

# **COLLAPSE AND RECOVERY IN EAST ASIA: INTERNATIONAL FINANCIAL FLOWS AND REGIONAL FINANCIAL SAFEGUARDS**

**by**

**Ramkishen S. Rajan\***

May 2001 (Draft)

*Paper to be presented at a conference “APEC at the Dawn of the 21<sup>st</sup> Century”, co-organized by ISEAS and APIAN (Singapore: June 8-9, 2001). Final version forthcoming in conference volume.*

---

\* School of Economics, University of Adelaide, Australia. E-mail: [ramkishen.rajan@adelaide.edu.au](mailto:ramkishen.rajan@adelaide.edu.au)

This paper was completed while the author visited the Hong Kong Institute for Monetary Research (HKIMR). Views expressed here are strictly personal and should not be attributed to the HKIMR, the council of Advisors, or Board of Directors. Research assistance by Regan Engelhardt is appreciated. The usual disclaimer applies

*All dollars refer to US dollars.*

## 1. Introduction

According to conventional wisdom, devaluation is expansionary/inflationary and needs to be accompanied by demand deflationary monetary and fiscal policies. Thus, the IMF's policy prescription has traditionally been to combine exchange rate devaluation with measures to deflate aggregate domestic demand, a policy that was initially pursued in East Asia. In sharp contrast to this textbook view, devaluation in East Asia seemed to trigger an outright financial and economic collapse<sup>1</sup>. This post-devaluation output collapse is however not unique to the East Asian economies, having been experienced by several other developing economies. Indeed, the central difference between financial crises in developing economies and developed ones (such as the 1992-93 ERM crisis) is that output did not collapse in the latter (Calvo and Reinhart, 2000a,b) (Table 1).

There exists a rich albeit somewhat ignored literature that has detailed the various channels by which a devaluation might be contractionary (see Cooper, 1971, Lizondo and Montiel, 1989 and van Wijnbergen, 1986 for useful surveys)<sup>2</sup>. An important channel that was not paid sufficient attention to in this literature is the so-called "balance-sheet effect" due to sizeable unhedged exposures to short term foreign currency denominated debt (Aghion et al., 2000 and Krugman, 1999a,b)<sup>3</sup>. The rise in corporate bankruptcies due to an escalation in

---

<sup>1</sup> Evidence is generally not supportive of the possibility that the initially contractionary aggregate demand management policies were the main factors behind the economic contractions in the East Asian economies (Boorman et al., 2000). More generally, using panel data for 67 developing economies over the period 1975-97, Hutchison (2001) found that a country's participation in an IMF support program does not appear to exacerbate output loss.

<sup>2</sup> To provide some context, the conventional textbook view that devaluation would have expansionary effects because it increased the demand for tradeables (Dornbusch, 1988), was challenged most forcefully by "New Structuralists" who argued that devaluation would be contractionary and that IMF programs were stagflationary (Taylor, 1981 and Krugman and Taylor, 1979). See Bird and Rajan (2001a) for an extended discussion of this literature with reference to the Thai crisis of 1997-98.

<sup>3</sup> Over fifty percent of long-term external debt in developing economies (for which data are available) is held in US dollars, with the remainder being held primarily in euros and Japanese yen. This inability by developing economies to borrow externally in their local currency 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 afflicted by this original sin phenomenon. 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,

domestic currency liabilities inevitably lead to large scale domestic “credit rationing”, as decapitalized banks, burdened by large nonperforming loans (NPLs), curtail their lending<sup>4</sup>. In a recent review of the IMF response to the East Asian crisis, Fund economists acknowledged the importance of this balance sheet channel:

It was...not foreseen at the outset that these economies would adjust in a dysfunctional way of reduced external financing - largely through a collapse of private domestic demand rather than a boom in exports. This adjustment reflected in large part the harsh balance-sheet effects of the currency depreciations that occurred, given the unhedged foreign currency exposures of banks and corporations (Boorman et al., 2000, p.6).

Thus, while a real exchange rate depreciation may boost the exportables sector, on the one hand (“competitiveness channel”), it will contract domestic demand by lowering the net value of leveraged, bank constrained firms, on the other (“balance sheet channel”). The resultant impact of a real devaluation on aggregate demand therefore depends on the relative magnitudes of the two effects. Krugman (1999b) has noted that for “small” variations in the exchange rate, the pro-competitive effects of a devaluation will dominate, resulting in a devaluation being expansionary; while the balance sheets effects may dominate for a “large” devaluations, resulting in an income contraction. The conundrum is that even a small devaluation in emerging economies may act as a trigger leading to sharp capital outflows and outright economic collapse after the initial devaluation. As Calvo (1996) has noted:

if there is a “bad” equilibrium lurking in the background, a devaluation - especially, an unscheduled devaluation - could coordinate expectations and help push the economy to the “bad” equilibrium (p.219).

In other words, if devaluation damages confidence it will result in additional capital outflows. This in turn will cause a further decline in the currency’s value that was anticipated, leading to a vicious spiral of devaluation leading to illiquidity and insolvency. The rise in interest rates and collapse in asset prices that tend to accompany devaluation will only

---

New Zealand dollar and the South African rand were instrumental in fortifying international access to domestic currency denominated debt. For a discussion of the implications of this original sin hypothesis on exchange rate policy in Southeast Asia, see Rajan (2001b) and references cited within.

<sup>4</sup> We do not enter here into the controversial debate of defining what is meant by a “credit crunch” and how it is most appropriately measured, only recognizing that credit growth reflects both the demand for and supply of credit (see Lane and Associates, 1999, Lindgren et al., 1999 and Furman and Stiglitz, 1998).

deepen this situation. Dornbusch (2001) refers to this as a “new-style” crisis. As he states:

*A new-style crisis involves doubt about credit worthiness of the balance sheet of a significant part of the economy – private or public – and the exchange rate...when there is a question about one, the implied capital flight makes it immediately a question about both...the central part of the new-style crisis is the focus on balance sheets and capital flight...Because new-style crises involve the national balance sheet they involve a far more dramatic impact on economic activity than mere current account disturbances..(p.2).*

Models emphasizing the importance of the post-devaluation capital reversals might be differentiated according to the type of capital flows that they focus upon, viz. bank flows versus portfolio flows (Figure 1). These new-style crisis models provide the analytical basis for a detailed examination of the capital account transactions of the five crisis-hit East Asian economies (henceforth referred to as the Asia-5 economies).

The remainder of the paper is organized as follows. The next section provides an overview of trends and patterns in international capital flows to the Asia-5 economies and the larger East Asian region during the bust period and eventual recovery that followed (1997 to 2000). Section 3 discusses the rationale for and progress towards the recent regional initiatives to buttress the international liquidity positions of participating East Asian member countries via a network of swap arrangements (i.e. the “Chiangmai Initiative”). The final section offers a summary and some concluding remarks.

