

PROJECT TITLE:

**Toward Greater Financial Stability in the Asia Region:
Exploring Steps to Create Regional Monetary Units (RMU)**

Submitted By:

Angelo King Institute for Economic and Business Studies (AKI)

Research Team:

Marvin Raymond F. Castell, M.S. (Project Coordinator)

Ronald J. Tamangan, M.S. & M.A.

Mitzie Irene P. Conchada, M.S.

Elizabeth Galang, MBA

Maricar Paz M. Garde, M.A.

Ponciano S. Intal Jr., Ph.D. (Project Adviser)

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Paper 1: A Currency Basket for the ASEAN5+3:

An Evaluation via Trade-Weighted Exchange Rate Stabilization

I. Introduction

Musings about the issue on monetary integration in East Asian countries resurfaced because of the financial crisis in 1997. Heads of government in the region had set out a message of furthering economic cohesion or integration as a long-term response to the crisis, which was contained in the ASEAN “Vision 2020” statement in 1997. This statement was soon followed by an action plan concluded in 1998 at the ASEAN summit in Hanoi, which, among other things, called for a strengthening of the financial system in the region.

Significant headways have been experience in the past ten years regarding financial and monetary cooperation in the ASEAN. As examples, the Chiang Mai Initiative, Economic Review and Policy Dialogue and the Asian Bond Market Initiative are all well under way, and many proposals have outlined different plans for regional exchange rate coordination. Many obstacles, however, keep these plans from a promised future, including the unwillingness of member countries to forego part of its autonomy regarding domestic monetary policy.

The possibility of creating an ASEAN Currency Unit can be gleaned from the interpretations of the ASEAN “Vision 2020.” This possibility is even included in the ASEAN Secretariat report “Recent Developments in ASEAN Economic Integration.”

Moreover, in a meeting of finance ministers in Hyderabad, India, on May 2006, finance ministers from China, Japan and Korea announced that they would take steps to coordinate their currencies in a way that would ultimately produce a common regional currency similar to the euro. They also added steps to study all related issues, including the creation of an Asian Currency Unit (ACU), which is an important step in the realization of monetary union in Asia in the future. Indeed, the ACU was supported strongly by Kuroda (2006), president of the Asian Development Bank (ADB), and the ADB is working toward calculating the value and publishing it on its website.

The idea of a basket currency has been a top policy concern of the Japanese government for some time. Although Japan had initially wanted to include external currencies such as the dollar and the euro in the basket, it had recently changed its proposal so as to include only internal currencies such as the Korean Won and the Chinese Yuan (Moon, Rhee and Yoon, 2005).

Since then, many academics have suggested developing the ACU as a parallel currency in Asia to further monetary integration in the region. For instance, Ogawa and Shimizu (2005) proposed using the ACU as a deviation indicator for the coordination of exchange rates in East Asia. Eichengreen (2005) considered that the introduction of the ACU would help foster monetary and financial integration in Asia, catalyze Asian bond markets and serve as an Asian exchange rate arrangement similar to the European exchange rate system.

It should come to bear that when considering the feasibility of an ACU, one will have to consider the question of whether or not the region satisfies the requirements put forward by the theory of Optimum Currency Area (OCA). According to this theory, countries that seek a

common monetary arrangement should meet some level of political preconditions as well as standard economic criteria. The necessary political preconditions relate to the readiness to establish a trans-national institution capable of lending credibility to the commitment of jointly defending the currency pegs of the participating countries. Moreover, the general standard economic criteria for an OCA refer to the closeness of the participating economies, which includes the degree of intra-regional trade, symmetry in the nature of economic/structural shocks, and similarities in terms of past macroeconomic policies, stage of development and financial systems. Lastly, the introduction of an ACU, however, poses many important technical questions such as what currencies to include in the currency basket, what weights to attribute to the component currencies, and what institution to use to publicize the ACU value (Williamson, 2005).

This study limits discussions among the ASEAN5 (the five long-standing large members of the ASEAN—Indonesia, Malaysia, the Philippines, Singapore and Thailand) and the plus three or countries from Northeast Asia, namely, China, Korea and Japan. It endeavors to elicit discussions about the benefits of pegging to a common currency basket, particularly the ASEAN Currency Unit (ACU) and to US-Japan-Euro to stabilize instability in trade-weighted exchange rates, among others.

