SCOPE FOR COOPERATION IN CURRENCY STABILITY MEASURES AMONG ASIAN COUNTRIES

Parminder Kaur

The SEACEN Centre
The South East Asian Central Banks
Research and Training Centre

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by

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FOREWORD

The outbreak of the East Asian regional crisis represented a watershed in determining exchange rate policy in Asia. Inappropriate exchange rate policies had been identified as one of the many causes of the crisis. The crisis also exemplified the fact that even fundamentally sound small open economies are equally vulnerable to attacks on their currencies. There was recognition that crises on the periphery, and instability and recession across the border could affect any country. This created a new momentum in promoting monetary cooperation in the region as countries realised it could be mutually beneficial to do so and also given that the existing cooperation initiatives had limited success. As a result, numerous research studies have been undertaken and policy implications presented to assist developing economies in Asia cope with such vulnerabilities collectively.

The SEACEN project on *Scope for Cooperation in Currency Stability Measures Among Asian Countries* explores the issue of the suitability of monetary cooperation and integration in Asia. The study does this mainly by drawing on analyses in the literature and attempts to identify ways for Asia to proceed further. However, no attempt is made in the study to break new grounds in research. The project was undertaken by Ms. Parminder Kaur, Visiting Research Economist, seconded from Bank Negara Malaysia.

The Seacen Centre wishes to record its profound appreciation to Bank Negara Malaysia for seconding Ms. Parminder Kaur to work on the project. The SEACEN Centre is also grateful to the Directors of Research of SEACEN member central banks and monetary authorities for their kind assistance in providing requested data and helpful comments on the first draft of the project report. However, the views expressed in the report are strictly those of the author and do not necessarily reflect those of The SEACEN Centre or its member central banks and monetary authorities.

Dr. Subarjo Joyosumarto
Executive Director
The SEACEN Centre

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EXECUTIVE SUMMARY

Currency stability is essential for managing the macro economy, particularly in the developing world. According to economic theory, exchange rate policy is closely related to monetary policy and fiscal policy, indicating a trade off between flexibility and credibility. Exchange rate policy also affects both trade and investment. The costly nature of exchange rate instability and the fact that it can be contagious, often occurring simultaneously through various channels has resulted in a search for an optimal regime that can deliver exchange rate stability and sustained economic growth. Initially, sound domestic policies were regarded as the ultimate solution, but later when the phenomenon of contagion was acknowledged, economists advocated the extremes of either a hard peg or a free float. Today, it is recognised that there is a whole spectrum of exchange rate regimes that countries may choose individually. The optimal choice is said to be dependent on several success factors. For some exchange rate regimes, these factors are more onerous than others. As these factors change, so would the optimal regime, indicating a switch in the exchange rate regime is in order. For intra-regional exchange rate stability, the option touted by the theory of optimum currency area is a currency union. Its success is again contingent on onerous conditions. Any country wishing to join a currency union should weigh the benefits and costs of such a move. Logically, from a purely economic point of view, a region or area should form a currency union if benefits just balance or exceed the costs. The benefits would arise primarily from lower transaction costs as well as increased trade and investment. The costs, on the other hand, would arise solely from the loss of national monetary autonomy, as a common currency requires a common monetary policy such that it responds to union-wide shocks.

2. While the theoretical debate on the optimal exchange rate regime continued, calls were also made for the reform of the international financial architecture. As progress on the latter front seemed slow, Asian countries looked towards self-help measures in the post-crisis period. Regional financing funds were enhanced through the Chiang Mai Initiative through enlargement of the ASEAN Swap Arrangement both in size and membership and by establishing a network of bilateral swap agreements and repurchase agreements that also included China, Japan and Korea. The enhanced financing facilities in place now have made the chances of a capital account crisis spreading through the region increasingly remote. Two new fora were also established – the ASEAN Central Bank Forum and the Manila Framework Group meeting - as formal avenues for regional surveillance. Regional fora, both new and old were deemed most suitable for discussing regional economic issues and presenting

appropriate solutions. The fora encourage members to bear in mind that in pursuit of individual country objectives, it is important not to loose sight of the wider implication of policy action on other member countries in the region, as was exemplified by the contagion of the Asian crisis. While the regional self-help measures on both the financing and consultative fronts have provided the needed safety net, especially for contagion and speculative attacks on currencies, the popular view is that the wholesome solution still lies with appropriate and coordinated macroeconomic polices. This view has laid the foundation for deeper regional integration in Asia. The view arose from the fact that for many developing countries, the effects of large scale capital flows continue to be of concern as neither the fixed nor floating exchange rate regimes can be said to insulate the domestic economies from the tensions and stresses that arise. Compounding the problem is the fact that a large part of international trade and investment is either in the US dollar, yen or euro. The relatively diversified trading partner base of Asian countries further complicates the selection of any one of these global currencies as the currency to which to peg against. Wide swings in the bilateral exchange rates caused by large scale capital flows expose countries that peg their exchange rates to any one of these major currencies to speculative attacks. The volatility of the major currencies also exerts a negative effect on economic growth in the developing world.

3. The deeper regional integration envisaged for Asia is in the monetary area. The empirical perspective from the literature is supportive of a common basket currency peg arrangement in Asia. With the existence of multiple optimal equilibria based on the options and objectives of the currency basket arrangement, choosing the best would have to be determined through policy coordination among the participants. Based on the assumption that the goal of cooperation in Asia is to stabilise the real effective exchange rate, empirical evidence is supportive of establishing an Asian Currency Unit, composed of Asian currencies, including the yen. This common currency unit would be similar to the European Currency Unit. Based on the empirical support, this is one area where deeper monetary cooperation in Asia could have its beginnings.

4. From the optimum currency area (OCA) perspective, empirical evidence for Asia, mainly in three broad areas, is mixed. Evidence on patterns on trade, including importance of intra-regional trade, composition and degree of openness in terms of share to gross domestic product indicates that Asia would benefit from a monetary union. However, empirical evidence on the nature of underlying shocks and the transmission mechanism of a common monetary policy is supportive for certain sub-regions within Asia, but not for the region

as a whole. This should not, however, preclude Asia from moving towards a monetary union, if it so desires, as long as monetary integration itself is not be regarded as the panacea for all economic ills. Furthermore, the body of knowledge concerning OCAs continues to evolve. More recent research suggests that OCA pre-requisites are related to economic integration implying that the desirability of a monetary union is itself partly a function of the underlying political choices.

5. At the same time, it should be recognised that for sustainable regional cooperation, it is crucial for all participating member countries to reach a common understanding on all issues. This should be achieved through meaningful and effective deliberations. Priority must be given to confidence building measures, such as reaching a consensus on decisions and listing the immediate, intermediate and long-term goals of the cooperation strategy. This would ensure better understanding of the implications of any move as well as wider acceptance for it. In this regard, the establishment of a regional body is deemed timely to secure the necessary commitment and credibility of future moves. While the general direction feasible for Asia seems the same as that taken by Europe, Asia should suit the pace to its own needs and circumstances and at the same time not allow difficulties faced to distract it from achieving set objectives.

SCOPE FOR COOPERATION IN CURRENCY STABILITY MEASURES AMONG ASIAN COUNTRIES

Chapter 1

Optimal Exchange Rate Regime, Cost of Currency Instability and Currency Arrangements to Promote Currency Stability

1. Introduction

Currency stability is essential for economic stability and growth, particularly in small and open economies. Challenges facing countries change over time and this suggests a need to adapt exchange rate policy to changing circumstances. It is not surprising then that both the Asian and Russian currency crises of 1997-98 sparked a renewal of the theoretical debate on the optimal exchange rate regime. In the 1980s, as there was a rapid acceleration of inflation in many developing countries, the debate centred on the role of exchange rate pegs in inflation-stabilisation programmes. In the 1990s, using the argument that higher capital mobility made it more difficult and potentially costly to defend a ("soft") pegged currency, the popular conclusion was that the extremes of a free float and a fixed exchange rate ("hard peg") would increasingly prevail as the only sustainable regimes in a world of high capital mobility. This new consensus resulted in calls for Governments in small and open economies to adopt either extreme of this bipolar view or "two corners" solution.

Economic theory indicates that the effectiveness of monetary policy and fiscal policy however, varies considerably under the different exchange rate systems of fixed and floating exchange rate regimes. This then also implies that there exists a trade-off between monetary independence and exchange rate stability. In a floating exchange rate framework, policy actions can be undone by changes in the exchange rate. Accordingly, before deciding on the relative merits of an exchange rate regime, countries would inevitably have to consider whether in the process of attaining domestic objectives, reliance on monetary and fiscal policies is more crucial and therefore less costly than the exchange rate policy itself. The simple monetary model and the Mundell-Fleming model (despite limitations of the models) with their contrasting assumptions can be used to demonstrate the effectiveness of monetary policy and fiscal policy under the fixed and flexible exchange rate regimes. What follows, therefore, is a section that reviews the theoretical background of the two

models. Then follows a section that looks into the costs of exchange rate instability. This section would cover the costs associated with international trade, domestic investment, foreign direct investment and inflation. The impact of exchange rate instability on other economies would be discussed in section IV by studying the issue of contagion. The final part of the chapter reviews various exchange rate arrangements touted to promote currency stability. The conclusion summarises the key points.

2. Theoretical Background

Before going into the models, it would be useful to have an understanding of what exactly is monetary policy and fiscal policy. **Monetary policy** is about ensuring that money can play its vital role in helping the economy run smoothly. The goals of monetary policy can therefore include the promotion of sustainable growth, full employment, stable prices, financial stability, exchange rate stability, sustainable pattern of international payments and even positive real interest rates for depositors. As it is the central bank that bears the responsibility for achieving these goals, **whatever the central bank does to influence the amount of money and credit in the economy, which then affects the interest rates and influence the level of spending and economic activity is referred to as monetary policy**. The primary tools of monetary policy are open market operations (buying and selling of government securities), discount rate (rate charged by the central bank to financial institutions on short-term loans) and reserve requirements (portions of deposits that financial institutions must have in their vault or deposit at the central bank).

On the other hand, when the **national government makes decisions on taxation and spending programmes with a view to influencing the level of production and employment in the economy, it is termed fiscal policy**. Decisions to change the tax rate or taxes in turn affect total consumption leading to a corresponding change in the rate of gross domestic product growth. Decisions to change the level of government spending and borrowing will directly affect aggregate demand, economic growth and possibly inflation.

2.1 The Simple Monetary Model

2.1.1 Underlying Assumptions

The simple monetary model for exchange rate determination assumes that prices are completely flexible in both the short and long run, so that Purchasing Power Parity (PPP) holds continuously, and that the demand for money

has a stable and predictable linkage to a few domestic macroeconomic variables (the quantity equation, $M^d = kPy$, where M^d is the demand for money, P the domestic price level, k is a constant and y the real income generated in the domestic economy). The PPP hypothesis states that if S is the exchange rate, then given a domestic price level of P, and a foreign price level of P*, at equilibrium, SP*=P, so that nothing is gained by shipping goods from one country to another.

Given the above assumptions, the model can be used to demonstrate the equilibrium in the money and foreign exchange markets, the exchange rate (S), is the ratio of the initial money stock (M_o^s) to the demand, measured at the foreign price level (kP*y). In short, $S= M_o^s /kP^*y$.

2.1.1.1 Analysis Using a Floating Exchange Rate

Under a floating exchange system, the model can then be further used to demonstrate that:

(a) a given percentage increase in the domestic money supply leads, other things being equal, to a depreciation of the same proportion in the value of the domestic currency. Conversely, a given percentage decrease in the domestic money supply leads to an appreciation of the same proportion in the value of the domestic currency;

(b) a rise in domestic real income leads, other things being equal to an appreciation of the domestic currency. Conversely, a fall in domestic real income leads to a depreciation of the domestic currency; and

(c) a rise in the foreign price level, other things being equal, is associated with an appreciation of the domestic currency (that is, a fall in the price of foreign exchange S), and **no other change in the domestic economy**. Conversely, a fall in the foreign price level is associated with a depreciation of the domestic currency (that is, a rise in the price of foreign exchange S), and **no other change in the domestic economy**

The outcome of (a) above implies that monetary policy shifts lead to a movement in the exchange rate. In other words, the burden of adjustment is on the exchange rate. Similarly, the outcome of (b) above implies that shifts in fiscal policy lead to a movement in the exchange rate. In short, in a floating exchange rate framework, both monetary and fiscal policies can generate movements in the exchange rate. Finally, from the point of view of macr-

oeconomic policy, part (c) of paragraph 7 is highly significant. It suggests that world inflation need have no impact on the domestic economy. The domestic price level is determined in the domestic money market in exactly the same way it would be if the rest of the world never existed. The **floating exchange rate acts like a valve**, continually sliding up and down as required to preserve PPP in the face of disturbances originating in either or both countries' domestic money markets. In short, **the burden of adjustment rests on the exchange rate**. The implication is that the sovereignty of each country's macroeconomic policy is preserved by this exchange rate flexibility. Each can independently choose its inflation rate (the only variable left to choose in this simple model) without regard to the actions of the other.

2.1.1.2 Analysis Using a Fixed Exchange Rate

Under a fixed exchange rate system, the exogenous variable - exchange rate - is fixed by the authorities. Money supply is also no longer an exogenous variable. The policy variable is domestic credit (DC) and since money supply, M^s = FX+DC **the burden of adjustment to changes in exogenous variables falls on the foreign reserves, FX**. In addition, real income and foreign price level are assumed as given. Given these assumptions, it can be demonstrated that starting from a position of equilibrium,

(a) a given percentage increase in the domestic money supply through domestic credit creation will be neutralised, other things being equal, by a **fall in the reserves** as a result of a temporary balance of payments deficit. Conversely, domestic credit contraction will cause a temporary balance of payments surplus and a consequent offsetting rise in the reserves.

(b) a rise in real income will cause an **increase in reserves** as a result of a temporary balance of payments surplus. In the new equilibrium, the domestic money stock will have risen and the home price level will have returned to its PPP level; and

(c) a rise in the rest of the world's price level will be to cause an **increase in the reserves** as the result of a temporary balance of payments surplus. In the new equilibrium, the domestic money stock will be greater, and the home price level will have risen to its PPP level.

The processes taking place in (a) to (c) in paragraph 9 amount to a type of automatic stabilisation. **With a fixed exchange rate, flows of reserves act automatically to adjust the money stock so as to reinstate equilib-**

rium. Monetary policy is not only impossible, it is also unnecessary. In other words, the balance of payments deficits or surpluses, far from requiring remedial macroeconomic policy, are actually the channels through which disequilibria are spontaneously rectified. The implication that follows is that a country using fixed exchange rates cannot control its own money supply (since it is determined by the flow of reserves) and hence cannot choose its price level or inflation rate independently of developments beyond its borders. **The important conclusion of the monetary model therefore, is that a small country that chooses to operate with a fixed exchange rate cannot follow an independent monetary policy. As a consequence, neither can it choose a price level or inflation different from that of the rest of the world.** Instead, the small country would be forced to inflate, or deflate, at roughly the same rate as the rest of the world.

2.2 Mundell-Fleming (M-F) Model

2.2.1 Underlying Assumptions

The M-F model assumes the price level is fixed, the supply curve is perfectly elastic and that PPP does not hold, even in the long run. This implies that the size of the current account surplus would depend positively on the real exchange rate and negatively on real income. In other words, the current account balance is determined independently of the capital account, so that achievement of overall balance requires adjustment in the domestic economy. In addition, capital mobility is assumed to be less than perfect and exchange rate expectations static implying that the **role of interest rates is absolutely central to the model**. The balance of payments equilibrium obtains when the flow of capital across the exchanges is just sufficient to finance the current account deficit or absorb the surplus and this equilibrium would be for a given value of S, the exchange rate.

2.2.1.1 Analysis Using a Floating Exchange Rate

(a) Effectiveness of Monetary Policy

Starting from a general equilibrium in the domestic economy and where there is a zero current account deficit at this exchange rate-income combination, with no tendency for capital to move, it can be shown that:

a monetary expansion would result in a depreciation in the exchange rate, an increase in income, a fall in the interest rate and an improvement in the current account of the balance of payments. **The**

external sector is returned to equilibrium through two mechanisms: the interest rate and the exchange rate. In the limiting case of perfect capital mobility, the full burden of external adjustment falls on the exchange rate as the interest rate would be completely fixed.

Thus, the net effect of the expansionary monetary policy on the level of economic activity is shown to be unambiguously positive – even allowing for crowding out effect of the increase in demand induced by the fall in the exchange rate. With perfect capital mobility, the crowding out effect would be eliminated completely, resulting in maximum expansionary impact on aggregate demand. **This demonstrates that monetary policy has a powerful effect on output with flexible exchange rates.**

(b) Effectiveness of Fiscal Policy

Using the same starting point as above, it can be demonstrated that: a pure fiscal expansion, such as an increase in government expenditure with an unchanged money stock would result in an appreciation in the exchange rate, an increase in income, a rise in interest rate and a deterioration in the current account of the balance of payments.