## **2. Dynamics of Capital Flows in East Asia in the Late 1990s**

There are by now some comprehensive discussions of the East Asian crisis and we do not intend on going over well-traveled terrain<sup>5</sup>. Suffice it to note that the region-wide contagion in East Asia may be broadly divided into four sub-periods. The devaluation of the Thai baht was the first period (July 1997). The second period was when the contagion spread to the other Southeast Asian countries (Indonesia, Malaysia and the Philippines specifically) between July and mid October 1997. The third period was when the crisis engulfed the larger East Asian region (Hong Kong, Singapore, South Korea and Taiwan)

---

<sup>5</sup> For detailed accounts of the East Asian crisis, see IMF (1997, 1998), Berg (1999), Corsetti et al.

following the pre-emptive devaluation of the New Taiwan dollar in October 1997. Once the South Korean won was devalued in November 1997, this then reverberated back to Southeast Asia and eventually emerging economies in general. This was the fourth period (Berg, 1999). The crisis did intensify in mid 1998, but this was due to a pronounced liquidity crunch in emerging markets as a whole following the Russian debt moratorium (discussed later in this section).

## 2.1 Crisis Scenario

It is important to keep in mind that the crisis was principally due to reversals of capital flows from the banking sector. Indeed, balance of payments data from the IMF reveal that the Asia-5 economies saw a sharp reversal in net private capital flows of almost \$96 billion between 1996 and 1998 (Table 2). This reversal was largely due to the “other net investment” category which primarily consists of short term bank lending. The entire \$60 billion of inflows into the Asia-5 economies of this category in 1995 and 1996 were lost in the next two years, as international banks became unwilling to roll over existing short term debts to the region, let alone extend new ones.

More insights might be obtained by considering quarterly BIS data on banking flows. International bank lending to the crisis countries remained buoyant at almost \$50 billion in the first half of 1997, but swung to -\$40 billion in the third quarter of 1997, and then averaged close to -\$100 billion for the three consecutive quarters that followed (BIS, 1999)<sup>6</sup>. The sudden reversal in bank lending from the region is often portrayed as strong evidence of a bank panic model (Chang and Velasco, 1998, 1999)<sup>7</sup>. A less noticed but important aspect of

---

(1999), Radelet and Sachs (1998), Rajan (1999a) and World Bank (1998).

<sup>6</sup> Interestingly, the data also reveal that while Japanese and US banks reduced their exposures in Asia-5 between June and December 1997, the European banks were still expanding their lending to the region in these few months (Rajan and Siregar, 2001).

<sup>7</sup> Of course, these *ex-post* swings in bank flows are only *necessary* and not *sufficient* evidence in support of a bank panic model. Accordingly, at least in the case of Thailand, Rajan (2001a) has provided data on the foreign asset and liability positions in order to determine its *ex-ante* vulnerability to an external shock (such as a devaluation) and then discusses the movements in capital withdrawals from the country following the shock.

the sharp contraction of private market financing is the decline in portfolio flows in 1997-98 following the initial bank panic, as investors too tried to scale down their regional financial exposures (“flight to quality”)<sup>8</sup>. Net portfolio investment saw a turnaround of almost \$34 billion between 1996 and 1998 (from \$25.5 billion in 1996 to -\$8 billion in 1998). In contrast to bank and portfolio flows, FDI flows have remained very stable during the crisis period, averaging about \$10 billion<sup>9</sup>.

The East Asian crisis appeared to be abating by early 1998 in all the regional economies except for Indonesia (where the rupiah remained extremely weak in light of economic policy slippages and civil unrest). However, market turbulence reemerged and intensified following the devaluation and unilateral domestic debt default by Russia followed by the near-collapse of the US hedge fund, LTCM. Depreciation of the Japanese yen vis-à-vis the US dollar, which in turn caused concerns about the recovery prospects of the other Asian economies, exacerbated the circumstances in the Asia-5 economies. This is reflected in a pointed rise in emerging market secondary market spreads in all major East Asian borrowers in August and September of 1998 following the Russian debacle - a combination of a contraction in liquidity and a reassessment of credit risk among all emerging markets as creditors and investors fled *en masse* from emerging economies (ADB, 2000 and IMF, 1999a).

## 2.2 Stabilization and Recovery

Marked as this downturn was, it proved to be temporary, as the easing of official interest rates in the US and other industrial countries, as well as an agreement on an IMF rescue package for Brazil, worked in tandem to generate a broad-based recovery in

---

<sup>8</sup> This is consistent with the Calvo-Mendoza capital crisis model which rationalizes an equity-based boom and bust cycle of capital flows (Calvo and Mendoza, 1996, 2000). This model is a simple one period mean-variance model of optimal portfolio diversification/allocation. It shows that the marginal gain from gathering information about any single country falls as portfolios get increasingly diversified internationally. Thus, just a rumor or some other adverse event - such as a devaluation - may suffice to generate large-scale reallocation of funds away from one destination to another, making small open economies susceptible to sharp boom and bust cycles.

<sup>9</sup> We do not discuss possible interactions between the various types of capital flows (see Bird and

emerging markets in general by the fourth quarter of 1998. While the devaluation of the Brazilian real in early 1999 threatened to derail the recovery in East Asia yet again, in actuality it did not. There was very limited negative fallout from the Brazilian crisis<sup>10</sup>. Korea, Malaysia and Thailand were all upgraded by ratings agencies immediately in the first half of 1999 (IMF, 1999a).

While capital flows have varied significantly across the Asia-5 economies, in aggregate, net private capital outflows, which totaled \$42 billion in 1997 and 1998, slowed down to \$19 billion in aggregate in 1999 and 2000. The growth performance in the regional economies broadly mirrored the dynamics of capital flows (Figure 2). Having contracted markedly in 1998, due mainly to drops in capital investment and private consumption, the regional economies bounced back in 1999 and consolidated their respective positions in 2000. The economic revival essentially began in early 1999 as monetary and fiscal policies remained highly accommodative (Boorman et al., 2000).

Focussing on components of aggregate demand, recovery per se was fuelled by rapid growth in exports which in turn were aided by a buoyant external environment (a combination of strong global growth, upturn in electronics cycles and real depreciations of regional currencies). Except for Korea, domestic private demand has remained rather sluggish. Private consumption and investment demands have however picked up recently; consequently, so has import demand (ARIC, 2001). The trigger country, Thailand, which experienced a 10 percent economic contraction in 1997 on the heels of a 1 percent decline in 1996, expanded by slightly over 4 percent in 1999. Korea was the front-runner. Having contracted by almost 6 percent in 1998, it bounced back sharply to register an average of well over 9 percent growth the next two years. Indonesia was a clear laggard, being held back by enormous socio-political upheavals. After declining by almost 14 percent in 1998, it

---

Rajan, 2001b and references cited within).