- ***Review of the Literature***

2.1. The ASEAN, Regional Cooperation and Exchange Rate Regime¹

As an anti-communist, political organization, the ASEAN was established on August 8, 1967, and its creation was a bold step for the Asian countries, which were then divided by ideological conflicts. The dispute between Malaysia and the Philippines in 1962, the confrontation between Malaysia and Indonesia in 1965 and the separation of Singapore from Malaysia in 1965 had fuelled, to an extent, the creation of the ASEAN, alongside with the aim of regional cooperation.

Since the creation of the ASEAN, the region has experienced significant inroads in terms of regional, economic cooperation. For instance, the ASEAN Free Trade Area (AFTA) was formed in January 1992 at the fourth ASEAN Summit with the objective to increase ASEAN's competitiveness and promote greater economic efficiency within the region through the elimination of intra-ASEAN tariffs and non-tariff barriers. Evidently, this agreement to move towards a free trade area has shown some significant results by increasing intra-regional trade.

The period from 1960 to 1996 was witness to the "East Asian miracle." During this period, East Asia grew at an average annual rate of eight percent--a growth higher than that experienced by most industrial, well-developed countries. It is interesting to note that the growth in ASEAN membership was happening together with the miraculous economic growth in the ASEAN countries. However, this dynamic economic progress collapsed with the 1997 East Asian currency crisis, which exposed the fragile nature of the financial and banking systems of East Asia. Through the "contagion effect," the currency crisis spread from Thailand to Indonesia, to Malaysia and to the Philippines.

¹ This section draws from the discussions of Mittal (2004)

Before the crisis, most East Asian countries had pegged currencies vis-à-vis the US dollar or Japanese Yen. Most of these countries were forced to float their currencies because of the crisis. Since then, many economists have debated about the perfect exchange rate regime for the East Asian countries. Floating the currency, pegging the currency to the dollar, yen or euro, forming an internal basket peg, and even forming an ASEAN monetary union are the many options that economists and policymakers are considering.

2.2. Optimal Currency Area

Much has been written about the optimal currency area, which was first advanced by Mundell in 1961. The question Mundell asks in his original article on optimum currency area is: “when is it advantageous for a number of regions to relinquish their monetary sovereignty in favor of a common currency?” His answer led to the theory of optimum currency area.

Countries having no separate national currencies could not depend on the exchange rate mechanism to make adjustments in times of crisis and shocks, nevertheless. The optimum currency area presented by Mundell is a geographical area that experiences symmetric supply and demand shocks and satisfies one of the following conditions: a) flexible wages and prices or b) high mobility of labor.

Moreover, a characteristic feature of the OCA is the countries’ budgetary process is centralized and monetary transfers from the budget surplus country to the budget deficit country can be established smoothly. Mundell hypothesizes that generally these criteria are hard to meet; therefore, currency areas should be small and homogenous.

2.3. Optimal Currency Area Criticisms

Insofar as Mundell’s OCA is a good starting point to analyze ASEAN monetary integration, his theory has received much criticism from other economists. The three pioneers of the theory of OCA, namely, Mundell(1961), McKinnon (1963) and Kenen (1969), have not agreed on the ideal model for a monetary union. McKinnon (2000, 2001) sets forth two significant flaws in Mundell’s OCA theory. Firstly, Mundell’s assumption that a country with flexible exchange rate and stationary financial markets stands ready to use independent monetary policy (the exchange rates) to “fine tune” the market expectations and combat aggregate supply or aggregate demand shocks. McKinnon, however, counters that flexible (volatile) exchange rates can be a source of macroeconomic instability. Moreover, in a highly integrated economy, major exchange rate variations could destabilize the economy, instead of bringing it back to equilibrium.

Secondly, McKinnon critiques Mundell’s failure to acknowledge the idea of portfolio risk, which suggests of the investors’ proclivity to invest in countries that minimize the risk of the investments. Investors do not want to invest in a country with unpredictable or even volatile exchange rate movements. This makes for a strong case for a fixed exchange rate regime and even monetary unions. Inasmuch as McKinnon does not completely agree with Mundell’s theory of optimum currency, he accepts that economic and trade integration are important factors when deciding the monetary policy of a country.

