

# 11 Unilateral, regional and multilateral options for East Asia

*Ramkishen S. Rajan*

## INTRODUCTION

Referring to the Mexican crisis of 1994–95 and the Thai crisis of 1997–98, Montiel (1999: 41) observed that ‘the similarities between Mexico and Thailand mattered much more than the differences, and the policy message from the two experiences is the same’. Two similarities stand out: devaluation seemed to trigger an outright financial and economic collapse; and recessionary impulses were transferred from ‘ground zero’ countries (Mexico and Thailand) to neighbouring countries. An important point underscored by these new financial crises is that sound macroeconomic policies and robust domestic financial systems are certainly *necessary* but clearly *insufficient* to make a country resistant to the effects of sharp reversals in capital flows of the type experienced by East Asia between 1996 and 1998.

The severity of these crises, in terms of both depth and breadth, are important characteristics of ‘capital account’ crises.<sup>1</sup> Stanley Fischer (2001a:2) recently made the following observation:

...the huge expansion of international capital flows of the last decade has delivered significant economic benefits to borrowers and lenders alike. But as we have seen all too often in recent years, this silver lining has a cloud. Countries have been exposed to periodic crises of confidence when large inflows of capital suddenly go into reverse. As capital flows have increased relative to the size of national economies, so too has the disruption that such reversals can cause.

The spread of financial crises is far from random: contagion tends to hit weaker economies more quickly and more forcefully than strong ones. But even so, it is hard to believe that the speed and severity with which crises spread can be justified entirely by economic fundamentals ... One reason to take excess contagion seriously is that an investor panic can itself push an economy from a good to a bad equilibrium: when a country’s policies and institutions are subjected to pressure from a reversal of capital inflows, they may crack, appearing in retrospect to justify the reversal of flows that caused the crisis to begin with.

Managing a conventional current account crisis involves a judicious combination of adjustment and financing, but tackling a capital account crisis predominantly entails the restoration of 'market confidence'. It is therefore a much more imprecise and difficult task, and the emphasis is best placed on crisis prevention rather than crisis management. In this regard, developing and emerging economies must supplement sound economic policies with appropriate financial safeguards to shield themselves from externally induced shocks and liquidity crises (Bussiere and Mulder 1999; IMF 2001d; World Bank 2000b). Ways to increase resilience to capital account shocks include measures aimed at liquidity enhancement, the selective imposition of restrictions on currency or financial flows, and adoption of 'best practice' financial codes, standards and prudential regulations. This paper focuses narrowly on the first issue of liquidity support as an insurance policy against capital account crises.<sup>2</sup>

It has long been recognised that inadequate liquidity can threaten the stability of international financial regimes. Illiquidity can create crises even when economic fundamentals are sound, or it can make a bad situation worse when the fundamentals are weak. Moreover, once it becomes problematic, illiquidity further undermines the confidence of international capital markets. Capital outflows accelerate, thereby reducing liquidity still further. The intensity of economic adjustment following a crisis is largely dictated by the scarcity of liquidity. Thus, Eichengreen and Rose (2001) stress that the East Asian process of 'V-shaped' adjustment has not been very different from the stylised patterns of previous currency crisis episodes in developing countries. However, the degree of initial contraction and subsequent recovery has been far greater in East Asia, attributable to the severe liquidity crisis that was triggered by investors' panic (Rajan and Siregar 2002).

Recognising that private capital flows tend to be procyclical rather than countercyclical and that they intensify shocks rather than offset them, this paper examines potential ways of enhancing the availability of liquidity in crisis conditions so as to minimise the potential for future crises and their social costs if they do occur. Liquidity enhancement measures are commonly seen in terms of being either unilateral or multilateral, the latter invariably involving an expanded role for the International Monetary Fund (IMF). These measures are discussed below. As noted, the contagious transmission of impulses across borders appears to be an important characteristic of liquidity crises. A high-profile Independent Task Force on the Future of the International Financial Architecture sponsored by the Council on Foreign Relations (1999) recently recognised the existence and importance of contagion and the need for some sort of facility to deal with the problem. According to them, such a facility should work in concert with the IMF but not actually be part of the IMF's lending facility. They also argued that only countries afflicted by 'systemic crises' or episodes of contagion ought to be provided with funding, which should be disbursed quickly and be heavily front-loaded. As will be noted,

contagion, which is discussed in detail below, often tends to have a largely regional, as opposed to global, dimension (although there are certainly exceptions). This feature of contagion provides the rationale for exploring regional approaches to tackling illiquidity concerns. Following on from this, I briefly examine and assess below the regional initiatives that are currently under way in East Asia. I then offer a summary and conclude with a few remarks on the nexus between monetary and financial regionalism and multilateralism.

## **UNILATERAL SAFEGUARDS AGAINST CAPITAL ACCOUNT CRISES**

Beyond attempts to implement prudential measures on banks' borrowing in foreign currency and to diversify financial systems, some East Asian economies have unilaterally imposed restraints on capital flows.<sup>3</sup> For instance, Malaysia imposed capital controls in September 1998. While the Malaysian controls have since been modified and somewhat loosened, an exit tax remains in place to try and prevent the build-up of 'hot money'. Other countries, such as Thailand and Indonesia, have taken measures to curb currency speculation by imposing quantitative restrictions on foreign currency flows. The IMF has been fairly supportive of such unilateral actions to restrain international financial flows. For instance, a recent IMF study 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: 1).