<sup>10</sup> For an early discussion of the Brazilian crisis, see Rajan (1999b). The other significant negative shock during this period was the collapse of one of China's largest investment and trust corporations (ITICs), the Guangdong ITIC (GITIC) in October 1998.

remained stagnant in 1999 (no growth), with a slight uptick in economic activity in 2000 (growth of 4 percent).

a) *Bank Flows*

Closer examination of IMF data on recent capital flows to the Asia-5 economies reveals some important points. First, bank-related outflows have continued unabated (i.e. the “other net investment” component). The sustained bank outflows from the regional occurred despite a renewed willingness of lenders to maintain, if not slightly increase, exposures to the region because of repayments of external liabilities to commercial banks. These repayments were largely concentrated in Thailand and Indonesia (IIF, 2001). It is important to note that a central difference between the outflows in 1997-98 and 2000 was that the former was largely unanticipated and thus highly disruptive. In the latter, the loan repayments had been anticipated and scheduled. According to the IIF (2001), net repayments by *all* Asian economies to banks totaled almost \$100 billion in 1998 and 1999. Additional insight might be obtained from the BIS data on nationality of creditor banks (Rajan and Siregar, 2001). While all major creditor banks between December 1997 and June 1998 reduced their stocks of outstanding loans to the region, this trend continued between June 1998 and June 1999 only in the cases of Japanese and UK banks, as most of the repayments by Asian borrowers were focused on these two creditors. In contrast, outstanding loans by US, French and German banks stabilized.

b) *Equity Flows*

What about equity investments? Portfolio equity investment flows appeared to have stabilized and turned positive (\$7 to \$8 billion in aggregate in 1999-2000). FDI flows continued being positive mainly due to sharply depreciated asset values and exchange rates and relaxation of foreign ownership rules which spurred merger and acquisitions (M&As) activities in Korea. However, Asia-5 economies’ share of FDI to the whole of the developing East Asian region has been on a declining trend, particularly so in the case of Southeast



Asian-4 (Tables 4 and 5). The decline appears to be a reflection of growing concerns by international investors about the commitment by some of the economies to structural reforms, along with heightened political uncertainties in a number of these countries (ARIC, 2001).

While it is certainly revealing that FDI has *not* been stimulated in the regional economies despite large currency depreciations and reductions in domestic asset values, Indonesia was the only country where the actual *stock* of FDI continued to be eroded with net outflows since 1998. Two way Granger-causality between direct investment and GDP for Indonesia using quarterly data from second quarter of 1986 to the fourth quarter of 1999 is instructive. The causality test reveals only one direction causality to be significant, viz. movements in direct investment Granger-cause currency variations in GDP growth (with a two period lag). In other words, the collapse of direct investment in Indonesia (both domestic and foreign) may have contributed significantly to a worsening of the country's growth (Rajan and Siregar, 2001).

### **2.3 Reserve Accumulation and Exchange Rate Policies**

Large-scale reserve holdings accumulated by the East Asian economies in the 1990s helped to somewhat cushion the exchange rate depreciations in 1997-98. Also of importance is the fact that the regional economies begun re-accumulating international reserve holdings following the sharp declines in 1997, implying that the current account surpluses exceeded the total capital outflows (Table 2; Figure 3).

Another reason for the reserve accumulation is the "fear of floating" that seems to characterise developing countries (Calvo and Reinhart, 2000a,b and Hausmann, et al., 2000). To be sure, there has certainly been a generalized move towards greater exchange rate flexibility during the post-crisis period (Figure 4). However, while the Malaysian capital controls have allowed for the simultaneous maintenance of monetary autonomy and a fixed regime (by breaking the "Impossibility Trilemma or Trilogly"), the other countries have depended on a combination of activist interest rate policy and foreign currency market

intervention to ensure relative exchange rate stability. Consequently, they have experienced sharp gyrations in monetary variables and international reserves. Some countries like Thailand have also taken steps to curb currency speculation. 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 6), on the other, has significantly improved the external positions of the regional economies. As a result their vulnerability to the destabilizing effects of volatile and easily reversible capital flows has been eased<sup>11</sup>. We take up the issue of safeguarding against vulnerability in the next section.

### **3. Regional Financial Safeguards**

Sustenance and hastening of growth in the medium and longer terms hinge on the extent to which the regional economies persevere with structural reforms in general, and the pace of financial and corporate restructuring in particular. Financial sector restructuring has been an essential element of the IMF structural adjustment programs for resolving the crisis in the East Asian economies (Lane et al., 1998 and Lindgren et al., 1999)<sup>12</sup>. Slow progress towards corporate debt restructuring is the single biggest obstacle towards rapid improvements of banks' balance sheet positions and, consequently, domestic credit availability, particularly to small and medium-sized enterprises or SMEs<sup>13</sup>. Space limitations preclude a detailed discussion of corporate sector reforms (ADB, 2000, ARIC, 2000, 2001 and World Bank, 2000). Table 7 summarizes the progress with corporate restructuring in the four of the five crisis-hit economies. Suffice it to note here that, by and large, corporate

---

<sup>11</sup> The extent of short-term indebtedness has been found to be a robust predictor of financial crises (Dadush et al., 2000, Rodrik and Velasco, 1999 and World Bank, 2000). 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.

<sup>12</sup> We do not enter into the debate of the appropriateness of the IMF conditionality per se. While Malaysia did not enter into an IMF agreement, it did embark on "shadow" IMF structural adjustments.

<sup>13</sup> SMEs have been especially hard hit by the credit crunch, particularly since many are in the nontradables sector. For instance, in Malaysia, three quarter of the NPLs are to firms in the nontradable sector. In Thailand, small firms and households account for half of the NPLs (ADB, 2000

restructuring has lagged behind financial sector restructuring, with Korea again making the most headway (having introduced measures to strengthen corporate governance), and Indonesia a laggard.

While much remains to be done at a domestic level to restructure the economies, the financial crisis of 1997-98 and the perceived inadequacies of the International Monetary Fund's (IMF's) response to it has motivated a sub-group of East Asian economies to take some small but important steps towards enhancing regional financial stability and protected 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 Mechanism (REMU) of the ADB, are all steps in the right direction. These initiatives have been discussed in some detail by Chang and Rajan (2001) and Manzano (2001) and will not be repeated here. While these initiatives towards enhanced regional surveillance are important in their own right, they do not in and of themselves reduce a country's susceptibility to capital account crises, which requires access to international credit lines (World Bank, 2000 and Bussiere and Mulder, 1999).