McKinnon also draws attention to a later paper of Mundell on currency unions, in which Mundell argues that if a country has a common currency; it can mitigate asymmetric shocks through portfolio diversification. “Under a common currency, a country can better share the loss with a trading partner because both countries hold a claim on each other’s output” (Mundell, 1973). In light of this paper, McKinnon (2003) argues that diverse regions, which potentially suffer asymmetric shocks and trade in diversified goods, are actually better candidates for a monetary union, because then the negative effects of shocks are spread over a larger region.

De Grauwe (2003) looks into the situation when Mundell wrote his seminal paper in the 1960s to explore a middle ground between Mundell’s claims and McKinnon’s critiques and conjectures. He mentions that there was no need for Mundell to consider portfolio diversification then since most industrial and developing nations had capital controls to an extent. This means that outflow and inflow of capital in the form of investment in assets was not allowed or feasible, which means that portfolio diversification is not a possibility since international risk sharing is limited. However, as the countries started becoming more open to capital inflows and outflows, Mundell revised his argument for situations where capital controls did not exist.

2.4. Benefits of a Monetary Union

OCA theories have generally underscored the costs of forming a monetary union, but substantial benefits can be had in forming a monetary union. The literature implicitly weighs the benefits heavily than the main cost of forming a monetary union, that is reduction in policy independence. Chamie, et al (1994)., discusses significant benefits in the formation of a monetary union, such as a) reduced transaction costs, b) reduced exchange rate uncertainty, c) enhanced policy discipline and credibility, and d) improved functioning of the monetary mechanism.

One benefit that merits discussion is reduction in transactions cost pertaining to exchanging currencies. The formation of a monetary union is likely to alter the technology of transactions. Again, the outcome presents benefits and losses. The commonplace claim is that the public stands to benefit largely from this reduction, considering losses are incurred or experienced by the financial sector (particularly banking) because of revenue losses coming from exchanging currencies. The public benefits because transactions requiring currency exchanges become less costly under the union. De Grauwe (1994) posits that the losses of banks are usually not very detrimental for the economic welfare of the monetary union, while the public gains are high.

Moreover, the reduction in transaction costs extenuates price discrimination in national and international markets. As a matter of practice, consumers evaluate prices using local currency, as it is often hard to compare prices in different currencies. This may render local producers with monopoly power in the domestic market. Moreover, segmented markets are still in place and the transaction costs of importation are rather high, and with separate currencies, local producers can employ price discrimination processes to diminish complete economic integration. Having a single currency eliminates this price discrimination, which will lead to an increase in welfare for consumers and producers alike.

Adopting a fixed exchange rate regime (which is characteristic of a monetary union) is seen to have contestable, positive effects on economic growth, by and large. It is claimed that fixed exchange rate results in less uncertainty and this decrease in uncertainty helps decrease welfare loss. De Grauwe (1994) presents a behavioral justification in light of this decrease in welfare loss. He claims that welfare loss decreases because the world is full of risk-averse individuals and uncertainty about future exchange rates feeds into uncertainty about future

revenues of firms, which deters most of the individuals from investing in foreign and domestic firms. A common currency, however, would reduce risks related to this type of uncertainty and this would lead to an increase in investment. Higher investment means a higher capital stock, which results in higher output. This presupposes that the risk premium falls because the uncertainty about exchange rates is eliminated. The counter argument is that a flexible exchange rate means smaller output fluctuations. In that case the level of uncertainty increases with fixed exchange rates rather than flexible exchange rates. Therefore, it is not clear if the argument of risk premium is viable.

Nevertheless, flexible exchange rates are not effective in countries where public and private sectors have large foreign currency denominated liabilities. In this situation exchange rate depreciations can worsen a country's terms-of-trade, which is price of exports over price of imports. A country suffers a negative terms-of-trade shock when either the price of its exports decreases or the price of its imports increases. Currency depreciation as a result of an external shock will increase the value of debt expressed in domestic currency. This can result in bankruptcies, and reduce the rate of growth. Given this to be the case, this makes a case for fixed exchange rate.

