internationalizing the financial system (i.e. eliminating of discrimination between foreign and domestic financial services providers) to raise its efficiency may also be an important medium and longer-term policy measure to enhance the overall efficiency of the banking system. While the General Agreement on Trade in Services (GATS) recognizes the right of countries to maintain sovereignty over prudential and related regulations of all financial firms resident in the country (Mattoo, 2000), studies suggest that the introduction of foreign banks into developing countries will create domestic pressure for local banking authorities in the host countries to enhance and eventually harmonize regulatory and supervisory procedures and standards to international levels, particularly with regard to risk management practices (Levine, 1996 and Claessens and Glaessner, 1998). Moreover, if the banking system has a more internationally diversified asset base, it could be less prone to instability and financial crises<sup>10</sup>. There are yet other potential advantages of allowing foreign bank entry per se - such as lowering overall financial cost structures - which may make it a desirable policy in and of itself. Steps have already been taken in the direction of internationalization of the financial system by some of the regional economies<sup>11</sup>. Care must be taken however to ensure that foreign competition is introduced gradually in order to avoid disrupting the domestic financial system by enticing domestic banks to opt for increasingly risky investments (i.e. “gambling for redemption”). Without this, an increase in bad loans due to risky investments could offset the efficiency gains associated with greater international competition (Bird and Rajan, 2001c and Claessens et al. , 1999).

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<sup>9</sup> See Mishkin (2000) for a comprehensive discussion of prudential supervision of financial institutions in emerging economies with particular reference to crisis prevention.

<sup>10</sup> See IMF (2000, chapter 6) for a balanced and up-to-date discussion of the role of foreign banks in emerging economies. Rajan (2002a) cautions that foreign bank entry (or privately contracted contingent credit lines) could also be a source of financial contagion (also see Section 5.3).

<sup>11</sup> Montreevat and Rajan (2001) discuss Thailand’s recent experience with bank restructuring and foreign bank entry.

#### **4. Exchange Rate Policies in Asian Economies**

An important component of the Asian financial architecture relates to the choice of exchange rate regime. Prior to the crisis in 1997 and 1998, Thailand and other regional economies were supposed to have pegged the values of their currencies to a basket comprising the US dollar, the yen and other currencies, with the weights depending on the linkages with Southeast Asian countries. However, the reality was that the US dollar carried an overwhelming weight which led to talk of a “dollar standard” or “soft dollar zone” (Tables 5 and 6). Significantly, the Japanese yen had a weight of less than 0.1 in the average Southeast Asian currency basket in spite of the fact that Japan was the region’s largest export market and largest creditor. The rather rigid pegging to the US dollar is widely perceived as having contributed to the 1997-98 crisis. But what is the appropriate lesson to draw from this experience and have the appropriate policy changes been made?.

The consensus view was that experience favored the extremes and disfavored the middle ground (see Bird, 2002 and Rajan, 2002b are references cited therein). The 1990s had been characterized by a series of economic crises that had frequently been associated with attempts by governments to defend pegged exchange rates in conditions of evaporating credibility. According to this view, countries should choose either immutably fixed exchange rates, in the form of close monetary union, where credibility is assured, or for free floating, where there is no commitment to any particular exchange rate. They should not opt for any regimes lying in between these two poles. This consensus has been reflected by a series of reports about international monetary reform that basically say as much<sup>12</sup>. However there is another point of view suggesting that this is an illegitimate response to the crises of the 1990s and that intermediate solutions have not lost all their appeal; at the same time the polar extremes may have their own problems. This implies that inappropriate conclusions may have been drawn from the evidence. It may be unwise to assume

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<sup>12</sup> See for example a report sponsored by the Council on Foreign Relations (1999), dealing with reforming the international financial architecture advises developing countries to ‘just say no’ to pegged exchange rates. Similar advice was proffered by the International Financial Institution Advisory Commission (IFIAC, 2000).

that these “corner solutions” will necessarily avoid future crises. A debate about a new Asian financial architecture needs to be more subtle on the issue of the choice of exchange regime.

## **4.1 The Flexible Exchange Rate Option**

### **4.1.1 Reasons to Favor Flexibility**

A priori, there are a number of issues that underlie a preference for a greater degree of exchange rate flexibility.

First, the greater the degree of flexibility of the exchange rate regime, the keener the incentives for agents to undertake appropriate foreign currency risk management techniques in response to the higher element of exchange rate risk, while simultaneously reducing the extent of moral hazard which could lead to “excessive” unhedged external borrowing (so-called “fixed exchange rate bubble”). The introduction of these transactions costs and exchange rate risks may also help moderate the extent of capital inflows, consequently dampening the intensity of boom and bust cycles.

Second, banks tend to dominate the financial systems in the region, and the credit transmission channel plays a significant role in these countries. Calvo (1999) has shown that, *ceteris paribus*, the operation of this credit channel (which affects the IS curve directly and acts as a real shock) could tilt the balance in favor of greater exchange rate flexibility.

Third, small and open economies are far more susceptible to large external shocks, such as changes in foreign interest rates, terms of trade, regional contagion effects and the like. Received theory tells us that a greater degree of exchange rate flexibility is called for in the presence of external or domestic real shocks. By acting as a safety valve, flexible exchange rates provide a less costly adjustment mechanism by which relative prices can be altered in response to such shocks, as opposed to fixed rates which rely on gradual reductions in relative costs via deflation and productivity increases vis-à-vis trade partners to restore internal balance. This manner of adjustment to shocks can be prolonged and extremely costly. Altering the exchange rate is one means of attempting to engender economic adjustment. The need to adjust will depend on the incidence of macroeconomic disequilibria<sup>13</sup>. Related

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<sup>13</sup> Three points should be noted here. One, empirical evidence suggests that pass through of devaluation is partial; indeed, inflationary predictions were dire in East Asia but did not materialize. Two, devaluation can

to this, many of the East Asian economies have diversified trade structures (dependent on the US, Japan, Europe and intra-Asian trade). Optimum Currency Area (OCA) criteria suggest that such economies are good candidates to maintain more flexible regimes. (We take this important issue of adjustment to external shocks up again in Section 4.2)

Fourth, it is often suggested that a rigid basket peg may operate as a nominal anchor for monetary policy and be a way of introducing some degree of financial discipline domestically and breaking inflationary inertia (Bird and Rajan, 2000a and Edwards, 1993). Thus, a multicountry study of 136 countries over the period 1960-89 conducted by Ghosh et al. (1995) found that inflation rates generally tend to be greater and more volatile under more flexible regimes, though economic growth is less volatile. An IMF (1997) study of 123 developing countries covering the period 1975-96 arrives at a broadly similar conclusion, viz. the median inflation rate of “peggers” has been consistently lower and less volatile than those with more flexible arrangements, though the inflation rate differential between the two sets of countries has decreased through the 1990s<sup>14</sup>. However, Glick et al. (1999) have argued that policies of pegging exchange rates in East Asia were of little benefit in terms of acting as a counter-inflationary device, this goal having been attained primarily due to other factors such as relative autonomy of the monetary authorities. In their view, the use of exchange rates as nominal anchors may actually have acted as a liability as it prevented the necessary adjustments in response to external shocks. In addition, both theory and lessons of experience with nominal anchors have shown that such pegging loses credibility over time and induces booms followed by inevitable busts and crises (Bird and Rajan, 2000a). Pegging the exchange rate constrains monetary independence<sup>15</sup>. If monetary and fiscal policies have proved effective in the past, governments may be reluctant to constrain their ability to use them in

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have real effects in the short-term during non-crisis periods. Devaluation during crisis periods appears to be *contractionary* rather than *expansionary* (Hausmann et al., 2000 and Rajan and Shen, 2001). Three, repeated devaluations will only have price effects without any real effects as they come to be anticipated by the private sector.

<sup>14</sup> While these studies are instructive, they are no means conclusive as they do not account for the possibility of endogeneity of the choice exchange rate regimes. Specifically, we cannot be sure as to whether a fixed exchange rate actually leads to lower inflation or whether countries which experience low inflation rates adopt such a regime.

<sup>15</sup> Conversely, if unrestrained monetary policy has been a facet of the country’s past, imposing exchange rate fixity may be an advantage as it constrains the active use of monetary policy. However, recent empirical evidence casts doubt on the extent to which floating regimes in developing countries provides insulation from foreign interest rate shocks (see Frankel et al., 2000 and Hausmann et al., 1999).

the future by targeting a particular exchange rate. The choice therefore depends on the relative merits of alternative macroeconomic policy instruments.

Fifth, there is a widespread belief that a pegged regime induces increased policy discipline, as fiscal profligacy will lead to a reserve depletion or burgeoning debt and an eventual currency collapse. However, the effects of unsound macro policies become evident immediately under flexible rates through exchange rate and price level movements (i.e. depreciation-inflation spiral). Thus, flexible rates ought to instill greater fiscal restraint/discipline, as the costs of macroeconomic policy transgressions have to be paid upfront. In other words, the key distinction between fixed and floating rates is in the intertemporal distribution of costs and benefits (Tornell and Velasco, 2000). Gavin and Perotti (1997) have provided some empirical validity to this argument. After controlling for a host of other factors, they find that Latin American fiscal policies were more prudent under flexible rates than under floating ones.

#### **4.1.2 Reasons for a “Fear of Floating”**

Despite the preceding arguments favoring a flexible exchange rate regime, countries with flexible regimes appear to have experienced “excessive” volatility over the last few decades<sup>16</sup>. It is admittedly difficult to define exactly what is meant by the term “excessive”. However, a reading of the literature on available empirical studies of exchange rates reveals that evidence of excessive exchange rate variability comes in a number of forms (Bird and Rajan, 2001a,b and Williamson, 1999a). For instance, a number of surveys of foreign exchange market participants clearly indicate that short-term/high-frequency exchange rate movements are caused by “speculative” or “trend-following” elements rather than underlying macroeconomic fundamentals. The problem of destabilizing speculation and consequent excessive exchange rate volatility appears to be exacerbated in developing countries, making a flexible regime especially unviable/unsuitable to them (Grenville and Gruen, 1999). This is particularly so since thin markets, which exist in Southeast Asia and other developing countries (Table 7), imply that a few transactions can lead to extreme exchange rate fluctuations.

Even if it were accepted that flexible exchange rates often appear to exhibit greater volatility in high frequency data than would be warranted by the underlying fundamentals, why might such excessive volatility be of concern? Recent studies have provided evidence of a negative impact of

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<sup>16</sup> Of course, almost no country has maintained a completely free (or pure) float, the authorities intervening intermittently to smooth market fluctuations. In other words “dirty floats” - i.e. foreign exchange market interventions without commitment to defend any specific parity - have been the norm. The US dollar probably comes closest to being a free float.

exchange rate volatility/uncertainty on investment (Corbo and Cox, 1995 and Huizinga, 1994)<sup>17</sup>. To the extent that investment has a significant positive impact on economic growth, declining investment will have an enduring adverse effect on the quantity of real resources. Even in the absence of a negative effect on the level of investment, exchange rate variability may have an adverse influence over the composition of investment since decisions could be based on disequilibrium prices.

It has often been argued that firms and other agents involved in international transactions can undertake hedging operations to shield themselves against exchange rate movements. However, apart from the costs involved with such operations, perfect hedges may be very difficult to create technically (given acute revenue-cost uncertainties) (Adler, 1996 and Friberg, 1996). Indeed, even if they could be created, they would entail non-negligible transaction costs, thus diverting scarce resources from “real” economic activity. This is especially true in the case of developing countries where rudimentary capital markets have necessitated using cross-hedging techniques (rather than direct hedging), which invariably are far costlier. According to a 1992 survey of non-financial Fortune 500 corporations, while 85 per cent of the respondents hedged, only 22 per cent hedged *fully*. Not surprisingly, most of the respondents which did not hedge were smaller firms averaging US\$2 billion in capital (Felix, 1996 and Felix and Sau, 1996). It is important to keep in mind that such small and medium sized enterprises dominate the economic landscape in developing countries.

Frankel and Wei (1998) have undertaken a cross-sectional study of bilateral trade. They find that bilateral exchange rate variability looks to have had a statistically and economically significant negative effect on trade between 1960 and 1985, though the impact - both economic and statistical - has been negligible between 1985 and 1990<sup>18</sup>. Wei (1999) provides new empirical evidence suggesting that exchange rate volatility has had a detrimental effect on trade between pairs of countries to a much larger extent than suggested by previous studies. More generally, in a comprehensive survey of the literature on the impact of exchange rate volatility on trade flows, McKenzie (1999) concludes that the

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<sup>17</sup> Corbo and Cox (1995) and others also find that macroeconomic uncertainty in general has a deleterious impact on investment. Also see the broad literature survey by Serven (1997).

<sup>18</sup> On balance, these earlier time-series studies seem to have found an insignificant effect of exchange rate uncertainty on trade (see the synopsis of the literature by Willett, 1986).

recent empirical studies have had “greater success in deriving a statistically significant relationship between volatility and trade” (p.100). Calvo and Reinhart (2000a) review a more limited set of such studies and draw a similar conclusion. Another recent set of empirics by Andrew Rose based on gravity models using both cross-sectional and time series data suggests that institutionally fixed exchange regimes in general, but a common currency in particular, stimulate trade, which in turn boosts income (see Frankel and Rose, 2001, Glick and Rose, 2001 and Rose, 2000). As is common knowledge, proponents of the European Monetary Union (EMU) used such an argument extensively. Flexible exchange rates may also be associated with currency misalignments, with accompanying costs in terms of resource misallocation and detrimental effects on economic growth.