As far as policy considerations are concerned, the ultimate expansion of demand in this case would be smaller since the crowding our effect of the fiscal injection due to the rise in interest rate is further supplemented by the appreciation in the exchange rate which crowds out foreign spending on domestic net exports. **The conclusion therefore is that with a floating exchange rate, fiscal policy is less powerful in affecting economic activity and in the case of perfect capital mobility, fiscal policy will have no effect on economic activity**. With perfect capital mobility, fiscal actions are completely undone by the effect of exchange rate changes on net exports.

2.2.1.2 Analysis Using a Fixed Exchange Rate

(a) Effectiveness of Monetary Policy

In the M-F model of a fixed exchange rate, it can be shown that: a monetary expansion would cause the interest rate to fall, income to increase and the balance of payments to deteriorate on both the current and capital accounts in the short-run.

A monetary expansion is equivalent to a downward shift in the LM curve, which implies that interest rate has to fall and income level increase. The fall in the interest rate worsens the capital account. At the same time with the exchange rate unchanged, the increase in real income causes a deterioration in the current account. Such a situation can only be a temporary equilibrium. An overall balance of payments deficit and the associated excess supply of domestic currency means that the fixed exchange rate can only be sustained by running down reserves. Thus, **in the long run, there would be a fall in the foreign currency reserves, but no change in income, interest rate or the balance of payments** (the LM curve shifts back to the original equilibrium point). **This implies that under fixed exchange rate, monetary policy has no effect in the long run as there is automatic adjustment**. As in the monetary model under a fixed exchange rate regime, flows of foreign currency reserves act automatically to adjust the money stock so as to reinstate equilibrium.

(b) Effectiveness of Fiscal Policy

In the M-F model of a fixed exchange rate, a fiscal expansion (outward shift in the IS curve) would cause:

> a rise in the interest rate and income, and an overall surplus on the balance of payments in the short run.

In the long run, there would be a further increase in income while the interest rate falls somewhat, and the overall balance of payments surplus shrinks to zero, leaving a substantial current account deficit. This deficit is financed by capital inflows attracted by the relatively high domestic interest rate. With perfect capital mobility, the burden of financing the current account deficit can be fully borne by capital inflows at no perceptible increase in interest rates. **With no crowding out, the effect is to increase income very substantially. Fiscal policy under fixed exchange rate regime can thus be said to be more effective in raising output.**

Some important conclusions that can be drawn from both models (despite the limitations) are that:

(i) money supply has a relationship to the exchange rate system;

(ii) under a floating exchange rate system, a country can run an independent and effective monetary policy; and

(iii) under a fixed exchange rate system, the nominal exchange rate is no longer a policy instrument. At the same time, a small country looses its ability to run an independent monetary policy. As money supply is no longer an exogenous variable, monetary policy as an instrument of economic policy will not be effective. As a consequence, the country neither can choose a price level or inflation different from that of the rest of the world. Fiscal policy would likely then be the more useful macroeconomic policy tool.

Therefore if sovereignty of macroeconomic policies is important, the merit would be for the country to adopt a flexible exchange rate regime. In contrast, if exchange rate stability is viewed as more important because of larger benefits, the merit would lie in a fixed exchange rate regime.

While the above simple considerations could assist a country determine whether a fixed or floating exchange rate system would be more appropriate, the success of the country's exchange rate regime itself would depend on several factors, such as:

(a) its capacity to commit convincingly to a sound fiscal and monetary policy (credible ability to have a nominal anchor);

(b) its trade policy and degree of financial integration;

(c) its ability to issue foreign debt in its own currency and the economic agents' capacity to hedge the exchange rate risk;

(d) the soundness and resilience of the banking sector; and

(e) the size of the pass-through coefficient from exchange rate fluctuations, such as a depreciation to inflation and the extent of other nominal rigidities in the economy, such as, in wages.

Accordingly, as the above circumstances in a country change, so would the optimal exchange rate regime for it.

3. Costs of Exchange Rate Instability

Intensified economic linkages, increasing trade openness and growing intra- and inter-regional trade volume among economies around the globe imply that the issue of exchange rate instability has become a common interest for the world's economies. This is not surprising since under these circumstances of increased interdependence, stability in the exchange markets forms a basis

of ensuring sustainable trade and investment development and sustainable economic growth[1]. At the same time, a large fraction of international commerce and international borrowing is denominated in a few major currencies such as the United States dollar, Japanese yen and the Euro. Consequently, wide swings in the bilateral rates of these major currencies themselves can have large effects on trade flows, capital flows, portfolio composition, macroeconomic performance and even cause countries that have pegged exchange rate regimes, such as to the dollar, to be vulnerable to speculative attacks. The volatile performance of exchange rates, particularly when influenced by financial forces distinct from the fundamentals such as the basic balance of trade have resulted in macroeconomic instability and maldistribution costs. These costs are discussed below and generally explain the repeated calls being made at various regional and international fora for greater efforts towards exchange rate stability.

3.1 Impact on International Trade and Domestic Investment

Exchange rate instability has two aspects: pure volatility effects and persistent misalignment effects. Pure volatility is said to increase uncertainty and therefore increase costs associated with risks, while persistent misalignment may induce costly shifts of resources between economic activities in response to changing price incentives (Hinkel and Montiel, 1999). The uncertainty effects and adjustment costs are better understood when the exchange rate is considered as a price and due to its special quality of linking the general level of prices in the national economy with prices in other countries, that is, an information variable of relative prices or competitiveness. In a small and open economy, the exchange rate is probably the single most important price. In today's market economies, allocative decisions are primarily made by markets. Prices of goods and services set in those markets are central guides to the efficient allocation of resources in a market economy, along with interest rates and equity values. Prices are the signals through which taste and technology affect the decisions of consumers and producers, directing resources towards their highest value use. Exchange rate instability introduces uncertainty about the future price of goods and services. If economic agents are

1. It should be noted, however, that exchange rate stability does not guarantee the stability of the financial system in certain circumstances. Insistence on exchange rate stability could be detrimental to economic development in as far as banks and enterprises tend to ignore the exchange rate risk if exchange rate stability is achieved through intervention. In a small open economy, there is a trade off between exchange rate intervention and the volatility of domestic interest rate and asset prices.

able to correctly anticipate the changes in future exchange rates, the variability is not of concern. However, this is not the case and the exchange rate fluctuations introduce increased risk. Although it is possible to hedge against exchange rate risk, one cannot hedge risk perfectly, unless the size of one's foreign currency exposure is known.

The uncertainty produced by exchange rate changes acts as a tax on trade and more importantly, a tax on domestic investment in traded goods industries. Although, potential adverse effects of exchange rate variability are most apparent for producers and traders directly involved in international transactions, and may indeed, lead to sovereign states introducing impediments to international trade, they can be important also for suppliers in their domestic markets. If foreign producers have a significant share of a given market, an improvement in their competitiveness may require domestic producers to cut their profit margins or face an erosion of their market share. In an environment of erratic behaviour of relative prices caused by exchange rate movements, time horizons of economic agents shorten, long-term commitments are less attractive thus dampening or delaying domestic investment decisions. To the extent that relative price uncertainty is a major factor in decisions on resource allocation, it would be expected to also result in a gradual switch in investment and output away from traded goods industries (which are more exposed to uncertainty from exchange rate movements) (Williamson, 1999) and toward nontraded goods. Such a shift in the industrial sector can result in the total level of investment in the country to decline especially if the traded goods sector had a higher capital/labour ratio. In addition, trade hysteresis can occur. Hysteresis signifies a situation in which temporary shocks (short-term exchange rate movements) have effects that do not go away when the shocks are removed in the longer term (misalignments being corrected when exchange rate moves closer to equilibrium level). As an example, a level of the domestic currency that was low enough to deter foreign firms from entering the domestic market will not necessarily induce them to exit once they have incurred costs. Similarly, domestic firms that lost competitiveness in foreign markets will not be persuaded to make an effort to regain entry in those markets. All of these developments have implications for international trade and domestic production facilities in import-competing and export industries.

Empirical work on exchange rate uncertainty and its effect on trade and domestic investment has found mixed evidence. The majority of earlier econometric studies on industrial countries were unable to find negative effects of exchange rate uncertainty on international trade

(IMF, 1984a), while a relatively small number of studies did uncover limited effects (De Grawe,1988 and 1996; Kenen & Rodrik, 1986). Another study (IMF,1984b) of the major industrial countries using data from 1960-1982 also found little change in the rate of domestic investment. Interestingly, more recent research has succeeded in showing that in developing countries exchange rate volatility does impact trade and direct foreign investment (Frankel and Wei, 1993; Goldberg and Klein, 1997). Studies by Rose (2000) and Rose and Wincoop (2001) also found evidence that currency stability arising from a common currency does contribute to substantial increases in both international trade and welfare.

3.2 Impact on Foreign Direct Investment

Exchange rate instability can have an impact on the pattern of foreign direct investment (FDI). A multilateral firm looking to invest in a foreign country will base its decision not only technical factors, but also the uncertainties of currency relationships. This may lead to a diversification of investment, even at some cost in terms of efficiency, in order to minimise risks arising from currency instability. As a result, instead of production facilities being concentrated in the lowest cost locations, they may be located in a number of different currency areas. This kind of diversification is also usually more concerned with the prospective level of the exchange rate that causes the uncertainty. This is because such firms are more concerned with exchange rate movements that affect the relationship between its costs of production and its sales return (short-term factors) rather than just the nominal value of one currency in terms of another (long-term factors).

A depreciation of the real exchange rate may stimulate inflows of direct investment by increasing the relative wealth of the investor and reducing the costs of domestic assets and factors of production. In contrast, an appreciation of the real exchange rate could also be associated with increased FDI, if the appreciation reflects the impact of a general surge in capital flows or if it decreases protectionists pressures. Earlier empirical work found that capital inflows are generally associated with exchange rate depreciations, which is consistent with the idea that wealth and cost channels predominate (see, for instance, Froot and Stein, 1991 and Klein and Rosengren, 1994). A study of the APEC region (IMF, 1996b) also confirmed this finding. As mentioned in paragraph 21, recent studies for developing countries have also succeeded in showing that exchange rate volatility can impact on FDI.

3.3 Impact on Inflation

Exchange rate instability can be an independent cause of inflationary pressures in an economy (Wanniski, 1975). According to economic theory there is a trade off between inflation and economic growth. A rise in inflation would mean a lower rate of economic growth. There is no doubt that a depreciating exchange rate does have significant inflationary effects. It is common for increases in traded goods prices from an exogenous exchange rate depreciation to be passed on into consumer prices more rapidly or completely than for any reductions attributable to exchange rate appreciation. This state of affairs results as producers are usually said to respond more rapidly to developments that erode their incomes than those that increase them. In addition, it is easier for producers to justify an increase in real prices by placing the blame on a declining exchange rate. On the other hand, the fact that prices are more sticky downwards is also well known. Producers often cite increases in production costs from other sources, while retailers cite holdings of old stocks as reasons for not reducing prices. Given such asymmetrical effects on prices of exchange rate appreciation and depreciation, it is sufficient to conclude that there is a faster rate of price increase or inflation when exchange rates are volatile than when exchange rates are stable.

Empirical testing of the influence of exchange rate instability on inflation provides mixed evidence. Goldstein (1977) in studying the asymmetrical effects using data for the period 1958-73 for five industrial countries, both separately and as a group, found no support. However, an IMF study of seven major industrial countries found some evidence of a positive relationship in six of those countries (IMF, 1984a, pp 56). Another study (IMF, 1984b, pp 17-19) further found that for a given depreciation, a smaller and more open economy is likely to experience more domestic inflation than a larger and less open economy. This implies that inflation costs of exchange rate instability are greater for smaller and open economies. Recent studies have tended to look at how alternative exchange rate regimes affect macroeconomic performance, such as, inflation and growth. The usual conclusion has been that countries with pegged exchange rates (implying exchange rate stability) have lower inflation. A more recent study (IMF, September 1996) further found countries with pegged exchange rate regimes are also associated with lower inflation variability. In other words, inflation is less volatile in such countries.

Domestic inflation in the Asian countries affected by the Asian crisis did rise in 1998 following the currency depreciation that occurred in the latter half of 1997 and early 1998 (Table 1). Fortunately for many of these coun-

tries the rise in inflation was somewhat mitigated by the large excess capacity that already existed in their economies. Moreover, the large decline in demand prevented importers from passing on the full increases in price to consumers in their efforts to retain market share. The perception by importers that the depreciation were temporary could also have affected the pricing behaviour. The situation was also helped by the decline in nominal wages when labour did not demand increases in the face of growing output gaps. In short, the incidence of inflation following a depreciation would depend on the size of the pass-through coefficient from depreciation to inflation and also on the extent of nominal rigidities, especially wages.

TABLE 1
INFLATION IN SELECTED ASIAN COUNTRIES
(Annual growth in %)

	Indonesia	Thailand	Philippines	Korea	Malaysia	Taiwan
1997	6.2	5.6	5.9	4.5	2.7	0.9
1998	58.4	8.1	9.7	7.5	5.3	1.7

4. Impact of Exchange Rate Instability on Other Economies

4.1 Contagion

During the 1980s, much of the blame of systemic crisis was placed on poor domestic policies and high real interest rates in the United States. In the 1990s were three major currency crises: in the European Monetary System in 1992-93, the Mexican peso crisis in December 1994-1995 and the Asian crisis in 1997-98. In addition, there was the 1998 Russian ruble collapse and the 1999 Brazilian devaluation. All of these crises served to shift the focus to the possibility that crises could actually be contagious. Such thinking originated as crisis after crisis from the individual country with problems spawned to other countries where conventional imbalances, such as fiscal and current account deficits, were relatively small or real exchange rate misalignments relatively insignificant. The propagation of the crisis from Russia to Brazil – two economies located in separate regions, having very different economic

structures and hardly any direct real linkages was deemed equally as a paradox.

Contagion, therefore, implies that a negative shock in country A could simply lead to a crisis in country B – a crisis completely unwarranted by the country's fundamentals and policies. In other words, there is no guarantee that a country will be able to shield itself from the ill-effects emanating from another country, particularly one in the neighbourhood. Such contagious crises easily feed each other among regional trade and investment related economies, while some even spread across regions. The various channels through which contagion can arise as discussed in economic literature are given below.

4.1.1 Macroeconomic Similarities

According to this hypothesis, macroeconomic similarities become the contagion conduit as countries with bad fundamentals are either bound to have a crisis or may enter a multiple equilibria zone. Countries with bad fundamentals will be subject to common negative shocks and this would be manifested as contagion. On the other hand, should the countries enter a multi equilibria zone, it is said that because of incomplete information, investors treat all countries that look alike in the same manner. In such a situation, should one country be hit by a crisis, an information spillover against countries with similar macro conditions occurs. In other words, if a country suffers from a currency crisis, investors may also withdraw from other countries having similar macro conditions because they expect the same problem will occur in these other countries as well. In the end, there is a self-fulfilling crisis, although initially, it need not have occurred. The transmission mechanism of contagion is through the change in investor expectations or beliefs and not by any real linkages.

4.1.2 Trade Links, Both Direct Trade Among Countries and Competition in Third Markets.

The theoretical model for analysing this real interdependence was provided by Gerlach and Smets (1995) in explaining the 1992 EMS crisis. According to this theory trade links could serve as the contagion channel because of the possibility of competitive devaluation. Faced with a devaluation in a trading partner (income effects) or trade competitor country (price effects), a country may attempt to preserve its competitiveness by devaluing its currency. Since investors anticipate this decision as highly likely, they reduce

their demand for the country's assets, triggering a devaluation crisis and, in the process, substantiating their own expectations. The end result is a self-fulfilling crisis that occurs despite the initial intention not to devalue.

4.1.3 Financial Linkages

Financial linkages can explain contagion in several ways, each associated with a particular theory (Hernadez and Valdes). These are as follows:

4.1.3.1 Direct Financial Linkages

These refer to direct cross-country investments which link corporate and financial sector returns. An example of this link would be a devaluation of currency A driving equity prices down in country B because the devaluation imposes losses on corporations in country B with investments in currency A.

4.1.3.2 Indirect Financial Linkages

(i) Financial Market Institutional Practices

These refer to institutional arrangements whereby countries are treated as complementary assets and fund managers apply simple "rules of thumb". Consequently, a negative shock in one country leads to reduced demand for the assets of other countries. If the fund managers keep fixed weights in different countries then should there be a drop in the stock market in one particular country, resources will have to be withdrawn from the other countries in order to rebalance their portfolios. A more complex mechanism occurs when fund managers hedge risks using countries whose returns are co-related with those that are being hedged.

(ii) Foreign Investors' Liquidity Problems

A situation where emerging market financial claims are illiquid and there is bad news from a particular country, measured by a lower probability of repayment, is bound to generate a higher probability of a run against other emerging markets, and therefore a lower probability of repayment in these other countries. Other theories include the behaviour of open-end mutual funds and hedge funds, which after experiencing a shock – say a crisis in a particular country –sell securities in other countries in order to raise funds to finance redemptions by investors who decide to withdraw from the fund.