### **Reserve build-up**

While restraints on currency trading may have merit in some instances, an often ignored danger of such measures is that they could dry up liquidity and widen bid-ask spreads, thereby raising hedging costs. One obvious method of enhancing a country's liquidity positions is through the accumulation of international reserves. This is clearly a policy that has been embraced by East Asia; the regional economies have rapidly built up international reserves despite purporting to have adopted flexible regimes (so-called 'floating with a life-jacket') following the crisis (Table 11.1).<sup>4</sup> The replenishment and accumulation of international reserves, on the one hand, and the lengthening of the average maturity profile of external indebtedness of the regional economies (Table 11.2), on the other, have significantly reduced the region's vulnerability to the destabilising effects of volatile and easily reversible capital flows.<sup>5</sup> Nonetheless, recent weaknesses in regional currencies and the desire by central banks to offset, at least partly, the currency declines relative to the US dollar have led to a slight drain in reserves in some Southeast Asian economies since late 2000 (Figure 11.1).

An important limitation of 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>6</sup> Appendix 11.1 provides rough estimates of

Table 11.1 Foreign exchange reserves and current account balances in East Asia

	Foreign ex- change reserve		Current account balance		Foreign ex- change reserve		Current account balance		Foreign ex- change reserve		Current account balance		
	US\$ million	% of GDP	US\$ million	% of GDP	US\$ million	% of GDP	US\$ million	% of GDP	US\$ million	% of GDP	US\$ million	% of GDP	
<b>South Korea</b>													
1996	34,037	6.5	-23,005	-4.4	107,039	13.1	7,243	0.9	63,840	41.4	-3,509	-2.3	
1997	20,368	4.2	-8,167	-1.7	142,762	15.8	36,963	4.1	92,823	54.3	-6,159	-3.6	
1998	51,975	16.2	40,365	12.6	149,188	15.8	31,472	3.3	89,625	55.0	3,891	2.4	
1999	73,987	17.8	24,477	5.9	157,728	15.9	15,667	1.6	96,255	60.5	10,545	6.6	
2000	96,131	21.0	11,040	2.4	168,277	15.4	12,000	1.1	107,560	65.8	8,806	5.4	
2001(f) <sup>a</sup>	105,191	23.5	6,000	1.3	178,387	14.9	7,000	0.6	-	-	4,000	2.3	
2002(f)	119,323	23.9	2,000	0.4	188,152	14.2	4,000	0.3	-	-	1,000	0.6	
<b>Taiwan</b>													
1996	88,038	31.5	10,923	3.9	37,731	20.7	-14,691	-8.1	24,024	10.6	-8,532	-3.8	
1997	83,502	32.7	7,051	2.8	26,179	17.3	-3,021	-2.0	20,609	9.6	-5,790	-2.7	
1998	90,341	32.6	3,437	1.2	28,825	25.7	14,243	12.7	22,713	23.0	4,102	4.2	
1999	106,200	35.9	8,384	2.8	34,063	27.5	12,428	10.0	23,540	16.2	578.3	4.1	
2000	106,742	36.4	9,316	3.2	31,947	26.0	9,200	7.5	27,464	18.5	8,400	5.7	
<b>Malaysia</b>													
1996	27,009	26.7	-4,462	-4.4	33,802	28.2	7,000	5.8	31,164	19.2	7,000	4.3	
1997	20,788	20.8	-5,936	-5.6	35,050	28.0	4,700	3.8	-	-	-	-	
1998	25,559	35.0	9,529	13.1	10,030	12.1	-3,949	-4.8	76,976	83.7	13,898	15.1	
1999	30,588	37.7	12,606	15.9	7,266	8.8	-4,353	-5.3	1997	71,392	85.2	16,912	20.2
2000	29,075	32.6	8,850	9.9	9,226	14.9	-1,546	2.4	1998	75,028	99.9	21,025	23.3
2001(f)	30,632	32.6	7,300	7.7	13,242	17.3	7,911	10.3	1999	77,176	89.3	21,254	24.0
2002(f)	32,640	32.0	5,000	4.9	13,048	27.4	9,349	19.7	2000	80,362	82.2	21,715	22.2
					14,452	19.1	8,400	11.1					
					15,971	20.3	8,000	10.2					
<b>China, PR</b>													
1996													
1997													
1998													
1999													
2000(f) <sup>a</sup>													
2001(f) <sup>a</sup>													
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<b>Thailand<sup>c</sup></b>													
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<b>Singapore</b>													
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2001(f)													
2002(f)													

Notes

a Estimates by the International Institute of Finance.

f = forecast

Source: Park (2001).

