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THE CASE FOR REGIONAL EXCHANGE RATE ARRANGEMENT
IN EAST ASIA

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The case for regional exchange rate arrangement in East Asia

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Abstract

The Asian crisis highlighted the difficulties for developing countries to actively manage exchange rates in an environment of high capital mobility. Now it became fashionable to argue that the exchange rate should be either allowed to float freely or irrevocably fixed. This paper examines the case for regional exchange rate arrangements as an instrument to enhance the manageability of exchange rates and discusses the options in East Asia. It critically assesses the existing proposal of common basket peg system and suggests that East Asia should seek to create an Asian-version of regional monetary system modeled on the EMS.

JEL Classification: F31; F33; F41; F42

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1. Introduction

There has been a renewed focus on the subject of exchange rate regimes after a series of emerging market crises, particularly the Asian crisis of 1997-98. The Asian crisis has highlighted the vulnerability of fixed-but-adjustable rate regimes to “sudden stops” of capital inflows and demonstrated how a disorderly exit from fixed exchange rates could result in economic disaster.¹ Focusing on this vulnerable aspect of fixed-but-adjustable rate regimes, a number of analysts have come to claim that the only viable option for countries integrated with international capital markets is either free floats or hard pegs; the remaining intermediate regimes, such as adjustable pegs and target zone are no longer viable in a world of high capital mobility. This so-called “two corner-solution view” (or bipolar view) has virtually become the new orthodoxy in international economics.²

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¹ See Calvo and Reinhart (2000) for the empirical analysis of sudden stops episodes including the Asian crisis.

² The prominent advocates of the two corner-solution view include Eichengreen (1994), Obstfeld and

The two-corner view focuses narrowly on one aspect of exchange rate regimes, namely “viability”. The exchange rate, however, is an important adjustment instrument to maintain macroeconomic balance: when a country where wages and prices are sticky downwards is affected by adverse external shocks, lowering the relative price of non-trade goods to traded goods through exchange rate depreciations will be necessary to avoid recessions and balance-of-payment disequilibrium. A type of exchange rate management that gives priority to maintaining internal balance (full employment) and external balance (targeted current account balance) is known as the “real targeting approach”. Following the tradition of Keynesian economics, this approach emphasizes the importance of proactive exchange rate management to facilitate the adjustment in relative prices and thereby help maintain spending level consistent with internal and external balance.³

In light of exchange rate manageability, the “two-corner” regimes, i.e., free floats and hard pegs have critical drawbacks in that they are not compatible with the real targeting approach. The exchange rate is determined in principle by market forces under free floats, while it is irrevocably fixed under hard pegs; therefore, there is no room left for active exchange rate management under these regimes. In fact, after the collapse of Bretton Woods System, many developing countries adopted some form of intermediate regimes which allow national governments to use the exchange rate as an adjustment instrument.

Therefore, the real challenge faced by emerging market economies should be how to enhance the manageability of exchange rates, rather than foregoing the exchange rate as an adjustment instrument. One solution available for countries in a region where economic linkages are strong is to establish a framework for regional exchange rate cooperation. A viable regional exchange rate arrangement that ensures access to supplemental financing at times of sudden stops would enhance the ability of member countries to manage their exchange rates.

The importance of regional exchange rate arrangements as means to achieve regional economic stability has been discussed widely in the context of East Asia. McKinnon (2001)

Rogoff (1995), Summers (2000), and Fischer (2001).

³ See Corden (1991; 2002) for the concept of real targeting approach.

suggests that East Asian countries should establish a formal collective dollar peg system (East Asian Dollar Standard) to achieve a greater stability in domestic price levels across the region. The case for a common basket peg system aimed at stabilizing both real effective and intra-regional exchange rates has been contended by a number of observers, including Dornbusch and Park (1999), Williamson (1999, 2000), Ogawa and Ito (2000), and Kawai and Takagi (2000). It should, however, be noted that both the East Asian Dollar Standard and the common basket peg system are essentially a unilateral peg system and thus potentially vulnerable to speculative attacks and sudden capital flow reversals. These arrangements are not robust because they do not involve effective financing facilities and policy coordination mechanisms linked to the financial assistance. The lack of key ingredients for viable exchange rate arrangement appears to be their critical drawback.

This paper examines the case for regional exchange rate arrangements as an instrument to enhance the manageability of exchange rates in emerging market economies and discusses the options for East Asia.⁴ Section 2 analyzes the role of financing in dealing with balance-of-payment disequilibrium. Section 3 examines the characteristics of regional industrial linkages in East Asia which have important implications for the design of regional exchange rate arrangements. Section 4 discusses the limitations of common basket peg system as a viable exchange rate arrangement and argues the case for the EMS (European Monetary System)-type system. It also outlines the required features of Asian-version of monetary system drawing on the empirical findings and the lessons of ERM crisis of 1992-93. The final section presents concluding remarks.

2. The role of financing in macroeconomic adjustments

A higher degree of exchange rate manageability can be achieved by a greater capacity of national governments to deal with destabilizing market pressures against their exchange rates.

⁴ In this paper, East Asia refers to the countries and regions including Japan, China, NIES (newly industrialized economies; Hong Kong, Korea, and Taiwan), and the ASEAN (Association of South East Asian Nations) countries. However, depending mainly on the data availability, the analysis focuses on a subset of this group of economies.

Clearly, it would require greater access to financing for the purpose of foreign exchange market interventions.⁵ To supplement the existing resources available at times of crises, notably foreign exchange reserves and official financing such as IMF credits, creating regional facilities that could provide supplemental financing would be one option. The case for creating regional financing facilities would be particularly strong in a region where the degree of economic integration is high and thus the economic stability of the entire region becomes the common interest to individual countries. The greater access to financing would enhance the national government's ability to cope with sudden stops of capital inflows that could result in Asian-type crises.