(iii) Information Asymmetries and Herd Behaviour

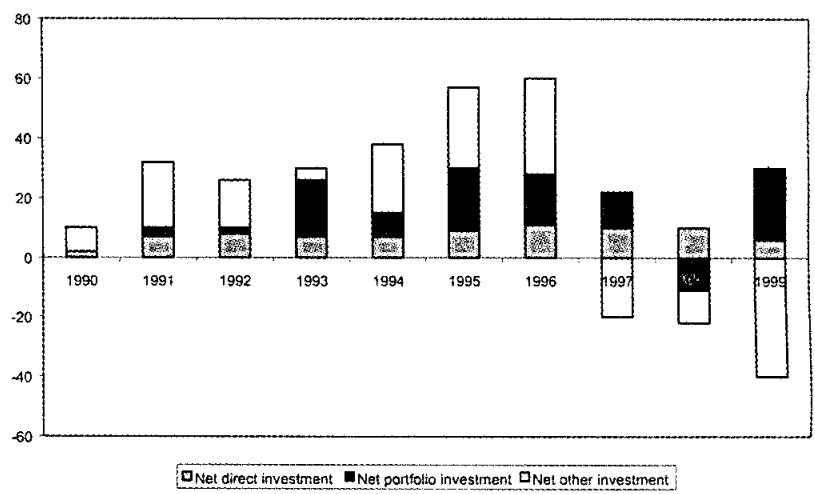
These include a series of theories based on capital market distortions that, in turn, produce co-movement across countries. As mentioned above, after a crisis, fund managers need to sell securities to raise cash to finance possible redemptions by investors. However, in the process of selling "good" countries, the market penalises them because of the 'lemon problem' –that is the buyer has reasons to believe the seller is selling because he just learnt about a deterioration in the quality of the asset. Herd behaviour occurs due to the practice that fund managers' performance is compared to market performance. It therefore becomes very risky for them to deviate from what others do, even if the other managers follow wrong investment strategies.

In reality, it is plausible that contagion occurs simultaneously through the different channels mentioned above. Nevertheless, it cannot be denied that certain channels could be more important during particular events. Empirical literature on contagion has attempted to identify the channels of transmission of shocks using alternative definitions and therefore alternative methodologies. It is interesting to note that while initial studies found macroeconomic fundamentals as the important contagion channel (Sachs, Tornell, and Velasco, 1996), later studies found empirical evidence that trade links play an important role in spreading crises (Eichengreen, Rose and Wyplosz, 1996; Wolf 1997; and Glick and Rose, 1999). In addition, since trade tends to be more intra- than inter-regional in nature, some of these studies conclude that this can explain why contagion tends to be regional rather than global. However, trade links could neither explain the contagion from Mexico to Argentina and Brazil nor from Thailand to Indonesia. Kaminsky and Rienhart, 1999, found empirical evidence to support that financial sector linkages (through banks such as a common creditor and international capital markets) propagated the shocks particularly for Argentina, Brazil and Indonesia. The study concluded that trade links and exposure to a common creditor helped explain the observed historical pattern of contagion. Other recent studies that found financial links to be a relevant contagion channel include those by Van Rijckeghem and Weder and De Gregario and Valdes.

In the case of the Asian crisis, all three channels identified earlier are said to have played a role. Goldstein (1998) for example identifies macroeconomic similarities, trade links through competition in third markets (dynamics of devaluation) and direct financial linkages. On macroeconomic similarities, Goldstein used the "wake-up call" hypothesis. According to this hypothesis, Thailand where the crisis first originated acted as the wake-up for interna-

tional investors to reassess creditworthiness of Asian borrowers and when they did that they found that quite a few of these economies had weaknesses similar to those in Thailand (that is, weak financial sectors with poor prudential supervision, large external imbalances, appreciating real exchange rates, declining quality of investment, etc.). As more detailed information was not readily available, investors treated all the countries in the same manner causing self-fulfilling crisis. As one country after another underwent a depreciation, the countries which had not devalued experienced a deterioration in competitiveness, which in turn made their currencies more vulnerable to speculative attacks. Kaminsky and Reinhart in stressing the role of the common lender, in particular commercial banks as the channel of contagion (financial links) state that as the crisis in Thailand unravelled, taking advantage of the short-term nature of their credits, Japanese banks began call loans- not just in Thailand but all over the region. As result, commercial bank credit to the six affected countries (Indonesia, Korea, Malaysia, the Philippines, Thailand and Taipei, China) shifted from a substantial inflow to a large outflow in the following year causing a regional liquidity crunch. Chart 1 shows that for the six affected countries bank credit shifted from a substantial inflow in 1996 to an outflow in 1997 and 1998 and by 1999 the substantial outflow was mainly on account of bank credit. This explains why the Asian crisis has been said to be a liquidity-currency-led financial crisis.

Chart 1
Capital Flows: Indonesia. Korea, Philippines, Malaysia, Taiwan, ROC and Thailand
(US$ billion)



5. Exchange Rate Arrangements to Promote Currency Stability

The preceding discussions on the costs of exchange rate instability and its impact on other economies suggests that currency stability is indeed important for encouraging trade and investment, promoting macroeconomic stability and averting the harmful effects of contagion. With the twin forces of globalisation and liberalisation gathering pace, economies around the world will increasingly be more integrated. Consequently, greater currency stability and perhaps even monetary coordination will become both a necessity and a reality regionally. The inappropriate exchange rate system has been said to be one of the many causes of the East Asian crisis. The regimes involved were a variety of the "soft" peg to the United States dollar. In the resulting search for a solution, the question on the optimal exchange regime surfaced. It is in this context, as mentioned earlier, that the "two corner" solution ("hard" peg or pure float) became increasingly popular in academic policy circles. However, it is important to note that this view has been challenged and intermediate exchange rate regimes that could mitigate the negative effects of the "two corner" extreme regimes are currently also being seen as equally appropriate should the country's own initial circumstances, some of which were outlined in paragraph 17 above warrant it (Fisher 2000; and Frankel, 1999). The different approaches that have been advocated as the way towards more stable currencies are discussed in the following paragraphs. The first four choices are different variants of the commitment to a fixed exchange rate, while the last two represent a commitment to a floating exchange rate. The first three choices can also be viewed as different variants of the "hard peg" or one of the "two corners", the following two choices as intermediate regimes and the last choice as the other extreme "corner".

5.1 Optimum Currency Area/Currency Union/Monetary Union

For intra-area exchange rate stability, a currency union is touted as an option by the theory of optimum currency areas. The theory emerged out of the debate over the relative gains and costs of fixed versus flexible exchange rates. The basic idea behind this theory is that, the choice between fixed and flexible exchange rates should depend on the economic characteristics of the countries or an area. Which need not necessarily correspond to national boundaries. The theory further advocates that fixed exchange rates within the area are the most appropriate. Characteristics on which to base the identification of countries or areas as the optimum currency area (OCA) as touted by the theory are considered demanding and are as follows:

(i) price and wage flexibility. The market clearing mechanism will ensure through this price and wage flexibility, the adjustment of payments imbalances within the currency area without any costs in terms of unemployment or inflation. In other words, the more flexible prices and wages are, the less relevant the exchange rate arrangement is. When prices of goods, services and factors are flexible, a deviation of the real exchange from its equilibrium value will generate demand and supply excesses which induce the appropriate changes in nominal prices so as to rapidly move the economy, and particularly, the market for foreign exchange toward an equilibrium. Under this circumstances, the costs of renouncing monetary policy autonomy will be minimal;

(ii) factor market integration (Mundell, 1961), where internal factor mobility includes both inter-regional and inter-industry mobility;

(iii) goods market integration, which suggests that a successful currency area must have a high degree of internal openness that could be measured by the marginal propensity to import or the ratio of tradable to non-tradable goods in production and consumption (Mundell, 1961);

(iv) financial market integration (Ingram, 1959); and

(v) political integration which will ensure close coordination of national monetary authorities or even the creation of a supranational central, which implies giving up national sovereignty over the conduct of monetary policy.

However, any decision by a country to join an area of fixed exchange rates would have to weigh the benefits and the costs entailed in such a move. Here again, the OCA theory recognises that the smaller a country is, the greater the proportion of transactions it is likely to conduct across national boundaries. This higher share of foreign trade in the economy would result in greater costs, both in terms of uncertainty and dealing, of having a separate currency. Exchange rate instability is therefore a more serious issue for the small country in the aggregate. With greater scope for economising on exchange costs, the OCA proposal entails organising countries into optimum monetary areas where the advantages for internal trade of further expanding the area of fixed rates are just balanced by the disadvantages of giving up the freedom to devalue and revalue the national currency (that is, giving up the freedom to use the exchange rate as a policy tool). A more recent approach to the OCA is that a strong incentive for monetary union is created by an assurance that the union's inflation rate will be low (Talvas, 1993). A problem with an OCA is

that there can effectively, be only one monetary authority (and therefore, a common monetary policy) in each area. This means that a country joining a currency area must surrender a considerable amount of sovereignty to the central policy-making authority. However, this independent monetary policy issue is a point of little practical relevance. There are many other ways in which an economy that is highly integrated with its neighbours can cope with adverse shock even in the absence of discretionary changes in macroeconomic policy.[2] For this reason, the creation of monetary unions where in addition to the common currency in a currency union, all laws and regulations are also harmonised within the framework of a much more comprehensive agreement on economic and political cooperation is seen as crucial for its success.

However, in the initial stages of setting up a single currency area, compromises can be made, such as adopting a crawling peg of the exchange rate as in the case of the ERM or even to permanently and irrevocably fix the exchange rates of two or several currencies within the area instead of a single currency circulating within the area. The only problem is that when countries preserve separately issued currencies, the market always takes the view that countries have preserved the potential escape route of exchange rate changes in order to make use of it when fixity proves too painful.

5.2 Dollarisation

Dollarisation is another option viewed as appropriate for any country whose own national currency has not been as stable compared to another country's currency. Dollarisation is defined as the use of a foreign currency to fulfil some or all of the functions of money as a means of payment, store of value or unit of account. The term dollarisation came about following the use of the US dollar in most parts of the world where this option has been used, although any sound currency of another country can play this role of a preferred currency.

2. Examples of these ways in the traditional OCA literature include having a federal fiscal policy which would effect transfers between countries impacted by asymmetric shocks; and labour mobility between the partner countries offsetting labour market consequences of asymmetric shock. More recent literature includes internal labour market flexibility as a good substitute for the external labour mobility; and access to a common capital market as a good substitute for the federal fiscal system.

Dollarisation works by ensuring that the country which adopts it has a monetary policy as good as the preferred currency's country. The **main benefits of dollarisation** are a more predictable exchange rate since the preferred currency is one that is stable in the first place. Consider the case of the preferred currency being the US dollar. The exchange rate with regard to the US dollar and currencies linked to it will be the rate prevailing in the market. Since the US dollar is a floating currency, the dollarised country will still experience exchange rate fluctuations with respect to countries outside the dollar zone. Nevertheless, being part of the dollar zone will reduce uncertainty in international trade and investment arising from exchange rate fluctuations within the dollar zone. In addition, depending on initial prevailing circumstances in the dollarising economy other most likely benefits would be a lower inflation rate (since inflation in the US has generally been low), lower average real interest rate (inflation-adjusted), a lower need for foreign reserves (Moreno-Villalaz, 1999) and full convertibility of the currency. With dollarisation, the currency is denationalised. Individuals and private companies rather than the central bank own the foreign reserves of the monetary system. This helps preserve the wealth of the people from inflation and devaluation. Since there is no independent currency to devalue, exchange rate speculation and costs of hedging against the preferred foreign currency will tend to disappear.

The **main potential cost of dollarisation** involves loss of seigniorage to the national government. Since a foreign currency is the preferred money, the central bank in that foreign country, instead of the domestic country will derive the gains from issuing a currency. There are two types of costs involving loss of seigniorage: stock and flow (Fisher, 1982). The stock cost is the one-time cost of initially obtaining the foreign currency notes and coins necessary to replace the national currency in circulation. According to Fisher, this cost would on average be 8% of GNP. The flow cost is continuous and is the income foregone because holdings of foreign notes and coins do not earn interest. The income forgone is the stock of foreign currency notes and coins held in the country multiplied by the rate of inflation in the foreign country. Hence, the higher the rate of inflation, the higher the flow cost. Fisher estimated the typical flow cost of using US dollars as the preferred currency as between 0.75% - 1.0% of GNP per annum. The inflation rate in the US then was above 10% per annum. Using a US inflation rate of 2% - 4% per annum, the flow cost would be 0.2% - 0.3% of GNP per annum. Depending on estimates for the long-term real interest rate, this flow cost can be converted into the present, discounted value. Other costs of dollarisation would include the obvious loss of monetary policy independence through the abolishment of

the national currency and the loss of lender of last resort function of the central bank.

While the main cost from loss of seigniorage can be quantified as shown above, it is not possible to do the same for the other costs or benefits of dollarisation. Hence, the benefits would have to be weighed against an individual country's initial economic conditions to arrive at some useful conclusion on the net benefit or loss from dollarisation. A look at the performance and experience of dollarised economies and the alternatives available would provide some useful insights. As an example, for the loss of lender of last resort alternative arrangements to provide liquidity to commercial banks would include internationalising the banking system, requiring banks to hold larger liquid assets, improving the payments system, establishing deposit insurance scheme. If monetary policy is already not effective such as in countries with high inflation, there would be not much of loss in terms of monetary independence.

5.3 Currency Board Arrangement

A currency board arrangement (CBA) is seen as another mechanism for stabilising exchange rates. An argument used by proponents of currency boards is that a CBA can withstand a collapse of a country's currency and therefore discourage the speculative type of attacks which Mexico experienced in 1994-95 and which many East Asian economies experienced in 1997-98. This view lends its support from the experience of Argentina, which thorough its CBA was said to be able to withstand the "Tequila effect" and prevent a collapse of its currency after the Mexican peso fell. In the Asian crisis, Hong Kong's CBA and its huge currency reserves also helped it prevent a collapse of the Hong Kong dollar. The Lithuanian CBA also withstood the speculative attack launched at the end of 1994 and through early 1995. In fact, it is interesting to note that all existing CBAs in the world were established with the objective of maintaining the long-term stability of the currency.

In its simplest form, a CBA can be defined as a monetary regime based on an explicit legislative commitment to exchange domestic currency for a specified foreign currency at a fixed exchange rate, combined with restrictions on the issuing authority –the currency board– to ensure the fulfilment of its legal obligation. This structure implies three criteria. First, the country fixes its exchange rate. While in principle this could be done to a basket of currencies, in practice to ensure transparency and simplicity, the exchange

rate is fixed to an "anchor currency", generally that of a major country and large trading partner. Second, the country commits itself to full convertibility of its own currency into the anchor currency. For this to be credible, the currency board must hold only foreign assets to back its domestic currency. This means that 100% of the country's monetary base is in foreign assets. A currency board will therefore not hold any bonds from its own government. Third, the legislative commitment ensures that the CBA will be maintained by the country indefinitely.

The 100% backing rule of a CBA implies that growth of money supply is limited to the growth in foreign assets, and interest rates are determined totally by local market adjustments to monetary conditions prevailing in the anchor currency country. This indicates that there is little or no room for discretionary monetary policy and hence no scope for monetary expansion. The fixed exchange rate further limits the scope of monetary policy. For an example, even if there is a huge influx of foreign assets, the country will not be able to expand its monetary base since this would alter the fixed exchange rate. Thus the traditional central bank functions like monetary regulation and the lender of last resort are eliminated in a CBA.

In addition to the limit in the rate of growth of money supply imposed by a CBA, the requirement that a currency board will not hold government debt, limits the ability of the government to finance their debt by expanding money supply. This then helps to create fiscal discipline as government expenditures can be financed only through tax or borrowings.

Due to the stringent and yet extremely simple and transparent operating rules, the CBA is regarded by the general public as less prone to policy reversals than conventional fixed exchange rates. In particular, in an era of high and growing capital mobility, a CBA is perceived to be less vulnerable to destabilising capital outflows and self-fulfilling crises. Due to the higher credibility, interest rates should converge rapidly to levels in the anchor currency country and remain close to international levels. In addition, to lowering the risk premium on interest rates, containing exchange rate uncertainty and maintaining orderly monetary conditions should also help promote, in the longer run, international trade and facilitate access to international capital markets and, therefore, sustain economic growth.

While dollarisation and a CBA are quite similar, the main advantage in a CBA is that seigniorage is retained in the domestic country. On the other

hand, dollarisation is said to be harder to reverse than a CBA and therefore has even more credibility than a CBA.