### **3.1 Contingent Credit Lines: Why Regional?**

There are two main liquidity enhancement measures, viz. holding adequate reserves to cover short-term debt and the creation of contingent credit lines. As noted previously, the East Asian economies have been rapidly accumulating international reserves since the crisis. However, the anticipated decline in current account surpluses as the economies continue with their expansions and concomitant increased import propensities may limit the near-term buildup of these reserves. Recent weaknesses in the regional currencies and the desire by the central banks to offset – at least partly – the currency declines (vis-à-vis the US dollar) have in fact led to a slight drain in reserves in some of the regional economies since late 2000 (Figure 3). This is particularly so in the case of Malaysia, which has maintained a

fixed US dollar peg since September 1998 (and has seen a decrease in reserves from about US\$26 billion in the end of April 2000 to US\$ 35 billion in the end of April 2001), as well as Indonesia whose currency has been faced with the greatest bearish pressures. In addition, a policy of reserve accumulation involves high fiscal costs as the country effectively swaps high yielding domestic assets for lower yielding foreign ones<sup>14</sup>.

Accordingly, contingent credit lines are viewed as being of significant importance in providing additional international liquidity to deal with sudden capital flow reversals. Such lines of credit can be negotiated by countries unilaterally with foreign banks and private financial institutions. Indonesia, Argentina, Mexico and South Africa are recent examples of countries that have arranged such private lines of credit with international banks. However, there are a number of problems and limitations of obtaining such credit lines unilaterally and on a private basis rather than regionally or multilaterally via official channels.

First, there may be high opportunity costs involved insofar as the individual countries have to commit certain assets/revenue streams as collateral. Second, calling upon 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 effective exposures to that country through other channels (through various corporate risk management techniques). Fourth, and related to this, if the credit lines are called upon by one country, the international financial institution may be forced to reduce exposures in other emerging economies, either to cover losses or in order to reduce portfolio risks and improve the liquidity position ("flight to safety" effects). While it need not always be, this negative externality or spillover tends often to be *regional* rather than *global* (see Chang and Rajan, 2001 and references cited within). In a recent study using a sample of 20 countries covering the periods of the 1982

---

<sup>14</sup> There is the additional question of what the appropriate size of reserve holdings are. 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. 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, type of exchange rate regime, etc. (Bussiere and Mulder, 1999). A

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 (1998) 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.

It is important to note that the IMF has also established an international contingent credit line (CCL) which has recently undergone modifications in view of some important limitations, including the relatively high costs of borrowing via this facility and the conditionality involved as part of obtaining the funding. We do not venture into discussions of the merits of these modifications or of the CCL in general, only noting that there remains the possibility that application for this facility by a country may lead market participants to be concerned about the health of the country. This is especially so, if as Radelet and Sachs (1998) have suggested, the “arrival of the IMF gives all the confidence of seeing an ambulance outside one’s door”. In any case, there is no reason why such CCLs cannot co-exist with a regional mechanism, particularly if the eligibility criteria are agreed upon with the IMF beforehand. Against this background 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.

### **3.2 The Chiang-Mai Initiative**

---

related issue pertains to the appropriate currency composition of reserves in terms of currency composition (Eichengreen and Mathieson, 2000).

Broadly, the CMI is aimed at providing countries under pressure with short-term hard currency liquidity to bolster reserves through bilateral swaps (the hard currencies are mainly in US dollars, but also yens and euros). The CMI extends and expands upon the little known ASEAN Swap Arrangement (ASA) to encompass all ASEAN countries as well as China, Japan and Korea (i.e. ASEAN Plus Three or APT). The ASA was established in 1977 to provide short-term swap facilities to members facing temporary liquidity or balance of payments problems. There were only five ASEAN signatories (Indonesia, Malaysia, Philippines, Singapore and Thailand), and the facility was stood at US\$200 million. 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 effective November 17, 2000. There also exist a series of repurchase agreements (repos) that allow ASEAN members with collateral like US Treasury bills to swap them for hard currencies and then repurchase them at a later time. The 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 committed amount from the facility for a period of up to six months with the possibility of a further extension which is not to exceed six months.

This buttressing of the ASA is the first step envisaged by the CMI which aims to eventually create a broad and comprehensive network of swaps among the APT economies. Unlike repos, the CMI envisages that hard currency lines of credit can be made available to members without strict linkages to repos (Rowley, 2001). Beyond this beefing up and expansion of the ASA among Southeast Asian countries, the three ASEAN Dialogue partners (China, Japan and Korea) have simultaneously been in discussions to establish bilateral swap arrangement (BSA) and repos among themselves (Wheatley, 2000). Japan has recently signed BSAs totaling US\$6 billion with Malaysia, Thailand and Korea, and is planning others with China and the Philippines. BSAs among other members of the APT are

expected in the near future (Rowley, 2001)<sup>15</sup>. While the maximum amount of withdrawal under each of the BSA will be determined by negotiations between the two countries concerned, in the spirit of regional partnership, there is to be full coordination and consultation among all members when deciding on disbursements.

While the basic principal of the CMI is clear, the conditions that will apply to the disbursements and speed at which they can be activated remain sketchy. Based on journalistic accounts and reports, 10 percent of the funds will be available automatically while the rest are subject to IMF approval and conditionality. Other critical details of the new swap arrangements, such as the type of collateral that may be required for hard currency loans, the interest rate to be charged, number of withdrawals that can be made, and the like, appear to be unavailable. As part of the CMI, there is an agreement by member countries to exchange information on capital flows. Progress on this front too is unclear. Insofar as “the devil lies in the details”, a proper evaluation of the CMI cannot be undertaken here. Nevertheless, the creation of the CMI is notable, not least because it involves real financial commitments by APT members to one another. The CMI appears to have been well received, even by the IMF and the US administration. The new IMF Managing Director, Horst Kohler (2001), expressed support for the AMF and other regional initiatives as long as they are complementary and not competitive with the IMF approach. China too has expressed open support for the CMI and has become an active participant in it (Goad, 2000 and Rowley, 2000, 2001). Support by these entities is significant, not least because their opposition stifled the initial proposals for fortified monetary regionalism via an Asian monetary facility (Chang and Rajan, 2001).

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 (Luce, 2001 and Rowley, 2001). Bird and Rajan (2000)

---

<sup>15</sup> While Singapore is a contributor to the ASA, it has announced its intention not to sign bilateral swap agreements at this time under the Chiang Mai Initiative in view of its secure external position.

and Chang and Rajan (2001) have detailed the rationale for the creation of an Asian monetary facility at a general level, and we will not go over well-traveled terrain. We merely note that regional monetary facilities could complement the IMF in similar ways that regional development banks (such as the ADB) complement the World Bank's operations<sup>16</sup>. The ADB (1999) suggests that:

(The) AMF could play a potentially important role as a complement to the IMF in providing funds to crisis-affected countries and developing an early warning system. The implementation of such regional institutions as the AMF as part of the newly emerging financial architecture will help both to enhance the efficiency of global financial markets and to minimize systematic risk (p.44).