Naturally, financing is not a substitute for unavoidable adjustments. Confronting the possibility of balance-of-payment (BOP) disequilibrium generated by capital flow reversals, the national government is sent to have two policy options: financing the BOP disequilibrium through, for example, foreign exchange market interventions and thus avoiding the adjustments in real exchange rates and domestic spending; or, undertaking those adjustments to eliminate the disequilibrium as orderly as possible. The question usually raised is, under what circumstances should the government finance the BOP disequilibrium or undertake potentially costly adjustments? The standard answer is that it depends on the nature of the underlying shocks. When the shock is transitory such as self-fulfilling panic and thus a reduction in capital inflows is temporary, financing will be a better option. By contrast, if the shock is permanent and has a long-lasting impact on capital inflows, adjustments are unavoidable. In such a case, financing can only postpone the inevitable adjustments.⁶

In practice, however, the distinction between transitory and permanent shocks is not unambiguous. As demonstrated by the Asian crisis, once a sharp capital flow reversal occurs, it could have a long-lasting effect on the level of capital inflows that a country could expect.

⁵ Alternatively, the imposition of restrictions and tax on capital and foreign exchange transactions would reduce excessive volatility in capital flows and exchange rates and thus help enhance the government's ability to manage exchange rates.

⁶ See Cohen (1983) for the discussion on the role of financing and adjustment in dealing with the balance-of-payment disequilibrium.

Incidences such as creditor panic and contagion could prompt a fundamental change in creditors' risk appetite, turning the initial temporary reduction in capital inflows into a permanent one. This is particularly likely to happen when a rapid increase in capital inflows is driven mainly by creditor euphoria rather than improvements in economic fundamentals during the period proceeding to the capital flow reversals.

However, the options for financing or adjustments does not mean that they are mutually exclusive. For example, there will be a critical role for financing in crisis management even when adjustments are unavoidable. Firstly, financing could limit the extent of adjustments that have to be undertaken. If the adjustment is necessitated by panic and contagion rather than macroeconomic imbalances such as overspending and real exchange rate overvaluations, the case for minimizing the scope of adjustments should be strong in order to avoid potentially costly adjustments.

Secondly, financing would help prevent disorderly exchange rate adjustments which could have serious contractionary effects on economic activities.⁷ Capricious variations of floating exchange rates tend to result in what Frankel (1996) called the "overshooting of the overshooting equilibrium" in an environment of high economic uncertainty resulting from crises. This is because the foreign exchange market is likely to be distorted by "noise trading" that could cause substantial deviations of exchange rates from their fundamental values.⁸ Therefore, the government's adequate exchange rate management aimed at stabilizing market expectations in the midst of turmoil would be important to avoid serious economic contractions arising from

⁷ Disorderly sharp exchange rate depreciations could have serious contractionary effects on economic activities through various channels, such as a rise in production costs due to increased prices of imported inputs and a reduction in credit supply by domestic banks with serious currency-mismatches in their balance sheets. Many analysts emphasize the importance of the latter channel in the context of Asian crisis (Goldstein 1998; 2002, Eichengreen 1999, Mishkin 1999, Kenen 2001). Kinkyo (2004a), however, presents evidence to suggest the importance of the former channel during the Korean crisis.

⁸ Jeanne and Rose (2002) develop a model of noise trading which shows how the exchange rate determination can be distorted by the prevalence of noise trading and how the market entry of noise traders is endogenously determined. Kinkyo (2004b) analyzes Korea's real exchange rate dynamics during the crisis of 1997-98 and presents evidence to suggest that there was a substantial degree of overshooting of the overshooting equilibrium in the midst of the crisis.

the contractionary effect of “excessive” overshooting.

Importantly, the scope of financing tends to be severely constrained by the shortage of foreign exchange funds at times of crises in emerging market economies particularly because these economies often lose access to international capital markets due to a drastic change in market sentiments. In addition, a recent dramatic rise in the proportion of portfolio investment in capital flows to emerging market economies has generated an additional source of volatility because these investments could turn around very quickly, compared with long-term bank lending and foreign direct investment.

In this context, there is a potentially important role for capital controls and standstills (i.e., a temporary suspension of debt payment).⁹ These measures could reduce the scale of capital outflows at least temporarily and thus buy time for orderly adjustments and debt restructuring. Furthermore, they would help avoid panic-driven capital flow reversals and thus unnecessary financing and adjustments. It is, however, important to note that neither capital controls nor standstills are complete substitutes for financing. While capital controls and standstills can limit the extent of capital *outflows*, they cannot fill the financing gap created by a substantial reduction in capital *inflows*. Only financing can fill such gap.

Having recognized the critical role of financing in crisis management, it should be emphasized that the use of supplemental financing provided by regional facilities has to be confined to dealing with temporary shocks and supporting orderly adjustments. The financing should not be used to sustain misaligned exchange rates and to postpone unavoidable adjustments arising either from macroeconomic imbalances or a reduction in capital inflows. Otherwise, the viability of regional financing facilities and thus the credibility of individual countries’ exchange rate regimes could be undermined. There is also a danger of moral hazard created by easy access to financing. To ensure that the financing provided by regional facilities is used for an appropriate purpose and thus not hamper necessary adjustments, it has to be

⁹ Against the background of increased volatility of global capital flows and the associated higher risk of balance-of-payment crises, there has been a growing support for mandatory standstills as an instrument of crisis management. See Buiter and Sibert (1999), Lamfalussy (2000), Kenen (2001), Miller and Zhang (2000), and Akyüz (2002).

linked to the mechanisms of regional economic monitoring and policy coordination. The regional financing facility therefore should be embedded in a broader framework of regional exchange rate cooperation that involves such mechanisms and thus secures an appropriate balance between financing and adjustments. Such a framework could not only strengthen the capacity of national governments to manage their exchange rates but also enhance the credibility of macroeconomic policies in the member countries.

3. Industrial Linkages in East Asia

The case for regional exchange rate cooperation will become stronger when the underlying economic conditions are suitable. The benefit of intra-regional exchange rate stability will be larger the greater the degree of regional economic integration through trade and investment is. Furthermore, the theory of Optimum Currency Area suggests that the cost of foregoing exchange rate and monetary policy autonomy under the regional arrangement will become smaller if there is a high degree economic convergence and thus regional economies are less likely to be subject to asymmetric shocks.¹⁰

In the latter regard, there are studies that have examined whether the East Asian region is the optimum currency area in light of the strength of correlations of disturbances among the regional economies. However, little attention seems to have been paid to the underlying industrial linkages across the region in the literature on East Asia's regional exchange rate arrangements.¹¹ As the following analysis shows, the pattern of intra- and extra-regional industrial linkages has important implications for the design of East Asia's exchange rate arrangements.