5.4 Basket Currency Arrangement

Under this regime, as the name implies, the national currency is fixed to a basket of currencies, instead of any one major currency. This approach is suitable for countries with trade and or tourism patterns that are highly diversified geographically and, hence, currencies in the basket are usually those of the major trading and or tourism partners. In some instances, the peg is to the SDR basket. In these cases, currencies that make up the SDR basket are involved. Each foreign currency in the basket is weighted according to the relative size of trade and or tourism balance between the foreign country and the domestic country to arrive at the domestic currency's value. This value is known as the trade-weighted exchange rate or sometimes the effective exchange rate. Under such an exchange rate arrangement, the central bank sometimes does intervene in the foreign exchange rate either to maintain the determined peg or within certain limits, that is, a new level. The latter occurs when the weights and therefore, the level is adjusted quite often so that the formula cannot be precisely inferred by the public. This, however, does not occur if the peg is to the SDR. Weights of the SDR basket are also public information.

5.5 Managed Float Arrangement

Under this regime, the exchange rate is determined by supply and demand in the foreign exchange market but fluctuations are limited to within certain limits. In other words, the central bank stands ready to intervene in the foreign exchange market such that the exchange rate stays within these limits. A reference rate is calculated based either on the weighted average of foreign exchange transactions made the previous day or an annual projected rate. The upper and lower limits of the fluctuations are adjusted to reflect developments in the domestic money market and the foreign exchange market as well as the relative inflation rate. The limits are normally announced to the public.

This arrangement is common in many developing countries. In the post East Asia crisis era, Indonesia, Korea and Thailand have also adopted this arrangement. Although the trend in developing countries adopting this arrangement has been an increased emphasis on market determined exchange rates, most of them are still not well-placed to allow their exchange rates to float

totally. Many have a small and relatively thin foreign exchange market, where a few large transactions can cause extreme volatility. Thus, active management by the central bank is still widely needed to help guide the market.

5.6 Pure Float Arrangement

The exchange rate in this regime is determined by the private supply and demand. There is no invention by the central bank in the foreign exchange market. Nevertheless, in countries that have adopted this regime, the authorities do intervene but only sparingly with the intention to moderate undue fluctuations in the exchange rate, such as seasonal changes in demand and supply conditions and speculative capital flows. The United States is the closest to a pure example of a free float.

6. Conclusion

Currency stability is essential for managing the macro economy, particularly in the developing world. According to economic theory, exchange rate policy is closely related to monetary policy and fiscal policy, indicating a trade off between flexibility and credibility. Exchange rate policy also affects both trade and investment. The costly nature of exchange rate instability and the fact that it can be contagious, often occurring simultaneously through various channels has resulted in a search for an optimal regime that can deliver exchange rate stability and sustained economic growth. Initially, sound domestic policies were regarded as the ultimate solution, but later when the phenomenon of contagion was acknowledged, economists advocated the extremes of either a hard peg or a free float. Today, it is recognised that there is a whole spectrum of exchange rate regimes that countries may choose individually. The optimal choice is said to be dependent on several success factors. For some exchange rate regimes, these factors are more onerous than others. As these factors change, so would the optimal regime, indicating a switch in the exchange rate regime is in order. For intra-regional exchange rate stability, the option touted by the theory of optimum currency area is a currency union. Its success is again dependent on onerous conditions. A country wanting to join an optimum currency area should use the cost-benefit calculus as its basis. If the calculus indicates that benefits are just balanced or more than the costs, it would be advantageous for the country to become a partner in the area.

Chapter 2

Current Cooperation in Currency Stability Measures Among Asian Countries

1. Introduction

A logical starting point for any discussion with respect to scope for co-operation in currency stability measures would be an examination of the present status of similar initiatives. Such an examination should include at least two elements:

(i) identifying and describing the main types of existing cooperation as well as the mechanisms and operating environment in which these initiatives have to function; and
(ii) an assessment of the present initiatives in terms of some general observations.

This chapter deals with the above two elements but only covers initiatives that are directly relevant to the domain of central banks. Thus, while policy issues relevant to central banks, such as, monetary policy implications of large capital flows and financial liberalisation are discussed at the APEC forum, where central banks from Asian countries as APEC members are involved, these initiatives are not included here since APEC is primarily concerned with trade, finance and foreign ministries. Likewise, the Asean Surveillance Process, which is a forum for ASEAN Finance Ministers coordinated by the ASEAN Secretariat is not discussed.

2. Main Types of Existing Regional Cooperation

Cooperation among the central banks in the Asian region can be grouped into two main types – financing arrangements and consultations/dialogues, including technical assistance on financial and economic matters.

2.1 Financing Arrangements

The financing arrangements comprise two main categories: multilateral and bilateral swap arrangements and repurchase agreements. In addition, a number of bilateral payments arrangements where the central bank guarantees payments for trade related activities exist in the region. At the same time, efforts are on-going to put in place bilateral agreements that would use na-

tional currencies for trade settlement purposes. Nevertheless, these latter agreements are not included as they are trade-related rather than for purposes of currency stability or temporary balance of payments problems.

(i) The ASEAN Swap Arrangement

The ASEAN Swap Arrangement (ASA) is a multilateral facility that was established in 1977 by five ASEAN member countries, namely Indonesia, Malaysia, the Philippines, Singapore and Thailand. Amounting to a total of US$100 million, its objective was to provide liquidity support for the participating countries in case of short-term balance of payment difficulties. In 1978, its total amount was increased to US$200 million. Subsequently, in the year 2000, at the Fourth ASEAN Finance Ministers' Meeting (AFMM), the Ministers agreed to explore ways to further expand the ASA, both in terms of fund size as well as its signatories. With regard to the fund size, the objective was to ensure that the facility would be large enough to meet the requirements of the East Asian region in the event of member countries facing temporary balance of payment difficulties. As to the signatories, the aim was to have not only all ten ASEAN countries but also to include the Plus Three countries, namely, China, Japan and Korea (that is, ASEAN + 3). This mandate of the AFFM was implemented under what is commonly known as the Chiang Mai Initiative (CMI). The CMI essentially comprises two stages. The first stage was implemented in November 2000, whereby the size of the ASA was expanded to US$1 billion while its operational period was extended to two years. As of July 2001, all member countries of ASEAN have become signatories to the ASA (comprising the five founding members and Brunei, Cambodia, Laos, Myanmar and Vietnam). Contribution from the members towards the facility ranges from US$5 million to US$150 million.

To coordinate the operations and administer the facility, member countries take turns to become the Agent Bank for a period of two years. Financial assistance under the ASA involves the spot selling of a participant's domestic currency, combined with a forward repurchase of that currency against US dollars, Japanese yen or the Euro for an amount of up to twice the requesting member country's committed amount under the ASA and for a period of up to six months. The interest rate is either LIBOR, Euro Yen or Euro LIBOR depending on the currency used in swap request. A member's swap request for temporary liquidity or balance of payments assistance would be conveyed to the Agent Bank which

would subsequently inform and consult with the other members to make an assessment and process the request. In keeping with its rapid disbursement objective, it is projected that disbursements would be made within seven business days.

(ii) Bilateral Swap Arrangements

The second stage of the CMI involved augmenting the ASA with a network of bilateral swap arrangements (BSAs) and repurchase agreements among ASEAN and the Plus Three countries. Following the ASEAN + 3 summit meeting in November 2000, China, Japan and Korea began negotiating BSAs with the ASEAN countries. Negotiations also began between Japan and China for a yen-renminbi swap arrangement. As a result, by August 2001, Japan had signed BSAs with Korea, Malaysia, Philippines and Thailand. These BSAs are dollar-local currency swap agreements of up to US$2 billion, US$1 billion, US$3 billion and US$3 billion respectively or a total of US$9 billion. Valid for a period of three years, the BSAs supplement and complement the IMF's facilities and resources. In other words, the BSAs establish cross links to support countries on IMF programmes. The IMF is included to give credibility to the arrangement. Under such BSAs, countries in need can draw ten percent of the funds agreed upon in the arrangement straight away, free from any conditions. The objective of this standing tranche is to arrest any temporary balance of payments crisis. It is therefore similar to the reserve tranche of an IMF programme. However, in the event the country still required more funds from the agreed amount under the BSA, it is acknowledged that this implied that there could a need for a more comprehensive macroeconomic programme for that country. As such the remaining funds would only be disbursed after an IMF programme has been put in place for the said country. This would avoid the moral hazard issue and ensure the country's economy is being managed responsibly. This conditional tranche is similar to the upper credit tranche of an IMF programme.

To be beneficial, the terms and modalities of the BSA take into account the different economic fundamentals, specific circumstances and financing needs of each individual ASEAN member country. While the individual terms and modalities have been kept confidential, reliable news reports have quoted officials as saying that the swap deals with Japan under the CMI are to provide liquidity in terms of US dollars to the central bank in need, up to the agreed amount, for an initial term of three months and is renewable up to seven times. The interest rate would be

set at LIBOR (London Interbank Offer Rate) plus a risk premium of 150 basis points for the first drawing and first renewal drawing and with an additional 50 basis points added for every two subsequent renewals. Since there would be a maximum of seven renewals, the interest rate would not exceed 300 basis points. The BSA with Japan-China however, would be a yen-yuan swap, instead of US dollars.

(iii) New Miyazawa Initiative Short-term Financing Facility

Several BSAs signed under the framework of the New Miyazawa Initiative exist in the Asian region. Examples are the BSA between Japan-Korea amounting to US$5 billion and that between Japan-Malaysia for US$2.5 billion. Several other similar BSAs such as between Japan and the Philippines; and Japan and Thailand are currently in the final stages of discussion.

The objective of these BSAs is to support credit-extending schemes that promote economic activities in recipient country. Such activities include trade financing facilities and credit lines for small and medium-sized enterprises. Under these BSAs, the Ministry of Finance of Japan is committed to provide, up to the specified amount, liquidity to the central bank of the recipient country, if and when necessary, through swap transactions between the US dollar and the recipient country's national currency. These BSAs, therefore, act as a standby facility should the need arise for the recipient country. More importantly, these BSAs are without any links to an IMF programme. This enables the recipient country to have access to the full amount as agreed upon in the agreement. The terms, such as the initial interest rate and that for subsequent renewals are said to be similar to those agreed to for the BSAs signed under the CMI. Those BSAs already signed are valid for a period of three years.

(iv) Repurchase Agreements (Repos)

Several repurchase agreements are also in force in the East Asia and Pacific region. Most of these are under the cooperative umbrella of EMEAP member central banks, with some having been in force since November 1995. The Hong Kong Monetary Authority (HKMA) has taken an active lead in this area. By early 1997, the HKMA had Repos, on a bilateral basis, with all the other ten member central banks of EMEAP. In addition, many of the EMEAP central banks have similar repos with

each other. Work towards establishing repos among the ASEAN+3 countries, as agreed under the CMI, is on-going.

Under these repos a transaction would require one party to sell securities to the other party in return for cash, with an understanding to repurchase equivalent securities at an agreed price and on an agreed future date. The transaction, thus, serves as a means of relieving short-term shortages of funds. Repos, therefore, may be seen as being akin to collaterised borrowing and lending. Legally, however, the transaction involves an outright sale of the securities that passes full ownership of the securities to the purchaser. Securities identified in a repo agreement are normally US Treasury bills and notes as well as short-term government securities of the counterparty country of the repo agreement.

2.2 Consultations/Dialogues on Financial and Economic Matters

The Asian region has a long history of consultations and cooperation among the central banks. Various forums that exist to facilitate such cooperative efforts, on a regional scale, are described below:

(i) The South-East Asian Central Banks (SEACEN) Research and Training Centre

SEACEN was formally established in 1982 to promote greater understanding of monetary, banking and economic development matters which are of interest to its member central banks and monetary authorities. This move also paved the way for the formal establishment of The SEACEN Research and Training Centre in Kuala Lumpur, Malaysia for the purpose of undertaking research and training activities, including conferences and seminars of relevance to members. On an informal basis, Governors from the founding member countries had been meeting annually even much earlier, that is, since 1965 to exchange views on financial, monetary, banking and economic developments in member countries and in the region as a whole. The SEACEN Centre had also begun conducting training events in 1972. Members of SEACEN currently comprise the central banks and monetary authorities of Indonesia, Korea, Malaysia, Mongolia, Myanmar, Nepal, the Philippines, Singapore, Sri Lanka, Taiwan and Thailand.

The Annual Conference of Governors of SEACEN, an event organised by the SEACEN Centre, represents one of the earliest fora on regional

surveillance in South East Asia. Deliberations among the Governors focus on topical and pertinent economic and financial issues, both at the regional and international level. Besides experts from various international organisations, such as the IMF, ADB, BIS, Governors of non-member banks in the Asian region are also invited to participate and share experiences and views. In addition to the Annual Conference, various collaborative training programmes through strategic alliances with other international and bilateral agencies are held for staff from member banks. The role of the SEACEN Centre was further enhanced in 1997 with it being recognised as a regional centre to meet the training needs of APEC members. The SEACEN Centre is well equipped to enable staff from member banks to based at the Centre to undertake topical research studies. Both the research and training programmes of the Centre are policy-oriented and focus on core functions of central banking and on the stability and efficiency of financial intermediation. The Centre has also published widely on central banking issues. Activities organised by the SEACEN Centre have certainly served to encourage greater and closer co-operation among central bankers in the region.

(ii) SEANZA

SEANZA is another early initiative of central bankers in the Asia Pacific region to enhance cooperation and facilitate training in the area of central banking issues. The acronym SEANZA stands for South East Asia, New Zealand and Australia. Its members comprise the central banks of Australia, Bangladesh, China, India, Indonesia, Iran, Japan, Korea, Malaysia, Nepal, New Zealand, Pakistan, Papua New Guinea, Philippines, Singapore, Sri Lanka and Thailand.

In line with its main objective to facilitate staff training in the area of central banking, the highlight of SEANZA is the annual central bank training course for senior bank officials and other training events on topical issues, such as, forums for banking supervisors. As there is no permanent secretariat of the group, member banks play host to events on a rotational basis. The budget of the training event is shared among the participating member countries. In addition, there are short duration seminars or conferences for Governors of member central banks, which are held once every two years. The Deputy Governors have the opportunity to meet annually for the Advisers' Meeting. While SEANZA has been successful in enhancing cooperation among member central banks with events organised being well received, the diversity of member countries

in the group has in a way complicated cooperation in areas other than training.

(iii) EMEAP

The Executives' Meeting of East Asia and the Pacific or EMEAP formed in February 1991 is a forum for cooperation among central banks and monetary authorities in the East Asia and Pacific region. EMEAP members comprise the central banks/monetary authorities of Australia, the People's Republic of China, Hong Kong SAR China, Indonesia, Japan, Korea, Malaysia, New Zealand, the Philippines, Singapore and Thailand. Overall EMEAP is a substantial grouping based on population, GNP, savings and foreign exchange reserves of the group as a whole.

The primary objective of EMEAP is to strengthen the cooperative relationship among its members. Since its inception in 1991 and until 1996 meetings were held on an informal basis twice a year to exchange information and ideas concerning economic and financial developments in the region. The meetings helped foster closer cooperation among member central banks and were the enabler for the strides EMEAP made after 1996. Against the background of increasing interdependence of member countries, the structure of EMEAP activities was strengthened to three levels – Governors' Meetings, Deputies' Meetings and Working Groups. In line with the role of the Governors' as the supreme decision-makers of EMEAP, basic policies regarding EMEAP activities are decided at the Governors' level and the output of the three working groups is reported to and authorised by the Governors. In order to ensure discussions are more focused themes are set for the Governors' yearly meetings.

Deputies' Meetings are held twice a year and play an important role in ensuring the continuity of EMEAP activities. Besides monitoring the activities of the working groups and determining their direction if necessary, these meetings also review economic and financial developments in the region focusing on specific current issues. EMEAP member central banks also have access to an electronic internet based network which not only allows for timely exchange of information among members but also supports a Virtual Secretariat that has helped enhance cooperation among members.

(iv) ASEAN Central Bank Forum

The ASEAN Central Bank Forum (ACBF) established in 1997 is another formal avenue for a multilateral policy dialogue among the ten ASEAN member countries central banks. The forum facilitates frank and more open discussions on common policy issues and concerns and thereby help to promote policies that ensure price stability, sound financial systems and sustainable long-term growth in the region. Meetings are held on a regular basis to discuss regional economic and financial developments within the global context and as of 21 September 2001, the ACBF has met six times. ACBF members are encouraged to bear in mind that in pursuing individual country objectives, it is important not to loose sight of the wider implications of policy actions on other member countries in the region, as was exemplified by the contagion of the Asian crisis. In this context, members share experiences which helps anticipate economic and financial risks and exchange technical assistance and policy advice, where appropriate, on possible solutions to economic and financial issues. The ACBF also provides an avenue for discussion and decision of a common ASEAN position in its relations with other international and regional institutions. Taking one step ahead of the other existing forums in the region, the ACBF may highlight relevant policy issues to the Select Committee of ASEAN Central Bank and Finance Officials, which is charged with the responsibility of discussing issues that need the attention of the ASEAN Finance Ministers.

(v) Manila Framework Group

The Manila Framework Group of Finance and Central Bank Deputies (MFG) is essentially a mechanism for regional surveillance. It was established in November 1997 following a meeting convened in Manila for the initial purpose of discussing a proposal to set up an independent Asian Monetary Fund. Deputies of finance ministries and central banks from 14 countries, namely Australia, Brunei, Canada, China, Hong Kong, Indonesia, Japan, Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand and the United States were present at the meeting. These were the same countries that had earlier contributed to the rescue package for Thailand. Representatives from the International Monetary Fund, World Bank and Asian Development Bank were also present.