Tornell and Velasco (1995) argue that there is no significant difference regarding policy discipline between fixed and flexible exchange rate regimes, however. Under a fixed exchange rate regime (characteristic of a monetary union), incorrect fiscal policies result in negative effects such as exhaustion of foreign reserves, devaluation and overall collapse of the fixed exchange rate regime. Under flexible exchange rate regimes, on the other hand, there are costs of bad fiscal policies, but these are manifested quickly by immediate change in exchange rates. Incorrect or bad fiscal policies in effect results in adverse consequences despite the exchange rate regime; however, since the repercussions are immediate in a flexible exchange rate regime, bad fiscal policies will be identified at an early stage in a flexible exchange rate regime than in a fixed exchange rate regime. Hence, there is always an ongoing debate about the benefits and costs of fixing exchange rates as opposed to floating them, but this does not undermine the other benefits of a monetary union.

2.5. Why not a monetary union at this stage?

Eichengreen (1999) has concluded that a single, regional currency zone may be the most attractive option for small and open economies. In a similar vein, Eichengreen and Hausman (1999) and Hausman (1999) have drawn the conclusion that emerging market economies (particularly in Latin America) should form a monetary union with the US, or, more specifically, abandon their national currencies in favor of dollarization.

In light of the turbulence faced by the East Asian Economies following the regional crisis, on the one hand, and the seeming successful introduction of the euro by the European Union (EU), on the other, ASEAN leaders agreed to study the feasibility of a common ASEAN currency system. There has been much popular discussion in the region about the economic and political possibility and desirability of forming an Asian Monetary Union (RMU), similar to the European Monetary Union (EMU). From an economic standpoint, Bayoumi (1999) and Eichengreen and Bayoumi (1999) have suggested that East Asia may be close to—or, for that matter, as far away from—being an optimum currency area (OCA) as Western Europe. However, the European experience has emphasized the need for strong political will and consensus towards such policy goal. Such leadership and single-mindedness do not seem to be present in ASEAN or the larger East Asian region at the current time.

2.6. Perhaps, a currency basket regime?

In a world of generalized floating among major currencies, the most feasible and desirable alternative for developing economies in East Asia may be a currency basket regime (save those with currency boards such as Hong Kong). By pursuing such a regime, an emerging economy may be able to cushion its vulnerability to fluctuations in the currencies of its major economic partners. Admittedly, this conclusion is at odds with the prevailing sentiment that countries need to choose one of the fix or flexible solutions but avoid the intermediate range at all costs. However, Frankel (1999) has rightly noted that a blanket recommendation to avoid middle regimes in favor of firm-fixing or free-floating would not be appropriate; while Bergsten et al. (1999) note that “managed floats do not have the clean, clear-cut allure of full institutional purity, but, in a world of second-bests, they are worth exploring.” Williamson (1999b) and Williamson (1997), respectively, make similar points with particular reference to East Asia, and emerging economies in general.

3.1. Possible OCAs in East Asia

It is first necessary to investigate on the feasibility of the ASEAN5 + 3 as an Optimal Currency Area (OCA). The paper surveys fourteen studies on the topic of OCA in the ASEAN and finds rather consistent outcomes. Given that these papers employ different models and methodologies, which strengthen the conclusiveness of the consistent outcome, the authors find it unnecessary to test the applicability of the OCA in the region in question. Accordingly, the countries identified in the fourteen studies are considered as the optimal currency areas. To summarize the findings of Bayoumi et al. (2000), Loayza et al. (2001), Yuen (2001), Baek et al. (2002), Chow et al. (2003), Lee et al. (2003), Kawai et al. (2004), Kwak (2004), Zhang et al. (2004), Girardin (2005), Sanchez (2006), Tang (2006), Ogawa and Kawasaki (2006) and Huang et al. (2006), the following points are noted from the results:

- Seventy-nine (79) percent (11 of 14 studies) identify Malaysia and Singapore as an optimal currency area. This is the highest ranked country combination in terms of the ratio of studies concluding affirmatively on the optimality (called the OCA ratio hereafter).
- Among all the combinations including Japan, that of Japan and South Korea is the highest ranked in terms of the OCA ratio (67 percent or 8 of 12 studies). By the same token, China is combined with Japan, South Korea, Singapore and Malaysia (50 percent or 5 of 10 studies) and South Korea with Singapore (69 percent or 9 of 13 studies).
- Among ASEAN countries, the combination of Malaysia, Thailand, and Indonesia is the highest ranked after that of Malaysia and Singapore (69 percent or 9 of 13 studies).
- Combinations including the Philippines are given the Philippines and Thailand receives the highest OCA ratio, but merely 42 percent (5 of 12 studies).