Table 11.2 External debt of crisis-hit East Asian economies,<sup>a</sup> 1995–2000 (% of GDP)

	1995	1996	1997	1998	1999	2000
<i>External debt</i>						
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
South Korea	26.0	31.6	33.4	46.9	33.4	26.5
<i>Of which short-term debt</i>						
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
South Korea	14.6	17.9	23.1	9.7	9.3	7.7

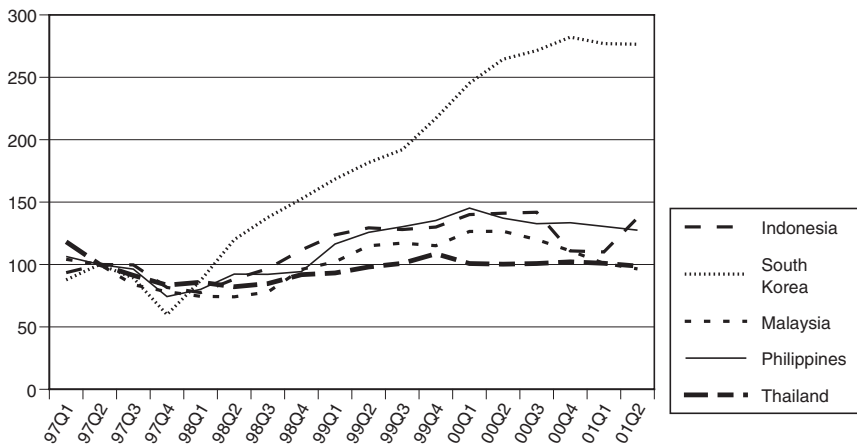
Notes

a Indonesia, Malaysia, Philippines, South Korea and Thailand.

b Data for Indonesia exclude trade credits.

Source: IMF (2000).

Figure 11.1 Index of gross international reserves less gold in East Asian economies<sup>a</sup> (June 1997 = 100)



Notes

a Indonesia, Malaysia, Philippines, South Korea and Thailand.

Source: ARIC website (www.aric.org).

these fiscal costs. They range between 0.3 and 1 per cent of GDP annually. The size of international reserve holdings has also been found to be a theoretically and statistically significant determinant of creditworthiness

(Bussiere and Mulder 1999; Haque et al. 1996; Disyatat 2001), so 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.

### **Foreign bank entry and contingent credit lines**

In light of the above, it has been suggested that the internationalisation of domestic banking systems in developing countries could be an important additional means of overcoming illiquidity during crisis periods. The argument is that a banking system with an internationally diversified asset base is more likely than another system to be stable and is less prone to bank runs and outright crises because domestic branches of foreign banks can obtain financing from the foreign head office, which effectively acting as a private lender of last resort. In addition, since the portfolios of foreign banks are much less concentrated in any single country, particularly in developing and emerging host countries, they ought to be less susceptible to country-specific crises. Thus, foreign banks in Argentina and Mexico were able to maintain access to offshore financing during the Tequila crisis of 1994 and 1995 while domestic banks were faced with credit squeezes.

There are other potential advantages of allowing foreign bank entry *per se* – for example, lowering overall financial cost structures – which may make it a desirable policy in and of itself.<sup>7</sup> Regardless of the national policy towards foreign bank entry, countries may find it useful to establish contingent lines of credit with foreign banks and private financial institutions as a means of providing additional international liquidity to deal with sudden capital flow reversals. Indonesia, Argentina, Mexico and South Africa are recent examples of countries that have arranged such private lines of credit with international banks.

That said, there are a number of problems and limitations in depending solely on such unilateral credit lines on a private basis rather than regionally or multilaterally through official channels. First, there may be high opportunity costs involved insofar as the individual countries have to commit certain assets or 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, the financial institutions with which the lines of credit have been negotiated could undermine their commitments by reducing their other exposures to that country – so-called dynamic hedging. These institutions could themselves be a source of contagious transmission of crises. For instance, in response to a crisis in one country, they might attempt to liquidate positions in other regional economies to which they have exposures. Fourth, and related to this, if the credit lines are called upon by one country, the international financial institutions may be forced to reduce their 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). In view of

this, 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.

## **MULTILATERAL SAFEGUARDS: LIQUIDITY, CRISIS AND THE IMF**

### **IMF contingent credit lines**

One component of the debate about a new international financial architecture (Box 11.1) has been how to provide adequate liquidity to help forestall a crisis in a distressed economy and prevent its spread to other countries when

#### *Box 11.1* Components constituting reform of the international financial architecture

*Detecting and monitoring external vulnerability* 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.

*Strengthening financial systems* 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.

*International standards and codes* Adherence to international standards and codes of good practice helps ensure that economies function well at the national level, which is a key prerequisite for a well-functioning international system.

*Capital account issues* 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.

*Sustainable exchange rate regimes* 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.

*Involving the private sector in forestalling and resolving crises* 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.

*Reform of IMF financial facilities and related issues* The IMF is implementing important changes to help focus its lending on crisis prevention and to ensure more effective use of IMF funds.

*Measures to increase transparency* 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:* IMF (2001a: 1).

there is reluctance to make concessions in terms of conditionality and to substantially increase the IMF's lending capacity. The IMF's response has been to create a contingent credit line (CCL). Officially, the CCL was conceived as a 'precautionary line of defense to help protect countries pursuing strong policies in the event of a balance of payments need arising from the spread of financial crises' (IMF 2001d: 37). The negotiation of conditionality with potential users of the CCL would therefore take place before the country needed to draw on the fund. The facility underwent some modifications in late 2000, including a reduction in its relatively high costs of borrowing and a review of the conditionality involved as part of obtaining the funding (Fischer 2001a). Box 11.2 gives details of recent CCL changes.