The meeting noted that financial market developments underscored the risks and challenges of globalisation and volatile capital flows, which

can even affect countries with strong economic fundamentals. Many of those present were of the view that the initially proposed Asian Monetary Fund facility could nip the Asian crisis in the bud and prevent the contagion effects from spreading to other countries. However, the meeting could only agree on the need for a framework of regional cooperation to maintain financial stability. In order to forge the cooperation needed, members agreed to cooperate on the following four fronts to maintain financial stability in the region:

(a) A Mechanism for Regional Surveillance to Complement the IMF's Global Surveillance

This involves a mutual surveillance or peer pressure group whereby members discuss and highlight potential risks and suggest policy options, with assistance from the IMF, World Bank and ADB. Such meetings involve Deputies of Finance Ministries and Central Banks and are held twice a year, or as needed. This mechanism currently operates through the MFG meetings.

(b) Technical Cooperation to Enhance Domestic Financial Systems and Regulatory Capacities

The international financial institutions (IFIs) provide technical cooperation to assist domestic authorities to upgrade the financial systems, enhance cooperation among market regulators to respond to contagion and explore other measures to improve the integrity and functioning of the financial markets. In this context, the IMF, IBRD and ADB are now more actively involved in providing technical assistance to countries in the Asian region.

(c) Measures to Strengthen the IMF's Capacity to Respond Immediately to Financial Crises

The meeting welcomed the decision to increase IMF quotas and called for an early ratification of the New Arrangements to Borrow (NAB) which had been established on 27 January 1997. The NAB became effective a year after this call was made, that is on 17 November 1998. To ensure that IMF resources could be mobilised on a scale sufficient to restore market confidence, the meeting also urged the IMF to review its access policy and establish a new mechanism to provide short-term financing to deal with problems arising from globalisation and volatile capital flows.

As a result of this call, in 1999, the IMF established the Contingent Credit Lines (CCL) as a key element of crisis prevention. The CCL is a precautionary facility designed to assist member countries with strong economic policies and sound financial systems that are seeking to resist contagion from disturbances in global capital markets.

(d) A Cooperative Financing Arrangement to Supplement IMF and other IFI Resources

Under this arrangement, participants could provide supplemental financing for an IMF-supported programme on a case-by-case basis. There would be no pre-determined amount of a participant's commitment to lend. This arrangement would be based on the Indonesian "model", whereby the IMF would provide the first recourse for financing (while funding from participants would be a "second line of defense"). In exceptional cases where IMF resources are insufficient to meet a member's need, participants may consider lending in parallel with the IMF. The meeting noted that the financial initiative must be carefully designed to mitigate moral hazard and ensure that private creditors adequately assess risks and bear an appropriate share of the burden of adjustment and financing in times of crisis.

3. An Assessment of the Current Initiatives: Some General Observations

While the outcome of the meeting in Manila culminated in a cooperation framework to maintain financial stability in the region and the framework is generally well-received, there was a difference from the original concept of the proposed Asian Monetary Fund in one critical aspect, that is there was no pre-authorised commitment to lend. Consequently, no "facility" was created. Instead, only a set of agreed procedures to expedite the provision of contingency financing to participating countries, on a case-by-case basis, and that which would be tied to an IMF programme, were put in place. This difference is regarded to have seriously undermined the position taken by countries in Asia for a strong Asian financing facility to complement regional surveillance, which would support the IMF's role at the global level.

Consequently, the Asian countries had to direct their efforts towards the establishment of other similar facilities, the culmination of which were the Miyazawa Initiative and the Chiang Mai Initiative. The former was announced in October 1998 and the latter in May 2000. At the same time, participating

countries also began work on modifying the terms and conditions of the ASA agreement that could likely be a deterrent to its use in future similar instances, particularly with respect to ensuring its rapid disbursement as well as increasing the committed amounts according to individual country needs. This work has now been completed. The network of BSAs signed under the CMI and the BSAs under the New Miyazawa Initiative Short-term Financing Facility have also increased the size of funds available. In addition, the present network has not only increased the number of participating member countries but also widened the safety net to outside the ASEAN region. Based on agreements already signed, emergency funds that would be available in cases of need, while still small compared with the foreign exchange markets, have seen a significant increase from a mere US$200 million before the Asian crisis to at least a few billion dollars for countries on an individual basis and about US$20 billion on a regional basis. The combined reserves of these countries will also serve as an additional deterrent to currency speculators. The financing facilities in place now have made the chances of a capital account crisis spreading through the region increasingly remote.

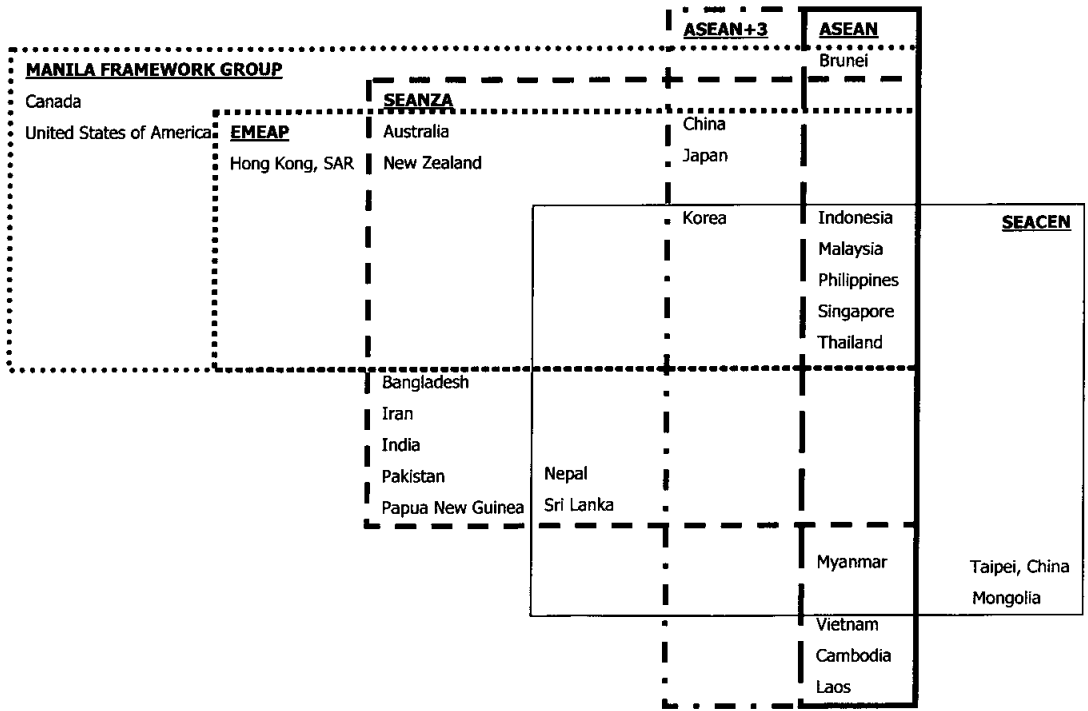
The attempts by countries in Asia to set up this network of financing facilities have their beginning in the ASA facility itself. The ASA facility had proved its usefulness in maintaining currency stability in participating countries in difficult times previously. In the 20-year period, from the time of its establishment in 1977 and prior to the outbreak of the 1997 Asian crisis, the ASA facility had been activated a total of five times – by Indonesia in 1979, both Malaysia and Thailand in 1980 and by the Philippines in 1981 and 1992. Being an emergency support facility, this low level of its utilisation was expected to avoid the moral hazard issue. Nonetheless, the fact that four out of the five participating member countries drew upon the resources of the ASA to overcome temporary balance of payments problems is proof of the facility's usefulness in times of need. However, circumstances in 1997 posed limitations that relegated the use of the ASA. During the outbreak of the Asian crisis, the ASA facility was not called upon as the maximum outstanding amount of US$80 million that could be drawn upon by the participating member country in need was certainly inadequate given the unprecedented massive liquidity run occurring in the region. Taking cognizance of this fact, member countries in the region were at the forefront of efforts that could help mobilise the higher liquidity required. These countries rallied behind the IMF to establish the second line of defense in the rescue packages for Thailand, Indonesia and Korea and later worked towards convening the meeting in Manila for the purpose of discussing the proposal to set up the independent Asian financing facility. It was felt that once such institutional arrangements are in place,

increases in the size of funds available as well as reviewing of conditions for use becomes relatively easier and based on a better understanding on regional issues.

The various dialogue forums outlined in paragraph 4 are a unique Asian approach considered more suitable for promoting cooperation among member countries. Each forum has its own history, background, values and principles aimed at strengthening the economy and assisting member economies attain sustainable growth through cooperation. Deliberations are held on specific agenda issues and whatever forms of technical and economic cooperation that can help or member countries can themselves undertake to attain sustainable growth. It would be noted that except for SEACEN, all other fora are not institutionalised. This being based on the view that playing hosts to events on a rotational basis or through a virtual secretariat is less costly and more efficient as today the use of the internet allows for much more timely exchange of information among the members.

In view of the slow progress on the reform of the international financial architecture, these regional forums are also deemed most suitable in diagnosing regional economic problems and prescribing appropriate solutions. Many of the regional financing agreements that have been signed in the post Asian crisis period were the result of the cooperation that existed through these entities. At the same time, it is recognised that **while the regional self-help financing facilities have provided the needed safety net especially for contagion/speculative attacks on currencies, the wholesome solution still lies with appropriate and coordinated macroeconomic policies.** Thus, cooperation among the region's entities has now been further strengthened to facilitate efforts for more coherent policy analysis and advice that in turn has laid the foundations for deeper regional integration in East Asia and the Pacific. It is said that deeper regional integration rather the exchange rate regime itself that promotes exchange rate stability. Therein lies the motivation for Asian countries to continue the search for concrete alternatives that would entail and ensure deeper integration. The long-term objective is for regional integration in macroeconomic policy and a single currency. Some conceivable forms of transitional initiatives that could be implemented towards this harmonisation objective are discussed in the next chapter.

Table 2. Various Cooperation Initiatives in the Regional Context



Chapter 3

Towards a Partial Monetary Union or Full Monetary Union in Asia

1. Introduction

As mentioned in the first chapter, in the 1990s, the consensus on the optimal exchange rate regime in the face of capital flows was the "two corner" solution. This view arose as a result of many studies pointing to the "soft" fixed nominal exchange rate system as among the major causes of the crises in Mexico, East Asia and Russia. These studies used the "impossible trinity " framework to suggest that such economies could not expect to maintain an open capital account, exchange rate stability and sustain an independent monetary policy, all at the same time. The analysis using the simple monetary and Mundell-Flemming models elaborated in chapter 1 explains the same proposition in practical terms, that is, a country with a fixed exchange rate and an open capital account is unable to maintain an independent monetary policy. Rather, adjustment takes place through the real economy.

As a consequence of this consensus "two corner" solution, many of the countries affected by the crisis in East Asian such as Indonesia, Korea, Taiwan and Thailand, adopted the floating exchange system in the post crisis era (Wijoyo, 2000). However, it was not long before the consensus came into dispute. It was argued (Frankel, 1999 and Williamson, 2000) that intermediate regimes are more likely to be appropriate than the corner solution for many emerging market economies (EMEs). Later it was suggested that developing countries which are not exposed to capital flows could choose from a wide range of intermediate regimes and that flexible exchange rate systems suitable for EMEs could include crawling bands with wide ranges (Fisher, 2001). A sketch of some of these currency regimes was given in the first chapter.

Nevertheless, the fact remains that for many developing countries, the effects of large scale capital flows continue to be of concern as neither the fixed nor the floating types of exchange rate regimes can be said to insulate the domestic economy from the tension and stresses that arise. The contagion outlined in chapter 1 shows that even growing, stable and well managed economies can be affected. Compounding the problem, as was mentioned in chapter 1, is the fact that a large part of international trade and international borrowing is either in dollars, yen or the euro. The relatively diversified trading

partner base of Asian countries further complicates the selection of any one of these global currencies as the currency to which to peg against. Wide swings in the bilateral exchange rates caused by the large scale capital flows expose countries that peg their exchange rates to any one of these major currencies to speculative attacks (Krugman, 1997). In addition, costs of such wide swings or exchange rate volatility have already been stated in chapter 1 and are certainly not trivial. The volatility of the major currencies has exerted a negative effect on economic growth in the developing world (Reinhart and Reinhart, 2001).

Given the above and in the absence of substantial developments on the reform of the international financial architecture, the general view is that much room to improve the design of exchange rate arrangements remains. This is, as mentioned earlier, despite the changes in the exchange rate regimes that have already taken place in East Asia. Since developing economies have no control on the movements of the bilateral exchange rates of the major currencies, the perception persists that the post-crisis choice of the floating exchange rate regime in East Asia is still far from optimal. This view is implicit in efforts mobilised in the aftermath of the Asian crisis to establish self-help financing facilities as mentioned in chapter 2, and also in some of the policy proposals or "wholesome solutions" being discussed in the Asian region. There is also the view that the post crisis exchange rate regimes in some of the affected countries are still of the managed float system as deduced from the changes observed in the international reserves of these countries.

The search is on for an exchange rate system that would provide intra-Asian exchange rate stability so as to continue to encourage the growing intra-regional trade as well as capital mobility, while at the same time providing flexibility with regard to the three major global currencies. Since the Euro became a reality in 1999, much discussion and research work for Asia to follow suit has emerged. The research work uses the European experience as the benchmark for promoting regional cooperation in Asia. Essentially the proposals call for a partial monetary union initially that eventually, after a transition period could lead to a full monetary union in Asia. The partial monetary union would be based on the intermediate exchange rate regime of a common basket of currencies peg for Asia, while the full monetary union would have a single currency for Asia.

This chapter will focus on the plausibility of both these proposals based mainly on existing research. The studies make comparisons with the European monetary integration since the process by which it was formed holds

much relevance for Asia. Both the framework of the European Currency Unit (ECU) under the European Monetary System and currently the European Monetary Union (EMU) are attractive as Asian countries could amiably adapt to them. A system similar to the ECU in Asia would avoid the difficult issue of seigniorage gains being the monopoly of any single member country. This is particularly important considering that China is a large economy in Asia and is made even more relevant with its entry in the World Trade Organisation in 2001. The EMU, unlike other common currency areas (where a political union preceded the formation of the currency union), comprises independent states with full political control over their internal affairs, including fiscal policy. Hence, its framework is deemed attractive, as Asian economies can easily adopt it and still retain their equally important national status. In addition, the fact that the EMU uses a new independent currency (the euro) instead of adopting an existing one is an interesting development that carries much appeal since no one currency is seen as a major choice for the Asian region.

2. Proposal 1: Scope for a Common Basket of Currencies Peg for Asia

This proposal is similar to the type adopted by the European Union before the introduction of the euro. Before the euro, the EU used the European Currency Unit (ECU), which in a way contributed towards Europe's monetary integration. The ECU was a composite currency unit (basket) consisting of specified amounts of the currencies of the Member States of the European Communities. As was explained in chapter 1, under a basket peg exchange rate arrangement, the country on its own determines the currencies and their weights in the basket. Often these are not disclosed to the public. On the other hand, under a common basket peg, the currencies and their weights in the basket are the same for all participating member countries and are determined through policy coordination among the participants. If instead of including a set of currencies in the common basket peg, participants decide to include only a single currency, then the common currency arrangement is referred to as a bloc. As an example, if countries in a region jointly decide to peg to the yen, the common exchange rate arrangement would be known as the yen bloc.

2.1 The Empirical Perspective from the Literature

Empirical evidences from various studies are supportive of a common basket currency arrangement in Asia. Countries should be willing to engage in policy coordination to determine the common currency or set of currencies

and the weights in the common basket. This is because there are multiple optimal equilibria depending on the options used in the currency basket and choosing the best among these is said to depend on what the neighbouring country is adopting (Ogawa and Ito, 1999 and 2000). Kim and Ryou (2001) compared four specific types of regional currency arrangements for Asia, that is, the dollar bloc, the yen bloc, the Asian currency basket (ACB) and a global currency basket (GCB) and conclude by suggesting a definite and realistic optimal solution, that is, the ACB. The ACB is defined as composed of only the Asian currencies, including the Japanese yen. According to Kim and Ryou, the ACB as an instrument for a regional currency arrangement (currency bloc) implies that Asian participants adopt a common currency unit, similar to European Currency Unit (ECU). By adopting the ACB common basket peg, the bilateral exchange rates between any pair of Asian countries becomes fixed while the individual country exchange rate against the US dollar equals the yen-dollar exchange rate. This results in the same effect as the adoption of a yen bloc. However, the difference is that in the yen bloc, the seigniorage gains would be a monopoly of Japan. On the other hand, in the case of the ACB, the seigniorage gains would be shared by all the participating members since all their national currencies will form part of the common basket.