The remarkably high growth of East Asian economies over the past two decades has been associated with their dramatic expansions of foreign trade. A high growth of foreign trade has been accompanied by a rise in the share of intra-regional trade, which has increased on average

¹⁰ The early contributions to the theory of Optimum Currency Area include Mundell (1961), McKinnon (1963), and Kenen (1969). For the survey of recent studies, see Tavlas (1993).

¹¹ For example, Bayoumi and Eichengreen (1994; 1999), and Bayoumi, Eichengreen, and Mauro (2000) examine the correlation of disturbances among East Asian economies.

from about one-third to nearly one-half over the past two decades.¹² Another important feature is a large share of manufacturing goods in foreign trade. The share of manufacturing goods in exports exceeds 90 percent in the NIES. Also, the share has increased sharply in the major ASEAN countries, reaching 70-90 percent in Malaysia, Singapore, and Thailand. At the same time, the share of manufacturing goods has risen sharply in the imports of these economies, suggesting the growing importance of intra-industry trade in East Asia.

Table 1 shows the intra-industry trade index for the major East Asian economies and EU countries by major trading partners. The intra-industry trade index is defined as:

$$I = 1 - \frac{\sum_i |X_i - M_i|}{\sum_i (X_i + M_i)} \quad (1)$$

where X_i and M_i denote exports and imports of product i , respectively. A number closer to one indicates that the weight of intra-industry trade in the total trade is high. The weight of intra-industry trade is high in the intra-regional trade in East Asian economies except Hong Kong. The index is close to, or even larger than the average of EU countries in six East Asian economies. In addition, the weight of intra-industry trade is higher in intra-regional trade than in the trade with the USA and the EU in most East Asian economies. The analysis suggests that the intra-industry trade has been the major driving force behind the rapid trade integration in East Asia.

A large weight of intra-industry trade mainly reflects the strong industrial linkages among East Asian economies. The industrial activities are closely interconnected through the supply of input and the demand for output across the economies. Table 2 shows the supply composition of intermediate inputs for the manufacturing sector by country origins.¹³ Overall, the import dependence ratio of intermediate input (i.e., the share of imported intermediate input in the total supply of intermediate input) is rather high in the non-Japan East Asian economies. More than one-third of intermediate inputs are imported in Malaysia, the Philippines, Singapore, Thailand, and Taiwan. A notable exception is China, where the ratio is only marginally higher than that of

¹² IMF *Direction of Trade Statistics*

¹³ The data used for the analysis below is drawn from the *Asian International Input-Output Table 1995* compiled by the Institute of Developing Economies in Japan.

Japan and the USA.

Importantly, the share of intra-regional imports (i.e., the share of imported intermediate input from the rest of East Asia in the total imported intermediate input) is relatively high in the non-Japan East Asian economies. More than half of imports are from the region economies in Malaysia, Singapore, Thailand, and China. Japan is the largest foreign supplier for the region and China is the second largest (54 percent and 17 percent of total regional supply excluding the domestic supply, respectively). Also, Hong Kong is a large supplier for China. Due to the high share of intra-regional imports, the region dependence ratio, defined as the ratio of regional supply of intermediate input (including domestic supply) to the total supply, reaches nearly 80 percent or even 90 percent in the non-Japan East Asian economies.

Turning to the demand side, the composition of the demand for the manufacturing sector by country destinations is shown in Table 3. Apart from Indonesia and China, the export dependence ratio of non-Japan East Asian economies is much higher than that of Japan and the USA. The ratio is particularly high in Malaysia and Singapore.

In contrast to the import of intermediate inputs, the share of intra-regional trade in total exports for the manufacturing sector is less than half in all non-Japan East Asian economies except China and Taiwan. Overall, the weight of extra-regional trade is relatively higher for the export of products than for the imports of intermediate input in the manufacturing sector. Japan is the largest foreign purchaser of manufacturing products for the region and China is the second largest (60 percent and 18 percent of total regional demand excluding the domestic demand, respectively). For individual economies, however, Japan is not necessarily the largest export market, the largest being Malaysia for Singapore, and Hong Kong for China and Taiwan. Japan is the second largest export market for these economies.

The region dependence ratio—defined as the ratio of regional demand for products (including domestic demand) to the total demand—is fairly high in the non-Japan East Asian economies except Malaysia and Singapore. The relatively low ratio in these two economies reflects both the high export dependence ratio and the large share of extra-regional exports. Conversely, the very high ratio of Indonesia and China reflects primarily their low export dependence ratio.

The importance of extra-regional demand can also be verified by its large impact on the gross value added of the manufacturing sector in the East Asian economies. Table 4 shows the contribution ratio of final demand to the gross value added of the manufacturing sector. Apart from Indonesia and China, the contribution ratio of extra-regional final demand (i.e., the sum of the contribution ratio of final demand in USA, Europe 3, and the rest of the world) is generally high. That ratio exceeds 0.3 in Thailand and Taiwan and even 0.5 in Malaysia and Singapore. Within the region, Japan is the largest foreign contributor for all non-Japan East Asian economies except China and Taiwan. However, the contribution ratio of the USA is even larger than that of Japan in all but China. Although the contribution ratio of the whole EU is not available here, it could be as high as that of Japan given the relatively large size of the trade with the EU.

Now, what are the implications of the above findings for the exchange rate policy in East Asian economies? Firstly, the industrial activities of East Asian economies are closely interrelated through the supply of intermediate input. Reflecting this, the weight of intra-industry trade is high within the intra-regional trade of East Asia. Accordingly, the excessive volatility of intra-regional exchange rates could have an extensive adverse effect on production activities across the region. The stability of intra-regional exchange rates is therefore important to reduce transaction costs arising from exchange rate uncertainty and to enhance production efficiency through facilitating intra-regional divisions of labour.

Secondly, the stability of intra-regional exchange rates is also necessary to prevent competitive devaluations among East Asian economies. For the economies competing in the same market, such as the USA, a change in the relative price competitiveness among them will substantially affect their export performance. Therefore, a large devaluation in one economy could provoke a similar one in others in the region. But such devaluation might have a significant adverse effect on the supply side by raising the import prices of intermediate input. Obviously, maintaining the intra-regional exchange rate stability is a better solution than prompting disruptive competitive devaluations among the region economies.