Notwithstanding the recent weakness of the Australian dollar<sup>19</sup>, its successful experience with a floating arrangement, particularly in terms of withstanding the East Asian crisis, has often been cited as evidence of the “superiority” of such a regime, and has sometimes been held up as a model for Southeast Asian countries. However, such advocacy does not pay due consideration to the fact that there are important structural differences between industrial countries such as Australia, on the one hand, and developing countries, on the other (Krugman, 1999). For instance, countries like Australia and the US have well-developed and diversified financial systems that are able to minimize real sector disruptions due to transitory exchange rate variations (abstracting from the resource allocation costs of misalignments noted above). Most importantly, industrial countries are able to borrow overseas in their domestic currencies. Many developing countries are unable to do so, leading to accumulation of foreign currency debt liabilities that are primarily dollar denominated and unhedged (i.e. “liability dollarization”)<sup>20</sup>. In such countries, sharp depreciations in their currencies alter the domestic currency value of their external debt and therefore the net worth of the economies, with adverse real sector

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<sup>19</sup> The Australian dollar has lost half its US dollar value between end 1996 and early 2001. The *Economist* (29 April, 2000, p.84) discusses reasons behind this.

<sup>20</sup> This has come to be referred to as the “original sin” hypothesis, a term attributed to Hausmann (1999) and Hausmann et al. (2000). It is unclear why many developing countries are unable to borrow long-term in their own currencies. McLean and Shreshta (2001) explore this issue using a case-study approach involving Australia, New Zealand and South Africa, all small and open economies that borrow internationally in domestic currencies. They conclude that countries where domestic long-term government debt is widely held by residents are more likely to convince non-residents to hold debt denominated in local currencies. They further suggest that the development of the Eurobond markets for debt denominated in Australian dollars, New Zealand dollars and the South African rand were instrumental in fortifying international access to domestic currency denominated debt.

effects (so-called “balance sheet” effects). This in turn may explain the “fear of floating” exhibited by many developing countries. (Calvo and Reinhart, 2000a,b and Hausmann, et al., 2000). This fear has in turn led to growing enthusiasm for the other corner solution; an irrevocably fixed regime. Such a hard peg, it is argued, signals greater commitment to rule out arbitrary exchange rate adjustments (i.e. “escape clauses” cannot be invoked) and the authorities’ willingness to subordinate domestic policy objectives such as output and employment growth to the maintenance of the pegged exchange rate. Hard pegs can take on a number of forms; would these work in Asia?

#### **4.2 Currency Boards and Dollarization**

The durability of the Hong Kong and Argentine currency boards in the face of acute speculative pressures in the 1990s appears to have convinced some observers of the virtues of such a regime for a number of developing countries, including those in Southeast Asia. In fact, the *Asian Monetary Monitor* (July-August, 1994, pp.1-10) did suggest such a regime for the regional countries pre-crisis, and Indonesia toyed with the idea of this sort of arrangement during the early part of 1998<sup>21</sup>. Others argue that developing countries should form a monetary union with the US, or more specifically, that they ought to abandon their respective national currencies in favor of the US dollar, i.e. dollarization (Hausmann, 1999)<sup>22</sup>.

It is generally recognized that such hard pegs require a number of preconditions to be satisfied (Frankel, 1999), including a strong and durable domestic financial system that is able to withstand possible interest rate hikes on a sustained basis at times when the domestic currency is under selling pressure. Failing this, currency crisis vulnerability might merely be transformed to financial sector vulnerability (this point is formalized by Chang and Velasco, 1998). To the extent that the banking

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<sup>21</sup> See Culp et al. (1999) in defense of the case for a currency board in Indonesia and Spiegel (1998) for the case against.

<sup>22</sup> The relative merits of dollarization over a currency board are not discussed here (see Berg and Borensztein, 2000, Frankel, 1999 and Frankel et al., 2000). Suffice it to note that the major advantage of dollarization is a reduction in currency (and possibly even country) risk premium, therefore offering lower domestic interest rates, as well as elimination of concerns regarding the sustainability of the domestic currency peg (i.e. no escape clause). The major disadvantage of moving from a currency board arrangement to dollarization is the loss of seigniorage, constraints on liquidity management, as well as the transition costs.

systems in the regional countries have been decimated by the crisis, and the process of financial sector restructuring - while having progressed substantially – is, as noted in the previous section, far from complete, the currency board arrangement alternative appears to be infeasible over the near to medium-term. This is particularly so since the lender of last resort (LOLR) function of a central bank is eliminated by the introduction of a currency board, in turn implying the need for a strong, well-capitalized and well-supervised domestic financial system<sup>23</sup>.

There is also the question of whether the regional countries have the degree of labor market and internal flexibility - as in the case of Hong Kong, for instance - to make such a super fix viable. Failing this, a currency board arrangement makes adjustments to large economic shocks extremely costly. In such circumstances, forsaking the exchange rate as a policy tool is not an appealing option<sup>24</sup>. A great deal has been made of Hong Kong's ability to maintain its US dollar-based currency board arrangement in the midst of acute bearish pressure in 1997-98. Much less recognized is the fact that Singapore, which pursued a Williamson (1999a)-type monitoring band arrangement pre-crisis, and continues to do so post-crisis<sup>25</sup>, weathered the East Asian crisis comparatively well despite having extremely strong direct trade and financial linkages with most of the crisis-hit regional economies (Rajan, et al., 2002)<sup>26</sup>.

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<sup>23</sup> The loss of a domestic LOLR function may be partly compensated for by holding excess reserves (over and above the domestic monetary base), as in the case of Hong Kong, or obtaining access to foreign credit lines as in the case of Argentina. A referee points out that the LOLR function need not necessarily be assigned to the central bank. What matters in the end is the ability to tax current and future generations and provide current liquidity in exchange. As such, this role could lie with an independent fiscal authority.

<sup>24</sup> The point is sometimes made that the preconditions are not necessary for the implementation of a currency board or dollarization (which overlap considerably). No doubt that dollarization or currency board arrangements can be implemented prior to reforms; the key question is, what are the implications of doing so? It is useful to keep in mind that the failure to pay sufficient attention to the pre-conditions for successful financial liberalization has been among the main reasons for financial crises in developing countries. Eichengreen (2000) provides a detailed review of the dollarization literature and discusses the preconditions needed at some length.

<sup>25</sup> This is how the Monetary Authority of Singapore (MAS) describes the management of its exchange rate policy. MAS manages the Singapore dollar against a basket of currencies of Singapore's main trading partners and competitors. The basket is composed of the currencies of those countries that are the main sources of imported inflation and competition in export markets...The trade-weighted Singapore dollar is allowed to float within an undisclosed target band. The level and width of the band are reviewed periodically to ensure that they are consistent with economics fundamentals and market conditions. The MAS intervenes in the foreign exchange market from time to time to ensure that movements of the..(Singapore dollar) exchange rate are orderly and consistent with the exchange rate policy (MAS website: [www.mas.gov.sg](http://www.mas.gov.sg)).

<sup>26</sup> While Hong Kong's overall GDP declined by 5 percent in 1998, Singapore's growth stagnated in 1998 (0.4 percent), a sharp contrast to the annual average growth of 9 percent in the first half of the 1990s. The primary

In addition, it is revealing that both Hong Kong and Argentina themselves have, in recent times, been proponents of exploring moves towards alternative hard peg arrangements by their respective regions -- dollarization in the case of Latin America and East Asian monetary *cooperation* or at least *coordination* in the case of Hong Kong. Cynics of currency board arrangements have interpreted this as the two economies looking for viable exit strategies from their respective currency boards arrangements. The Argentine case is especially revealing. While Argentina's hard US dollar peg was important in helping the country realize financial and monetary stability, the recent large shocks in emerging market economies (Mexico in 1994-95, East Asia 1997-98 and Brazil in 1999) required exchange rate adjustments, that until January 2002, were not forthcoming. This in turn necessitated extremely painful internal adjustment that eventually became a politically unacceptable liability.

While a policy of formal dollarization may have some merit in Latin America - see Bird (2001a), for a review of the issues - the relatively low levels of informal dollarization in Southeast Asian (compared with Latin America), on the one hand, and the economically significant role played by Japan and the yen in Southeast and the larger East Asia, on the other, implies that dollarization (let alone euroization or yenization) may not be a viable option for this region. An important lesson from the East Asian crisis of 1997-98 is that if the regional economies had given greater weight to the yen when managing their currencies, there would have been lower degrees of regional real exchange rate overvaluations following the nearly 50 per cent nominal appreciation of the US dollar relative to the yen between June 1995 to April 1997, which in turn led to an appreciation of the regional currencies relative to the yen<sup>27</sup>. For instance, in the case of Thailand, which was the "crisis trigger country", various studies have suggested that the Thai baht's pre-crisis real effective exchange rate (REER) was misaligned ("overvalued") by anywhere between 11 and 30 per cent relative to some measure of "equilibrium" real exchange rate (Montiel, 1999 and Rajan, 2001a). Institutionalization of the dollar pegs (via a currency board or dollarization) would not have helped domestic economic performance to the extent that the problem was, at least partly, one of loss of competitiveness. Consistent with this, a recent study of

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reason for this difference in growth was that the nominal exchange rate flexibility in Singapore was able to cushion some of the negative shock, unlike Hong Kong where adjustments in the real exchange rate had to be fully realized via domestic deflation (Rajan and Siregar, 2000).

<sup>27</sup> McKinnon (2001) refers to the yen/US dollar exchange rate as the "loose cannon" in East Asia pre-crisis.

export performance by about 100 developing countries to the US, Japan and Europe over the period 1983-92 concludes that the more flexible the exchange rate regime the better the export performance (Nilsson and Nilsson, 2000). However, countries pegging to a composite group of currencies do not appear to have under-performed countries with independently floating regimes (data based on official IMF classification of exchange rate arrangements, i.e. *de jure* rather than *de facto* exchange rate regimes, is used).

### 4.3 Monetary Union

Having experienced the turbulence of the regional crisis and against the backdrop of the introduction of a single European currency, leaders of the Association of Southeast Asian Nations (ASEAN) have agreed to study the feasibility of a common ASEAN currency system<sup>28</sup>. There has been much popular discussion in the region about the possibility of forming an Asian Monetary Union (AMU). From an economic standpoint, Eichengreen and Bayoumi (1999a,b) have concluded that East Asia may be as close to - or rather, as far away from - being an OCA as Western Europe<sup>29</sup>. This conclusion is based on an OCA index that takes into account the costs associated with asymmetric region-wide shocks as well as the benefits from stabilizing exchange rates with trading partners<sup>30</sup>. More informally, but in similar vein, the IMF's Managing Director, Horst Kohler (2001), has noted

trading patterns and geography do make it reasonable to think of the creation of an internal market in Asia as a possible, future stage in regional cooperation. And why should this not be a basis for greater monetary integration... (p.4)

However, there are at least two important differences between East Asia and Europe. First, in the absence of sufficiently frictionless intraregional labor mobility, any form of regional monetary union requires that there be compensating fiscal transfers from the richer to less well off states. In the case of Europe, the extent of such transfers is quite significant in per capita terms for the poorer states, but fairly

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<sup>28</sup> Announced as part of the latest ASEAN summit meeting in Hanoi and included in the "Hanoi Plan of Action" (*Business Times*, Singapore, 15 December, 1998).

<sup>29</sup> Similarly, Rockoff (2000) has emphasized that the US could be said to have been an OCA only around the 1930s. See Kenen (2000) for a recent discussion of the OCA theory.

low in absolute terms as the richer states in Europe are much larger than the poorer ones (Eichengreen and Bayoumi, 1999a,b). This is in contrast to developing East Asia where the poorer regional members also happen to be the largest ones (Indonesia and China versus Singapore).

Second, the European experience has emphasized the need for strong political will and consensus towards such a policy goal. Indeed, some like Goodhart (1995) dispute the relevance of economic criteria altogether, claiming that political considerations dominate the formation of currency areas. While such a political consensus may gradually emerge in Southeast and the larger East Asian region, it is still some way off. “Vision statements” by regional leaders in favor of currency union, while becoming more common since the crisis, have hitherto not been backed up by any serious discussion of the type of institutional structures or the formal mechanisms and decision-making bodies needed for such regional economic integration (such as an independent region-wide central bank, a system of inter-regional fiscal transfers, and measures to ensure macroeconomic convergence). Eichengreen and Bayoumi (1999b) have noted

there is little sign, comparable to the evidence which has existed in Europe for nearly 50 years, of a willingness to subordinate national prerogatives to some larger regional entity, There is no wider web of interlocking arrangements, as in the EU, which would be put at risk by a failure to follow through on promises of monetary and financial cooperation (p.11)<sup>31</sup>.

Thus, the general conclusion offered by Kenen (2000) that the problems of governance and accountability may prove inseparable for most other groups of countries outside Europe appears especially pertinent to East Asia.

#### **4.4 Revealed Preferences of Regional Central Banks**

What exchange rate policies have been pursued in the region in the post-crisis period? Is there any evidence of the so-called “fear of floating”.

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<sup>30</sup> In any case, it is possible that OCA criteria may be at least partly endogenous, suggesting that some unions may be more justifiable *ex post* rather than *ex ante* (Frankel and Rose, 1998).

<sup>31</sup> In addition, substantial asymmetries in the sizes and levels and stages of economic development of the countries in East Asia, on the one hand, and the *de facto* policy of strict non-intervention in one another’s affairs (economic and particularly political), on the other, makes it extremely difficult to envisage the successful introduction of “tie-in” clauses to create punishment mechanisms to ensure conformity of economic policies as done in Europe.

The Malaysian case is the most straightforward, with the government fixing the Malaysian ringitt (RM) relative to the US dollar on September 1, 1998 at RM 3.80 per US\$ (Athukorala, 2001 and Kaplan and Rodrik, 2001). More interesting and somewhat more complicated are the exchange rate choices of the other three regional countries. It is commonly believed that Indonesia, Philippines and Thailand have maintained a float following their respective currency devaluations. In actuality, after a short flirtation with floating following the initial breakdown of currency pegs in mid 1997, the regional monetary authorities appear to have reverted to heavy management of their currencies to ensure some degree of stability vis-à-vis the US dollar. To be sure, there has certainly been a generalized move towards greater exchange rate flexibility during the post-crisis period. This is discernible from Figure 1 and is empirically confirmed by Hernandez and Montiel (2001). However, while the Malaysian capital controls have allowed for the simultaneous maintenance of monetary autonomy and a fixed rate regime, the other countries have depended on a combination of activist interest rate policy and foreign exchange market intervention to ensure relative exchange rate stability. Consequently, they have experienced sharp gyrations in monetary variables and international reserves (Calvo and Reinhart, 2000a,b, Hernandez and Montiel, 2001 and McKinnon, 2001). Consistent with this, it is useful to note the following statement by Thailand's finance minister, Pridiyathorn Devakula.