This sort of 'tinkering' fails to recognise 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? In many cases, countries fail to implement conditionality for one reason or another, so 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, however, has been the possibility that by approaching the IMF to negotiate a CCL a country sends out a negative signal to private capital markets that it is vulnerable to a crisis. Negotiating a CCL may be viewed by financial markets as a sign of a country's weakness rather than a sign of strength. This may make a crisis self-validating.<sup>8</sup> Moreover, there must remain some doubt about whether the facility would be adequately financed and able to provide sufficient net liquidity to a country in times of crisis. This is particularly so as the whole idea of contagion is that a number of countries are simultaneously affected and subsequently in need of financing. In view of this, it should be of no surprise that the facility has remained unutilised (IMF 2001d).

### **Contagion: regional more than global**

The primary reason for the establishment of the CCL was the recognition of the importance of the contagious transmission of currency crises. Yet, with some notable exceptions – such as the Russian debt default in 1998 – contagion has turned out to be more of a regional than a global phenomenon; consequently contagion is also referred to as 'neighbourhood effects'. The East Asian crisis threatened to turn global, but it did not do so. Similarly, the currencies of Thailand, Hong Kong and the Philippines underwent brief periods of speculative attacks during the Tequila crisis, but the crisis predominantly affected Mexico's neighbouring economies. 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 (2001) 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

**Box 11.2** Recent modifications to the IMF's contingent credit lines

*Monitoring arrangements* Monitoring arrangements for members that had strong track records on policies and that qualified for the CCL would be less intensive than for members under other IMF arrangements. Accordingly, in its request for a commitment of CCL resources, the member should present a quarterly quantified framework to guide its macroeconomic policies that would be a basis for monitoring, but there would be no need for a detailed definition of program targets. Also, while the initial consideration of the member's eligibility should include an assessment of its structural program and the progress expected under that program, formal structural benchmarks would not be necessary. Finally, in appropriate cases, the midterm review of arrangements with CCL resources could be completed on a lapse-of-time basis (without formal discussion by the IMF's executive board). Between reviews, staff and management would remain in close touch with the member and inform the board if there were concerns that slippages in the member's policies might make it vulnerable to crises. The board agreed that the IMF must continue to have the means to make a member exit formally from the CCL – primarily in the form of the limited (one-year) commitment period under the CCL and the midterm review.

*Activation* A member approved for a CCL could request financing at any time, which would lead to a special 'activation' review by the board. In September 2000, directors agreed to simplify the conditions for completing the activation review to assure members using the CCL of greater automaticity in the disbursement of resources. The activation review would be divided into an 'activation' review and a 'post-activation' review. The former would be completed quickly and would release a predetermined, large amount of resources (normally a third of the total commitments) and the member would be given the strong benefit of the doubt as to any required policy adjustments. In the post-activation review, phasing and conditionality would be specified for access to the remaining resources.

*Conditions* One formal condition for the completion of the activation review would be eliminated. Under the original policy, the board had to agree that 'up to the time of the crisis, the member has successfully implemented the economic program that it had presented to the Board as a basis for its access to CCL resources.' This condition was intended to guard against the possibility that the member's own policies had contributed to the build-up of its balance of payment difficulties. The board agreed to omit this as a separate condition because this possibility would not be consistent with the member's difficulties being judged to be largely beyond its control (a separate condition for the activation review).

*Rate of charge* The overall rate of charge and the commitment fee on CCL resources was reduced. The initial surcharge was lowered from 300 basis points to 150 basis points – half the surcharge under the Supplemental Reserve Facility (SRF). The surcharge would then rise with time, to a ceiling of 350 basis points. The commitment fee on the CCL (and other large arrangements) was reduced by replacing the prevailing flat commitment fee of 25 basis points with a new schedule (to be applied to all IMF arrangements) of 25 basis points on amounts up to 100 per cent of quota, and 10 basis points for amounts in excess of 100 per cent of quota. This structure recognises the importance of fixed costs in setting up an arrangement.

*Sunset clause* To allow for a meaningful period of experimentation with the revised facility, the board extended the sunset clause on the CCL until November 2003. The board will conduct its next review of the CCL in November. The design of IMF-supported programs will be guided by the requirement that the member should be able to meet repurchase obligations. The member's ability to meet the repurchase expectations would signal as a general rule a stronger-than-expected improvement in its external position. Members may request an extension of repurchase expectations at any time. Should a member fail to meet a repurchase expectation not extended by the board, its right to make further drawings, including under ongoing arrangements, would be automatically suspended. The board agreed to review the operation of early repurchase expectations by November 2005.

*Source:* IMF (2001b: 37 and 38).

economy raises the probability of a speculative attack on the domestic currency by about 8.5 percentage points.<sup>9</sup>

These findings raise the following questions. If the knock-on effects from financial crises are primarily a regional phenomenon, does it not follow that the liquidity provided in an attempt to forestall the contagion effects of crises should be provided regionally in the first instance? Does not the principle of subsidiarity suggest that a regional system of contingent credit lines should be established in a manner similar 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 East Asian economies are moving. Before examining recent developments and the unresolved issues to which these developments in East Asia give rise, it is important to define and highlight the various transmission channels through which currency and financial crises may spread contagiously.

### CONTAGION: DEFINITIONS AND TRANSMISSION CHANNELS

At a broad level, 'contagion' refers to the simultaneous occurrence of currency crises in two or more economies. It may be more formally defined as a situation where a currency crisis in one economy leads to a jump to a 'bad' equilibrium in a neighbouring economy (Masson 1998).<sup>10</sup> A distinction needs to be made between transmission channels that are related to investor sentiment or psychology (termed 'pure contagion') and linkages between countries that are measurable or observable *ex ante* (referred to as 'spillovers' or 'linkages').<sup>11</sup> Spillovers in turn take the form of trade (real) or financial linkages between countries. Calvo and Reinhart (1996) call this type of crisis propagation 'fundamentals-based contagion'.