Even though many papers have been written about various exchange rate regimes proposed for East Asia, very little work has been done specifically on monetary unions in East Asia. Wyplosz (2001) compares East Asia to the euro -area and examines the level of trade integration, capital mobility, existing financial and governmental institutions, and income levels, in order to establish the similarities and differences between both regions. He finds that trade integration is significant in Asia; nonetheless the region lacks a developed framework of trade agreements and other financial and governmental institutions which helped Europe along the pathway of forming a single currency area.

However, he also believes that the European approach is not the only viable one for forming a successful monetary union. Nonetheless, whichever path Asia takes to form a monetary union it will certainly need political support from its governments to create one. Regional conferences and panels discussing the issues regarding economic unity and programs such as Hanoi Plan of action discussed above might be precursors to the formation of a monetary union.

Eichengreen and Bayoumi (1997) specifically look at the ASEAN countries to examine the economic viability of forming a monetary union there. They develop an “OCA index” which estimates exchange rate variability for Asian countries, where lower exchange rate variability implies greater ability to forego flexible exchange rates (which means it is easier to form a monetary union). Using 1995 data, they estimate that some of the larger ASEAN economies have

8-11% variability, which is itself low and not much higher than the 6-9% variability in the intra-Euro region. This suggests that some ASEAN economies are close to fulfilling the criteria for forming a monetary union.

Bayoumi, Mauro, and Eichengreen (2000) have also studied political and economic factors to assess whether or not ASEAN can form a monetary union. They believe that economic integration among ASEAN countries is high. They argue though that some of the ASEAN economies have very different financial institutions and have huge disparities between their national income and productivity levels, which might hinder these economies from forming a monetary union. Nonetheless, they conclude that overall, economically, ASEAN economies have a strong case for the formation of an ASEAN monetary union.

3.2. Empirical Facts in Asia and the European Union¹

This section looks into the literature to find evaluative evidence regarding the desirability of a common currency in the Asian context. One method is to assess the quantitative benefits and costs within the framework of the optimal currency area theory. To present a general statement summarizing the aforementioned discussions on OCA, the benefits brought about by a currency union (i.e., stable exchange rate and a reduction in trade costs) are larger if member countries are more externally open and intra-regional trade larger. In contrast, if factor movements and fiscal policy flexibility are constrained, or if the macroeconomic shocks tend to be asymmetric among member countries, a currency union would be welfare-reducing as the adjustments through exchange rate channels and country-specific policies are not possible.

Table 1. Empirical facts regarding OCA criteria: Asia and European Union

Criteria	Asia	European Union
<p>The degree of openness and the scale of intra-regional trade</p> <p><i>Larger degrees of openness and larger scales of intra-regional trade imply larger benefits of stable foreign exchange rates as reduced trading costs as well as a unified goods market that generates less need for exchange rate adjustments</i></p>	<p>The degrees of openness in 2002 ranged from 21.1% (Japan) to 273.7% (Singapore) with a median of 87.7%. The intra-regional trade ratio was 54.0 in 2003.</p>	<p>In 1998, the degrees of openness in the EU before the currency unification, ranged from 32.9% (Greece) to 135.5% (Belgium) with a median of 58.2%. The intra-regional trade in the EU was 56.8% in 1995.</p>
<p>Correlation in macroeconomic shocks</p> <p>Higher correlations in macroeconomic shocks among</p>	<p>Supply shock series show significantly positive correlations in 22% of all bilateral relationships among</p>	<p>The figure for 14 European countries is 27%</p>

¹ This was largely taken from Watanabe and Ogura (2006).

countries imply that more similar monetary policy reactions may be taken by countries and hence the costs of abandoning country-specific monetary policies are smaller.