(W)e are using the stabilised exchange rate as one of the guiding principles. Why do we have to use this? It's simple - there are two extremes: fixed exchange rate and clean float... (M)y attitude to fixed exchange rates - don't do it. If you do, you invite trouble and finally lose all your reserves. The other is clean float. If we were strong like the U.S., Japan, Germany we would go clean float. Because a clean float rate can swing to extremes, it can savage our current account. When the economy is weakening and confidence of private businessmen is not that high, we must make sure our currency does not swing to the extreme where it creates panic. That's why we have to choose the middle road (Far Eastern Economic Review, July 26, 2001, pp.50-1).

More evidence of this disinclination to allow the exchange rate to float freely is given by the fact that the regional economies began re-accumulating international reserve holdings following the sharp declines in 1997. East Asian economies have rapidly built up international reserves in the post crisis period so-called "floating with a life-jacket" (Hernandez and Montiel, 2001 and Yung, 2001 and Figure 2). The replenishment and accumulation of international reserves, on the one hand, as well as the lengthening of the average maturity profile of external indebtedness of the regional economies (Table 8), on the other, has significantly reduced the region's vulnerability to the destabilizing effects

of volatile and easily reversible capital flows<sup>32</sup>. Nonetheless, recent weaknesses in the regional currencies and the desire by the central banks to offset at least part of the currency declines (vis-à-vis the US dollar) have led to a slight drain in reserves in some of the regional economies since late 2000 (Figure 2 again and ARIC, 2001).

Summing up, Hernandez and Montiel (2001), who analyze the evidence regarding post-crisis exchange rate policies pursued in the Asia-5 economies, conclude as follows.

(C)ontrary to the views of some observers...there has indeed been a change in *de facto* exchange rate regimes in all five of these countries between the pre- and post-crisis periods. While none of them have adopted “soft pegs” with unfettered capital movements, neither have they moved to the extreme corner solutions of “hard” pegs or clean floats. In other words, all of them have continued to manage their exchange rates in an active manner, and have thus occupied the supposed “hollow middle” of exchange rate policy” (p.16).

#### 4.5 Choice of Exchange Rate Regime Reconsidered

But what exchange rate regime should form part of an evolving Asian financial architecture? The preceding discussion leads to the rather unsatisfying conclusion that when it comes to the choice of appropriate exchange rate regime, all that can really be said is that there exists a broad spectrum of choice. It is not a black-or-white issue; shades of gray abound<sup>33</sup>. Frankel (1999) has provided us with two timely reminders: (i) the “Impossible Trinity or Trilogy” does not on its own imply that in an increasingly globalized world economy an intermediate regime is unviable; (ii) few developing countries appear to meet the OCA criteria to make either corner solution an ideal choice and “one size does not fit all” (also see Kenen, 2000 and Willett, 2001 and Bird, 2002).

Choosing the exchange rate regime should represent a consistent part of a coherent macroeconomic strategy. If not viewed in this way, any regime is likely to fail because inconsistencies will arise. No exchange rate regime will deliver stability if domestic macroeconomic policy is unsound, with large fiscal deficits, rapid monetary growth and inflation. Pegged exchange rates will become

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<sup>32</sup> The extent of short-term indebtedness has been found to be a key indicator of (il)liquidity and a robust predictor of financial crises (Bussiere and Mulder, 1999, Dadush et al., 2000, Rodrik and Velasco, 1999 and World Bank, 1999). According to Dadush et al., on the basis of data for 33 developing economies, the elasticity of short-term debt with GDP growth is 0.9 when there is a positive shock to output and -1.8 when there is a negative shock. This extreme reversibility of short-term debt in the event of negative shock exposes borrowers to liquidity runs and systemic crises. In a somewhat contrarian view, Jeanne (2000) argues that it is not clear that short-term debt contracts ought to be discouraged as they may play a socially advantageous function in reducing agency problems.

<sup>33</sup> See Bird (2002), Frankel (1999), Mussa et al (2000) for broadly similar conclusions.

overvalued and reserves will fall, while flexible exchange rates will depreciate and may result in crises just as much as pegged regimes. Exchange rate policy in emerging economies may need to have a more limited objective. Rather than focusing on disciplining domestic macroeconomic policy and labor markets, perhaps the exchange rate regime should be designed in the first instance to minimize exposure to the third currency phenomenon, where the problem for emerging economies arises from fluctuations in the values of the currencies of their major trading partners against each other.

In the absence of strong capital controls, currency intervention ought *not* be framed as a specific target for the exchange rate. Such targets inevitably tempt speculators by offering them the infamous one-way option. Thus, exchange rate and monetary policy strategies must involve an element of flexibility rather than a single-minded defense of a particular rate. This might best be achieved by a Singapore-type variant on sliding parities and wider bands around an appropriately weighted currency basket, (a so-termed band-basket-crawl or BBC)<sup>34</sup> or a more flexible exchange rate combined with an inflation target.<sup>35</sup> Neither of these strategies supports the benign neglect of the exchange rate.

## **5. Regional Liquidity Arrangements**

### **5.1 Financial Crisis and the Importance of Liquidity**

Currency crisis models suggest the circumstances under which exchange rates are likely to come under speculative attack (Rajan, 2001). If the authorities wish to prevent the full impact of the selling of a currency on its value they have to buy it. In order to do so they need foreign exchange, and this may come from decumulating international reserves or from foreign borrowing. The problem is that reserve decumulation has a finite limit and private capital, by definition, will be exiting. It is in these circumstances that developing and emerging economies may be forced to turn to the IMF.

An important dimension of any crisis is likely to be illiquidity. Illiquidity can create crises even where the economic fundamentals are sound, or it can make a bad situation worse when the fundamentals are weak. Moreover once it becomes a problem, illiquidity further undermines the

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<sup>34</sup> The crawl is meant to compensate for inflation differentials. Williamson (1999a) discusses the BBC policy in some detail and Williamson (1999b) and Rajan (2002b) explore this option for East Asia.

<sup>35</sup> Many central banks that purport to operate an inflation target, actually pursue a flexible version of it. This is clear by the fact that in most cases the official monetary policy stance is captured by a “Monetary Conditions Index” or MCI which is a weighted average of the interest rate and the exchange rate. Eichengreen (2001a) discusses definitions and issues surrounding a monetary policy strategy organized around an inflation target in some depth.

confidence of international capital markets. Capital outflows increase, thereby reducing liquidity still further. Currency crisis models have shown that once countries fall below some liquidity threshold matters can deteriorate rapidly (Chang and Velasco, 1998). Although there continues to be a debate about the extent to which fundamentals accounted for the East Asian crisis, there is little doubt that illiquidity was a part of the problem. Prior to the crisis, capital inflows exceeded current account balance of payments deficits and this allowed international reserves to be accumulated. However, as capital markets lost confidence, capital inflows all of a sudden became capital outflows and the reserves were run down as a way of financing current account deficits. As reserves were depleted, so confidence declined still further; a trickle became a flood, and countries in the region were forced to turn to the IMF for financial assistance.

Although large in relation to the Fund's normal lending, the loans from the IMF did not come close to fully compensating for the outflows of private capital and this implied the need to switch from a policy of financing current account deficits to one of correcting them. The speed and intensity of economic adjustment was largely dictated by the shortage of liquidity. Indeed, it was the extreme shortage of liquidity that called for rapid adjustment. Empirical research confirms the *a priori* reasoning that the intensity of adjustment in East Asia in 1998 by comparison with other periods reflected the shortage of liquidity<sup>36</sup>.

Some indication of the degree of adjustment may be gleaned from examining what happened to output and real exchange rates following the financial crisis, (Figures 3 and 4). Traditional balance of payments theory distinguishes between expenditure-switching and expenditure-changing policies, and it is tempting to portray exchange rate devaluation (the classic expenditure-switching device) as an alternative to contractionary expenditure policies. If this was the case, it might be supposed that the East Asian economies would have experienced a sharp fall in the values of their currencies or a sharp fall in output but not both together. But as things turned out the balance sheet effects of devaluation for the domestic financial and corporate sectors seem

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<sup>36</sup> Thus, Eichengreen and Rose (2001) argue that the East Asian process of – “V-shaped” - adjustment has not been very different from the stylized patterns of precious currency crisis episodes in developing countries. However, the degree of initial contraction and following recovery has been far greater in East Asia, attributable to the severe

to have created temporary but sharp recessionary repercussions as there was a rapid rise in the domestic currency cost of servicing obligations denominated in foreign currencies, and a domestic liquidity crunch (Bird and Rajan, 2000c, Boorman et al., 2000, Krugman, 2001, Rajan and Shen, 2001). To the extent that the recessionary effects of devaluation were underestimated at the time, contractionary aggregate demand management policies would have resulted in recession over-kill. Judged against potential output (real GDP) for each economy, the IMF has estimated that the cumulative output losses from the 1997-98 crisis were much larger than those following the Tequila crisis in Latin America in 1994 (Table 9). The question then becomes whether these output losses could have been reduced. This brings us back to the trade-off between the severity of adjustment in the short run and the availability of international liquidity.

## **5.2 International Liquidity, Crisis Prevention and the IMF**

As already noted, illiquidity, lack of confidence, and self-fulfilling expectations create a highly combustible cocktail. But, by the same token, where liquidity is *perceived* to be adequate, confidence might be maintained and the self-fulfillment of expectations may mean that liquidity *is* adequate. It has long been recognized that inadequate liquidity can threaten the stability of international financial regimes. Thus, during the 1960s, the prime concern relating to the Bretton Woods international financial system was the widely perceived shortage of international liquidity. A sequence of reforms designed to increase international liquidity culminating in the introduction of the IMF's own international reserve asset, the Special Drawing Right (SDR), were aimed at shoring up the Bretton Woods system by reducing its vulnerability to crisis. Prior to the establishment of the SDR the IMF attempted to provide quick-disbursing low conditionality finance through lower credit tranche drawings and through its Compensatory Financing Facility (CFF) which was designed to help countries deal with problems caused by exogenous shortfalls in export earnings. While the CFF was designed with developing countries in mind, the industrial countries developed a system of bilateral swap arrangements within which countries encountering a speculative crisis threatening the durability of their exchange rate peg could swap domestic currency for foreign currency with other central banks

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liquidity crisis that was triggered by investors' panic (Rajan and Siregar, 2001; also see Park, 2001a).

- a transaction that was reversed after the speculative attack had been repelled and the crisis had passed. Ultimately industrial countries no longer needed to turn to the IMF for assistance because they managed to develop sources of liquidity that they deemed preferable.

An obvious method of enhancing a country's liquidity position is via the accumulation of international reserves. As Fischer (2001c) notes

Reserves matter because they are a key determinant of a country's ability to avoid economic and financial crisis. This is true of all countries, but especially of emerging markets open to volatile international capital flows...The availability of capital flows to offset current account shocks should, on the face of it, reduce the amount of reserves a country needs. But access to private capital is often uncertain, and inflows are subject to rapid reversals, as we have seen all too often in recent years. We have also seen in the recent crises that countries that had big reserves by and large did better in withstanding contagion than those with smaller reserves.. (pp.1-3).

An important limitation of such a reserve-hoarding policy is that it involves high fiscal costs as the country effectively swaps high yielding domestic assets for lower yielding foreign ones<sup>37</sup>. In addition, since the size of international reserve holdings has been found to be a theoretically and statistically significant determinant of creditworthiness (Bussiere and Mulder, 1999, Haque, 1996 and Disyatat, 2001), depleting them as a way of cushioning the effect of capital outflows on the exchange rate may make matters worse by inducing further capital outflows. If capital outflows reflect a perception within private capital markets that a country is illiquid, reducing international reserves and therefore curbing liquidity further is hardly likely to be an effective strategy. In other words, the reversibility that makes reserve depletion credible in the context of current account deficits is often absent in the context of capital outflows.

From a government's perception an advantage associated with international reserves is that they may be used quickly and without conditions. This may also appear to be the case with financing from private capital markets. But while private capital inflows may again logically be used to finance temporary current account balance of payments deficits, the logic breaks down when the crisis is

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<sup>37</sup> There is the additional question of what the appropriate size of reserve holdings is; against what yardstick should reserve adequacy be measured? The generally accepted rule of thumb that a country needs to hold reserve equivalent to short-term debt cover (i.e. debt that actually falls due over the year) is true only in the case where a country is running a current account balance and there are no other liabilities that are easily reversible (Fischer, 2001c). The optimal level of reserves depends on a number of factors such as degree of export diversification, size and variability of the current account imbalance and type of exchange rate regime operated (Bussiere and Mulder, 1999). A related issue pertains to the appropriate currency composition of reserves in terms of currency composition (Eichengreen and Mathieson, 2000). Steps have been taken to improve IMF's analytical framework for management of international reserves as well as to assess a country's external financial vulnerability in general (IMF, 2001c, Chapter 3).

connected to the capital account<sup>38</sup>. In this case, it is capital outflows that are part of the problem. Countries will be losing creditworthiness and their consequent access to private capital markets. Liquidity-based policies will instead need to be directed towards arresting the outflow of capital. In the midst of the crisis there is no guarantee that conventional wisdom relating to the capital account will apply. Thus raising the rate of interest may transmit a negative signal about the state of the economy and its future prospects and may lead to further capital outflows<sup>39</sup>. A fall in the value of the currency may enhance expectations of a further fall with a similar outcome.