#### Trade spillovers

Glick and Rose (1999) have noted:

...trade is an important channel for contagion, above and beyond macroeconomic influences. Countries who trade and compete with the target of speculative attacks are themselves likely to be attacked ...This linkage is intuitive, statistically robust, and important in understanding the regional nature of speculative attacks' (pp. 604–5).<sup>12</sup>

Trade spillovers in turn could be due to either 'complementarity' or 'competition' in export product structures between regional economies.

With regard to the former ('direct channel'), extensive intraregional trade and investment linkages could lead to contagion due to trade complementarities. For instance, currency devaluation in an emerging or developing economy is often accompanied by a sharp economic downturn (Rajan 2002; Rajan and Shen 2001), thereby compressing imports. This in turn reduces exports of its trading partners, leading to 'demand-driven' trade spillovers. On the other hand, there may be extensive and growing trade,

investment and other intra-regional interdependencies leading to contagion due to trade complementarities that are 'supply-driven' ('indirect channel'). For instance, Japanese foreign direct investment (FDI) has developed an intricate division of labour based on both horizontal and vertical differentiation in East Asia (Kawai and Urata 1998). This has stimulated intra-regional trade, which has been about two-fifths of the region's total trade, with parts and components playing a particularly important role in such transactions (World Bank 2000b). Accordingly, any disruption in one economy could interrupt the entire regional production network, leading to a withdrawal of investors from all other trade partners.

In contrast to the complementarity-induced channels, even economies that do not have strong trade and investment linkages with the crisis-hit economies may yet be indirectly affected if their exports to third markets overlap significantly. In other words, currency devaluation in one economy may provoke devaluation in a trade competitor (another economy with similar export structures or comparative advantage) that suddenly finds itself at a competitive disadvantage (Gerlach and Smets 1995; Huh and Kasa 1997). Corsetti et al. (1999) have shown that a game of competitive devaluation could generate currency overshooting if market participants, anticipating that a series of competitive devaluations will take place once there is a successful speculative attack in one country, flee from the trade competitors.<sup>13</sup>

### **Financial sector spillovers and pure contagion**

While trade spillovers appear to be relatively straightforward, in practice it can be difficult to clearly distinguish between trade and financial linkages as 'most countries that are linked via trade channels tend also to be linked via finance channels (Kaminsky and Reinhart 2000a,b). As Dornbusch et al. (2000) note:

... [a] channel similar to trade links can be financial links. The process of economic integration of an individual country into the world market will typically involve both trade and financial links. In a world or region that is heavily economically integrated – covering trade, investment, and financing links – a financial crisis in one country can then lead to direct financial effects, including reductions in trade credit, FDI and other capital flows to other countries. (p.6)

While acknowledging this fact, it is far more difficult to distinguish between financial spillovers and pure contagion, as both largely pertain to investors' decisions. The one substantive distinction between spillovers and pure contagion is that in the former there must be *ex ante* linkages between the crisis-hit economies, while in the latter the linkages only appear *ex post*. Masson (1998) shows how it is conceptually possible for 'pure contagion' to make an economy relatively more susceptible to a currency crisis. He notes:

... pure contagion is only possible if changes in expectations are self-fulfilling, and this requires that financial markets be subject to multiple equilibria ... Even if each country separately is not subject to multiple equilibria, together they may be, since the fear of crisis in one will increase the devaluation probability in the other, making a crisis more likely in both.

Shifts in market sentiments could lead to jumps between one equilibrium and the other, introducing sharp volatility in financial markets. Theoretically, anything could act as the coordinating device leading to a jump from a 'good' to 'bad' equilibrium.

To illustrate the practical difficulties in distinguishing between the effects of financial sector linkages and pure financial contagion, consider the case of a coincident decline in cross-border bank loans in the ASEAN-5 on the one hand and Hong Kong and Singapore on the other. There could be substantive linkages between the two set of economies, either because the ASEAN-5 economies and Hong Kong share a common creditor – namely, Japanese banks – or because financial institutions in the latter two economies might have large exposures to the ASEAN-5 economies. These are instances of actual pre-crisis linkages and qualify as financial spillovers. However, losses in one economy may lead banks (or other financial entities like open-end mutual funds, for that matter) to rationally unwind positions in other regional economies in which they have exposures. This 'forced portfolio adjustment' behaviour or 'liquidity constrained' effect, which is a perfectly rational behaviour, may occur for a number of reasons. These include an anticipation of higher-frequency redemptions, the need to cover capital losses in other crisis-hit markets ('cash-in' effects), and an attempt to reduce portfolio risks and improve the liquidity position ('flight to safety' effects).<sup>14</sup>

In addition to the direct linkages and liquidity constraints, there is the possibility of 'panic herding' or 'bandwagon' effects, as international creditors and investors choose to reduce exposures to all emerging economies (particularly those in the region) if they are spooked by the crisis in one or more of the regional economies, leading to a Diamond–Dybvig (1983) international bank panic. Krugman (1999: 8–9) stated that there is no way 'to make sense of the ... (East Asian) contagion of 1997–98 without supposing the existence of multiple equilibria, with countries vulnerable to self-validating collapses in confidence'.