#### **4. Summary and Conclusion**

To conclude, the Asia-5 economies have experienced a speedy adjustment from the crisis, i.e. the recessions, though severe, have proven to be short-lived. While this is frequently taken as a sign of the region's oft-repeated economic "strengths" (such as their high saving rates), in actuality, such a post-crisis "V-shaped" recovery is not unique to East Asia, typifying financial crises experiences in general (Eichengreen and Rose, 2001; also see Hutchison, 2001). Rather, of concern is that the rapid recoveries in capital flows and economic activity in Asia-5 economies may retard their commitment to push ahead with necessary structural reforms so essential to ensure that growth is sustained. Some important inroads have certainly been made with respect to bank recapitalization and rehabilitation though lingering financial strains in the corporate and banking sectors plague these economies. Concerted efforts are needed to ensure that reform fatigue does not creep in, particularly when some of the longer-term reforms to upgrade domestic financial and corporate systems and comply with international best standards are outstanding.

---

<sup>16</sup> Of course, the flip side of this would be that the ADB and other regional development banks are largely redundant and ought themselves to be shut down, leaving only international institutions like the World Bank, IMF and BIS as part of the new financial architecture (Dornbusch, 1999).



The inevitable lethargy and limited progress at reforming the international financial architecture<sup>17</sup>, on the one hand, and the recent financial crisis in Turkey and elsewhere, on the other, emphasize the need for East Asia (and the larger Asian region) to take steps towards developing self-help mechanisms to complement their domestic reforms and restructuring efforts, and as a means of providing momentum for genuine reforms at the international level. The enhancement of liquidity support via the accumulation of reserves, activation of private credit lines, and the establishment of a system of interregional swap arrangements as part of the Chiang-Mai Initiative (CMI) are important financial safeguards against sharp liquidity crises. The CMI, along with the ASEAN Surveillance Process and other initiatives are small but practical steps in furthering more broad-ranging monetary cooperation in East Asia.

---

<sup>17</sup> Eichengreen and James (2001) have suggested that one reason why international financial reforms are not occurring at a faster pace is because the recent financial crises have not appeared to threaten the global trading system.

## References

Aghion, P., P. Bacchetta and A. Banerjee (2000). "A Simple Model of Monetary Policy and Currency Crises", European Economic Review, 44, pp.728-738.

Asian Development Bank (ADB) (1999). Asian Development Outlook 1999, Manila: Oxford University Press.

Asian Development Bank (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) (2001). Asia Recovery Report 2001 (March). Available on [www.aric.org](http://www.aric.org).

Bank of International Settlements (BIS) (1999). 69th Annual Report, Basle: BIS.

Berg, A. (1999). "The Asia Crisis: Causes, Policy Responses, and Outcomes", Working Paper No.99/138, IMF.

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

Bird, G. and R. Rajan (2001a). "Recovery or Recession? Post-Devaluation Output Performance: The Thai Experience", Discussion Paper No.00/42, Centre for International Economic Studies, University of Adelaide.

Bird, G. and R. Rajan (2001b). "Financial Crises and the Composition of International Capital Flows: Does FDI Guarantee Stability?", Discussion Paper No.00/44, Centre for International Economic Studies, University of Adelaide.

Boorman, J., T. Lane, M. Schultze-Ghattas, A. Bulir, A. Ghosh, J. Hamann, A. Mourmouras and S. Phillips (2000). "Managing Financial Crises: The Experience in East Asia", Working Paper No.00/107, IMF.

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. (1996). "Capital Flows and Macroeconomic Management: Tequila Lessons", International Journal of Finance and Economics, 1, pp.207-223.

Calvo, G. and E. Mendoza (1996). "Mexico's Balance-of-Payments Crisis: A Chronicle of a Death Foretold", Journal of International Economics, 41, pp.235-264.

Calvo G. and E. Mendoza (2000). "Rational Contagion and the Globalization of Securities Markets", Journal Of International Economics, 51, pp. 79-113.

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 (2001). "The Economics and Politics of Monetary Regionalism in Asia", ASEAN Economic Bulletin, 18, pp.103-118.

Chang, R. and A. Velasco (1998). "The Asian Liquidity Crisis", Working Paper No.6796, NBER.

Chang, R. and A. Velasco (1999). "Liquidity Crises in Emerging Markets: Theory and Policy", in B. Bernanke and J. Rotemberg (eds.), NBER Macroeconomics Annual 1999, Cambridge, MA: MIT Press.

Claessens, S., S. Djankov and D. Klingbiel (2000). "East Asia Restructuring – Halfway There?", Financial Sector Discussion Paper No.3, World Bank.

Corsetti, G., P. Pesenti and N. Roubini (1999). "What Caused the Asian Currency and Financial Crisis? Part I: Macroeconomic Overview", Japan and The World Economy, 11, pp.305-373.

Cooper, R. (1971). "Currency Devaluation in Developing Countries", Princeton Essays in International Finance, International Economic Sections, Princeton University (June).

Council on Foreign Relations (1999). Safeguarding Prosperity in a Global Financial System: The Future International Financial Architecture, Washington, DC: Institute for International Economics.

Dadush, U., D. Dasgupta and D. Ratha (2000). "The Role of Short-term Debt in Recent Crises", Finance and Development, 37.

De Gregorio, J. and R. Valdes (1999). "Crisis Transmission: Evidence from the Debt, Tequila, and Asian Flu Crises", mimeo (October).

Dornbusch, R. (1988). Open Economy Macroeconomics, 2<sup>nd</sup> edition, New York: Basic Books.

Dornbusch, R. (1999). "What Future for International Financial Institutions", mimeo (May).

Eichengreen, B. (2000). "Strengthening the International Financial Architecture: Where do we Stand?", ASEAN Economic Bulletin, 17, pp.175-92.

Eichengreen, B. and H. James (2001). "Monetary and Financial Reform in Two Eras of Globalization (and In Between)", mimeo (April).

Eichengreen, B. and D. Mathieson (2000). "The Currency Composition of Foreign Exchange Reserves: Retrospect and Prospect", mimeo (January).

Eichengreen, B. and A. Rose (2001). "To Defend or Not to Defend? That is the Question", mimeo (February).

Fischer, S. (1999). "The Road to Sustainable Recovery in Asia", paper delivered at the World Economic Forum (Singapore, October 18).

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

Goad, P. (2000). "Asian Monetary Fund Reborn". Far Eastern Economic Review, May 18, p.54.

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

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

Hutchison, M. (2001). "A Curse Worse Than the Disease?: Currency Crises and the Output Costs of IMF-supported Stabilization Programs", mimeo (May).

Institute of International Finance (IIF) (2001). "Capital Flows to Emerging Market Economies" (January).

IMF (1999). World Economic Outlook 1999, Washington, DC: IMF (May).