Finally, many East Asian economies depend heavily on extra-region economies, notably the

USA and European countries for the demand of manufacturing products. Limiting misalignments in the exchange rates against the US dollar and euro is thus important for the maintenance of macroeconomic balance. Importantly, the demand shocks originating from the USA and European countries are likely to have a region-wide impact because of the close intra-regional industrial linkage among East Asian economies. This suggests that the benefit of collectively managing extra-regional exchange rates would be greater for East Asian economies.

4. Options for East Asia

To summarize briefly, we have seen the critical role of financing in crisis management and the need to achieve an appropriate balance between financing and adjustments. The empirical analysis has indicated the importance of both the stability of intra-regional exchange rates and the adequate management of extra-regional exchange rates in terms of production efficiency and macroeconomic stability in East Asia. Bearing these in mind, this section examines two types of regional exchange rate arrangements: common basket peg system and EMS-type system. It discusses the limitations of the former as a viable exchange rate arrangement and argues the case for the creation of Asian-version of monetary system modeled on the EMS.

4.1. The Limitations of the Common Basket Peg System

As mentioned earlier, a number of observers suggest that the East Asian economies should peg their exchange rates to a basket of the currencies of major trading partners, rather than to the US dollar alone. The advantage of pegging exchange rates against such a currency basket is that it would help stabilize the effective exchange rate which is the weighted average of exchange rates against all currencies where the weights are chosen to reflect the trade pattern. Furthermore, by collectively pegging to a common basket, the variability of intra-regional exchange rates would also be reduced.

It should, however, be noted that the common basket peg system is essentially a unilateral peg system where the anchor currency countries have no obligation to support the peg through interventions and policy adjustments. In principle, countries pegging their exchange rates to the

common basket need to defend the peg for themselves. Accordingly, this system is potentially vulnerable to speculative attacks and sudden capital flow reversals.

In order to make the common basket peg system more robust, improving access to supplemental financing would be essential. In this respect, it is noteworthy that a regional currency swap network is now being developed under the Chiang Mai Initiative (CMI) in East Asia.¹⁴ This currency swap network, along with other initiatives, is expected to enhance the ability of East Asian economies to better deal with Asian-type crises and therefore could serve as an instrument to support the common basket peg system. Although still in its infancy, there are several critical limitations to this swap facility that could impair the effectiveness of its financial assistance.¹⁵

Firstly, the amount of credit available through the swap is rather small relative to the size of foreign exchange reserves and external debts in East Asian economies (Table 5).

Secondly, the primary role of this swap facility is to provide bridge financing to the IMF credit. The full activation of swaps is linked to the IMF programme and only 10 percent of the available credit can be activated without the consent of the IMF.¹⁶

Finally, there is no formal mechanism to coordinate the activation of swaps across the countries. The activation of swaps is essentially at the discretion of creditor countries, and even the activation of the 10-percent part is not automatic. The decentralized nature of the facility could hinder the development of policy coordination mechanisms linked to the financial assistance.

In sum, the financial assistance available through the current swap network might not be quick and large enough to deal with sudden stops of capital inflows and associated Asian-type crises. To fulfill the role of effective financing facilities necessary for the viability of common

¹⁴ The CMI, announced by the financial ministers of ASEAN+3 (ASEAN member countries plus China, Japan, and Korea) in May 2000, aims at facilitating regional cooperation in four principal areas: monitoring capital flows, economic surveillance and policy dialogue, technical assistance, and the currency swap network. The currency swap network consists of three parts: the ASEAN swap agreement; the bilateral swap agreement among China, Japan, and Korea; and the bilateral swap agreements between the ASEAN member countries and China, Japan, or Korea.

¹⁵ See Henning (2002) for the institutional features of the swap facility.

¹⁶ To draw the rest of the funds through swaps, the borrower country must have completed, or be nearing completion on, an agreement with the IMF (*ibid.*, p17).

basket peg system, the swap facility needs further improvements. In particular, it requires a larger financing capacity and more autonomy, so that it can better cope with panic-driven capital flow reversals. Also, in order to ensure an appropriate balance between financing and adjustments, policy coordination mechanisms linked to financial assistance needs to be established. The first step to take seems to be the creation of formal coordination mechanisms for the activation of swaps. The existing framework of policy dialogue among ASEAN +3 countries would provide the basis for such mechanisms.

Alternatively, the East Asian countries could create an independent regional monetary fund by pooling part of their foreign exchange reserves. The Asian Monetary Fund (AMF), proposed by the Japanese authorities during the Asian crisis, is a case in point. The major advantage of such facility is that, in contrast to the decentralized existing currency swap network, financing would be provided under a single authority. Accordingly, a larger amount of credit could be provided more quickly.

The main objective of a regional monetary fund would be the provision of short-term liquidity necessary to deal with speculative attacks and panic-driven capital flow reversals, as well as the supply of medium-term credit to support balance-of-payment adjustments.¹⁷ To ensure that the policy adjustments supported by the financing would be undertaken by the borrower country, conditionality needs to be attached to the medium-term credit. The short-term liquidity could be provided without conditionality so that it could be disbursed quickly, but then a close monitoring of member countries' economies would become important to ensure that the financial assistance would not be used to sustain misaligned and unsustainable exchange rates and to postpone unavoidable adjustments. Although the decision on the provision of financing would be made ultimately by the governments of member countries, an institutionalized secretarial function would be essential to provide technical support for such decision.

There is, however, a concern that a regional monetary fund could undercut the effectiveness

¹⁷ Although the proposal of AMF was vague on specifics, Sakakibara (2000), the vice minister of the Japanese Financial Ministry at the time of proposal, notes that their original intention was to create a regional-version of the IMF which might provide financing independently of the IMF. This suggests that the AMF might have provided not only short-term liquidity but also medium-term financing with conditionality.

of the IMF programme by providing easy money with lax conditionality. Indeed, this was said to be the main reason why the United States was strongly opposed to the proposal of AMF.¹⁸ The conflict with the IMF might be circumvented by linking the provision of financing by the regional monetary fund to the IMF programme, but it would then raise the issue of “additionality”. If the conditionality attached to the financing provided by the regional monetary fund is virtually identical to that of IMF credit, a regional fund might end up by simply redirecting financing previously channeled through the IMF. In that case, there would be little incentive for the Asian countries to create a costly monetary fund. They might prefer to spend the same money, for example, on augmenting their IMF quota that would increase their voting power and the availability of IMF credit.