One can never be sure what causes these investor panics, sudden shifts in market expectations and indiscriminate withdrawal from many markets. This is what makes explanations based on multiple equilibria difficult to pin down, as a jump between a good (that is, non-attack) and bad (that is, attack) equilibrium is driven by market psychology or changes in the interpretation of existing information. A weakness or attack on one currency could lead to a reassessment of the region's 'fundamentals' and the probability of a similar

fate befalling regional economies with broadly similar macroeconomic stances (whether actual or perceived). This is popularly termed the 'wake-up call' effect (Ahluwalia 2000). This phenomenon could also refer to the sudden realisation of how little market participants truly understood about the regional economies, leading to a region-wide downgrading or sell-off (Radelet and Sachs 1998). In related literature, Drazen (1999) has developed a contagion model which is based on economies being in an implicit or explicit currency or monetary union. Devaluation by one economy acts as a wake-up call to investors in the sense that it leads them to question the commitment of other regional economies to maintain 'club membership' by not devaluing. Dooley (2000) suggests that the 'bunching together' of crises may also be due to revisions in the effective size of official lines of credit available to the regional governments to defend the currency (either from international agencies or *ad hoc* bilateral or multilateral agreements).

Such sudden capital withdrawals are not limited to bank flows and do not arise only when financial markets are subject to multiple equilibria or self-validating expectations. For instance, focusing on portfolio flows and assuming that there are some fixed costs of gathering and processing country-specific information, Calvo and Mendoza (1996, 2000) show how just a rumour of such vulnerabilities may generate large-scale reallocation of funds from one destination to another, making small open economies susceptible to large swings in capital flows and costly boom–bust cycles. The Calvo–Mendoza model is best seen as an open economy extension of the information-based herding and cascades genre of models that have been recently developed to explain herding behaviour in domestic financial markets *à la* Banerjee (1992), Scharfstein and Stein (1990) and others.<sup>15</sup>

The literature has so far not been able to come up with a consistent definition of financial sector spillovers. If trade spillovers include both direct and indirect channels, consistency seems to dictate that financial sector spillovers include both direct financial linkages and indirect or cross-market interconnections through liquidity constraints. This leaves only capital outflows triggered in international financial markets due solely to sudden shifts of sentiment of financial agents (that is, 'animal spirits or herding') following a crisis in another economy as qualifying as 'pure contagion'. This appears closest to the definition by Masson (1998). As Van Rijckeghem and Weder (1999: 5–6) note:

...pure contagion refers to those crises triggered by a crisis elsewhere but which cannot be explained by changes in fundamentals or by any sort of the rather 'mechanical' spillovers ... but are possibly caused by shifts in market sentiments (increased risk aversion) or changes in interpretation given to existing information (an increased perception of risk or a 'wake-up call').

**REGIONAL RESPONSES: THE CHIANG MAI INITIATIVE**

Much work remains to be done to disentangle the various transmission channels documented above. Suffice it to note here that the regional dimension of the 1997–98 crisis, as well as the perceived inadequacies of the IMF's response to it, has motivated a subgroup of East Asian economies to take some small but important 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) – and the recently formed Regional Economic Monitoring Unit (REMU) of the Asian Development Bank (ADB) are all steps in the right direction. These initiatives towards enhanced regional surveillance have been discussed in some detail by Chang and Rajan (2001), Rajan (2000), Manzano (2001) and others, and will not be repeated here. They are important in their own right, but they do not in and of themselves reduce a country's susceptibility to capital account crises, which requires access to international credit lines as discussed previously.

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 come to be termed the Chiang Mai Initiative (CMI), following an agreement in Chiang Mai, Thailand, on 6 May 2000. The chapter by Yunjong Wang in this volume gives details of the CMI.

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 and of being front-loaded. Speed is of the essence in a crisis. Second, the credit lines need to be large enough to generate confidence in private capital markets and to repel speculative attacks, and need to involve enough countries to avoid potential problems of co-variance and to allow the pooling of risks. Third, the rate of interest needs to be high enough to guard against moral hazard. 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; links to IMF conditionality are therefore a cause of concern. However, given the part played in the East Asian crisis by weak domestic financial structures, and 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. Rajan and Bird (2001) provide a brief progress report on financial restructuring efforts in the region.

A credible system of regional swaps based on these principles has two key attractions. First, it would enable participants to avoid the severe output

losses that are associated with extreme shortages of liquidity. Second, 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 defend disequilibrium real exchange rates. Therefore, the CMI should not be a mechanism for inappropriate currency pegging in the region. 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>16</sup>

The CMI appears to have been well received, even by the IMF and the US administration. The IMF Managing Director, Horst Kohler, has expressed support for the Asian Monetary Fund (AMF) and other regional initiatives as long as they are complementary to, and not competitive with, the IMF approach (Kohler 2001). China too has expressed open support for the CMI and has become an active participant in it (Goad 2000; 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 (Bird and Rajan 2000a; Chang and Rajan 2001). In fact, 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 (Rowley 2001).

## CONCLUSION

Looking at the issues that have gone to make up the architecture debate, and taking an East Asian perspective rather than a global one, there is reason to believe that there is both more scope for reform and more motivation to pursue it.<sup>17</sup> In the main, it was the East Asian economies that suffered the costs of the 1997–98 crisis. While one could quibble about the exact magnitude of these costs, it is widely agreed that they have been substantial, involving large-scale declines in output and overall living standards.