The GCB is similar to the Special Drawing Right (SDR) and composed of all major currencies. Under the GCB common peg, bilateral exchange rates of Asian countries are fixed but the exchange rate against the US dollar is flexible. Although the GCB was found to be superior to the yen-bloc, the dollar-bloc and to the ACB, it was felt that it was not attainable in reality. This is because it requires policy coordination support among Asian countries, Japan and the US, a condition difficult to satisfy. In general, neither the yen-bloc nor the dollar-bloc was said to be the best options for Asia. Notable is the fact that the conclusions of the study are based on the assumption that the goal of monetary authorities participating in the regional currency bloc is to stabilise the real effective exchange rate. This goal is consistent with the objective of this SEACEN Centre's project. Nevertheless, it is important to take note that if regional currency cooperation is being promoted based on additional goals (such as trade balance equilibrium, GDP stability and current account stability), factors contributing to the additional goals may also have to be evaluated separately.

3. Proposal 2: Scope for a Monetary Union in Asia

As was mentioned in Chapter 1, the literature on the theory of optimum currency areas (OCA) identifies the necessary pre-requisites, which make stable

exchange rates and monetary unification more or less desirable. In other words, these characteristics of a region or area can be used as the basis for undertaking a cost-benefit analysis. Logically from a purely economic point of view, a region or area should adopt a single currency if benefits exceed the costs. A single currency would abolish the exchange rates of existing currencies for that area (or irrevocably fix the exchange rates if national currencies are still maintained) and therefore also banish the accompanying exchange rate volatility, costs of which to trade and investment were discussed in chapter one. By deduction, the benefits would arise primarily from elimination or lowering of certain transaction costs, particularly for cross border commerce as well as the higher levels of trade and investment that may result from exchange rate stability within the Asian region. The costs, on the other hand, would arise solely from the loss of national monetary autonomy. As was explained in chapter one, the use of common currency in a currency union is akin to using a fixed exchange rate by all member countries of the union and thus there is no scope for independent national monetary policies. A common currency requires a common monetary policy such that it responds to the currency union-wide shocks.

While it is possible to identify the prerequisites of an OCA from theory, quantifying these for empirical work and policy analysis pose a challenge. The theory itself advanced only minimally since Mundell first introduced it in 1961 and both McKinnon and Kenen made further contributions in 1963 and 1969 respectively. Most studies in assessing the suitability of the Asia region as an OCA, operationalise the five OCA prerequisites mentioned in chapter one by focussing on three broad areas. First, patterns of trade, including importance of intra-regional trade, composition and the degree of openness in terms of share to GDP. Second, nature of underlying shocks, including symmetry, size and speed of adjustment of the economies to these shocks. Third, the monetary transmission mechanism. Bayoumi and Eichengreen (1996) also constructed an OCA index based on a particular empirical specification that summarised countries' readiness to adopt a common currency.

3.1 Empirical Results

3.1.1 Trade Patterns of Asian Economies

The evidence on trade patterns in Asia is reviewed basically to try to assess the potential benefits of the monetary union. The benefits would be greater the larger the share of intra-regional trade and the higher the degree of openness of economies in the region. In terms of composition, the share of manufactured goods is viewed as important as unlike the commodities where prices are determined in world markets, prices of manufactured goods can be determined by producers themselves. Hence, the more heavily weighted the pattern of trade is towards manufactures, the greater the benefits would be for a monetary union. While a number of studies have been undertaken for the Asian region, due to the many data constraints, these studies reviewed the evidence from only selected economies (such as ASEAN-4, East Asian –9) and the conclusions are generalised for the region as a whole. The evidences from all studies do suggest that as far as patterns of trade criterion is concerned, Asia satisfies it at a level similar to Europe. These patterns of trade are discussed below.

Using the trade intensity analysis technique, the relative measure of trading intensity would be most appropriate to assess the intra-bloc trading relationship. As Table 3 indicates, trading intensity has been rising and is highest within the Asian-15 countries, accounting for almost half of the region's total global trade since 1995.

TABLE 3

INTRA AND EXTRA-REGIONAL TRADE SHARES OF ASIAN-15 COUNTRIES
(in percent)

	1985	1990	1995	1996	1997
Within the Asian-15 (Intra-regional)					
Exports	34.67	40.16	48.69	49.34	48.42
Imports	39.38	43.50	50.69	49.96	50.11
Total	36.90	41.78	49.66	49.65	49.24
With the United States of America					
Exports	31.97	26.02	22.33	21.80	22.13
Imports	17.03	17.86	16.47	16.60	16.49
Total	24.90	22.06	19.47	19.21	19.39
With the European Union					
Exports	11.51	17.7	14.89	14.63	14.84
Imports	10.76	15.39	14.38	14.53	13.91
Total	11.15	16.58	14.64	14.58	14.39
With the Rest of the World					
Exports	21.86	16.12	14.09	14.23	14.62
Imports	32.83	23.25	18.46	18.92	19.50
Total	27.05	19.58	16.22	16.56	16.99
TOTAL ASIAN-15 TRADE (US$ bil.)					
Exports	374	725	1350	1357	1431
Imports	336	683	1284	1344	1352
Total	710	1407	2634	2700	2783

Using relative measure of trading intensity.

Source: SEACEN Centre Study by Ram Prasad Adhikary (March 2001).

In addition, the gravity coefficient measure of trading intensity is most appropriate to assess the extent of regional trade preference for its own products to those made elsewhere. Should trade preference be more concentrated within the region, the gravity coefficient measure would be greater than one. As shown in the Table 4, this measure clearly indicates the strong preference for trading within the Asian region itself. Trade links with China, Myanmar, Malaysia and Indonesia are more intensive.

TABLE 4

INTENSITY OF ASIAN TRADE LINKAGES WITH DIFFERENT COUNTRIES AND REGIONS
(Gravity coefficient measure)

	1985	1990	1995	1996	1997
Asian-15					
Japan	1.41	1.47	1.61	1.66	1.62
China	2.99	3.49	3.23	3.43	3.31
Hong Kong	2.34	2.33	1.45	1.39	1.53
India	1.20	1.10	1.14	1.22	1.21
Indonesia	3.26	3.09	2.37	2.39	2.55
Korea	1.45	1.75	1.65	1.62	1.61
Malaysia	3.58	3.08	2.52	2.62	2.68
Mongolia	n.a.	1.56	1.68	1.80	1.90
Myanmar	5.57	5.58	3.81	3.63	3.76
Nepal	3.22	2.16	2.06	1.99	2.03
Philippines	2.71	2.31	2.14	2.19	2.21
Singapore	2.30	2.15	1.87	1.83	1.84
Sri Lanka	1.84	1.90	1.55	1.46	1.45
Taiwan	1.63	2.12	2.10	2.09	2.00
Thailand	2.38	2.42	2.05	2.13	2.10
INTRA-ASIAN	**1.92**	**2.04**	**1.93**	**1.96**	**1.97**
Others					
United States	**1.60**	**1.67**	**1.47**	**1.42**	**1.36**
European Union	**0.32**	**0.38**	**0.38**	**0.39**	**0.39**
Rest of the World	**0.88**	**0.88**	**0.72**	**0.70**	**0.70**

Source: SEACEN Centre's study by Ram Prasad Adhikary (March 2001).

Compared to the Euro area, intra-regional trade in Asia as share of regional gross domestic product (GDP) is lower. However, it far exceeds that for member countries of Mercosur and NAFTA (see Table 5). Furthermore, the difference with the Euro area and Asia is small. With intra-regional trade in Asia rising significantly and markedly towards the region, it is likely that the difference would not be of concern (see Table 6). As for the composition of trade, Graph 1 and Graph 2 indicate it is heavily weighted towards manufactures.

TABLE 5. REGIONAL TRADE PATTERNS, 1995

	In percent of total regional GDP		**In percent of total trade**	
	Exports	***Imports***	***Exports***	***Imports***
ASIAN-15				
Within Asian-15	8.4	8.3	48.7	50.7
With the United States	3.8	2.7	22.3	16.5
With the European Union	2.6	2.4	14.9	14.4
With the Rest of the World	2.4	3.0	14.1	18.5
EURO AREA				
Within Euro Area	12.4	11.4	51.2	50.7
With the United States	1.4	1.5	5.9	6.8
With Japan	0.5	0.9	2.0	3.8
MERCOSUR				
Within Mercosur	1.8	1.8	22.6	20.2
With the United States	1.2	1.8	15.0	20.6
With the Euro Area	1.7	2.0	21.3	22.3
NAFTA				
Within NAFTA	4.8	4.9	46.2	38.4
With Japan	0.9	1.7	8.6	13.7
With the Euro Area	1.2	1.5	11.7	11.6

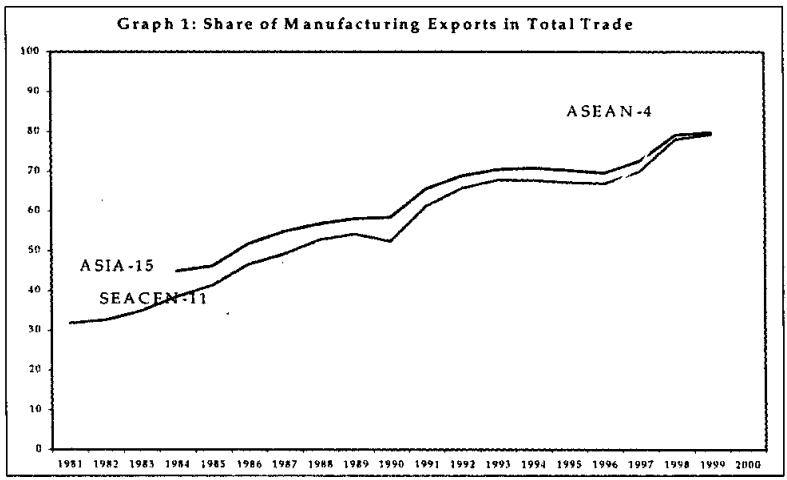
Sources: Data for Euro Area, Mercosur and NAFTA are from Bayoumi, Eichengreen and Mauro (2000).
Data for others is from Direction of Trade Statistics, IMF.

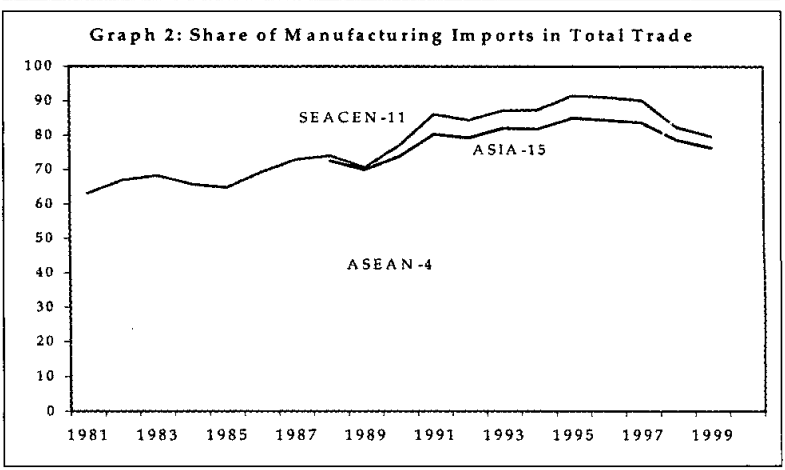
TABLE 6. ASIAN-15: REGIONAL TRADE PATTERNS, 1985-1997 (in percent of total regional GDP)

	1985	1990	1995	1996	1997
Intra-regional					
Exports	5.7	6.4	8.4	8.8	9.5
Imports	5.9	6.6	8.3	8.8	9.3
Total	11.6	13.0	16.7	17.6	18.7
With the United States					
Exports	5.3	4.2	3.8	3.9	4.3
Imports	2.5	2.7	2.7	2.9	3.0
Total	7.8	6.9	6.5	6.8	7.4
With the European Union					
Exports	1.9	2.8	2.6	2.6	2.9
Imports	1.6	2.3	2.4	2.6	2.6
Total	3.5	5.2	4.9	5.2	5.5
With the Rest of the World					
Exports	3.6	2.6	2.4	2.5	2.9
Imports	4.9	3.5	3.0	3.3	3.6
Total	8.5	6.1	5.5	5.9	6.5
Total Trade Amount					
Exports	16.6	16.0	17.2	17.9	19.6
Imports	14.9	15.1	16.4	17.7	18.5
Total	31.4	31.1	33.6	35.5	38.0

Source: IFS CD ROM and Direction of Trade Statistics, IMF.

SHARE OF THE MANUFACTURING SECTOR IN TOTAL TRADE[1], 1981-2000





Source of Data: ADBI Key Indicators of Developing Asian and Pacific Countries.

1. The sum of SITC categories: (5) chemicals, (6) basic manufactures, (7) machines and transport equipment, (8) miscellaneous manufactured goods and (9) goods not classified by kind, in % of total trade.
2. Asian-15 : SEACEN-11 plus China, Hong Kong, India and Japan.
3. SEACEN-11: Indonesia, Korea, Malaysia, Mongolia, Myanmar, Nepal, Philippines, Singapore, Sri Lanka, Taiwan, and Thailand.
4. ASEAN-4: Indonesia, Malaysia, Philippines and Thailand.

3.1.2 Nature of Underlying Shocks in Asian Economies

Generally, according to the traditional OCA literature, countries are regarded as having the potential for monetary integration if (a) the nature of economic shocks is correlated or symmetric; (b) the size of the shocks is small; and (c) the speed of adjustment of the economies to the shocks is rapid. In such instances, the potential costs to countries participating in the currency arrangement arising from the loss of national monetary policy independence would be minimal as there is already reduced need for individual national monetary policy response in the first place. The common monetary policy response would be very much similar to what would have been the national monetary policy response. Most of the studies on OCA in Asia adopt a straight forward approach to examine the observable macroeconomic variables, such as GDP growth rates, inflation, exchange rates, interest rates and stock prices and to explore the degree of correlation in these variables. Bayoumi and Eichengreen (1993, 1994) are among the first to use an alternative approach that relies on econometrics to estimate the underlying structural shocks. This approach uses the Blanchard-Quah (1989) style vector auto regressions (VAR) method. On the nature of underlying shocks, the OCA literature regards supply disturbances as more important. However, many empirical studies that used the VAR model have been able to identify the various types of shocks, i.e., supply, demand and monetary and also temporary and permanent shocks and have therefore reviewed the evidence for all such shocks. The correlation in underlying shocks in economies could also be due to the effects of global shocks. When the effect of global shocks was removed from domestic shocks, the empirical evidence showed that for East Asia only demand side shocks are influenced by global disturbances, such as developments in the United States economy, while supply shocks and monetary shocks are unaffected (Sato, Zhang and Mcaleer, 2001). In addition, correlation of demand shocks could also reflect the exchange rate policy (Eichengreen and Mauro, 2001). Hence, supply shocks are indeed more relevant and informative for assessing an OCA.

Empirical evidence shows that underlying shocks are less symmetric in the East Asian region than in the European region. However, certain sub-regions within Asia do exhibit reasonable correlation of supply shocks. The sub-regions include Korea and Taiwan, Hong Kong and Taiwan, Singapore and Malaysia, Indonesia and Malaysia and Hong Kong and the Philippines (Sato, Zhang and Mcaleer, 2001); Japan, Korea and Taiwan; and Hong Kong, Indonesia, Korea, Malaysia and Singapore (Eichengreen and Bayoumi, 1996 and 2000). Resemblance to this situation can also be found in Europe where disturbances though more symmetric than in Asia, are highly correlated across

certain members and to a lesser extent across other members. This is the case even for the countries in the Euro area. Based on this, it can be said that Asia is not further than Europe in satisfying the criterion of symmetry in nature of supply shocks.

Size of shocks and speed of adjustment to the shocks is estimated using the associated impulse response function analysis. As for size of the shocks, East Asian economies, overall, are found to have a larger size of supply shocks than the European countries. In particular, Hong Kong, Malaysia, Singapore and the Philippines show relatively large supply shocks. If the Asian crisis period of 1997-98 is included in the analysis, the size of supply shocks increases substantially. Generally, therefore, based on the criteria of size of supply shocks, the empirical results do not support the feasibility of the Asian region as an OCA.