The case for creating a regional monetary fund would become stronger if it could attach conditionality that is not only qualitatively different from that of IMF credit but also still effective in facilitating policy adjustments in the borrowing country. However, given the relatively narrow scope of mandate for the regional monetary fund compared with the regional development banks, there may be little room for differentiating the conditionality in a meaningful way. Therefore, the extent of duplication in conditionality is likely to be significant between the regional monetary fund and the IMF. Without an innovative solution to the problems of additionality and duplication, the chances that the proposal of a regional monetary fund would be supported by the international community might be slim.

In sum, the major challenge for the proposed common basket peg system would be how to create a viable regional financing facility that could support the basket peg. Without such a facility, a common basket peg would be vulnerable to speculative attacks and sudden capital flow reversals. The lack of viability in exchange rate regimes implies that the government would not effectively avoid severe misalignments in effective exchange rates and maintain stability in intra-regional exchange rates. A common basket peg system would be a feasible option only if a viable regional financing facility could be established together.

¹⁸ Sakakibara (2000) notes that the primary concern of the US treasury about the AMF was the possibility that the AMF might provide financing independently of the IMF.

4.2. The Case for the EMS-type Regional Monetary System

4.2.1. The Main Features of EMS

An alternative option for East Asia would be to create a regional monetary system modelled on the European Monetary System (EMS). The EMS was created in 1979 with the aim of achieving stability in intra-regional exchange rates. The EMS rested on two pillars: the Exchange Rate Mechanism (ERM) and the ECU.

The ERM was essentially an adjustable peg system with bands. Under the mechanism, each member country was required to maintain the bilateral exchange rate against every other currency within a margin of fluctuation around the central parity. The central parity was allowed to realign with the consent of other member countries. The bilateral exchange rates were kept within the band by the coordination of foreign exchange market interventions and policy adjustments. To finance interventions, short-term credit was made available to the weak-currency countries through the Very-Short-Term Financing facility (VSTF). In addition, the member countries were able to draw funds from the Short-Term Monetary Supply (STMS) facility when they could not replenish foreign exchange reserves before the repayment date of the VSTF.¹⁹

The ECU was a basket of the currencies of EMS member countries. It was created by pooling part of member countries' foreign exchange reserves in exchange for the ECU in the central fund called the European Monetary Cooperation Fund (EMCF). The ECU was used not only as a unit of account but also as a means of settlement among the central banks of member countries.

An important feature of the EMS was that there was asymmetry in the scope of monetary policy autonomy among member countries. This followed from the so-called *n-1* problem—in a system of fixed exchange rates constituted of *n* countries, there will be only one country that can retain monetary policy autonomy because the remaining *n-1* countries need to subordinate their monetary policy to the maintenance of the fixed exchange rate. Under the EMS, Germany

¹⁹ The amount of the credit available through the VSTF was, in theory, unlimited. The German central bank, however, reserved the *de facto* right to opt out of its obligation to supply credit and intervene in the market if such operations were deemed as threat to the stability of national price levels (Eichengreen 1996, Henning 2002).

had greater freedom to determine interest rates, while other member countries were forced to adjust their interest rates to sustain the fixed exchange rates.

Alternatively, the *n-1* problem can be solved by creating a symmetric system. Indeed, there was initially an attempt to construct the EMS as a symmetric system where both the strong-currency and weak-currency countries were equally obliged to defend the central parities against the ECU. During the negotiating process of the EMS Act of Foundation, it was proposed to introduce a trigger mechanism that would require member countries to take actions, such as interventions and policy adjustments to correct exchange rates when there was a deviation from the central parities greater than the specified margin.²⁰ It was also proposed to create the European Monetary Fund (EMF) by pooling the foreign exchange reserves of member countries so that these could be used to intervene in the market and to create the ECU reserves serving as the European SDRs. The German central bank is, however, said to have strongly opposed the proposals for fear of undermining the credibility of its monetary policy. In the end, neither the trigger mechanism nor the EMF was created.²¹

The EMS was highly successful in providing the stability of intra-regional exchange rates during the 1980s. None of the member countries were forced to withdraw from the system. There are three major factors that played an important role in maintaining the stability of the system.²²

Firstly, the system was operated in a rather flexible manner. Despite the relatively large inflation differentials among the member countries, timely realignments of central parities helped avoid generating serious misalignments.²³ Moreover, owing to frequent and small scale of adjustments in central parities, even high inflation countries were able to change their central parities without inducing a jump in market exchange rates. As a result, there were little incentives for speculative attacks motivated by one-way bets. Furthermore, member countries

²⁰ The proposal was put forward by French President Giscard d'Estaing and German Chancellor Schmidt.

²¹ See Eichengreen (1996).

²² In addition to the following factors, relatively favorable global conditions of the 1980s contributed to the stability of the system as well.

²³ The central parity was adjusted on average every eight months during 1979-1982. All of them were effectively the revaluation of the German mark against other EMS currencies. Due to the convergence in inflation rates, however, the frequency of realignments declined after 1983.

were allowed to retain controls on capital flows within Europe, making orderly realignments possible.

Secondly, there was a convergence in macroeconomic policies among member countries. In the early 1980s, France undertook expansionary policies to stimulate the economy, while Germany maintained a tight monetary policy to suppress inflationary pressures. The emergence of policy divergence provoked strong selling pressures against the French franc, resulting in large devaluations against the German mark.²⁴ France, however, started to adopt counter-inflationary policies in early 1983, marking the turning point for the EMS. Other countries also followed France. A greater harmonization in policy stance across member countries led to lower inflation differentials between Germany and other countries, contributed the stability of the system.