IMF (2000). World Economic Outlook 2000, Washington, DC: IMF (May).

IMF (2001). World Economic Outlook 2000, Washington, DC: IMF (May).

Kasa, K. (1998). "Contractionary Effects of Devaluation", Economic Letter No.98-34, Federal Reserve Bank of San Francisco.

Kohler, H. (2001). "New Challenges for Exchange Rate Policy" (paper presented at the Asia-Europe Meeting of Finance Ministers, Kobe, Japan, 13 January).

Krueger, M., P. Osakwe and J. Page (1998). "Fundamentals, Contagion and Currency Crises: An Empirical Analysis", Working Paper No.98-10, Bank of Canada.

Krugman, P. (1999a). "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.

Krugman (1999b). "Analytical Afterthoughts on the Asian Crisis", mimeo (September).

Krugman, P. and L. Taylor (1979). "Contractionary Effects of Devaluation", Journal of International Economics, 8, pp.445-56.

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.

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 (September).

Lizondo, S. and P. Montiel (1989). "Contractionary Devaluation in Developing Countries", IMF Staff Papers, 36, pp.182-227.

Luce, E. (2001). "East Asian Seeks its Own Voice", Financial Times, UK (May 14).

Manzano, G. (2001). "Is there Any Value-added in the ASEAN Surveillance Process?", ASEAN Economic Bulletin, 18, pp.9?-102.

McLean, B. and S. Shrestha (2001). "International Borrowing in Domestic Currency: What Does it Take?", Research Discussion Paper, Reserve Bank of Australia.

Radelet, S. and J. Sachs (1998b). "The East Asian Financial Crisis: Diagnosis, Remedies, Prospects", Brookings Papers on Economic Activity, 1, pp.1-74.

Rajan, R. (1999a). "Economic Collapse in Southeast Asia", Policy Study, The Lowe Institute of Political Economy, Claremont, California (March).

Rajan, R. (1999b). "Have the Markets Gone Crazy?: The Brazilian and other Currency Crises of the 1990s", Policy Brief, The Lowe Institute of Political Economy, Claremont: California (May).

Rajan, R. (2001a). "(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. (2001b). "Exchange Rate Policy Options for Southeast Asia Revisited: Is There a Case for Currency Baskets?", paper being revised for The World Economy.

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.

Rodrik, D. and A. Velasco (1999). "Short-Term Capital Flows", Working Paper No.7364, NBER.

Rowley, A. (2000). "IMF Policy Shift May Revive AMF Idea", Business Times, Singapore (October 2).

Rowley, A. (2001). "ASEAN + 3 Group Boosts Currency Defences", Business Times, Singapore (May 11).

Taylor, L. (1981). "IS/LM in the Tropics: Diagrammatics of the New Structuralist Macro Critique", in W. Cline and S. Weintraub (eds.), Economic Stabilization in Developing Countries, Washington, D.C.: The Brookings Institution.

van Wijnbergen, S. (1986). "Exchange Rate Management and Stabilization Policies in Developing Countries", Journal of Development Economics, 23, pp.227-47.

Wheatley, A. (2000). "Closer Asian Monetary Ties may Become Reality", Bangkok Post, Thailand (August 10).

World Bank (1998). Global Development Finance 1998, New York: Oxford University Press.

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

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

**Table 1**  
**Cumulative Output Losses of 1990s Crises**  
**(percent of “potential” output)**

	Cumulative Four-year Output Loss <sup>a</sup>
<i>Tequila Crisis</i>	
	15
Argentina	30
Mexico	
<i>East Asian Crisis</i>	
	82
	27
Indonesia	39
Korea	57
Malaysia	
Thailand	

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 (1999a)

**Table 2**  
**Net Capital Flows to Emerging East Asian Economies, 1992-2001**  
**(billions of US dollars)**

	1995	1996	1997	1998	1999	Proj 2000	Proj 2001
<b>Asia-5 Economies:</b>							
Private Cap.Flows	53.9	67.4	-15.6	-28.2	2.9	-22.4	10.6
Direct investment	8.8	9.8	9.8	10.3	13.1	12.8	9.1
Portfolio Inv.	18.8	25.5	8.4	-8.2	-23.0	13.20	3.3
Other Investment	26.3	32.0	-33.8	-30.4	-6.7	-44.6	-1.7
Flows	0.7	-6.1	15.7	19.5	-38.8	5.0	-2.1
Reserves <sup>a</sup>	-18.5	-5.6	39.5	-47.0		-19.2	-30.6
<b>Other Asian Emerging Econs.:</b>							
Private Cap. Flows	38.3	52.6	22.3	-12.5	-0.6	4.6	13.0
Direct Investment	39.3	44.4	45.3	49.6	41.1	38.4	38.9
Portfolio Inv.	2.6	3.9	-0.1	-7.2	-8.9	-8.0	-0.2
Other Investment	-3.5	4.3	-23.0	-54.8	-32.8	-25.8	-25.8
Official Flows	-3.8	-7.6	-8.3	-1.1	-0.1	-8.1	-4.2
Reserves <sup>a</sup>	-26.2	-43.1	-46.8	-16.9	-20.9	-16.4	-30.8

Notes: a) Minus sign denotes a rise and vice versa  
Source: IMF (2001)

**Table 3**  
**FDI inflows, 1985-99**  
**(billions of US\$)**

	1985-89	1990-94	1995	1996	1997	1998	1999
World	128.5	200.5	328.9	377.5	473.1	680.1	865.5
Developing Economies	22.3	61.1	106.2	145.0	178.8	179.5	207.6
East Asia	10.3	34.5	63.4	81.3	82.1	75.8	83.5
China	2.5	16.1	35.8	40.2	44.2	43.8	40.4
Hong Kong	1.6	4.5	3.3	10.5	11.4	14.8	23.1
Singapore	2.4	5.2	7.2	9.0	8.1	5.5	7.0
Taiwan	0.8	1.2	1.6	1.9	2.2	0.2	2.9
Asia-5	3.0	9.4	13.9	19.7	19.2	16.7	17.4
Indonesia	0.4	1.7	4.3	6.2	4.7	-0.4	-3.2
Korea	0.7	0.8	1.8	2.3	3.1	5.2	10.3
Malaysia	0.8	4.2	4.2	7.3	6.5	2.7	3.5
Philippines	0.4	0.8	1.5	1.5	1.2	1.8	0.7
Thailand	0.7	1.9	2.1	2.4	3.7	7.4	6.1

Source: ARIC (2001)