Provision of external financing may, for these reasons, be seen by some as a “public good” and as being appropriately supplied by the IMF<sup>40</sup>. Fischer (2001a) has stressed the need for a multilateral response in the form of IMF lending to complement unilateral measures that countries may take towards liquidity enhancement so as to solve the first-mover problem, whereby no single creditor or investor is ready to extend the first offer of funds to a crisis economy<sup>41</sup>. As noted earlier, the IMF used to possess a quick-disbursing low conditionality lending window (the CFF) designed to provide liquidity in the event of trade-related current account deficits. However, the trend since the 1980s has been towards greater conditionality and this, almost by definition, reduces the speed with which liquidity may be disbursed. By the time a Fund program has been negotiated the internal dynamics of a crisis may be well established and therefore more difficult to break. Combined with the sheer size of capital movements as opposed to budget and trade deficits, the IMF may therefore be

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<sup>38</sup> In recognition of the urgent need to further study and understand the workings and dynamics of international capital markets and flows, the IMF recently established a new International Capital Markets Department. The former Managing Director of the IMF, Michel Camdessus, was perhaps among the first to emphasise capital account factors as being the drivers behind recent financial crises in emerging and developing countries in 1995 when he referred to the Mexican crisis of 1994-94 as “the first financial crisis of the twenty-first century” (see Buirra, 1999).

<sup>39</sup> There is a burgeoning literature on the interest rate impact on exchange rates and capital flows during a crisis period. For instance, see Furman and Stiglitz (1998).

<sup>40</sup> Of course, another alternative open to individual governments is private lines of credit with international banks. We discuss these in the next subsection.

<sup>41</sup> As Eichengreen (2001c) notes

In the climate of uncertainty that invariably surrounds a crisis, waiting has option value. Investors have an incentive to wait and see whether the commitment to reform is sustained instead of being first to provide new money. New money may increase the likelihood of success -- interest rates will come down, making it more likely that growth will resume -- but organizing the provision of those funds must surmount the free rider problem in which each investor prefers other investors to be the source of the additional liquidity (pp.24-5).

struggling to provide significant financial support, even though the absolute amount of lending to countries encountering capital account crises may put strains on the Fund's own resources.

One of the problems facing the Fund, which has constituted one component of the debate about a new international financial architecture, has been how to provide adequate liquidity to help forestall and, if needed, help deal with crises where there is reluctance to make concessions in terms of conditionality and reluctance to substantially increase the Fund's lending capacity. The Fund's response has been to create the Contingent Credit Line (CCL). The idea here was to establish a precautionary line of credit for countries that might be affected by contagion from a crisis, and to finance this from outside the Fund's quota-based resources by new arrangements to borrow (NAB). The negotiation of conditionality with potential users of the CCL would therefore take place before the country needed to draw on the Fund. However, no country has negotiated a CCL. Its weaknesses have been widely recognized and acknowledged and the facility has undergone some modifications in late 2000, including a reduction in the relatively high costs of borrowing from it and a review of the conditionality involved as part of obtaining the funding (Bird, 2001b, Fischer, 2001a, IMF, 2001b and Willett, 2001b).

However, this sort of "tinkering" fails to recognize a more fundamental drawback of such a scheme. Why should countries sacrifice sovereignty over national policy and subject themselves to strict conditionality when all they receive in return is an option on a drawing? Since, in many cases, countries fail to implement conditionality for one reason or another, a situation could arise where a country complies with a significant proportion of conditionality and yet is ineligible to draw in the event of experiencing contagion from a crisis. Of most concern though has been the possibility that by negotiating a CCL a country sends out a negative signal to private capital markets that it is vulnerable to a crisis. The range of *ex ante* conditionality may paint a bleak picture of what is wrong. This may have an adverse effect on capital flows and may contribute to causing the very crisis that the CCL is intended to help avoid. Moreover, there must remain some doubt about whether the facility would be adequately financed. Contagion from crisis has turned out to be more of a regional than a global

phenomenon<sup>42</sup>. And advanced economies may therefore remain reluctant to provide finance when they may perceive the CCL as conferring few benefits on them (Chang and Rajan, 2001).

This raises the question of whether the principle of subsidiarity suggests that a regional system of contingent credit lines should be established in similar vein to the bilateral swaps used to support pegged exchange rates during the Bretton Woods era. There are signs that this is the direction in which the Asian economies are moving.

### **5.3 Self-Help Mechanisms in Asia**

#### **5.3.1 Unilateral Liquidity Enhancing Policies**

As previously noted, to some extent economies in Asia have strengthened their international liquidity positions by replenishing and accumulating reserves as well as by lengthening the average maturity of their external indebtedness. This, along with the introduction of relatively greater flexibility in the exchange rate regimes, may have eased their vulnerability to the destabilizing effects of volatile capital flows<sup>43</sup>. However, it does not mean that liquidity in the region is now adequate to avoid future crises. Moreover, as the economies of the region continue to recover from the 1997-98 crisis, imports will rise and current account surpluses will tend to fall; the rate of accumulation of international reserves will therefore also decline. In any case, as noted earlier, beyond a certain point reserve accumulation is likely to be an inefficient way of creating liquidity. Since liquidity may only be needed in certain sets of circumstances, as in the event of sudden outflows of private capital, contingent credit lines may be a better way of trying to deal with the problem. Are there other ways in which contingent credit lines could be established outside the IMF?

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<sup>42</sup> For instance, in a recent study using a sample of 20 countries covering the periods of the 1982 Mexican debt crisis, the 1994-95 Tequila crisis and the 1997-98 Asian crisis, De Gregario and Valdes (1999) found contagion to be directly dependent on *geographical horizon*. Using a panel of annual data for 19 developing economies for the period 1977-93, Krueger et al (2000) concluded that a currency crisis in a *regional economy* raises the probability of a speculative attack on the domestic currency by about 8.5 percent points. All of this provides rationale for developing regionally based contingent credit facilities to buttress reserve holdings of individual countries so as to prevent sudden credit contraction due to a liquidity crisis.

<sup>43</sup> Of course, Malaysia is the exception, having introduced a system of capital controls along with a fixed peg to the US dollar.

Some emerging economies including Indonesia, Argentina, Mexico, and South Africa have recently arranged private lines of credit with international banks. However, there are a number of problems with such privately contracted credit lines (Rajan, 2002d). First, there may be high opportunity costs involved insofar as the individual countries have to commit certain assets/revenue streams as collateral. Second, calling on these lines of credit when needed could lead to a hike in the country's international risk premium. Third, while negotiating lines of credit with a country, the financial institutions could undermine the effectiveness of these commitments and their net exposures to that country via other channels (through various corporate risk management techniques). Foreign banks themselves could be a source of contagious transmission of crises. For instance, in response to a crisis in one country, multinational banks might attempt to liquidate positions in other regional economies to which they are exposed either to enhance overall liquidity or reduce (perceived) portfolio risks. Eichengreen (2001b) provides an illuminating discussion of the inefficacy of such private CCLs in the context of Argentina's recent experience<sup>44</sup>.

### **5.3.2 Monetary Cooperation**

Suffice it to note here that the regional dimension of the 1997-98 financial crisis as well as the perceived inadequacies of the IMF's response to it, has motivated East Asian economies to explore regionally based institutional alternatives. A sub-group of East Asian economies have taken some small but noteworthy steps towards enhancing regional financial stability and protecting themselves against externally induced shocks and liquidity crises. The establishment of the Manila Framework group (MFG), the ASEAN Surveillance Process (ASP) which is managed by the newly created ASEAN Surveillance Coordinating Unit (ASCU), as well as the recently formed Regional Economic Monitoring Unit (REMU) of the ADB, are all steps in the right direction. These initiatives have been discussed in some detail by Chang and Rajan (1999, 2001), Rajan (2000), Manzano (2001) and others, and will not be repeated here. While initiatives towards enhanced regional surveillance are important in their own right, they do not guarantee that capital account crises will be avoided. Access to international credit lines may still be required.

Against this background, and in recognition of the fact that financial stability has the characteristics of a regional public good, it is important to note that selected East Asian economies have recently agreed to create a network of bilateral currency swaps and repurchase agreements as a "firewall" against future financial crises. This has since come to be termed the Chiang Mai Initiative (CMI) following an agreement in Chiang-Mai, Thailand on May 6, 2000.

In broad terms, the CMI is aimed at providing countries facing the possibility of a liquidity shortage with additional short-term hard currencies. The CMI extends and expands upon the little known ASEAN Swap Arrangement (ASA) and encompasses all ASEAN countries as well as China,

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<sup>44</sup> The Argentine experience is revealing as it had often been held up to other emerging and developing countries

Japan and Korea (i.e. ASEAN Plus Three or APT). The ASA was established in the 1970s to provide short-term swap facilities to members facing temporary liquidity or balance of payments problems. In 1977, there were only five ASEAN signatories - Indonesia, Malaysia, Philippines, Singapore and Thailand - each contributing about US\$ 40 million. This facility was increased to US\$200 million in 1978. At the Fourth ASEAN Finance Ministers Meeting in Brunei Darussalam (March 24-45, 2000), the Ministers agreed to expand the ASA to include the remaining ASEAN members, Brunei Darussalam, Cambodia, Lao PDR, Myanmar and Vietnam. In keeping with this expansion, the ASA was enlarged to US\$ 1 billion with effect from November 17, 2000. There are also a series of repurchase agreements (repos) that allow ASEAN members with collateral such as US Treasury bills to swap them for hard currency (usually US dollars) and then repurchase them at a later date. The expanded ASA is to be made available for two years and is renewable upon mutual agreement of the members. Each member is allowed to draw a maximum of twice its commitment from the facility for a period of up to six months with the possibility of a further extension of not more than six months.

This expansion of the ASA is the first step in putting into effect the CMI, which envisages that hard currency lines of credit will be made available to members. In addition to the expansion of the ASA among Southeast Asian countries, the three ASEAN Dialogue partners (China, Japan and Korea) have simultaneously been in discussions aimed at establishing a bilateral swap arrangement (BSA) amongst themselves. Japan has recently signed BSAs totaling US\$6 billion with Malaysia, Thailand and Korea, and is planning to add ones with China and the Philippines. BSAs among other members of the APT are expected in the near future<sup>45</sup>. While the maximum amount of withdrawal under each of the BSAs will be determined by negotiations between the two countries concerned, in the spirit of regional partnership there is planned to be full coordination and consultation among all members when deciding on disbursements. While the basic idea behind the CMI is clear, the details still need to be clarified. Journalistic accounts suggest that 10 percent of the funds will be available automatically while the rest will be subject to IMF conditionality. Other details of the new swap

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as a poster child of how to establish good “investor relations” in the 1990s.

<sup>45</sup> While Singapore is a contributor to the ASA, it has announced its intention not to sign bilateral swap agreements under the Chiang Mai Initiative at this time.

arrangements, such as the type of collateral that may be required for hard currency loans, the interest rate to be charged, and the number of withdrawals that can be made, are not yet known. However, economic analysis helps to identify some broad principles that need to be incorporated in the initiative. First, the resources need to be capable of being disbursed quickly. Speed is of the essence in a crisis. Second, the credit lines need to be “sufficiently large” as to generate confidence in private capital markets and to repel speculative attacks, as well as involving sufficient countries to avoid potential problems of co-variance and to allow the pooling of risks. Nonetheless, it remains an open issue as to what is meant by “sufficiently large”, or as Jeanne and Wyplosz (2001) note, “how large is large”?<sup>46</sup> It is unclear as to whether the existing swaps are sufficient to tackle future capital reversals. Indeed, during the Asian crisis of 1997-98, the ASA was not even activated as the financing levels available through these channels were considered grossly insufficient in the face of the massive capital withdrawals experienced by the regional economies. It is for this reason that one component of monetary regionalism has been an expansion of the scheme to include capital-rich North Asian economies like Japan. Third, the rate of interest needs to be sufficiently high as to guard against moral hazard, i.e. an increased readiness of creditors and debtors to court risks<sup>47</sup>. Countries need to be discouraged from using such credit lines as a matter of course. Fourth, access to such liquidity needs to be separated from the detailed negotiation of conditionality which would prejudice quick dispersal;

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<sup>46</sup> In the final analysis, a referee notes the following:

To the extent that capital is free to move and speculators can short sale the domestic currency, the demand for foreign currency is virtually infinite. Would foreign central banks be willing to inflate their money supply without restrictions to prevent a neighbor country from experiencing a crisis? If historical experience is any guide, they would not. At the time of the 1992 ERM crisis, Germany could well have extended credit lines to France, the UK and Italy. It did not. Since no country would agree to an infinite reserve swap, there is a limit to the stabilizing properties of such a scheme. This suggests that swap lines are likely to be effective only in combination with some form of *ex post* capital controls.

In this regard, it is interesting to note that the IMF has been fairly supportive of such unilateral actions to restrain international financial flows. For instance, a recent IMF study has concluded that measures to limit the offshore trading of currencies “could be effective if they were comprehensive and effectively enforced, and were accompanied by consistent macroeconomic policies and structural reform” (Ishii et al., 2001, p.1). Following the lead of Singapore, Thailand and Indonesia, have taken measures to curb currency speculation via the imposition of quantitative restrictions on foreign currency flows.

<sup>47</sup> The need to charge “prohibitively high” interest rates is, of course, the classic rule for a lender of last resort proposed by Walter Bagehot. Park (2001a) also discusses the issue of appropriate interest rate for a regional financial facility. Willett (2001b) suggests that *ex ante* lending facilities should follow a policy of “time escalating interest rates”. Admittedly, this does not solve the moral hazard problem at the creditor or investor level. We thank a referee for pointing this out. The way to limit such investor moral hazard would be for the private sector to share in the burden of bailouts, i.e. “take a haircut”. We take this point up again in the latter part of this section.

links to IMF conditionality may be some cause of concern. However, given the part played in the East Asian crisis by weak domestic financial structures, inadequate prudential standards and supervision, there is a strong argument for making access to the credit lines associated with the CMI conditional upon compliance with some minimum set of financial standards. This would encourage countries to push ahead with reforms to their domestic financial systems.

A credible system of regional swaps based on these principles would have two key attractions. Not only would it enable participants to avoid the severe output losses that are associated with extreme shortages of liquidity but also, by creating confidence that such extreme shortages will not occur, the incidence of crises could be reduced. Of course, confidence would be undermined if the swap arrangements were used to try and defend disequilibrium real exchange rates and the CMI should not therefore be a mechanism for inappropriate currency pegging in the region. Again the history of bilateral swaps in the context of the Bretton Woods system demonstrates that they are an ineffective means of defending seriously misaligned currencies<sup>48</sup>.