With regard to the speed of adjustment to shocks, empirical evidence from the literature indicates that most East Asian economies tend to adjust more rapidly to the underlying shocks compared to the European countries. This implies that factor markets in terms of wages and prices are more flexible in Asia than in Europe and can also help mitigate the impact of asymmetric shocks. This criteria, therefore lends strong support to the feasibility of an OCA in Asia. To the extent that adjustment to shocks takes effect through prices and wages in an economy, the need for an independent national monetary policy becomes less attractive. A common monetary policy can then be more easily shared or applied across the region. According to Sato, Zhang and Mcaller (2001), in the period before the 1997-98 Asian crisis, 97% or more of the adjustment to supply shocks in East Asian economies is completed within four quarters. The adjustment speed to monetary shocks is also much faster than Europe while the speed for demand shocks is about the same for the two regions. The Asian crisis decreases only slightly the speed of adjustment to supply and demand shocks in East Asia. These results are consistent with the fact that Asia has relatively high labour as well as capital mobility. The high level of labour mobility in Asia in comparison to Europe reflects extensive experience of migration and the existence of networks of overseas Chinese. The share of labour force accounted by workers from the less developed East Asian economies in the more developed East Asian countries can be large. Emigration has been as much as two percent of the labour force of the less developed East Asian economies. (Goto and Hamada, 1994 and Eichengreen and Bayoumi, 1996). As an indication of the high capital mobility in Asia, during the period 1986 to 1992, about 70% of the FDI inflows to China, Indonesia, Malaysia, Philippines and Thailand were from Asian

sources, while the share from the US and Europe together accounted for only about 20%, which was less than from Hong Kong (World Bank, 1994, page 45)

3.1.3 Transmission Mechanism of Monetary Policy

As explained in the first chapter, in an OCA there can only be one monetary policy. To reduce the costs of abandoning national monetary policy for a common monetary policy, it is important that the transmission mechanism of the common monetary policy be sufficiently homogenous in the OCA. This would ensure that any changes in monetary policy, for example, a change in the interest rate, would have similar implications for all member countries of the OCA. This would prevent any tensions from arising among the member countries of the OCA and in the process ensure that the task of conducting monetary policy for the OCA as a whole much easier. Following the methodology of Bayoumi, Eichengreen and Mauro (2000), the banking system indicators show that the differences in the financial structure are not as large among the relatively advanced economies in Asia. Based on the limited data that is available, it can be said that the financial systems in Indonesia, Malaysia, Philippines, Singapore, Thailand and Taiwan are not exceedingly different. As shown in Table 7, this deduction is based on indicators such as maturity of structure of loans, the degree of competition in the banking system and the relative importance of banking in financing the private sector. However, if the less developed economies in Asia are included, the differences in the financial structure would be larger. As a case in point, the maturity of structure of loans as well as the share of loans with adjustable interest rates is far different in the less developed countries of Mongolia and Myanmar compared to the other countries.

TABLE 7. BANKING SYSTEM INDICATORS AS AT JUNE 2001

	Share of loans in banking system with original maturity greater than a year	Share of loans in Banking system with flexible interest rates	Assets of five largest banks as a share of total banking system assets
		(in percent)	
1 Hong Kong	n.a.	n.a.	46.6
2 Indonesia	49.54	n.a.	79.29
3 Korea	n.a.	n.a.	60.09
4 Malaysia	53.2	66.5	56.1
5 Mongolia	6	4	85
6 Myanmar	0	0	81
7 Nepal	n.a	n.a	72.8
8 Philippines	39.6	n.a	43.20
9 Sri Lanka	n.a.	n.a.	100
10 Singapore	59	100	39
11 Thailand	54	100	61
12 Taipei, China	70.85	n.a	40.5

Source: Member country central banks, except for Singapore and Thailand for which data is taken from Bayoumi, Eichengreen and Mauro, April 2000.
Data for Korea and Sri Lanka is taken from Asiaweek, September 14, 2001 issue.

Based on the empirical perspective from the literature presented above, it can be said that on the economic front, although certain sub-regions within Asia are more suitable for a regional monetary arrangement, Asia as a whole is not. However, this should not preclude Asia from moving towards a monetary union, if it so desires, as long as monetary integration in itself is not intended to be a solution to all of Asia's economic problems, particularly those of a structural and internal nature. After all, the body of knowledge concerning OCAs continues to evolve. As was mentioned in Chapter 1, in addition to benefits from trade, it is now recognised that another strong incentive for monetary union is created by an assurance that the union's inflation rate will be low. In addition, OCA criteria are now themselves said to be related to economic integration so that desirability of a monetary union becomes itself partly a function of the underlying political choices. For example, recent research has shown that conditions for qualifying as an OCA are endogenous to the exchange rate regime. In other words, fixing the exchange rate or introducing a single currency, may in a dynamic way affect the formation of an OCA. According to this research, greater trade induced by the common currency would result in greater correlations in output and inflation between trading partners (Angeloni and Dedola, 1999). Another study (Artis and Zhang, 1997) found that fiscal and monetary coordination resulting from enforcement of the ERM coincided with greater cyclical correlation among countries tied to the ERM. In the major European countries, the OCA index was found to have fallen rapidly between 1987-95 indicating that these countries became better candidates for EMU in this period (Bayoumi, Eichengreen and Mauro). Such evidence suggests the OCA criteria might be better satisfied ex post than ex ante (Frankel and Rose, 1998). Currently, another additional view has emerged that the integration process itself can evolve in very different ways (Eichengreen). Thus to achieve an OCA, there is not necessarily the need that the five pre-requisites mentioned in chapter 1 have to be achieved in that order – the Bela Balassa's theory. Instead, the financial crises of the late 1990s have marked a watershed for regionalism. Regions can strengthen cooperation in monetary and financial affairs without trade agreements (Dieter, 2000).

Hence if Asia desires to move towards either proposal, that is, a partial or a full monetary union and derive maximum benefits from either one, policy makers would need to deliberate and investigate on issues that would arise. The issues may be of a general nature, but for sustainable regional cooperation, it is imperative that all member countries reach common understanding on the issues through meaningful and effective deliberations. Confidence building measures, such as decisions being on the basis of consensus and having

the immediate, intermediate and long term goals defined in the strategy on how the cooperation would proceed in an orderly manner should also be a priority. Having useful dialogues with academics, the public, various interested bodies and even parliamentarians would not only ensure that whatever form of regional cooperation proposed is widely accepted but also that implications are widely understood and in the process ensure strong foundations are laid for the way forward.

4. The Way Forward – Some Suggestions for Asia

4.1 The Creation of an Asian Currency as a Unit of Reference

As was mentioned earlier, many of the countries in Asia are perpetually in a situation of having to deal in large sums of the major currencies, in particular the US dollar. It cannot be denied that this situation cannot change and no improvement made with regard to monetary upheavals, until and unless, the countries in Asia set up their own monetary unit. This implies that there is a pressing urgency for the creation of such a unit of reference in Asia. Granted that further research will still be required, empirical support to forge ahead in this direction is already available. Even in Europe, it was the monetary upheavals which started in 1968 and later became acute during the course of 1969 and culminated in the devaluation of the franc and the revaluation of the Deutsche Mark that started the ball rolling for monetary cooperation and the possible creation of a European Reserve Fund in an attempt to ward off speculators that had had a free hand for several months. Despite the removal of internal industrial tariffs within the Common Market, the creation of a common external tariff against third parties, and many other achievements, until January 1970, the EEC had been noted for its conspicuous lack of progress in the monetary field, such as a European unit of currency, a European capital market, a European Reserve Fund and a common monetary policy for the EEC. If a European currency did exist then it was the Euro-dollar; the European capital market was the Euro-dollar market –heavily centred on Zurich and London, that is, the EFTA financial centres.

4.2 The Creation of Supporting Regional Institutions

Before the ACU can be created, there will be a need for common grounds to be reached on binding legislation to define the composite currency basket, its value in terms of any of its component currencies as well as areas for its official and private use. In addition, rules on changes in the ACU's composition, either through re-examination and revision of the currency amounts or

the incorporation of the currencies of new members would be needed. In the case of the ECU, these duties were carried out by the Commission of the European Communities. Therefore, the immediate goal for Asia. should be to establish a working group with the objective of establishing a similar set up for the region in the future. The Commission could then lead the way not only in developing the ACU but also in highlighting intermediate and long term goals and the initiatives, policies and mechanisms that Asia would be require. In the intermediate term, the goal could be that of establishing a monetary system in Asia while in the long term it could be of a full monetary union in Asia. Should the ACU be able to play a central role for transactions both between the Asian central banks as well private market participants, it can be developed into Asia's international currency and thereby contribute towards Asia's economic integration in the form of a truly internal market. Such a market means goods, persons, services and capital will be free to move as on a domestic market. The increasing use of the ACU in the external transactions of Asian countries could also lessen the US dollar's for these countries and consequently the impact of its exchange rate fluctuations. The ACU could also be instrumental in fostering the development of an integrated capital market in Asia. National capital markets of widely differing sizes, each with its own cost in terms of exchange rate risk and interest rate could coexist. Monetary integration in Asia would certainly be aided by such further economic integration.

5. Conclusion

With the twin forces of globalisation and liberalisation gathering pace, economies around the world will increasingly be more integrated. It is inevitable then that currency stability, monetary cooperation and perhaps even monetary integration will become both a necessity and reality for regions around the globe, including in Asia. While the general direction that is feasible for Asia looks the same as that taken by Europe, Asia should proceed through the path with experimentation, suiting the pace to its own needs as well as circumstances. The path will not be smooth. Neither was it in Europe with squabbles and temporary wobbles. Notable are the Egg War and the Apple War. Badgered by its powerful farm lobby, Germany closed its borders for five days to a large shipment of Dutch eggs in the early years of the Common Market. Before that, German fruit growers had persuaded the Community authority to delay by 12 days the entry of Italian apples. Italy's economy, the most spectacular performer inside the Community began to wobble in 1964 as it experienced high inflation and capital flight. The Community however, did not allow such difficulties to detract them from what had been accom-

plished and move further on. Asian countries should be prepared to do the same. A good start has been made with the implementation of the ASEAN Free Trade Area (AFTA) on 1 January 2002 among the six original member countries of Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore and Thailand. At the same time, it has to borne in mind that while empirical studies can address the efficiency issues of any types of cooperation, stability issues have to be addressed through commitment and credibility. Commitment and credibility can be achieved if member countries have a common understanding of the ultimate goal of the cooperation.

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Currency Stability Measure: Experience of the European Monetary System

I. The European Economic and Monetary Union[1]

The European Monetary Union (EMU) was the result of more than 40 years of strengthening economic and political ties within Europe. The root of the monetary union could be traced to the Treaty of Rome in 1957 that established the European Economic Community. By 1979, the European Monetary System (EMS) was launched together with mechanism such as the Exchange Rate Mechanism (ERM) to limit exchange rate variability within an exchange rate and intervention mechanism. The main purpose of the EMS was to create a zone of monetary stability, based on the European Currency Unit (ECU consists of a basket of the currencies of the Member States. However, it was only in the mid-1980s that there was sufficient support for the European Economic and Monetary Union (Duisenberg, 2001). It was only in 1986 that the Single European Act was enacted to enable the free movement of goods, services, labour and capital. The first stage of EMU began on 1 July 1990 with the free movement of capital between most of the Member States. The Maastricht Treaty of 1991 subsequently established clear criteria that each country would have to achieve in order to join EMU. Later, a three-stage strategy was set up for the eventual introduction of a single currency: the euro notes and coins in 1 January 2002.

1. The European Union of 15 members has a population of about 375 million, concentrated largely in Germany (82 million, or 22%), Italy, the United Kingdom, and France (each with approximately 58 million people). The Gross Domestic Product of the EU in 2000 was approximately $7.8 trillion (at current exchange rates). In the external sector, the average ratio of exports of goods and services to GDP for the EU-15 in 2000 was 33.4%, while imports of goods and services was 32.3%. Most of this trade, however, was among Member States, as exports of goods to the rest of the world were 10.1% and imports 10.4% of GDP. There is considerable variation between Member States. For example, in 1999 in Germany, industry is almost 36% of value-added, while in Greece agriculture contributes over 14% (US Department of Commerce).

II. Exchange Rate Arrangement[2]

After the breakdown of the Bretton Wood, the first element of cooperation was the establishment of the European "snake" in 1972 to limit bilateral exchange-rate movements to 2¯%. By 1973, European Monetary Cooperation Fund (EMCF) was set up to keep accounts on short-term BOP finance but the first oil shock and rising but varied global inflation shrank participation in the "snake" arrangement. In 1978, the European Monetary System (EMS) was proposed and by the following year, the exchange rate mechanism (ERM) which sought more flexibility and symmetry than Bretton Woods was introduced. Both central banks intervened at edges with unlimited access to each other, booked in ECU but frequent intra-marginal intervention meant the system was asymmetric in practice. The ERM with a 6% band started with 8 countries. By 1986, the Single European Act seek single internal market and in 1987 the Basel-Nyborg Agreement marked the transition from "soft" (occasional realignments to PPP) to "hard" ERM with interest rate defence of parities.

In the process of unifying the market, in 1988 the decision to lift capital controls was instituted and this created the trilemma of fixed exchange rates, capital mobility & independent monetary policy. But the need for different monetary policies was not felt in upswing of late 1980s. In 1989, Delors Report proposed that a 3-stage approach to single currency run by a federal institution and to limit on fiscal deficits, ban on their financing by central bank, and limits on foreign currency borrowing. The Delors Report stressed the need for greater coordination of economic policies as well as the need for a new independent institution that would be responsible for the Union's monetary policy.

By 1990 the intergovernmental Conference decided to establish European Monetary Institute in 1994 to oversee transition. Among the functions of the EMI was to strengthen cooperation between the national central banks and to introduce the single currency. All the preparations led to the 1991 Maastricht Agreement which amended the Treaty of Rome, setting 1999 as the start of euro. The treaty required inflation to be within 1.5% of 3 best performers, fiscal deficit under 3% of GDP & debts less than 60% GDP, membership in EMS, bond yield within 2% of the best performer. References

2. Drawn exclusively from McCauley R., (2000), Mussa M., Masson P. and et. al. (2000) and the website of European Union On-Line.

were also made to other criteria such as the current accounts and the unit labour costs (see Table A1). The Treaty of Maastricht which entered into force in 1993 established the European Monetary Union. It aimed to remove the non-tariff barriers to the free movements of good, capital, services and persons.

The ERM experienced a crisis in 1992-93 in which the fluctuation margins for the bilateral EMS central rates were widened to +/-15% in order to stop financial market speculation. By 1994 the European Monetary Institute was established (at BIS in Basel, later Frankfurt) to prepare instruments, statistics, operations. In 1995 the dollar weakness and German finance minister's demand for system of fines for fiscal overshoots ("Stability & Growth Pact") led to strains, including sharp depreciation of the lira.

By 1997, the third stage of the implementation of the EMU was completed. The Luxembourg European Council (12-13 December 1997) completed the legislative framework by spelling out the principles and procedures for closer economic coordination during the third stage of EMU. By 1996-98, fiscal deficits shrink, with limited fiddling, and inflation rates and interest rates converged, against the helpful backdrop of a strengthening dollar. In May 1998, countries were selected to participate on the basis of 1997 data and the use of the ERM parities was indicated. The European Central Bank was established on 1 June 1998, succeeding the European Monetary Institute and became operational on 1 January 1999. By 1999 the euro was incepted. On 1 January 2002, the euro notes were put into circulation and national currencies will continue to be circulated but withdrawn by June 30 of that year.

Table A1
Convergence Criteria for Participation in EMU
(According to the Maastricht Treaty)

Price stability The average rate of consumer price inflation over the previous 12 months must not exceed by more than 1.5 percentage points that of, at most, the three best performing member states and this performance should be sustainable.
Public finance The financial position of the member country's government must be sustainable, as evidenced by the country not being subject to an excessive deficit. In particular, (I) the general government deficit should not exceed the treaty's reference value of 3 percent of GDP, or it should have declined substantially and continuously and have reached a level close to the reference value, or the excess over the reference value should be temporary and exceptional; and (ii) the gross debt total of the general government should not exceed the reference value of 60 percent of GDP or, if it does, it should be sufficiently diminishing and approaching the reference value at a satisfactory pace.
Interest rates Long-term government bond yields averaged over the previous 12 months should not exceed by more than 2 percentage points those of, at most, the three member countries with the lowest inflation.
Exchange rates A country should have respected the normal fluctuation margins of the ERM for at least two years (within the EMS 2.25% margin of fluctuation) without severe tensions and without devaluing its currency against any other member's currency on its own initiative.

III. The ERM Crisis

The ERM crisis marked one of the worst setbacks of the Monetary Union. The International Monetary Fund (1993) notes that the crisis was set when the Maastricht Treaty was nearly rejected by a referendum in Denmark and at the same time, renewed worried about the sustainability of official parities led to increased exchange market pressure. The uncertainty outcome of another referendum, this time in France, scheduled for September 20, 1992 also led to uncertainty concerning the whole Union. The IMF also points out that the other important factor is the loss of international competitiveness due to years of limited adjustment of the exchange rate parities. In the year following the last realignment of 1987, the EMU appears to moved more and more towards a de-facto fixed exchange rate. Currencies such as the lira and the Swedish krona appreciated significantly in real term while the central parity of the pound was perceived as rather ambitious.