While the term 'contagion' has gained prominence – notoriety, in fact – following recent currency crises, it should be recalled that the term was used in a positive sense before the crisis to describe the spread of trade and investment liberalisation and economic prosperity in East Asia. According to the logic of this argument, a positive externality of being associated with dynamic open economies involves the transformation of the conventional prisoner's dilemma – which suggests that protectionist policies are the 'dominant strategy' for each country acting in isolation – to one of prisoner's delight, whereby trade liberalisation is the dominant strategy for a country in a region in which some other countries are already reaping the benefits of a at that time was the need for a formalisation and institutionalisation of these market-driven linkages – that is, the creation of regional economic alliances. In similar vein, the contagious transmission of currency crises, which often tends to be regional, has provided the basis for regional financial and monetary cooperation.

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 CCLs. First, regional credit lines would have more of the features of a credit union than the IMF possesses. All participants 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 perhaps exists in the case of the IMF's CCL. Second, prudential and supervisory standards might be more appropriately set at the regional level, where special circumstances could be more easily identified and addressed.

For the foregoing reasons, an efficient cooperative arrangement for providing liquidity would be consistent with the central elements of the new international financial architecture. It is still possible to think globally and act regionally.<sup>19</sup> 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.<sup>20</sup> For poorer developing countries, where balance of payments deficits remain driven by the current account, conventional IMF lending, or even a resuscitated low conditionality compensatory lending facility, could augment the regional credit lines organised by emerging economies. Boughton (1997: 3) 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...

Monetary and financial regionalism, as discussed in this chapter, could help the IMF fulfil 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 liberalisation 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 financial architecture, they could act as stepping stones towards multilateral reforms rather than 'stumbling blocs'.

### APPENDIX 11.1 ESTIMATING THE FISCAL COSTS OF RESERVE ACCUMULATION IN EAST ASIA<sup>21</sup>

The costs of holding foreign reserves may be quite high. This appendix attempts to offer an illustrative estimate. Following Rodrik (2000), I make two key assumptions. First, all reserves beyond the age-old rule of thumb of three months worth of imports are considered to be 'excess reserves'. I treat these 'excess' levels of reserves as the opportunity cost of maintaining an open capital account. Second, the spread between the yield on foreign reserves (the US Treasury bill rate) and the marginal cost of domestic funds is taken to be six percentage points.<sup>22</sup> Under these assumptions, the annual cost of this 'insurance policy' against financial market unpredictability is in the order of 0.3–1 per cent of GDP for the five crisis-affected economies in East Asia in 1999. These costs are the highest for Thailand and Malaysia and lowest for the Philippines.

Table A11.1 Social cost of excess reserves, 1999

Country	Foreign reserves (US\$ million) <sup>a</sup>	Reserves in months of	'Excess reserves' (% of GDP) <sup>b</sup>	Annual cost of excess reserves (% of GDP) <sup>c</sup>
Indonesia	26,445.0	7.6	11	0.66
Malaysia	30,588.2	4.8	15	0.90
Philippines	13,299.7	4.3	5	0.30
Thailand	34,062.8	7.3	16	0.96
South Korea	73,987.3	5.9	9	0.54

*Notes*

a Total reserves minus gold at the end of 1999.

b 'Excess' refers to the level beyond the 3-month benchmark.

c Assuming a 6 per cent spread between the yield on foreign reserves and the marginal cost of borrowing.

Source: Computed from *International Financial Statistics* (IMF).

## NOTES

This paper was completed in December 2001 and draws partly on joint work with Graham Bird and Reza Siregar.

- 1 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 among the first to emphasise capital account factors as being the drivers behind recent financial crises in emerging economies in 1995 when he referred to the Mexican crisis of 1994–95 as ‘the first financial crisis of the twenty-first century’ (see Buira 1999).
- 2 The issue of restraints of capital flows has been extensively discussed elsewhere – for instance, Bird and Rajan (2000b) and references cited within. Eichengreen (2001) takes up the issue of financial standards. The Financial Stability Forum (2000) has been at the vanguard of recommending such standards. Other important policies to prevent liquidity crises are officially sanctioned standstills to prevent rush to exits and collective action clauses, along with a general ‘constructive engagement’ among borrowers, lenders and regional and international financial institutions (Eichengreen 2001; IMF 2001b).
- 3 See Johnston and Otker-Robe (1999) and Abrams and Beato (1998) for in-depth discussions of prudential regulations.
- 4 The accumulation of international reserves by developing countries is indicative of the ‘fear of floating’ by developing and emerging economies (Calvo and Reinhart 2000; Hausmann et al. 2000; Rajan 2002).
- 5 The extent of short-term indebtedness has been found to be a key indicator of (i) liquidity and a robust predictor of financial crises (Bussiere and Mulder 1999; Dadush et al. 2000; World Bank 2000b. 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. The World Bank (1999) surveys recent literature on short-term debt and financial crises.
- 6 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 reserves equivalent to short-term debt cover (that is, debt that actually falls due over the year) is true only when 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 factors such as the degree of export diversification, size and variability of the current account imbalance, and type of exchange rate regime (Bussiere and Mulder 1999). A related issue pertains to the appropriate currency composition of reserves (Eichengreen and Mathieson 2000). Steps have been taken to improve the IMF’s analytical framework for management of international reserves as well as for assessing a country’s external financial vulnerability in general (IMF 2001d: Chapter 3).
- 7 See Bird and Rajan (2001) and Claessens et al. (1999) for discussions about the potential benefits of foreign bank entry. Of course, as with financial liberalisation in general, care must be taken to ensure that foreign bank entry is undertaken in a careful (gradual?) manner so as to avoid any major disruptions to the domestic financial system by enticing domestic banks to opt for increasingly risky investments. Montreivat and Rajan (2001) discuss Thailand’s recent experience