Park (2001a) and Wang (2001) provide comprehensive descriptions of the CMI and offer useful suggestions on how it may be extended. We only note here that there are at least two further reasons to believe that regional arrangements to augment international liquidity have a comparative advantage over multilateral ones when it comes to the provision of contingent credit lines. First, regional credit lines would have more of the features of a credit union than the IMF possesses. All participants in them would be able to perceive circumstances in which they might themselves need to use the credit lines, and these vested interests ought to create a stronger motivation to make the system successful than might exist in the case of the IMF's CCL. Second, prudential and supervisory

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<sup>48</sup> We should note that the Asian and Pacific region does in fact already have an existing financial cooperative scheme in place in the form of the EMEAP or the Executives' Meeting of East Asia-Pacific Central Banks. The EMEAP is a cooperative organization comprising central banks and monetary authorities of eleven economies: Australia, China, Hong Kong, Indonesia, Japan, South Korea, Malaysia, New Zealand, the Philippines, Singapore and Thailand. Spurred on by the Tequila crisis of 1994-95, substantive steps towards monetary cooperation have been taken by the EMEAP. For instance, a number of member economies signed a series of bilateral repurchase (repo) agreements in 1995 and 1996. Hong Kong and Singapore also reached an agreement to intervene in foreign exchange markets on behalf of the Bank of Japan. These creditor regional economies also attempted to help defend the Thai baht for some period before the Bank of Thailand succumbed to the speculative pressures (Rajan, 2000). There does not appear to have been any discussion in policy circles on the nexus between the EMEAP scheme and the CMI.

standards might be more appropriately set at the regional level where special circumstances could be more easily identified and addressed.

Before proceeding, an important caveat is in order. The focus here has been on liquidity provision. Financial stability almost certainly requires complementary policies such as officially sanctioned standstills, collective action clauses, voluntary debt exchanges, along with a “constructive engagement” among creditors, debtors and regional and international financial institutions. As Willett (2001b) notes

It is true that the provision of a LOLR is not the only way to deal with a liquidity crisis. Payments stand stills and other forms of private sector involvement (PSI) are also possible. Indeed many international monetary experts believe that such measures are likely to be a part of any efficient reform of the international financial architecture. I agree with this analysis, but would emphasize that such measures are likely to be only a complement not a full substitute for a LOLR. Developments on PSI should of course influence the size of loans from a LOLR (p.12)<sup>49</sup>.

#### **5.4 Regionalism versus Multilateralism in the Architecture Debate**

If the Chiang-Mai initiative was to be built upon as a way of providing short-term liquidity at the regional level, a natural question is the extent to which this defines an agenda for an Asian Monetary Fund (AMF). A successful introduction of a network of regional swap arrangements in East Asia (possibly enlarged to encompass most of Asia as defined by the ADB over time) has been viewed by some observers as an important step towards the eventual creation of a full-fledged regional monetary facility (Ariff, 2001, Rowley, 2001 and Wang, 2001).

Although early proposals for an AMF, coming from the Japanese government in September 1997, were opposed strongly by the US and appeared to have been dropped, the proposal re-emerged at the East Asian Summit organized by the World Economic Forum in Singapore in October 1999. In November 1999, ASEAN ministers discussed the idea at an informal summit in the Philippines (Manila). A view that little progress has been achieved in reforming the international financial architecture has further re-ignited the debate about an AMF. The precise form that an AMF would take varies across the specific proposals. The original Japanese proposal envisaged its role as being

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<sup>49</sup> Indeed, referring to the CMI initiatives, a referee has also commented that “(w)ithout standstill or bond covenants, it is difficult to see how this proposal could improve financial stability”. Similarly Eichengreen

one of making available a pool of funds that would be disbursed quickly to provide emergency balance of payments support to countries in crisis. A related proposal by Malaysian Prime Minister, Mahathir Mohamad, envisages a wider role. Here an AMF would be a:

a small compact wholly regional funding organisation which would be deeply and constantly engaged in East Asian monetary co-operation and problems on a daily basis<sup>50</sup>.

The IMF's new Managing Director, Horst Kohler, has expressed support for regional initiatives as long as they do not compete with the IMF (Kohler, 2001).

So would a new Asian financial architecture based perhaps on an Asian Monetary Fund threaten or facilitate international financial stability? Would regional reform be a stepping-stone or a stumbling bloc to international monetary reform? It could be a stumbling bloc if loans from the AMF carried conditionality that was inconsistent with that coming from the IMF. Moreover, the attitude amongst advanced economies that Asia is looking after its own problems could reduce the urgency with which reform at the international level is pursued. It is therefore important to identify the comparative advantages of regional and international financial institutions and the division of labor between them.

Boughton (1997) has reminded us that “although the intention was that the availability of the Fund’s resources should prevent countries from experiencing financial crisis, in practice, the institution has often found itself helping its members cope with crises after they occur” (p.3). Reforms that allow the Fund to bolster significantly its lending capacity via quota increases or direct borrowing from private capital markets may be unlikely (Bird and Rowlands, 2001). Monetary and financial regionalism, as discussed in this paper, could help the IMF fulfill its stated aim; it is consistent with the principle of “subsidiarity”. Why choose to deal with a problem at the global level when it can be handled adequately and perhaps more effectively at the regional level? Just as multilateral trade liberalization and multilateral trade institutions have been joined by an increasing array of regional trading arrangements, regional financial crises may be better handled by regional arrangements. To the extent that regional arrangements may help reinvigorate interests in strengthening the international

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(2001b) and the IMF (2001b) discuss the role of the private sector in resolving financial crises in some detail (also see other references on the issue cited in Willett, 2001b, p.12).

financial architecture, they could act as “stepping stones” towards multilateral reforms (Park, 2001a makes a similar argument). Regional arrangements ought to promote greater commitment to and national ownership of programs and conditionality, a point that is universally recognized as being of significant importance.

Things could be organized along the following lines. On the basis of work done by the Basel Committee, an AMF could stipulate financial standards appropriate in an Asian context. Asian countries could commit themselves to achieve these standards over a specified time frame. Being on course in terms of meeting them could then be a precondition for financial support from the AMF in the event of contagion from a regional crisis. Loans from the AMF would carry nothing equivalent to IMF conditionality and would be available only on a short-term basis, and at a high interest rate to help deal with potential moral hazard problems. The very existence of additional short-term liquidity could reduce the incidence of speculation and crisis. Countries with fundamental and longer-term economic problems would still have to turn to the IMF, where they would be exposed to IMF conditionality. By providing an extra incentive for members to reform their domestic financial systems, a process, as noted earlier, that may yet not have gone far enough, the AMF could help to prevent future crises. By providing an additional source of short-term liquidity it could take financial pressure off the IMF during crisis periods. The IMF would continue to stand ready to assist economies where regional arrangements failed to resolve problems, but, in this event, it might be more reasonable to assume that these problems were not exclusively to do with shortages of liquidity, and this would raise the credibility of IMF conditionality. Elaborating on the issue, Park (2001a) notes:

There is also the argument that regional financial management could be structured and managed to be complementary to the role of the IMF. For example, an East Asian regional fund could provide additional resources to the IMF while joining forces to work on matters related to the prevention and management of financial crises. An East Asian monetary fund could also support the work of the IMF by monitoring economic developments in the region and taking part in the IMF’s global surveillance activities. The East Asian monetary fund could also be designed initially as a regional lender of the last resort while the IMF assumes the role of prescribing macroeconomic policies to the member countries of the East Asian monetary fund (P.6).

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<sup>50</sup> See the World Economic Forum [Press Release](#) (October 19, 1999).

Beyond cooperation in surveillance, the AMF could work closely with the IMF to develop mechanisms appropriate for Asia to involve the private-sector involvement in crisis resolution and promote “constructive engagement” and constant dialogue among creditors and debtors (see fns 48 and 51). In this way an AMF could contribute to enhanced international financial stability.

## **6. Concluding Remarks**

Although the debate about it was launched beforehand, much of the pressure for a new international financial architecture came about as a consequence of the East Asian crisis in 1997-98. Progress has been slow, piecemeal and largely cosmetic. Contagion from the crisis was regionally contained and this has reduced the motivation for reform at the global level. With the debate winding down, the chances of deep and meaningful reform are low. However, within the Asian region things may be different. It is the Asian economies that have experienced the ongoing costs of crisis and contagion. Moreover, Japan, the dominant regional power, remains trapped in the economic doldrums. Therefore, there is more motivation for reform at the regional level.

Whilst dollarization may be inappropriate for Asian economies and talk of a regional currency union along European lines is at the very least premature, there is certainly scope for closer regional financial co-operation. If a new international financial architecture is unlikely, there is a better chance for a reformed Asian financial architecture. This could comprise the co-ordination of reforms to domestic financial systems, exchange rate policy and short-term contingency lending. An Asian Monetary Fund could provide an organizational framework within which co-operation could be orchestrated.

Far from prejudicing international reform, which as noted has a low probability of success anyhow, and competing with the IMF, a reformed Asian financial architecture could make a positive contribution to enhanced global financial stability. It could help clarify the role of the IMF, reduce the resource constraints that the Fund sometimes encounters, reduce the need for the IMF to provide contingency credit lines - an area where it has been unsuccessful and is likely to remain so - and ameliorate the criticism that the IMF has opted for excessive conditionality, responding to liquidity crises by requiring substantial adjustment. The historical evidence is that as countries develop they

eventually graduate away from the IMF. This has happened to the US and to the members of the European Union, even to the less rich ones. It may be that in the foreseeable future the move towards greater financial self-reliance in Asia is a fairly natural evolution that should be actively encouraged by the global community.

## Bibliography

Adler, M. (1996). "Exchange Rate Planning for International Trading Firm", in Y. Amihud and R. Levich (eds.), *Exchange Rates and Corporate Performance*, New York: Irwin Professional Publishing.

Ariff, M. (2001). "The Asian Monetary Fund: Is East Asia Ready?", paper presented at MIER National Economic Outlook 2002 Conference (Kuala Lumpur, November 6-7).

Asian Development Bank (ADB) (2000). *Asian Development Outlook 2000*, Manila: Oxford University Press.

Asia Recovery Information Centre (ARIC) (2000). *Asia Recovery Report 2000* (October). Available on [www.aric.org](http://www.aric.org).

Asia Recovery Information Centre (ARIC) (2001a). *Asia Recovery Report 2001* (March). Available on [www.aric.org](http://www.aric.org).

Asia Recovery Information Centre (ARIC) (2001b). *Asia Recovery Report 2001: Update* (June). Available on [www.aric.org](http://www.aric.org).

Athukorala, P. (2001). *Crisis and Recovery in Malaysia: The Role of Capital Control*, Cheltenham, UK: Edward Elgar.

Berg, A. and E. Borensztein (2000). "The Pros and Cons of Full Dollarization" *Working Paper No.00/50*, IMF.

Bird, G. (2001a). "Is Dollarization a Viable Option for Latin America?", *World Economics*, 2, pp.137-47.

Bird, G. (2001b). "Restructuring the IMF's Lending Facilities", *mimeographed*.

Bird, G. (2002). "Where Do We Stand On Choosing Exchange Rate Regimes in Developing and Emerging Economies?", *World Economics*, forthcoming.

Bird, G. and R. Rajan (2000a). "All at SEA: Exchange Rate Policy in Developing Countries after Nominal Anchors", mimeo (August).

Bird, R. and R. Rajan (2000b). "Is there a Case for an Asian Monetary Fund?", *World Economics*, 1, pp.135-43.

Bird, G. and R. Rajan (2000c). "Recovery or Recession: Post Devaluation Performance in Thailand", *Discussion Paper No.00/43*, Centre for International Economic Studies, University of Adelaide.

Bird, G. and R. Rajan (2001a). "Cashing In On and Coping With Capital Volatility", *Journal of International Development*, 13, pp.1-23.

Bird, G. and R. Rajan (2001b). "International Currency Taxation and Currency Stabilisation in Developing Countries", *Journal of Development Studies*, 37, pp.21-38.

Bird, G. and R. Rajan (2001c). "Banks, Financial Liberalisation and Financial Crises in Emerging Markets", *The World Economy*, 24, pp.889-910.

Bird, G. and D. Rowlands (2001). "Catalysis or Direct Borrowing: The Role of the IMF in Mobilising Private Capital", *The World Economy* 24, pp.81-98.

Boorman, J., L. Timothy, M. Schulze-Ghattas, Bulir, A., Ghosh, A., J. Hamann, A. Mourmouras and

- S. Phillips (2000). "Managing Financial Crises - The Experience in East Asia", Working Paper No.00/107, IMF.
- Boughton, J. (1997). "From Suez to Tequila: The Fund as Crisis Manager", Working Paper No.97/90, IMF.
- Buira, A. (1999). "An Alternative Approach to Financial Crises", Essays in International Finance No.212, International Economics Section, Princeton University.
- Bussiere, M. and C. Mulder (1999). "External Vulnerability in Emerging Market Economies: How High Liquidity Can Offset Weak Fundamentals and the Effects of Contagion", Working Paper No.99/88, IMF.
- Calvo, G. (1999). "Fixed Versus Flexible Exchange Rates: Preliminaries of a Turn-of-Millennium Rematch", mimeo (May).
- Calvo, G. and C. Reinhart (2000a). "Fixing for Your Life", in S. Collins and R. Rodrik (eds.), Brookings Trade Forum 2000: Policy Challenges in the Next Millennium, Washington, DC: Brookings Institution.
- Calvo, G. and C. Reinhart (2000b), "Fear of Floating", Working Paper No. 7993, NBER.
- Chang, L.L. and R. Rajan (1999). "East Asian Cooperation in Light of the Regional Crises: A Case of Self-Help or No-Help?", Australian Journal of International Affairs, 53, pp.261-81.
- Chang, L.L. and R. Rajan (2001). "The Economics and Politics of Monetary Regionalism in Asia", ASEAN Economic Bulletin, 18, pp.103-18.
- Chang, R. and A. Velasco (1998). "The Asian Liquidity Crisis", Working Paper No.6796, NBER.
- Claessens, S., A. Demirguc-Kunt and H. Huizinga (1999). "How does Foreign Entry Affect the Domestic Banking Market?", Working Paper No.1918, World Bank.
- Claessens, S., S. Djankov and D. Klingbiel (2000). "Financial Restructuring in East Asia: Halfway There?", Financial Sector Discussion Paper No.3, World Bank.
- Claessens, S. and T. Glaessner (1998). "Internationalization of Financial Services in Asia," Policy Research Working Paper 1911, World Bank.
- Corbo, V. and V. Cox (1995). "Exchange Rate Volatility, Investment and Growth: Some New Evidence", in W. Gruben, D. Gould and C. Zarazaga (eds.), Exchange Rates, Capital Flows, and Monetary Policy in a Changing World Economy, Boston: Kluwer Academic Press.
- Council on Foreign Relations (1999). Safeguarding Prosperity in a Global Financial System: The Future International Financial Architecture, Washington, DC: Institute for International Economics.
- Culp, C., S. Hanke and M. Miller (1999). "The Case for an Indonesian Currency Board", Journal of Applied Corporate Finance, 11, pp.57-65.
- Dadush, U., D. Dasgupta and D. Ratha (2000). "The Role of Short-term Debt in Recent Crises", Finance and Development, 37, pp.54-7.
- De Gregario, J. and R. Valdes (1999). "Crisis Transmission: Evidence from the Debt, Tequila, and Asian Flu Crises", mimeo (October).