**Table 4**  
**Country Composition of FDI Inflows to East Asia, 1985-99**  
**(percentage)**

	1990-94	1995	1996	1997	1998	1999
East Asia	100.0	100.0	100.0	100.0	100.0	100.0
China	44.2	58.0	49.4	51.9	54.1	44.5
Hong Kong	12.4	5.3	12.9	13.4	18.3	25.4
Singapore	14.2	11.7	11.1	9.5	6.8	7.7
Taiwan	3.2	2.5	2.3	2.6	0.2	3.2
Asia-5	26.2	22.4	24.2	22.4	20.5	19.2
Indonesia	4.7	7.0	7.6	5.5	-0.5	-3.5
Korea	2.3	2.9	2.8	3.6	6.4	11.3
Malaysia	11.5	6.8	9.0	7.6	3.3	3.9
Philippines	2.3	2.4	1.8	1.4	2.2	0.8
Thailand	5.4	3.3	3.0	4.3	9.1	6.7

Source: ARIC (2001)



**Table 5**  
**External Debt of the Asia-5 Economies, 1995-1999**  
 (percentage of GDP)

Country	1995	1996	1997	1998	1999	2000
Indonesia <sup>a</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>a</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) The data for Indonesia exclude trade credits  
 Source: IMF (2000)

**Table 6**  
**Progress with Corporate Restructuring, Third Quarter 1999**

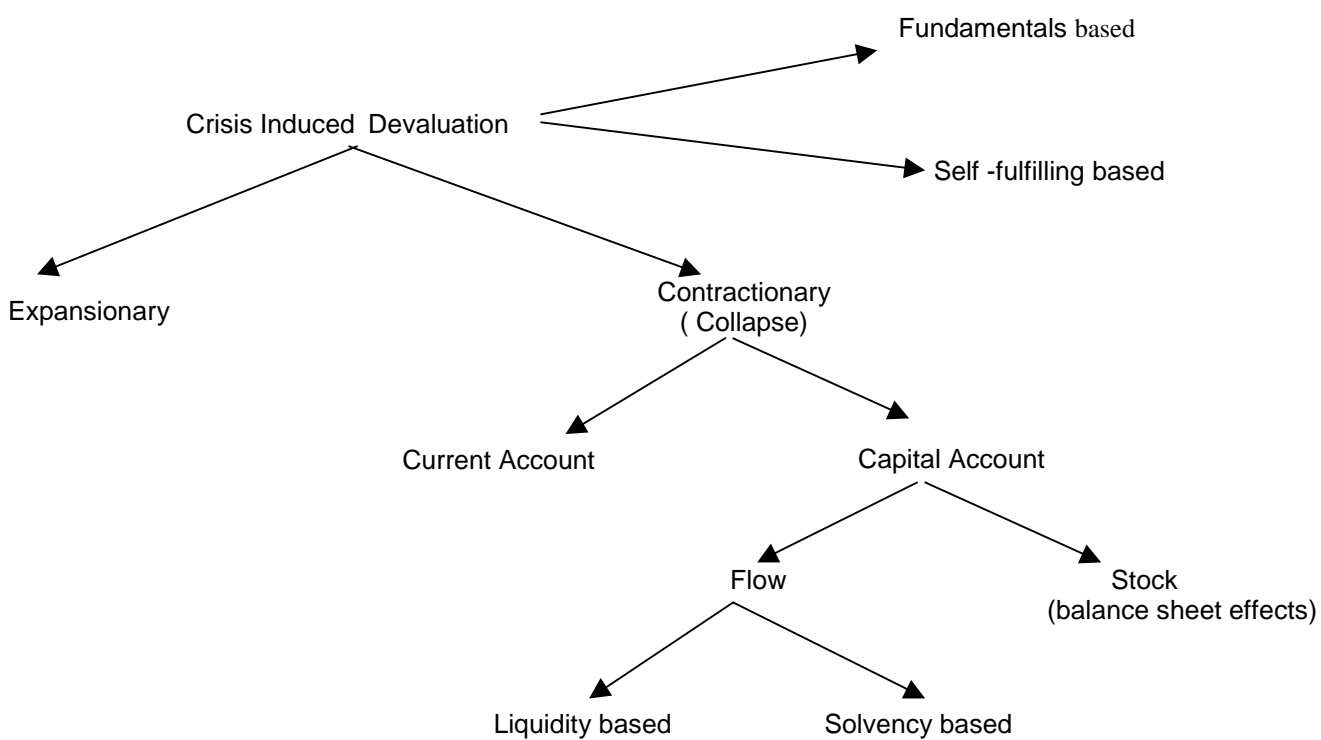
<i>Out-of-court procedures</i>	<b>Indonesia</b>	<b>Malaysia</b>	<b>Rep. Of Korea</b>	<b>Thailand</b>
All or the majority of financial institutions signed on to accord	No	Yes	Yes	Yes
Formal process of arbitration exists, with deadlines	No	Yes	No	Yes
Provision of penalties for noncompliance	No	No	Yes	Yes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

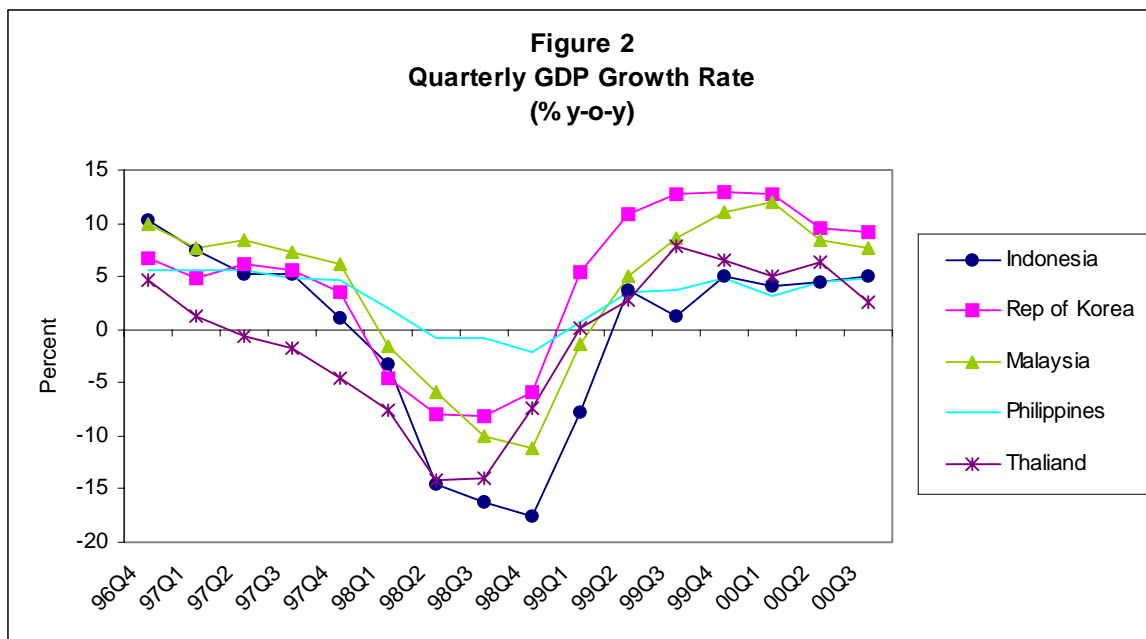
a. In Thailand, penalties for noncompliance were introduced in August 1999 for creditors who had signed intercreditor agreements