The unification of East and West Germany put more pressure on the ERM. German budgetary condition deteriorated and a change of parity of the Desutsche mark was resisted by the ERM countries. This led to Germany adopted a tighter monetary policy in response to inflationary pressures.[3] The stance of the German policy created a dilemma for other ERM countries. Prior to 1992, many countries were already experiencing declining output and to maintaining fixed parities with the Deutsche mark despite declining output and rising unemployment was inconsistent to domestic requirements. This put pressures on the exchange parities and authorities to reduce interest rates. In the United Kingdom, where unemployment rate had reached 10 percent, the authority was under pressure to either realign or to leave the EMS so that interest rates could be lowered. Subsequently, Finland, the United Kingdom, and Italy decided to allow their currencies to float in September 1992, and this was followed by Sweden in November. Three other countries, Spain, Portugal, and Ireland all devalued their respective currencies between September 1992 and January 1993.

Another bout of speculation appeared in mid-July 1993. Belgium, Denmark, France, and Portugal all raised interest rates and intervened heavily to defend their currencies. The Belgian franc, the French franc, and the Danish krone was buoyed by central bank intervention but nevertheless remain close

3. Subsequently, Germany did only gradually ease interest rate as economic activity declined but consumer price and monetary growth remained high.

to the ERM floors. On August 2, 1993, the countries participating in the ERM decided to widen the bands around the (unchanged) central parities to ±15 percent to contain speculation pressures. This 15 percent band was deemed wide enough and since all currencies were well within the wider bands, central banks were not obliged to intervene and speculative activities were contained. The new wider bands allowed the authorities much greater latitude over monetary and interest rate policy. By the end of 1993 the Belgian, Danish, France, Portuguese, and Spanish currencies were all within or near the old ERM limits relative to the deutsche mark.

IV. What makes the European Monetary Union Workable?: Some Lessons

(i) Economic Convergence

The formation of the European Monetary Union prompts the question of an optimal currency area (Mundel (1961) as to whether exchange rates among any group of countries should be fixed.[4] Among the criteria for a beneficial union are the degree of intra-regional trade, the flexibility of the factor markets as well as the degree of economic convergence.

The greater is the intra-regional trade, the large is the benefit the area could derive when it adopts a common currency. The benefit comes from lowering transaction costs and greater certainty.[5] The greater is the flexibility of factor market, the easier it is to adjust to shocks and hence the greater is the benefit of an independent monetary and exchange rate policy. In addition, flexibility of goods and labour markets is necessary to allow adjustments without unacceptably large macroeconomic disturbances.

As economies converge, in term of economic growth, inflation rate and interest rates, the less likely are shocks will be asymmetric (see Table 3 for some key indicators for the fulfilment of the Maastricht criteria as determined by the European Commission in May 1998). Economic convergence in the EU is made easier because of relative similarity of per capital incomes and the financial systems within the EU. The similarity makes the adoption of

4. Frankel and Rose (1998) note that any Optimal Currency Area criterion is potentially endogenous.

5. However, the composition of intra-regional trade also matters According to Eichengreen and Masson et. al, 1998, manufactures an similar goods are more to likely to be affected by bilateral exchange rate movements than commodities which prices are set in the international markets.

policies to support economic integration easier.[6] The similarity in per capita income also ensures that the migration from low-wage to high wage countries is limited.

In addition, the European countries were also able to set up a mechanism for fiscal transfers within the EU. In the EU, the relative poorer countries are also relatively smaller, thus making the process of fiscal transfer much more effective. With the Stability and Growth Pact, fiscal developments are monitored very closely by the European Central Bank (ECB). The Pact requires government budgets to be close to balance or in surplus in normal circumstance. There is also a "no bailout" clause in the Treaty. The EU also addresses the issue of financial sector weaknesses indirectly by implementing debt and deficit ceilings.

The conduct of a common monetary policy in the euro area is also rendered easier by the fact that its financial system works in a similar way. Also, the European Central Bank (ECB) is given a clear task of safeguarding price stability and its independence is important in this respect. The ECB assigns a prominent role to monetary developments in the euro area and monetary growth is set with a reference value tied to the Eurosystem's definition of price stability, i.e., an increase in the Harmonized Index of Consumer Prices (HICP) for the euro area of below 2% compared with the previous year and assumptions for trend potential output growth of between 2% and 2.5% as well as for a trend decline of velocity of M3 of between 0.5% and 1.0% per annum (Duisenberg, 2001).

6. Bayoumi T., Eichengreen B., and Mauro (2000).

Table A2

The Fulfillment of the Maastricht Criteria as Determined by the European Commission in May 1998

Country	Inflation	Government Budgetary Position					Exchange Rates	Long-term Interest Rates
	HICP (a)	*Deficit [% of GDP]*	*Debt [% of GDP]*				*ERM participation*	*(d)*
	Jan. 1998	1997	1997	Change from previous year			March 1998	Jan. 1998
				1997	1996	1995		
Reference Value	2.7	3	60					7.8 (f)
Belgium	1.4	2.1	122.2	-4.7	-4.3	-2.2	yes	5.7
Denmark	1.9	-0.7	65.1	-5.5	-2.7	-4.9	yes	6.2
Germany	1.4	2.7	61.3	0.8	2.4	7.8	yes	5.6
Greece	5.2	4.0	108.7	-2.9	1.5	0.7	yes (h)	9.8 (i)
Spain	1.8	2.6	68.8	-1.3	4.6	2.9	yes	6.3
France	1.2	3.0	58.0	2.4	2.9	4.2	yes	5.5
Ireland	1.2	-0.9	66.3	-6.4	-9.6	-6.8	yes	6.2
Italy	1.8	2.7	121.6	-2.4	-0.2	-0.7	yes (j)	6.7
Luxembourg	1.4	-1.7	6.7	0.1	0.7	0.2	yes	5.6
Netherlands	1.8	1.4	72.1	-5.0	-1.9	1.2	yes	5.5
Austria	1.1	2.5	66.1	-3.4	0.3	3.8	yes	5.6
Portugal	1.8	2.5	62.0	-3.0	-0.9	2.1	yes	6.2
Finland	1.3	0.9	55.8	-1.8	-0.4	-1.5	yes (k)	5.9
Sweden	1.9	0.8	76.6	-0.1	-0.9	-1.4	no	6.5
United Kingdom	1.8	1.9	53.4	-1.3	0.8	3.5	no	7.0
Europe Average	1.6	2.4	72.1	-0.9	2.0	3.0		6.1

Notes:
(a) Percentage change in arithmetic average of the latest 12 monthly harmonized indices of consumer prices (HICP) relative to the arithmetic average of the 12 HICP of the previous period.
(b) Council decisions of 26-Sep-94, 10-Jul-95, 27-Jun-96, and 30-Jun-97.
(c) A negative sign for the government deficit indicates a surplus.
(d) Average maturity 10 years; average of the last twelve months.
(e) Definition adopted: simple arithmetic average of the inflation rates of the three best-performing member countries in terms of price stability plus 1.5 percentage points.
(f) Definition adopted: simple arithmetic average of the 12-month average of interest rates of the three best-performing member countries in terms of price stability plus 2 percentage points.
(g) Commission is recommending abrogation.
(h) since March 1998.
(i) Average of available data during the past 12 months.
(j) since November 1996.
(k) since October 1996.

Source: Antweiler W.

The economic criteria for economic convergence set up by the Maatritch Treaty were stringent (see Table A2). These convergence criteria were stringently enforced and only those countries that had complied with them in the areas of inflation, public finances, interest rates, and exchange rates were allowed to participate. In May 1998, the Council of the European Union Meeting at the level of the heads of state or government, announced that the 11 countries that had indicated their intent to be among the initial members—Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, and Spain—had qualified to participate in the EMU. Greece and Sweden, did not achieve all the five criteria. Greece later met the criteria and its membership was approved in January 1, 2001. Denmark and the United Kingdom opted not to participate immediately but choose to be given the option to join later if domestic political consideration would allow it.

In addition, efforts were made to bring about further integration in the product and capital markets by harmonising regulations across Europe to make Europe really "one market" and to providing further economies of scale.

While the basis of the Maastricht Treaty requires the EMU to be an optimal currency area, in reality, it potentially lacks "common European business cycles". It is generally agreed that EMU is not an economic but a political project and as such, the European Union cannot be regarded as an optimal currency area (Wagner, 1998). European authorities have also defined convergence criteria to defend the new central bank rather than by reference to optimal currency area criteria (McCauley, 2000). However, as the subject of the optimal currency area is hotly debated, it is equally important to weight the benefit and cost of a common currency for Europe. Table A3 below summarises the pro and cons of a common currency (Antweiler, 2001).

Table A3
Pros and Cons for and against the Euro

Arguments for a Single European Currency	Arguments against a Single European Currency
Transaction Costs Having to deal with only one currency will reduce the cost of converting one currency into another. This will benefit businesses as well as tourists.	**Cost of Introduction** Consumers and businesses will have to convert their bills and coins into new ones, and convert all prices and wages into the new currency. This will involve some costs as banks and businesses need to update computer software for accounting purposes, update price lists, and so on.
No Exchange Rate Uncertainty Eliminating exchange rates between European countries eliminates the risks of unforeseen exchange rate revaluations or devaluations.	**Non-Synchronicity of Business Cycles** Europe may not constitute an "optimum currency area" because the business cycles across the various countries do not move in synchronicity.
Transparency & Competition The direct comparability of prices and wages will increase competition across Europe, leading to lower prices for consumers and improved investment opportunities for businesses.	**Fiscal Policy Spillovers** Since there will only be a Europe-wide interest rate, individual countries that increase their debt will raise interest rates in all other countries. EU countries may have to increase their intra-EU transfer payments to help regions in need.
Strength The new Euro will be among the strongest currencies in the world, along with the US Dollar and the Japanese Yen. It will soon become the 2nd-most important reserve currency after the US Dollar.	**No Competitive Devaluations** In a recession, a country can no longer stimulate its economy by devaluing its currency and increasing exports.
Capital Market The large Euro zone will integrate the national financial markets, leading to higher efficiency in the allocation of capital in Europe.	**Central Bank Independence** Previously, the anchor of the European Monetary System has been the independence of the German Bundesbank and its strong focus on price stability. Even though the new European Central Bank (ECB) will be nominally independent, it will have to prove its independence. This will at the very least incur temporary costs as it will have to be extra-tough on inflation.
No Competitive Devaluations One country can no longer devalue its currency against another member country in a bid to increase the competitiveness of its exporters.	**Excessive Fiscal Discipline** When other governments exert pressure on a government to reduce borrowing, or even pay fines if the budget deficit exceeds a reference value, this may have the perverse effect of increasing an existing economic imbalance or deepening a recession.
Fiscal Discipline With a single currency, other governments have an interest in bringing countries with a lack of fiscal discipline into line.	
European Identity A European currency will strengthen European identity.	

Source: Antweiler W.

(ii) Long–term Planning and Sequencing

The realisation of the European Union is one of proper planning and painstaking preparation. According to Wyplosz (2001), Europe's successful integration has been successful because of a particular sequencing. It started from trade integration and fixed-but-adjustable exchange rates while keeping domestic and external financial markets under tight control. The financial markets were only liberalised once the Common Market was fully developed, a process that took 30 years. Exchange rate stability was then enshrined into the EMU.

The long-term planning was most evident when the Maastricht Treaty comprehensively laid out a detailed timetable for the transition to EMU. The three-stage strategy was as follows:

July 1990-December 1993

- Enforcement of the Maastricht Treaty
- Abolishment of Capital Controls

January 1994-December 1998

- Establishment of the Monetary Institute, a predecessor for the European Central Bank (ECB)
- Strengthen cooperation between national central banks
- Establishment of coordination of Member States' monetary policy
- Establishment the legal framework for the euro
- Enforcement of the Stability and Growth Pact to ensure strict budgetary discipline
- Setting up of structure of the new exchange rate mechanism for Member State not joining the euro

January 1999-June 2002

- Fixing of the exchange rates between national currencies
- The ECB is to start its operations
- Introduction and issuance of the new common money, the euro

(iii) Leadership

One facilitation factor for the success of the Union is the availability of Germany as a focal point. This is crucially important as Germany was the largest economy and home to the anchor currency within the EMS (Wyplosz, 2001). The other major members of the ERM accepted the arrangement of following the monetary policy of the Bundesbank as the Bank has acquired

the reputation of delivering low inflation.[7] In addition, Wyplosz also points out that the Bundesbank also has independent monetary policy committee (the Direktorium) that was designed for a federal state.

(iv) Operational Requirements

(a) Exchange Rate Management

While consensus on the key policy objectives and economic convergence is needed for effective exchange rate and monetary policy co-operation in Europe, the importance of operational aspects in the day-to-day management of the EMS/ERM should not be overlooked. Three main lessons can be drawn in this regard.[8]

First, the operational framework had to be flexible in order to withstand episodes of tension as well as to adjust to changing economic and financial market conditions. In the European experience, examples of tension and changing conditions were the episodes of US dollar misalignment in the 1980s and 1990s and the asymmetric shock caused by German reunification in the early 1990s. In the EMS/ERM, flexibility was ensured through fluctuation bands around central exchange rates, which were either narrow (+/-2.25%) or wide (+/- 6%) depending on the degree of convergence of the countries concerned. The system became even more flexible when a +/- 15% fluctuation band was introduced following the crises in 1992 and 1993. The possibility of adjusting central rates through "realignments" to be agreed by the ministers and governors of the participating Member States added to the resilience of the system.

(b) Surveillance

Second, arrangements for regular consultations among all parties to the system were used, including mechanisms for monitoring economic, monetary and financial developments and for assessing policy responses. In Europe, peer reviews of domestic policies became increasingly demanding over time.

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7. It is noted that the convergence process worked less well in the wake of German unification as the macroeconomic needs of the German economy diverged from the rest of the region as Germany during that time would want to pursue policies in their interest. The divergence may have contributed to the ERM crises of 1992 and 1993.

8. Extract directly from (Noyer, 2001a).

As a result, the provision of mutual financial assistance was increasingly subordinated to compliance with the policy recommendations made in such reviews or in the context of "realignments".

(c) Cooperation

Third, the operational framework made it possible to achieve exchange rate and monetary cooperation among countries with different levels of economic development. Nominal convergence proved to be consistent with real convergence, as the countries engaged in the catching-up process were committed to implementing the necessary structural reforms in addition to macroeconomic stabilisation measures and their economic weight was small compared with that of the so-called "core" countries.

(v) Political Commitment

As further integration and harmonising of regulations across the monetary Union are very important, a willingness to adopt a different policy stance than would be needed based upon purely domestic consideration is essential. Members of the currency union are willing to take difficult policy measures to reform institutions such as making central banks independent and to accept supranational directives on issues such as factor mobility and competition policy.

V. The Experiences of the Euro

The euro, according to Christian Noyer (1991b) has become one of the two most important currencies in the global economy in a short period of time and this is exemplified by the massive issuance of euro-denominated bonds worldwide. In addition, economic weight of the euro area has given euro its global standing. While many give credit to the effort of the ECB, ECB's stance on making the euro as an international currency remain neutral. This was reflected by Duisenberg (2000), President of the ECB who stated that "the euro as an international currency is to remain the outcome of economic and financial development and policies inside and outside the euro Area."

The share of the euro in international bank assets has also increased substantially (Issing, 2001). The euro is the second most widely used official reserve currency after the US dollar. However, the gap is wide. At the end of 1999, the euro accounted for around 13% of the world's official foreign currency holdings compared with a US dollar share of around 70%. Also, the euro plays a role in the exchange rate regime of more than 50 countries outside

the euro area. According to Greenspan (2001), the way the euro behaves have little to do with the euro itself but pertain to certain European economic conditions that have affected the value of the currency. He also note that no doubt, "the euro is a sound currency".

VI. Conclusion

The European Union has also accepted as full candidates for accession for some of the European transition economies with the prospect of subsequent currency integration through the European Economic and Monetary Union. Once these countries become members of the EU, they will be guaranteed EMU membership as soon as they are able to fulfil the Maastricht criteria. This has implications on the Union itself as well as the individual country concerned. For the Union, the optimal size is when the last country joins, it results in a net gain for the whole area but the next one will do the reverse (Maloney and Macmillen ,1999).[9] On the other hand, for the potential countries, the five economic tests (HM Treasury, 1997) should be examined. The tests are as follows:

(1) Are business cycles and economic structures compatible with euro interest rates on a permanent basis?;
(2) If problems emerge is there sufficient flexibility to deal with them?;
(3) Would joining EMU create better conditions for firms making long-term decisions to invest in the countries?;
(4) What impact would entry into EMU have on the competitive position of the country's financial services industry?; and,
(5) In summary, will joining EMU promote higher growth, stability and a lasting increase in jobs?

As for the Asian countries, perhaps one of the most important lessons learned is that there is really no short cut in forming a monetary union and any "attempting to embed each step into a more ambitious framework is a good recipe for failure" (Wyplosz, 2001). Sacrifices have to be made. Buiter (1999) has summarised it neatly by saying that "economic and monetary union in Europe is part of an ongoing process of economic and political integration in Europe, and not an isolated, 'technical', monetary arrangement.... EMU is a step on the road to 'ever closer union' in Europe. It represents a new chapter in the European federalist agenda, a transfer of national sovereignty to a supranational institution..."

9. Maloney J., and Macmillen M., "Do Currency Unions Grow Too Large for their Own Good", *Economic Journal*, October 1999.