Finally, the robustness of EMS was underpinned by institutionalized exchange-rate stabilization mechanisms, such as concerted interventions and financial support through the short-term credit facilities. The greater availability of short-term credit through VSTF and STMF under the EMS had increased the capacity of weak-currency countries to defend their central parities. Indeed, the VSTF was used extensively to support interventions between 1979-1987, demonstrating the importance of short-term credit facilities for the stability of the EMS.²⁵

The Lessons of the ERM Crisis

After a period of remarkable stability, however, the EMS encountered a system-wide crisis in 1992-93. The UK and Italy left the system, and Spain was forced to devalue. Although France managed to defend the central parity in 1992, it failed to do so in 1993. In the end, the exchange rate bands were widened to plus/minus 15 percent in August 1993 in order to avoid the disintegration of the system.²⁶ There were three important factors that contributed to the

²⁴ In total, franc was devalued against the mark by more than 27 percent between 1981 and 1983.

²⁵ Henning (2002)

²⁶ The only exception was the exchange rate between the mark and guilder, whose width of the bilateral band remained unchanged.

increase of vulnerability in the system.²⁷

The first one was the loss of flexibility in the system. Since 1987, there had been almost no realignment.²⁸ Also, the width of the band for Italy was narrowed to plus/minus 2.25 percent from plus/minus 6 percent in January 1990. On the other hand, the inflation differential between Germany and other countries such as Italy and Spain remained relatively large, causing a sizable loss of competitiveness due to real appreciation in the latter countries.

The second factor was the removal of capital controls. In order to tackle the chronic unemployment problem, the EC member countries sought to accelerate the integration of product, factor, and financial markets. Following the Delors Report of 1989, Countries, such as France and Italy gradually removed capital controls. This eventually enabled speculators to mobilize large amounts of funds for currency attacks at the time of ERM crisis.

Finally, a lack of effective policy coordination was also a critical factor that undermined the viability of the system. In the early 1990s, Germany adhered to a tight monetary policy to suppress the inflationary pressure of fiscal expansions following the German unification. As a result, other countries had to maintain high interest rates to sustain the fixed exchange rates. However, the recession and high unemployment rate in countries such as France, Italy, and the UK had made it increasingly difficult for them to maintain high interest rates. The conflict between the two objectives, that is, the maintenance of fixed exchange rates by keeping interest rates high and the need for stimulating domestic economies by cutting interest rates was evident to speculators. The growing perception that these countries would be forced to abandon fixed exchange rates in order to stimulate the economies had led to massive speculative attacks on their currencies.²⁹

²⁷ The following discussions rely mainly on Eichengreen (1994; 1996; 2003), Buitert, Corsetti, and Pesenti (1998), and De Grauwe (2000).

²⁸ The only exception was the devaluation of the lira by 3.8 percent in January 1990, which was accompanied by narrowing the width of the band as noted in the main text. As a result, the lower limit of the band hardly changed.

²⁹ Another major factor that contributed to the shift in market sentiments was the rejection of the Maastricht Treaty at the Danish referendum in 1992. The incidence surprised the market, raising doubt about the willingness of member countries to cling to the fixed exchange rate, given the diminishing

Germany could have reduced the burden of other countries by lowering its interest rates, or by intervening in the foreign exchange market to support the weak currencies. However, the likely inflationary impact of these measures was a major concern for the German central bank. The conflict of interests between Germany and other countries hampered the policy coordination, which appears to have been necessary to avoid the crisis.

The experience of the ERM crisis suggests that there are three key elements indispensable to the successful operation of a regional monetary system: *flexibility*, *commitment*, and *coordination*. Firstly, flexibility, such as timely realignments and a relatively wide width of bands is essential for the sustainability of the system. It helps avoid serious misalignments particularly when there is a considerable divergence in underlying fundamentals among member countries. It also contributes to enhancing the robustness of the system against speculative attacks.

Secondly, the commitment of member countries to sound macroeconomic policies is crucial for the stability of the system. For example, large and persistent inflation gaps among member countries will necessitate too frequently realignments, destabilizing the whole system. Alternatively, if an unsustainable central parity is defended repeatedly by massive interventions, inflationary pressures will increase across the system.

Finally, an effective mechanism of policy coordination is indispensable for the viability of the system. Policy coordination will ensure that financing through the credit facilities is not used to support misaligned and unsustainable exchange rates. It will also facilitate policy adjustments in member countries, enhancing the stability of the system. The asymmetry in policy adjustments among member countries was the major drawback of the EMS because it weakened the effectiveness of policy coordination among member countries. Therefore, a symmetric system that imposes the obligation of adjustments equally on strong-currency and weak-currency countries is more desirable.

4.2.2. East Asian Monetary System

Overall, there seems to be a strong case for creating an Asian version of a regional monetary system (East Asian Monetary System; EAMS, hereafter) modelled on the EMS in East Asia for the following reasons.

Firstly, the EAMS would be more robust against speculative attacks and sudden stops capital flow reversals when operated appropriately. The concerted intervention and access to short-term credit which is in theory unlimited would enhance the ability of weaker-currency countries to maintain the stability of exchange rates. On the other hand, the institutionalized mechanisms of policy coordination would ensure an appropriate balance between financing and adjustments.

Secondly, the value of weaker currencies would be underpinned by that of strong currencies under the EAMS as far as the system itself was stable. Accordingly, the extra-regional exchange rates for the weaker currencies would be as stable as that for stronger currencies. This is a major advantage compared with a common basket peg system where weaker-currency countries need to maintain the value of their currencies on their own and thus the extra-regional exchange rates are likely to be less stable.

Finally, a credible regional monetary system would enhance market confidence in the long-term value of weaker currencies in the system. A greater confidence might encourage foreign lenders to provide credit in local currencies at longer maturities, reducing the extent of currency and maturity mismatches in the weaker-currency countries. It might also facilitate the invoicing of foreign trade in local currencies. These developments should help to mitigate the adverse impact of sharp exchange rate variations on economic activities.

While the EAMS would be similar to the EMS in many respects, several modifications would be needed by drawing on the lessons of the ERM crisis and taking account of the diversified and open nature of East Asian economies. The essential elements of the EAMS might include the following:

Timeliness in realignment: Given the relatively large inflation differentials among some East Asian economies, timely realignments would be crucial to limit misalignments in intra-regional

exchange rates. At the same time, relatively small and frequent realignments would be desirable to avoid causing a jump in market exchange rates, which could encourage speculative attacks. Furthermore, member countries should be allowed to introduce capital controls or currency transaction tax (Tobin tax) to support orderly realignments.³⁰

Symmetry in adjustments: The asymmetry in policy adjustments among member countries could undermine the effectiveness of policy coordination, increasing the vulnerability to speculative attacks. To ensure symmetry in the EAMS, member countries should be required to peg their currencies to a currency basket comprised of regional currencies and defend the peg with a certain margin of fluctuations by interventions and policy adjustments (unless realignments were allowed).