- Disyatat, P. (2001). "Currency Crises and Foreign Reserves-A Simple Model", Working Paper No.01/18, IMF.
- Edwards, S. (1993). "Exchange Rates and Nominal Anchors", Welwirtschaftliches Archiv, 129, pp.1-32.
- Eichengreen, B. (2000). "When to Dollarize", Journal of Money, Credit and Banking, forthcoming.
- Eichengreen, B. (2001a). "Can Emerging Markets Float? Should they Inflation Target?", mimeo (April).
- Eichengreen, B. (2001b). "Crisis Prevention and Management: Any New Lessons from Argentina and Turkey?", mimeo (October).
- Eichengreen, B. and H. James (2001). "Monetary and Financial Reform in Two Eras of Globalization (and in Between)", mimeo (April).
- Eichengreen, B. and A. Rose (2001). "To Defend or Not to Defend? That is the Question", mimeo (February).
- Eichengreen, B. and T. Bayoumi (1999a). "Is Asia an Optimum Currency Area?, Can it Become One? Regional, Global and Historical Perspectives on Asian Monetary Relations", in S. Collignon and J. Pisani-Ferri (eds.), Exchange Rate Policies in Asian Emerging Countries, London: Routledge Press.
- Eichengreen, B. and T. Bayoumi (1999b), "On Regional Monetary Arrangements for ASEAN", paper presented at an International Conference on Exchange Rate Regimes in Emerging Market Economies, (December 17-18, Tokyo).
- Eichengreen, B. and D. Mathieson (2000). "The Currency Composition of Foreign Exchange Reserves: Retrospect and Prospect", Working Paper No.00/131, IMF
- Felix, D. (1996). "Financial Globalization Versus Free Trade: The Case for the Tobin Tax", UNCTAD Review 1996, pp. 63-104.
- Felix, D. and R. Sau (1996). "On the Revenue Potential and Phasing In of the Tobin Tax" in M. ul Haq, I. Kaul and I. Grunberg (eds.) (1996), The Tobin Tax: Coping with Financial Viability, Oxford: Oxford University Press
- Fischer, S. (2001a). "Reducing Vulnerabilities: The Role of the Contingent Credit Line", paper presented at the Inter-American Development Bank (Washington, DC, April 25).
- Fischer, S. (2001b). "Opening Remarks", IMF/World Bank International Reserves: Policy Issues Forum (Washington, DC, April 28).
- Frankel, J. (1999). "The International Financial Architecture", Policy Brief 51, Brookings Institution.
- Frankel, J. and A. Rose (1998). "The Endogeneity of the Optimum Currency Area Criteria", Economic Journal, 108, pp.1009-25.
- Frankel, J. and A. Rose (2001). "An Estimate of the Effect of Common Currencies on Trade and Income", mimeo (April).
- Frankel, J., S. Schumkler and L. Serven (2000). "Verifiability and the Vanishing Intermediate Exchange Rate Regime", in S. Collins and R. Rodrik (eds.), Brookings Trade Forum 2000: Policy Challenges in the Next Millennium, Washington, DC: Brookings Institution.

Frankel, J. and S. Wei (1994). "Yen Bloc or Dollar Bloc?: Exchange Rate Policies of the East Asian Countries", in T. Ito and A. Krueger (eds.), Macroeconomic Linkage: Savings, Exchange Rates, and Capital Flows, Chicago: University of Chicago Press.

Friberg, R. (1996). "Exchange Rate Uncertainty and the Microeconomic Benefits of EMU", Working Paper No. 127, The Economic Research Institute, Stockholm School of Economics.

Furman, J. and J. Stiglitz (1998). "Economic Crises: Evidence and Insights from East Asia", Brookings Papers on Economic Activity, 2, pp.1-114.

Gavin, M. and R. Perotti (1997). "Fiscal Policy in Latin America", NBER Macroeconomics Annual, 12, 11-71.

Ghosh, A., A. Gulde, J. Ostry and H. Wolf (1995). "Does the Nominal Exchange Rate Regime Matter?", Working Paper No. 95/121, IMF.

Glick, R., M. Hutchison and R. Moreno (1999). "Is Pegging the Exchange Rate a Cure for Inflation?", in T. Willett (ed.), Exchange-Rate Policies for Emerging Market Economies, Boulder, CO: Westview Press.

Glick, R. and A. Rose (2001). "Does a Currency Union Affect Trade?: The Time Series Evidence", Working Paper No.8396, NBER.

Goodhart, C. (1995). "The Political Economy of Monetary Union", in P. Kenen (ed.), Understanding Interdependence: The Macroeconomics of the Open Economy, Princeton: Princeton University Press.

Haque, N., M. Kumar, M. Nelson and D. Mathieson (1996). "The Economic Content of Indicators of Developing Country Creditworthiness", IMF Staff Papers, December 1996.

Hausmann, R. (1999). "Currencies: Should there be Five or One Hundred and Five", Foreign Policy, 116, pp.65-79.

Hausmann, R., U. Panizza and E. Stein (2000). "Why do Countries Float the Way they Float?", Working Paper No. 418, Inter-American Development Bank.

Hernandez, L. and P. Montiel (2001). "Post-Crisis Exchange Rate Policy in Five Asian Countries: Filling in the 'Hollow Middle'?", Working Paper No.01/170, IMF.

Honohan, P. and D. Klingebiel (2000). "Controlling Fiscal Costs of Banking Crises", Policy Research Working Paper No.2441, World Bank.

Huizinga, J. (1994). "Exchange Rate Volatility, Uncertainty, and Investment: An Empirical Investigation", in C. Leiderman and A. Razin (eds.), Capital Mobility: The Impact on Consumption, Investment and Growth, Cambridge: Cambridge University Press.

International Financial Institution Advisory Commission (2000). Report of the International Financial Institution Advisory Commission (the Meltzer Report), Washington DC.

International Monetary Fund (1997). World Economic Outlook, Washington, DC: IMF.

IMF (1998). IMF Annual Report 1998, Washington, DC: IMF.

IMF (1999). International Capital Markets: Development, Prospects and Key Policy Issues, Washington, DC: IMF (September).

- IMF (2000). World Economic Outlook 2000, Washington, DC: IMF (May).
- IMF (2001a). “Reforming the International Financial Architecture”, Issues Brief 01/01, IMF (March 9).
- IMF (2001b). “Resolving and Preventing Financial Crises: The Role of the Private Sector”, Issues Brief 01/02, IMF (March 26).
- IMF (2001c). Annual Report 2001, Washington, DC: IMF (September).
- Ishii, S., I. Otker-Obe and L. Cui (2001). “Measures to Limit the Offshore Use of Currencies - Pros and Cons”, Working Paper No.01/43, IMF.
- Jeanne, O. (2000). “Foreign Currency Debt and the Global Financial Architecture”, European Economic Review, 44, pp.719-27.
- Jeanne, O. and C. Wyplosz (2001). “The International Lender of Last Resort: How Large is Large Enough?”, Working Paper No.01/76, IMF.
- Kaplan, E. and D. Rodrik (2001). “Did the Malaysian Capital Controls Work?” Working Paper No. 8142, NBER.
- Kawaii, M. (2001). “Bank and Corporate Restructuring in Crisis-Affected East Asia: From Systematic Collapse to Reconstruction”, in G. de Brouwer (ed.), Financial Markets and Policies in East Asia, Routledge, forthcoming.
- Kenen, P. (2000). “Currency Areas, Policy Domains, and the Institutionalization of Fixed Exchange Rates”, mimeo (April).
- Kenen, P. (2001). The International Financial Architecture: What's New? What's Missing?, Institute for International Economics: Washington, DC
- Kim, T.J. and J.W. Ryou (2001). “The Optimal Currency Basket and the Currency Bloc in Asia”, Bank of Korea Economic Papers, 4, 194-216.
- Klingebiel, D. (1999). “The Use of Asset Management Companies in the Resolution of Banking Crises: Cross-Country Experiences”, mimeo, (February).
- Kohler, H. (2001). “New Challenges for Exchange Rate Policy”, paper presented at the Asia-Europe Meeting of Finance Ministers (Kobe, Japan, January 13).
- Krueger, M., P. Osakwe and J. Page (2000). “Fundamentals, Contagion and Currency Crises: An Empirical Analysis”, Development Policy Review, 18, pp.257-74.
- Krugman, P. (1999). “Balance Sheets, The Transfer Problem, and Financial Crisis”, in P. Isard, A. Razin and A. Rose (eds.), International Finance and Financial Crises, Essays in Honor of Robert P. Flood, Kluwer: Dordrecht.
- Kwan, C. (1995). Enken no Keizaigaku (The Economics of the Yen Bloc), Tokyo: Nihon Keiza Shinbunsha (in Japanese).
- Lane, T., A. Ghosh, J. Hamann, S. Phillips, M. Schultze-Ghattas and T. Tsikata (1999). “IMF-Supported Programs in Indonesia, Korea, and Thailand: A Preliminary Assessment”, Occasional Paper 178, IMF.

- Lane, T. and S. Phillips (2000). "Does IMF Financing Result in Moral Hazard?", Working Paper No.186, IMF.
- Levine, R. (1996). "Foreign Banks, Financial Development, and Economic Growth," in C. Barfield (ed.), International Financial Markets: Harmonization Versus Competition, Washington, DC: AEI Press.
- Lindgren, C. T. Balino, C. Enoch, A. Gulde, M. Quintyn and L. Teo (1999). Financial Sector Crisis and Restructuring: Lessons from Asia, Washington, DC: IMF.
- Manzano, G. (2001). "Is there Any Value-added in the ASEAN Surveillance Process?", ASEAN Economic Bulletin, 18, pp.94-102.
- Mattoo, A. (2000). "Financial Services and the WTO: Liberalisation Commitments of the Developing and Transition Economies", The World Economy, 23, pp.351-86.
- McKenzie, M. (1999). "The Impact of Exchange Rate Volatility on International Trade Flows", Journal of Economic Surveys, 13, pp.71-103.
- McKinnon, R. (2001). "The East Asian Dollar Standard, Life After Death", Economic Notes, pp.31-82.
- McLean, B. and S. Shrestha (2001), 'International Borrowing in Domestic Currency: What Does it Take?', Research Discussion Paper, Reserve Bank of Australia.
- Min, H. and J. McDonald (1999). "Does a Thin Foreign-Exchange Market Lead to Destabilizing Capital-Market Speculations in the Asian Crisis Countries?", Policy Research Working Paper No.2056, World Bank.
- Mishkin, F. (2000). "Prudential Supervision: Why Is It Important and What are the Issues?", Working Paper No.7926, NBER.
- Montiel, P. (1999). "Policy Responses to Volatile Capital Flows", mimeo (March).
- Montreevat, S. and R. Rajan (2001). "Banking Crisis, Restructuring and Liberalization in Emerging Economies: A Case Study of Thailand", CIES Discussion Paper No.0131, Centre for International Economic Studies, University of Adelaide.
- Mussa, M., P. Masson, A. Swoboda, E. Jadresic, P. Mauro and A. Berg (2000). Exchange Rate Regimes in an Increasingly Integrated World Economy, Washington, DC: IMF.
- Nilsson, K. and L. Nilsson (2000). "Exchange Rate Regimes and Export Performance of Developing Countries", The World Economy, 23, pp.331-49.
- Park Y.C.. (2001a). "Beyond the Chiang Mai Initiative: Rationale and Need for a Regional Monetary Arrangement in East Asia", mimeo (June).
- Park, Y.C. (2001b). "The East Asian Dilemma: Restructuring Out or Growing Out?", Essays in International Economics No. 223, Princeton University (August).
- Rajan, R. (2000). "Financial and Macroeconomic Cooperation in ASEAN: Issues and Policy Initiatives", in M. Than (ed.), ASEAN Beyond the Regional Crisis: Challenges and Initiatives, Institute of Southeast Asian Studies: Singapore.