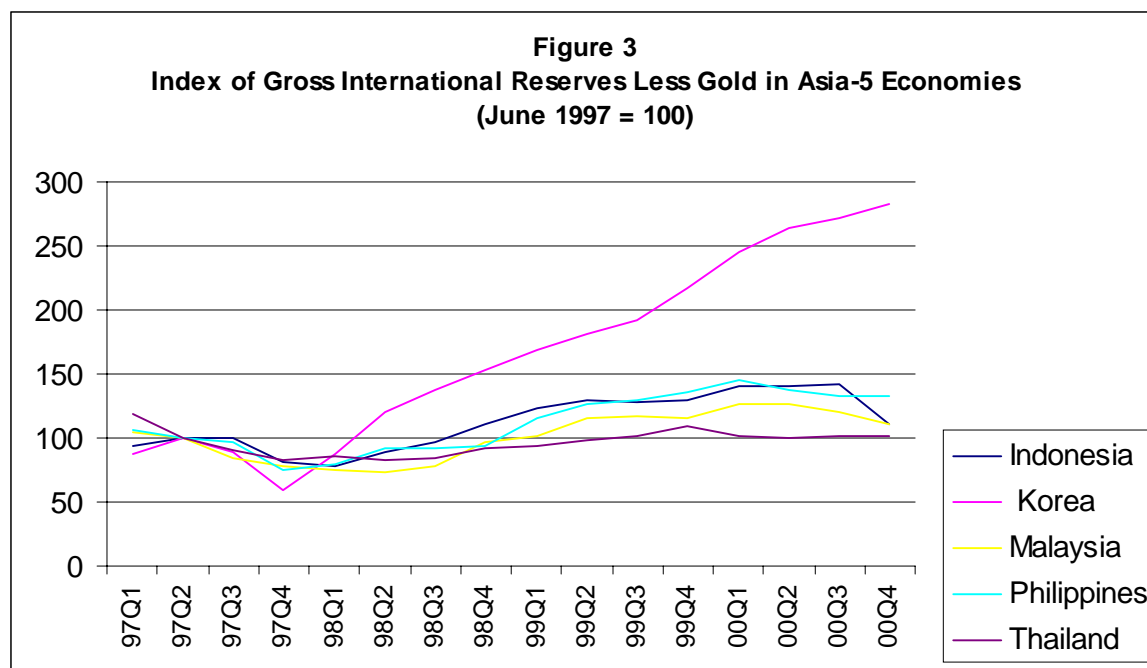
Source: Claessens, et al. (1999)

FIGURE 1

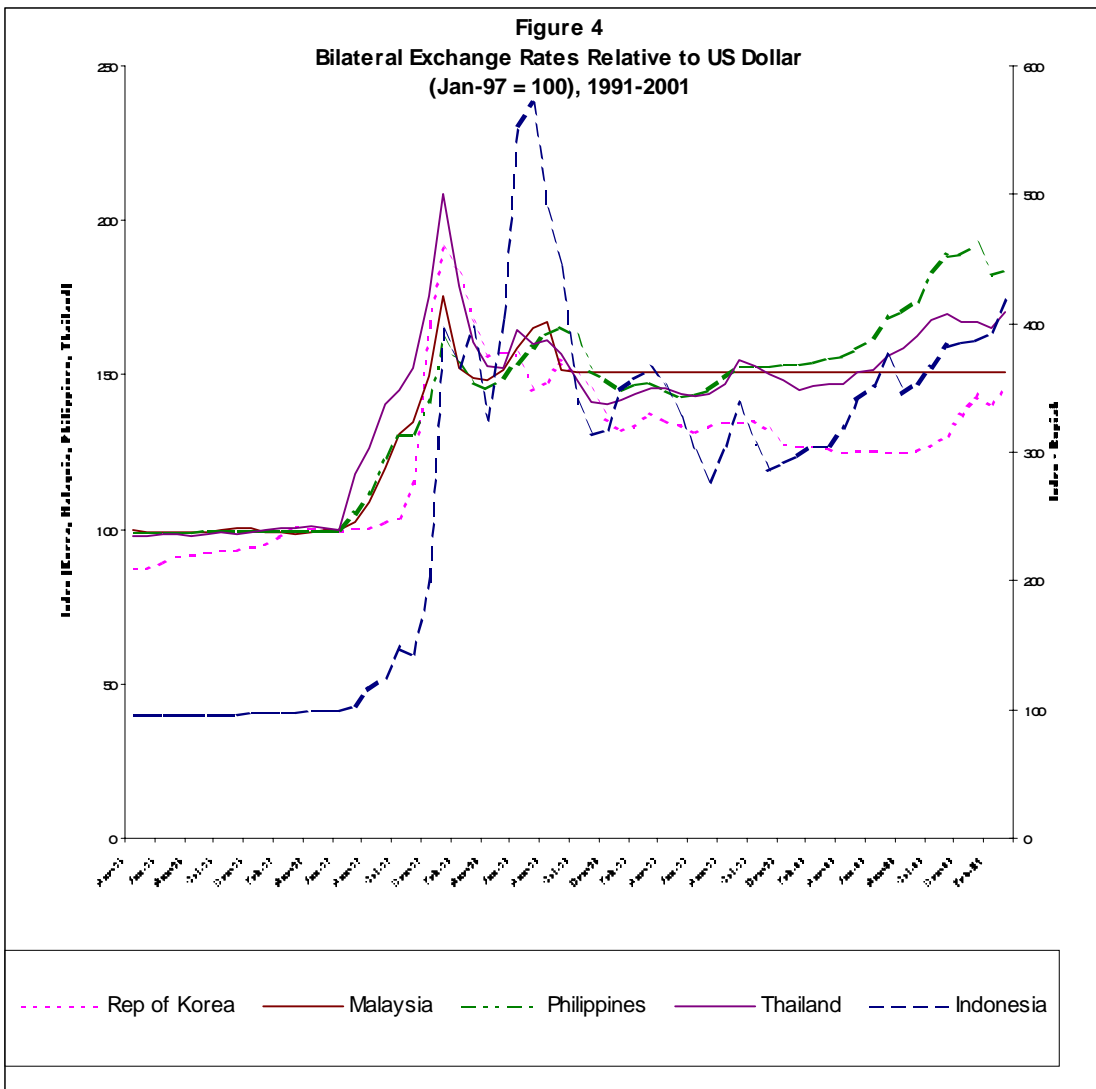


Source: Author





Source : ARIC website



Source: ARIC website