10 Asian countries.

<p>Similarity in the speed of macroeconomic adjustment in response to shocks</p>	<p>The ratio of one-year-responses of GDP to supply shocks in five-year-responses are more than 96% in nine Asian countries excluding Japan where the figure is 87%.</p>	<p>The figures are at least 90% in 13 European countries excluding Spain where the figure is 44.5%.</p>
<p>Similar speeds of macroeconomic adjustment in response to shocks imply that more similar monetary policy reactions may be taken by countries and thus costs of abandoning country-specific monetary policies are smaller.</p>		
<p>Similarity in the size of macroeconomic response to shocks</p>	<p>The size of GDP increases in response to 1% supply shocks over five years are 0.009 to 0.030% in 10 Asian countries.</p>	<p>The figures are 0.008 to 0.019% in 14 European countries.</p>
<p>Similar sizes of macroeconomic responses to shocks imply that more similar monetary policy reactions may be taken by countries and thus costs of abandoning country-specific monetary policies are smaller.</p>		
<p>Flexibility in fiscal policy</p>	<p>The sizes of fiscal deficits are moderate in most Asian countries.</p>	
<p>Smaller budget deficits and outstanding debts imply higher possibilities of fiscal policy actions and thus smaller costs of abandoning country-specific monetary policies.</p>		
<p>Similarity in inflation rate</p>	<p>Inflation rates are generally low in Asian countries although high inflation rates are observed in Indonesia and the Philippines. The degree of convergence in inflation rates is almost the same as in pre-euro Europe.</p>	
<p>Similar inflation rates imply less need for exchange rate adjustments.</p>		
<p>Flexibility in factor movements</p>	<p>Foreign workers' shares in the workforces in 2000 are 1.3% in Japan, 1.3% in South</p>	<p>The figures in 1986 are 4.31% in Austria, 7.12% in France, 6.77% in Germany, 2.91% in</p>
<p>Flexible factor movements</p>		

imply smaller divergences in factor prices among countries upon occurrence of a shock and less need for exchange rate adjustments.

Korea, 2.4% in Taiwan, 8.0% in Hong Kong, 26.0% in Singapore, 13.5% in Malaysia and 1.5% in Thailand.

the Netherlands, 4.88% in Sweden and 17.48% in Switzerland.

Source: Watanabe and Ogura (2006)

Table 1 suggests that the degree of external openness and the size of intra-regional trade are high in Asia. It should also be noted that some Asian countries exhibit the level of external openness, intra-regional trade and symmetry in terms of macroeconomic shocks comparable to their European counterparts before the euro. Considering the aforementioned information, one can say that subsets of Asian countries meet the OCA criteria to the same degree as European countries prior to the Euro.

- **Observed Exchange Rate Arrangement of the ASEAN5+3**

The East Asian crisis has raised a number of theoretical issues and puzzles, many of which have economic implications for economic policy. One important question to consider is regarding the appropriateness of the current exchange rate regimes in the region, particularly, exchange rates for small and open economies. As noted by Bergsten et al. (1999): “Emerging countries exchange rate policies should be the major focus of the current discussions on the new financial architecture. The issue at hand is to find a right balance, country by country, between flexibility and stability. “

The causes of the East Asian crisis are multifaceted and complex. Among the key elements were the fairly rigid pegs (to the US Dollar) maintained by Thailand, in particular, but also by other regional economies, although to lesser extents. In principle, Thailand and the other Southeast Asian economies were supposed to have adopted basket peg regimes, with the yen and other currencies receiving smaller weights in determining the respective currency values (i.e., basket/multicurrency regimes). However, as shown by Frankel and Wei (1994) and Kwan (1995), the US dollar had the overwhelming weight de facto (see Table 1), leading Williamson (1999a) and Ohno (1998) to refer to East Asia as “dollar focused” and as a “soft dollar zone,” respectively. Only Singapore seemed to be pursuing a genuine currency basket regime, with the US dollar constituting between two thirds and three quarters of the entire currency basket.

Table 2: Derived Currency Weights of the ASEAN5, 1979-1995

Currency	Frankel and Wei (1994) ^a		Kwan (1995) ^b	
	US Dollar	Yen	US Dollar	Yen
Indonesian Rupiah	0.95	0.16	0.99	0.00
Malaysian Ringgit	0.78	0.07	0.84	0.04
Philippine Peso	1.07	-0.01	1.15	-0.24
Singapore Dollar	0.75	0.13	0.64	0.11
Thai Baht	0.91	0.05	0.82	0.11

Notes: a) Based on weekly movements for the period January 1979 to May 1992

b) Based on weekly movements for the period January 1991 to May 1995

Insofar as the need to depoliticize exchange rate movements is concerned, along with the frequency with which speculative attacks have taken place against a background of fixed exchange rate regimes, a number of observers have suggested that countries ought to move towards adopting flexible exchange rate regimes. For instance, Obstfeld and Rogoff (1995) have concluded that the choice between fixed and flexible exchange rates is increasingly becoming moot. Today’s global capital markets magnify any weaknesses, and a country’s commitment to a fixed rate leaves little for movement.