- Rajan, R. (2001). “(Ir)relevance of Currency Crises Theory to the Devaluation and Collapse of the Thai Baht”, Princeton Studies in International Economics No.88, International Economics Section, Princeton University (February).
- Rajan, R. (2002a). “Safeguarding against Capital Account Crises: Unilateral, Regional and Multilateral Options for East Asia”, in G. de Brouwer (ed.), Financial Arrangements in East Asia, London: Routledge, forthcoming.
- Rajan, R. (2002b). “Exchange Rate Policy Options for Post-Crisis Southeast Asia: Is There a Case for Currency Baskets?”, The World Economy, forthcoming.
- Rajan, R. and G. Bird (2001). “Still the Weakest Link: The Domestic Financial System and Post-Crisis Recovery in East Asia”, Development Policy Review, 19, pp.355-66.
- Rajan, R., R. Sen and R. Siregar (2002). “Hong Kong, Singapore and the East Asian Crisis: How Important were Trade Spillovers?”, The World Economy, forthcoming.
- Rajan, R. and C.H. Shen (2001). “Are Crisis-Induced Devaluations Contractionary?”, CIES Discussion Paper No.0135, Centre for International Economic Studies, University of Adelaide.
- Rajan, R. and R. Siregar (2000). “The Vanishing Intermediate Regime and the Tale of Two Cities: Singapore versus Hong Kong”, Discussion Paper No.00/31, Centre for International Economic Studies, University of Adelaide.
- Rajan, R. and R. Siregar (2001). “Private Capital Flows in East Asia: Boom, Bust and Beyond”, in G. de Brouwer (ed.), Financial Markets and Policies in East Asia, Routledge, forthcoming.
- Rajan, R., R. Siregar and I. Sugema (2001). “Capital Flows and the Credit Transmission Channel in Southeast Asia”, mimeo (August).
- Rockoff, H. (2000). “How Long Did it Take the United States to Become an Optimal Currency Area?”, Historical Paper No.124, NBER.
- Rodrik, D. and A. Velasco (1999). “Short-Term Capital Flows”, Working Paper No.7364, NBER
- Rowley, A. (2001). “ASEAN + 3 Group Boosts Currency Defences”, Business Times, Singapore (May 11).
- Serven, L. (1997). “Uncertainty, Instability, Irreversible Investment: Theory, Evidence, and Lessons from Africa”, Policy Research Working Paper No. 1722, World Bank.
- Spiegel, M. (1998). “A Currency Board for Indonesia?”, Economic Letter 98-09, Federal Reserve Bank of San Francisco (March).
- Tornell, A. and A. Velasco (2000). “Fixed Versus Flexible Rates: which Provides More Fiscal Discipline?”, Journal of Monetary Economics, 45, 399-436.
- Wang, Y. (2001). “Instruments and Techniques for Financial Cooperation”, in G. de Brouwer (ed.), Financial Arrangements in East Asia, London: Routledge, forthcoming.
- Wei, S. (1999). “Currency Hedging and Goods Trade”, European Economic Review, 43, pp.1371-94.
- Willett, T. (1986). “Exchange Rate Volatility, International Trade, and Resource Allocation: Perspective on Recent Research”, Journal of International Money and Finance, 5, pp.s101-s112.

Willett, T. (2001a). "Truth in Advertising and the Great Dollarization Scam", Journal of Policy Modeling, 23, pp.279-89.

Willett, T. (2001b). "Restructuring IMF Facilities to Separate Lender of Last Resort and Conditionality Programs: The Meltzer Commission Recommendations as Complements rather than Substitutes", Working Papers in Economics No.28, Claremont Colleges, California.

Williamson, J. (1999a). "Crawling Band or Monitoring Bands: How to Manage Exchange Rates in a World of Capital Mobility", Policy Brief No.99-3, Institute for International Economics.

Williamson, J. (1999b). "The Case for a Common Basket Peg for East Asian Currencies", in S. Collignon and J. Pisani-Ferri (eds.), Exchange Rate Policies in Asian Emerging Countries, London: Routledge Press.

World Bank (1999). Global Development Finance 1999, New York: Oxford University Press.

World Bank (2000a). East Asia Recovery and Beyond, New York: Oxford University Press.

World Bank (2000b). Global Development Finance 2000, New York: Oxford University Press.

**Table 1**  
**Components Constituting Reform of the International Financial Architecture**

I.	<u><i>Detecting and Monitoring External Vulnerability</i></u> : While good macroeconomic policies and adequate foreign reserves remain the key to reducing vulnerability, work has concentrated on improving IMF surveillance of policies, and on tools to help countries better assess the risks they face.
II.	<u><i>Strengthening Financial Systems</i></u> : Financial regulators need to upgrade supervision of banks and other financial institutions to keep up with the modern global economy and ensure that risk management and other practices keep institutions from getting into difficulties.
III.	<u><i>International Standards and Codes</i></u> : Adherence to international standards and codes of good practices helps ensure that economies function well at the national level, which is a key prerequisite for a well-functioning international system.
IV.	<u><i>Capital Account Issues</i></u> : Architecture reform aims to help countries benefit from international capital flows, an important element of which is helping them open to such flows in ways that avoid risks and emphasise careful preparation.
VI.	<u><i>Sustainable Exchange Rate Regimes</i></u> : Financial crises have often been marked by inconsistencies between the exchange rate regime and other economic policies. The IMF is advising countries to choose a regime that fits its needs, especially in light of the risks of pegged exchange rates for countries open to international capital flows.
VII.	<u><i>Involving the Private Sector in Forestalling and Resolving Crises</i></u> : Better involvement of the private sector in crisis prevention and management can limit moral hazard, strengthen market discipline by fostering better risk assessment, and improve the prospects for both debtors and creditors.
VIII.	<u><i>Reform of IMF Financial Facilities and Related Issues</i></u> : The IMF is implementing important changes to help focus its lending on crisis prevention and to ensure more effective use of IMF funds.
IX.	<u><i>Measures to Increase Transparency</i></u> : Measures are being taken to make available timely, reliable data, plus information about economic policies and practices, to inform both policymakers and market participants, and to reduce the risk of crisis.

Source: Excerpted from IMF (2001a, p.1)

**Table 2**  
**Summary of Measures to Deal with the Financial Crisis in East Asia**

Measures	Indonesia	Korea	Malaysia	Philippines	Thailand
<b>Containment Measures</b>					
Liquidity support	Yes	Yes	Yes	Yes	Yes
Introduction of a blanket guarantee	Yes	Yes	Yes	No	Yes
<b>Institutional measures</b>					
Establishment of an over-arching restructuring authority	Yes	Yes	Yes <sup>a</sup>	No	No
Establishment of a separate bank restructuring authority	Yes	No	Yes	No	No
Establishment of a centralized asset management corporation	Yes	Yes <sup>b</sup>	Yes	No	No <sup>c</sup>
Adoption of a special corporate debt restructuring framework	Yes	Yes	Yes	No	Yes
Operational autonomy of restructuring Agencies	Limited	Yes	Yes	n.a.	n.a.
<b>Restructuring measures</b>					
Intervention in financial institutions that were weak or insolvent. This would include:	Yes	Yes	Yes	Yes	Yes
- Mergers of weak institutions	Yes <sup>d</sup>	Yes	Yes	Yes	Yes <sup>d</sup>
- Closure of insolvent institutions	Yes	Yes	No	Yes	Yes
Use of public funds to purchase nonperforming assets	Yes	Yes	Yes	No	No
Use of public funds to recapitalize institutions including:	Yes	Yes	Yes	No	Yes
- State intervention in banks	Yes	Yes	Yes	No	Yes
Elimination or dilution of current shareholder stakes of insolvent banks	Yes	Yes	Yes	Yes	Yes
<b>Other measures</b>					
Measures to encourage corporate restructuring	Yes	Yes	Yes	Yes	Yes
Steps to improve prudential supervision and regulation	Yes	Yes	Yes	Yes	Yes

Notes: a) Steering committee chaired by the central banks; b) the powers of pre-existing AMC were substantially increased; c) the FRA was established to illiquidate 56 closed finance companies, and the AMC to deal with residual FRA assets; d) between government owned intervened institutions

Sources: Lindgren et al. (1999)

**Table 3**  
**Nonperforming Loan Ratios and Fiscal Costs of Restructuring in East Asia, 1997-99**  
 (percent)

	Share of NPLs to Total Loans official estimate			Share of NPLs to Total Loans unofficial estimate	Fiscal costs of Restructuring as share of GDP
	End 1997	End 1998	September 1999	Peak Level	
Indonesia	n.a.	n.a.	n.a.	60 - 85	58
Korea	n.a.	7.6	6.6	20 - 30	16
Malaysia	n.a.	18.9	17.8	20 - 30	10
Philippines	5.4	11.0	13.4	15 - 25	n.a.
Thailand	19.8	45.0	44.7	50 - 70	32

Notes: NPLs are measured on a three-month basis; and the unofficial estimate includes assets carved out for sale by the  
AMCs

Source: ADB (2000)

Table 4  
Progress with Corporate Restructuring in East Asia,  
Third Quarter 1999

<i>Out-of-court procedures</i>	Indonesia	Malaysia	Korea	Thailand
All or the majority of financial institutions signed on to accord	No	Yes	Yes	Yes
Formal process of arbitration exists, with deadlines	No	Yes	No	Yes
Provision of penalties for noncompliance	No	No	Yes	Yes
<i>Out-of-court restructurings</i>				
Number of registered cases	234	53	92	825
Number of cases started	157	27	83	430
Number of restructured cases	22	10	46	167
Percentage of restructured debt in total debt	13	32	40	22
<i>In-court restructurings</i>				
Number of registered cases	88	52	48	30
Number of cases started	78	34	27	22
Number of restructured cases	8	12	19	8
Percentage of restructured debt in total debt	4	..	8	7

.. Not available

Notes: a) In Thailand, penalties for noncompliance were introduced in August 1999 for creditors who had signed intercreditor agreements  
Source: Claessens, et al. (2000)

**Table 5**  
**Currency Weights of Selected East Asian Economies, 1979-1996**

Currency	Frankel and Wei (1994) <sup>a</sup>		Kwan (1995) <sup>b</sup>		Kim and Ryou (2001) <sup>c</sup>	
	US dollar	Japanese yen	US dollar	Japanese yen	US dollar	Japanese yen
Indonesian rupiah	0.95	0.16	0.99	0.00	0.97	0.01
Malaysian ringgit	0.78	0.07	0.84	0.04	0.87	0.08
Philippine peso	1.07	-0.01	1.15	-0.24	1.07	0.04
Singapore dollar	0.75	0.13	0.64	0.11	0.68	0.13
Thai baht	0.91	0.05	0.82	0.11	0.82	0.11
Simple Average	0.89	0.08	0.88	0.00	0.88	0.07

Notes: a) Based on weekly movements for the period January 1979 to May 1992  
b) Based on weekly movements for the period January 1991 to May 1995  
c) Based on 1990-96 period

**Table 6**  
**East Asian Exchange Rates Statistics, 1990-96**

	Domestic Currency Per US dollar in 1990		Domestic Currency Per US dollar in 1996		Exchange Rate Variability (1990-96) <sup>a</sup>	
	End of Period	Period Average	End of Period	Period Average	End of Period	Period Average
Indonesia	1901.0	1842.8	2383.0	2342.3	18.94	18.78
Malaysia	2.7105	2.7049	2.5290	2.5159	0.00	0.00
Philippines	28.000	24.311	26.288	26.216	0.13	0.13
Thailand	25.520	25.114	25.610	25.487	0.00	0.00

Notes: a) coefficient of variation for the entire period 1990-96  
Source: Calculated by author from IMF, International Financial Statistics, various years

**Table 7**  
**Foreign Exchange Market Activity (US\$ billions):**  
**Selected East Asia versus Industrialized Economies**

Country	GDP <sup>a</sup>	Average Daily Turnover of Forex Activity <sup>b</sup>	Relative Size <sup>c</sup> (per cent)
East Asia			
Indonesia	214.6	1.5	0.7
Malaysia	97.9	1.1	1.1
Thailand	153.9	3.0	2.0
Advanced Countries			
United States	8111.0	350.9	4.3
United Kingdom	1288.4	637.6	49.5
Germany	2102.6	94.3	4.5
Japan	4192.3	148.6	3.5
Switzerland	254.9	81.7	15.5

Notes: a) billions \$, 1997 data, b) billions of US dollars, as of April 1998, c) average daily turnover to GDP ratio

Source: Min and McDonald (1999)

**Table 8**  
**Cumulative Output Losses of the East Asian Crisis**  
 (in percent of "potential" output)

	Cumulative Four-year Output Loss <sup>a</sup>
Indonesia	82
Korea	27
Malaysia	39
Thailand	57