Differentiating the width of band: Each member country's width of bands could be differentiated depending on the underlying economic conditions. If, for example, the likelihood of asymmetric shocks is relatively high, a wider band will be more preferable to accommodate such shocks. On the other hand, in an economy where high inflation is the major chronic problem, a crawling peg with a relatively narrow band might be a better option as it could serve as a nominal anchor for monetary policy.

Collective management of extra-regional exchange rates: Given the importance of extra-regional demand and the strong industrial linkages in East Asia, it would be important for the member countries to manage extra-regional exchange rate collectively. To this end, a common reverse fund could be created by pooling part of member countries' foreign exchange reserves. Such a fund could be used to support interventions by the leading member countries whose currencies constitute a large share of the basket, aimed at limiting misalignments in the extra-regional exchange rates on behalf of the member countries.

³⁰ Nissanke (2003) discusses the case for "two-tier Tobin tax" originally proposed by Spahn (1995;1996) as an instrument to enhance the manageability of exchange rates in an environment of high capital mobility.

5. Concluding Remarks

This paper analyzed the case for regional exchange rate arrangement as an instrument to enhance the manageability of exchange rates in East Asia. It discussed the limitations of common basket peg system as a viable exchange rate arrangement and argued the case for the EMS-type system. The EMS, however, had several drawbacks which made them susceptible to currency attacks.

Drawing on the empirical findings on the East Asian industrial linkages and the lessons of EMS crisis, it suggested the creation of Asian-version of monetary system (East Asian Monetary System). This system differs from the EMS of early 1990s in four major points: timeliness in realignments, symmetry in adjustments, differentiated widths of bands, and collective management of extra-regional exchange rates. With greater flexibility in exchange rate stability and more discipline on policy adjustments, the East Asian Monetary System should be more robust to speculative attacks and panic-driven capital flow reversals. A viable regional exchange rate arrangements would enhance the manageability of exchange rates in an environment of high capital mobility.

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Table 1

Intra-industry trade index for East Asian economies (1997-2001 average)

	China	Honk Kong	Japan	Korea	ASEAN	East Asia	USA	EU
China	-	0.32	0.51	0.57	0.67	0.71	0.57	0.71
Hong Kong	0.16	-	0.07	0.05	0.14	0.13	0.26	0.27
Japan	0.55	0.14	-	0.56	0.50	0.51	0.51	0.55
Korea	0.72	0.17	0.54	-	0.53	0.83	0.75	0.66
Malaysia	0.71	0.62	0.53	0.44	0.85	0.82	0.73	0.77
Indonesia	0.52	0.31	0.25	0.26	0.63	0.51	0.49	0.36
Singapore	0.71	0.42	0.57	0.74	0.86	0.86	0.72	0.71
Thailand	0.51	0.23	0.53	0.54	0.64	0.70	0.40	0.55
Philippines	0.62	0.61	0.70	0.50	0.66	0.78	0.68	0.56

Intra-industry trade index for EU countries (1997-2001 average)

	EU	USA
Austria	0.82	0.73
Belgium-Lux	0.88	0.70
Denmark	0.67	0.64
Finland	0.58	0.69
France	0.92	0.72
Germany	0.79	0.78
Greece	0.43	0.33
Ireland	0.58	0.66
Italy	0.79	0.61
Netherlands	0.77	0.59
Portugal	0.68	0.54
Spain	0.81	0.57
Sweden	0.84	0.76
United Kingdom	0.82	0.80
Average	0.74	0.65

Source: UN *PC-TAS (1997-2001)* and the author's own calculation

Table 2 The supply composition of intermediate input for manufacturing sector

Millions of US dollars

	Indonesia	Malaysia	Philippines	Singapore	Thailand	China	Taiwan	Korea	Japan	USA
Indonesia	84620	608	345	1234	449	1503	1471	1740	6558	1718
Malaysia	427	39983	431	4728	2020	1632	2031	2063	4660	6292
Philippines	23	185	21394	579	431	202	429	443	1698	2692
Singapore	712	3578	394	35351	2006	1178	1579	1213	2847	5323
Thailand	194	757	113	2798	66443	954	710	650	3919	2955
China	620	844	316	1022	1173	624712	2126	5220	10238	5627
Taiwan	756	1647	969	1550	1837	3296	123985	1848	5751	8480
Korea	1096	1348	658	2920	1300	7178	2816	260339	9390	8791
Japan	3757	9187	1521	11176	10055	16002	17085	19030	2037378	35339
USA	2109	4331	1694	6046	4547	7629	11300	15874	35367	2071891
Hong Kong	96	821	678	636	431	12297	993	575	1511	2242
Rest of World	9522	12340	4561	10527	14152	36478	24487	37999	96187	202139
Total intermediate inputs	106033	79624	35709	80190	111473	718719	194280	355412	2233533	2361019
Value added	59269	36474	16817	22931	51797	289366	69870	166121	1225185	1349205
Total input	165301	116098	52527	103121	163269	1008085	264150	521533	3458718	3710224
Total intermediate inputs (A) (excl. insurance and tariff)	103932	75629	33074	78567	104844	713061	189012	346994	2215504	2353489
Region total (B)	92301	58958	26819	61994	86145	668954	153225	293121	2083950	79459
Region excl. domestic supply (C)	7681	18975	5425	26643	19702	44242	29240	32782	46572	
Extra-region total (D)	11631	16671	6255	16573	18699	44107	35787	53873	131554	
Import total (E = C+D)	19312	35646	11680	43216	38401	88349	65027	86655	178126	281598
Import dependence ratio (E/A)	18.6%	47.1%	35.3%	55.0%	36.6%	12.4%	34.4%	25.0%	8.0%	12.0%
Region share (C/E)	39.8%	53.2%	46.4%	61.7%	51.3%	50.1%	45.0%	37.8%	26.1%	28.2%
Extra-region share (D/E)	60.2%	46.8%	53.6%	38.3%	48.7%	49.9%	55.0%	62.2%	73.9%	71.8%
Region dependence ratio (B/A)	88.8%	78.0%	81.1%	78.9%	82.2%	93.8%	81.1%	84.5%	94.1%	3.4%
Extra-region dependence ratio (D/A)	11.2%	22.0%	18.9%	21.1%	17.8%	6.2%	18.9%	15.5%	5.9%	

Note: 1. Region total is the sum of domestic supply and the import from the rest of East Asia including Hong Kong.