- with bank restructuring and foreign bank entry.
- 8 Radelet and Sachs (1998) get the point across in a rather colourful manner when they note that the 'arrival of the IMF gives all the confidence of seeing an ambulance outside one's door'.
  - 9 Other recent empirical studies confirming this regional dimension of currency crises include Calvo and Reinhart (1996), Frankel and Schmukler (1996), Glick and Rose (1999) and Kaminsky and Reinhart (2000a).
  - 10 Other definitions of contagion include an increase in asset price volatility across countries or a significant increase in cross-market linkages after a crisis in one country or group of countries. Dornbusch et al. (2000) provide a comprehensive review of the definitions as well as theoretical and empirical studies on contagion. The World Bank web site on the topic is also useful: <<http://www1.worldbank.org/economicpolicy/managing%20volatility/contagion/index.html>>.
  - 11 A third category, 'common external shocks' or 'monsoonal effects', refers to all those factors that affect all regional economies (Masson 1998). A number of external shocks have been suggested in the case of the East Asian crisis (Whitt 1999). In a recent study using a comprehensive data set of financial statistics, product information, geographic data and stock returns involving 14,000 companies in 46 economies, Forbes (2000) found all the preceding transmission mechanisms were important in the case of the East Asian crisis, particularly the product competitiveness channel. *A priori*, it is surprising that the common creditor/credit crunch effect (through banks) was not found to be as important. This may be explained by the fact that Forbes focused on international rather than regional propagation and did not explicitly test for the herding channel. Kaminsky and Reinhart (2000b) and Van Rijckeghem and Weder (1999) have concluded that the bank lender channel was particularly important in the East Asian crisis, though the inclusion of a trade competition variable tends to dilute the significance, due possibly to the high correlation between competition for funds and trade.
  - 12 Also see Van Rijckeghem and Weder (1999). In a pioneering study, Eichengreen et al. (1996) emphasised this channel for industrial countries.
  - 13 Rajan et al. (2002) explore the various trade spillover channels noted above as they try to explain the spread of the crisis from Indonesia, Malaysia, Philippines, South Korea and Thailand to the city-states of Hong Kong and Singapore.
  - 14 See Calvo (1999) for a model involving two sets of agents (informed and uninformed), in which margin calls necessitate asset sales in one economy following price declines in another. Folkerts-Landau and Garber (1998) stress risk control systems as a possible reason for region-wide asset sell-offs and resultant contagion; while Van Rijckeghem and Weder (1999) emphasise the value at risk technique in particular. However, Schinasi and Todd Smith (1999) show that such financial contagion could result from normal/textbook portfolio diversification rules, with risk management techniques and rules not having any significantly different consequences on optimal sell-off periods or strategies.
  - 15 Bikhchandani and Sharma (2000) provide a succinct discussion of the various types of recent herding models in financial markets.
  - 16 We should note that the East Asian and Pacific region already has a financial cooperative scheme in the form of the Executives Meeting of East Asia-Pacific Central Banks (EMEAP). EMEAP is a cooperative organisation comprising central banks and monetary authorities of 11 economies: Australia, China, Hong Kong, Indonesia, Japan, South Korea, Malaysia, New Zealand, the Philippines, Singapore and Thailand. Spurred on by the Tequila crisis, substantive steps towards monetary cooperation have been taken by EMEAP. For instance, a number of member economies signed a series of bilateral repurchase (repo) agreements in 1995

and 1996. Hong Kong and Singapore agreed to intervene in foreign exchange markets on behalf of the Bank of Japan. These creditor regional economies 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 EMEAP and the CMI.

- 17 According to some observers, the debate about a 'new international financial architecture' was launched at the Halifax G-7 summit in 1995 and to all extents and purposes concluded at the Cologne summit in 1999 (Kenen 2000). According to Eichengreen and James (2001), one reason why international financial reforms are not occurring at a faster pace is that the recent financial crises do not appear to have threatened the global trading system.
- 18 Of course, loosely speaking, an infinitely played prisoner's dilemma game predicts that a cooperative strategy could be supported if agents have high enough rates of time preference (the so-called 'Folk theorem').
- 19 Needless to say, in addition to these regional and multilateral liquidity pools, countries are expected to maintain sound debt and reserve management policies.
- 20 As Fischer (2001b) has noted, there are two primary objectives of IMF conditionality: 'to ensure that IMF resources are used to promote economic reform and adjustment, rather than to postpone it; and to ensure that the borrower is able to repay the loan on the agreed terms, making the resources available to other members who may need them'.
- 21 This draws from Rajan and Siregar (2002).
- 22 Ideally I would like to have obtained data on an individual country's market bond rates and obtain more exact spreads. Rodrik (2000) argues that for a lot of emerging economies this level of spread is likely to be a conservative estimate of the true opportunity cost of holding reserves.

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