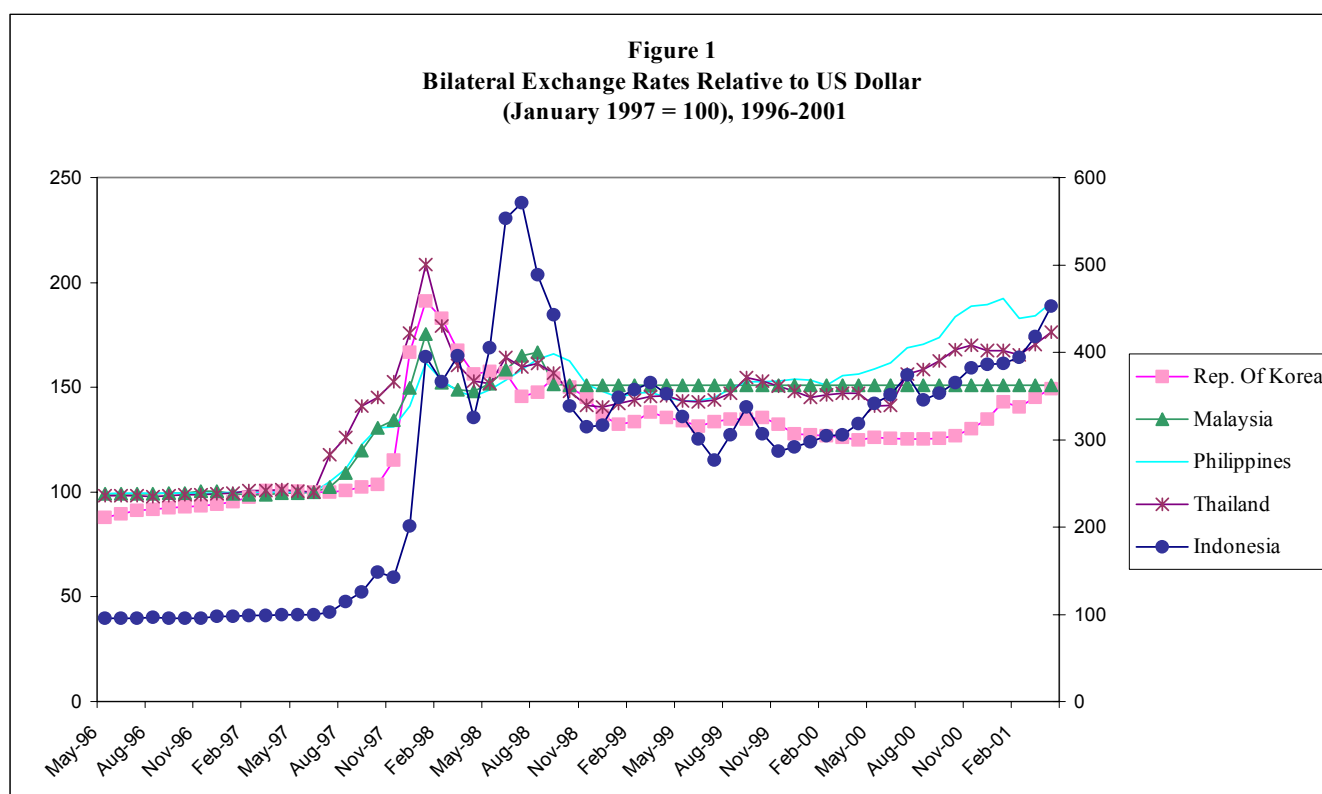
Notes: a) "Calculated as the sum of the output gap over a four year period, starting with the crisis year. The output gap is defined as the percentage difference between the actual and the hypothetical (or 'potential') level of real GDP for each country. Graphically, the cumulative output loss would thus be represented by the area between the 'potential' and actual output paths, starting from the crisis year and expressed as a percentage of "potential" real GDP. It follows that accumulated losses will be positive, and possibly large, even in cases where output is back to 'potential' at the end of the four-year period. In the counterfactual scenario, it is assumed that 'potential' GDP grows at 4 percent per annum and that actual and 'potential' output coincided within the two-year period preceding the crisis. 'Actual' GDP during 1999-2002 refers to IMF projections"

Source: IMF (1999)

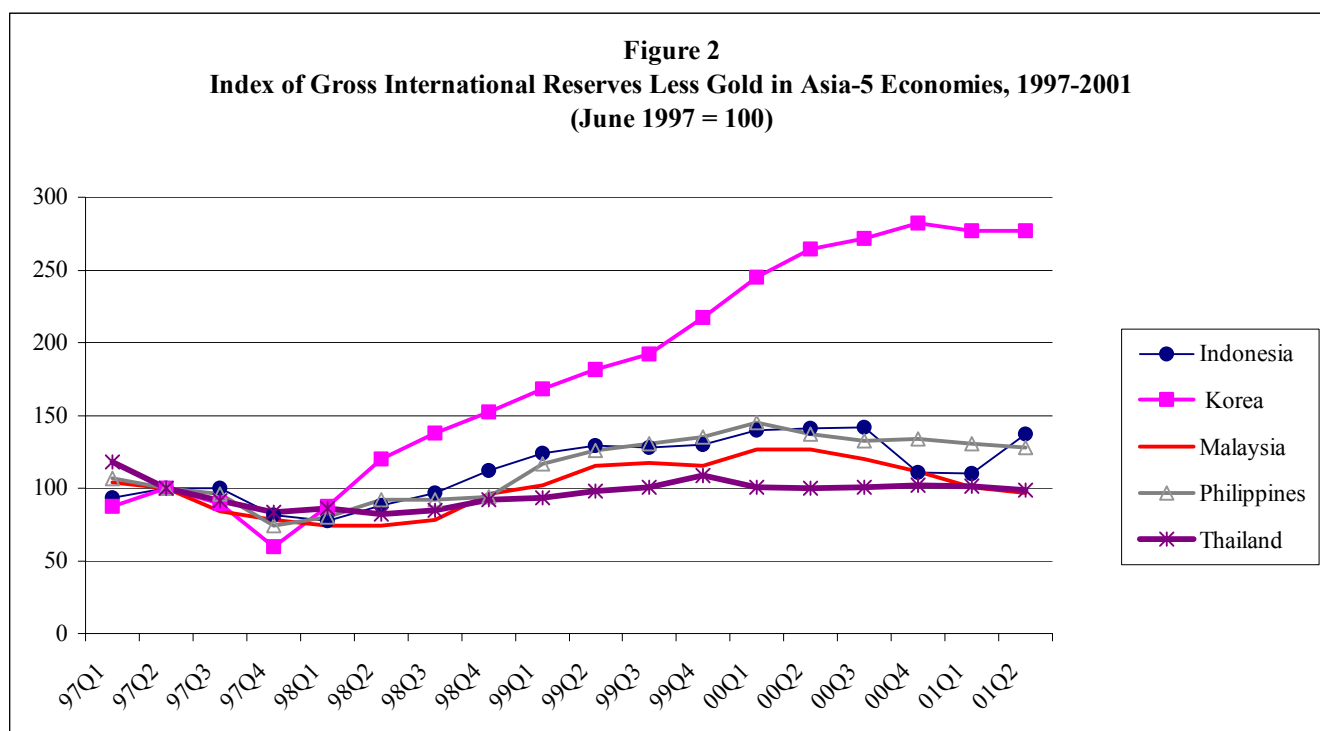
**Table 9**  
**External Debt of the East Asian Economies<sup>a</sup>, 1995-1999**  
 (percentage of GDP)

Country	1995	1996	1997	1998	1999	2000
Indonesia <sup>b</sup>	56.3	53.4	63.9	149.4	95.5	93.8
Malaysia	37.6	38.4	43.8	58.8	53.4	49.3
Philippines	54.9	55.0	61.6	81.7	75.7	78.9
Thailand	49.1	49.8	62.0	76.9	61.4	51.7
Korea	26.0	31.6	33.4	46.9	33.4	26.5
<b>of which: Short Term Debt</b>						
Indonesia <sup>b</sup>	8.7	7.5	27.5	76.4	5.9	5.7
Malaysia	7.2	9.9	11.1	11.7	7.6	6.4
Philippines	8.3	12.0	14.0	15.6	11.3	7.5
Thailand	24.5	20.7	13.3	21.0	11.4	6.8
Korea	14.6	17.9	23.1	9.7	9.3	7.7

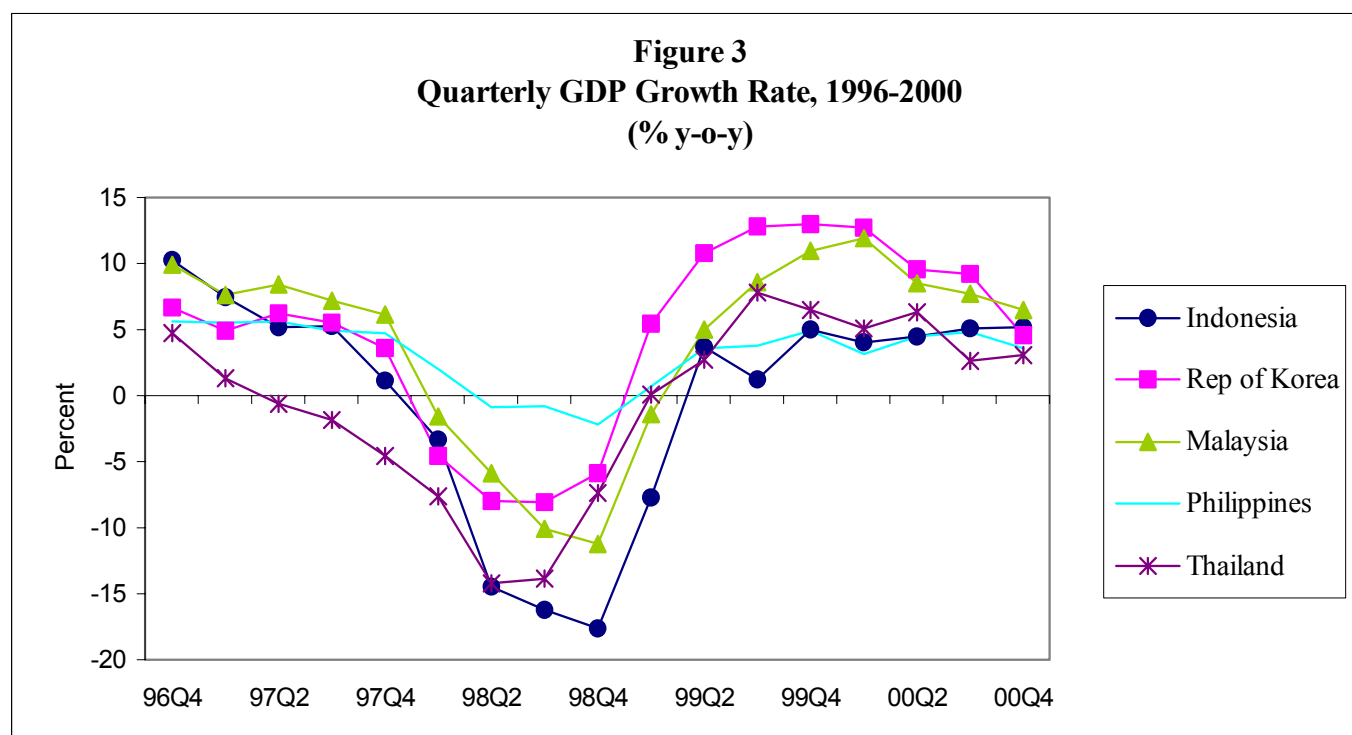
Notes: a) Data for Indonesia exclude trade credits  
 Source: IMF (2000)



Source: ARIC ([www.aric.org](http://www.aric.org))

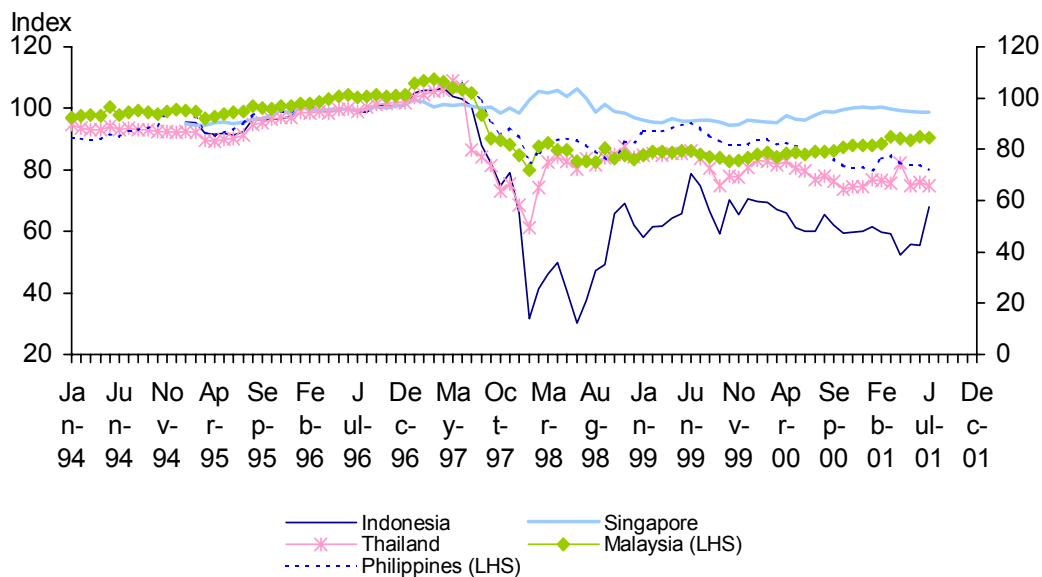


Source: ARIC website ([www.aric.org](http://www.aric.org))

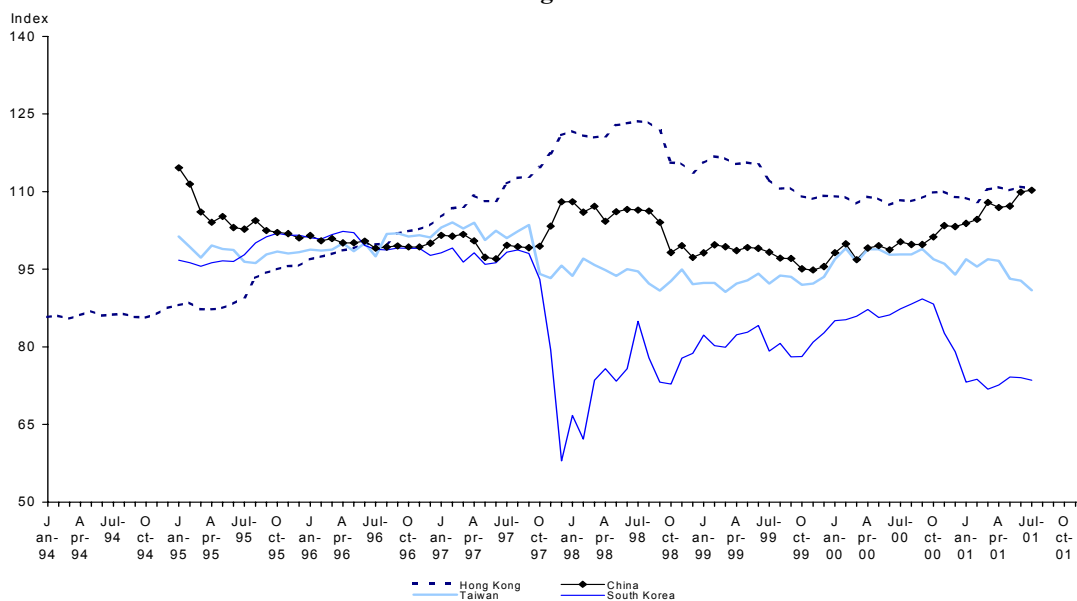


Source: ARIC ([www.aric.org](http://www.aric.org))

**Figure 4a**  
**Real Effective Exchange Rates: Southeast Asia**



**Figure 4b**  
**Real Effective Exchange Rates: Northeast Asia**



Source: Development Bank of Singapore

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