2. Extra-region total is the sum of import from USA and the rest of the world.

Source: Institute of Developing Economies, Japan *Asian International Input-Output Table 1995* and the author's own calculation

Table 3 The demand composition of manufacturing sector

Millions of US dollars

	Indonesia	Malaysia	Philippines	Singapore	Thailand	China	Taiwan	Korea	Japan	USA	Hong Kong	Rest of World
Indonesia	137647	749	464	1583	448	939	911	1082	5226	5055	1229	10137
Malaysia	569	46412	724	6714	2075	2047	2253	1972	6592	16613	3484	25011
Philippines	57	319	38165	467	342	169	458	400	1450	5181	693	4175
Singapore	1868	7747	855	35164	3294	2523	2568	1817	6034	16865	5593	19429
Thailand	583	1649	365	4499	107374	1346	1151	702	8411	10201	2572	22409
China	1012	1229	548	1826	1719	886684	2277	5062	22905	20900	28589	36409
Taiwan	1553	3231	1537	2534	2901	4417	163998	2208	11126	22137	23565	26879
Korea	2044	2890	1099	4150	2322	9038	3917	400975	15008	22780	10066	44526
Japan	7785	17948	4254	16687	17855	24809	25906	27701	3055891	109956	24078	129581
USA	3163	10035	2779	9372	6866	10947	13805	21229	51142	3259636	9488	330131
Hong Kong	249	1662	1414	1469	726	16651	2018	763	5162	10110		

	Total output [A]	Region total [B]	Region excl. domestic demand [C]	Extra-region total [D]	Export total [E]	Export dependence ratio (E/A)	Region share (C/E)	Extra-region share (D/E)	Region dependence ratio (B/A)	Extra-region dependence ratio (D/A)
Indonesia	164241	150278	12631	13963	26594	16.2%	47.5%	52.5%	91.5%	8.5%
Malaysia	110982	72842	26430	38140	64570	58.2%	40.9%	59.1%	65.6%	34.4%
Philippines	51183	42520	4355	8663	13018	25.4%	33.5%	66.5%	83.1%	16.9%
Singapore	98164	67463	32299	30701	63000	64.2%	51.3%	48.7%	68.7%	31.3%
Thailand	158690	128652	21278	30038	51316	32.3%	41.5%	58.5%	81.1%	18.9%
China	980571	951851	65167	28720	93887	9.6%	69.4%	30.6%	97.1%	2.9%
Taiwan	242521	217070	53072	25451	78523	32.4%	67.6%	32.4%	89.5%	10.5%
Korea	508749	451509	50534	57240	107774	21.2%	46.9%	53.1%	88.7%	11.3%
Japan	3438373	3222914	167023	215459	382482	11.1%	43.7%	56.3%	93.7%	6.3%
USA	3719105	138826	-	-	459469	12.4%	-	-	-	-

Note: 1. Region total is the sum of domestic demand and the export to the rest of East Asia including Hong Kong.

2. Extra-region total is the sum of export to USA and the rest of the world.

Source: Institute of Developing Economies, Japan *Asian International Input-Output Table 1995* and the author's own calculation

Table 4 The contribution ratio of final demand to gross value added of manufacturing sector

Contribution to	Demand of						
	Domestic	The rest of the region	Japan	Non-Japan region	USA	Europe 3	Rest of World
Indonesia	0.76	0.09	0.04	0.05	0.04	0.02	0.08
Malaysia	0.25	0.24	0.08	0.17	0.19	0.07	0.25
Philippines	0.65	0.10	0.04	0.06	0.12	0.03	0.10
Singapore	0.14	0.34	0.08	0.26	0.21	0.08	0.23
Thailand	0.55	0.15	0.07	0.08	0.09	0.04	0.18
China	0.74	0.12	0.05	0.08	0.04	0.02	0.07
Taiwan	0.42	0.28	0.06	0.22	0.12	0.04	0.14
Korea	0.63	0.14	0.05	0.09	0.07	0.03	0.13
Japan	0.80	0.07	0.80	-	0.05	0.02	0.06
USA	0.89	-	0.02	-	0.80	0.02	0.13
Non-Japan average	0.52	0.18	0.06	0.13	0.11	0.04	0.15

Note: Europe 3 includes France, Germany, and UK

Source: Institute of Developing Economies, Japan *Asian International Input-Output Table 1995*

Table 5 The swap agreement under the Chiang Mai Initiative

Billions of US dollars

Borrowing country	Bilateral swap agreement				ASEAN swap agreement	Total CMI	Foreign exchange reserve (a)	Short-term debt (a)
	Creditor country							
	Japan	China	Korea	Total				
China	<i>d.e.</i> 3(b)	-	<i>d.e.</i> 2(c)	5	-	5	168	13
Korea	7(d)	<i>d.e.</i> 2(c)	-	9	-	9	96	40
Indonesia	3	1	1	5	0.3	5.3	29	22
Malaysia	3.5(d)	1.5	1	6	0.3	6.3	30	5
Philippines	3	<i>d.e.</i> 1(e)	1	5	0.3	5.3	15	6
Singapore	1	-	-	1	0.3	1.3	80	6
Thailand	3	2	1	6	0.3	6.3	32	15

CMI = Chiang Mai Initiative

d.e. = US dollar equivalent

u.n. = Under negotiation

Note: (a) At the end of 2000.

(b) Between yen and renminbi. (c) Between renminbi and won. (e) Between renminbi and peso

(d) Including the bilateral swap agreement under the Miyazawa Initiatives

Source: Ministry of Finance, Japan; Asian Development Bank *Key Indicators*