A good counterpoint to the move towards a flexible exchange rate is based in the experiences of a number of East Asian countries. Thailand and Indonesia moved from their US dollar-based pegs to dirty floats in 1997 to 1998. Both currencies have, however, been faced with sharp gyrations since the adoption of the flexible regimes. Indeed, it was because of this concern about the potentially adverse effects of exchange rate volatility on trade and investment, that the countries in Southeast Asia had maintained fix regimes before the East Asian crisis, to begin with (Golden and Klein, 1997). It was also the stated reason behind Malaysia’s decision to fix the ringgit to the US dollar on September 1, 1998 (while simultaneously imposing exchange

controls). More generally, there is a consensus that countries with flexible regimes have experienced excessive volatility in the last few decades (Bird and Rajan, 1999a).

Table 3. Exchange Rate Regime of ASEAN5 +3

Country	Exchange Rate Regime
China	Fixed peg to the US dollar
Indonesia	Float
Japan	Float
Malaysia	Fixed peg to the US dollar
Philippines	Float
Republic of Korea	Float
Singapore	Managed float
Thailand	Managed float

Table 3 features the current exchange rate regimes of the ASEAN5+3. China, Malaysia have exchange rates pegged to the US dollar. The rest of the countries have managed float (Singapore and Thailand) and float (Indonesia, Japan, Philippines, and Korea) exchange rate regimes. Nevertheless, these official arrangements do not accurately describe the actual practice of exchange rate policies nor do they offer sufficient information as to which currency or basket of currencies is chosen as a target for de facto exchange rate stabilization. To understand which exchange arrangements are actually in place, one must statistically examine the observed behavior of relevant variables, particularly exchange rates.

One way to do this is through a regression analysis technique used by Frankel and Wei (1994, 1994 and 1995) to identify which major currency or currency basket is chosen as an anchor for a particular country's exchange rate stabilization and how closely such a relationship can be observed. This paper, however, augments the Frankel and Wei approach by considering a dynamic Ordinary Least Squares (DOLS) approach. The DOLS augments the long run regression by lead and lag differences of the explanatory variables in order to control for endogenous feedback effects (Saikonen, 1991). The DOLS estimator is superior to a number of other estimators as it can be applied to systems of variables with different orders of integration. The inclusion of leads and lags of the differenced explanatory variables corrects for simultaneity bias and small sample bias among the regressors. Furthermore, the lead and lagged differences of the dependent variable are included to handle serial correlation (Stock and Watson, 1993)¹.

To do this, we estimate the following equation:

$$\Delta e_t^j = \alpha + \beta_i \sum_i^n \Delta e_t^i$$

where Δe_t^j is the monthly change in the log exchange rate of currency j in month t, α is a constant term, β_i ($i = 1, 2, 3...$) is the coefficient on the monthly change in the log exchange rate of currency i at month t, e_t^i , and μ_t is the residual term. The different e_t^i 's considered are the ASEAN5+3. The estimated standard error of the regression residuals can be interpreted as a measure of exchange rate volatility. A monthly change in the exchange rate is defined by the first

¹ The limited number of data is the reason why the lead and lagged values employed is +1 and -1, respectively./

difference of the natural logarithm of the nominal exchange rate. Following Frankel and Wei (1994), the exchange rates are expressed in terms of a numeraire currency, the US dollar.

This exercise provides useful information on observed exchange rate arrangements. The underlying hypothesis is that every country attempts to stabilize the exchange rate to a basket of multiple currencies. First, it can identify specific countries that comprise a basket in each developing country's exchange rate stabilization policy in terms of the estimated coefficients in the regression equation. Exchange rate stabilization to a single currency can be interpreted as a special case in which only one currency is identified with a significant and large positive coefficient, while other currencies' coefficients are small and statistically insignificant. Second, it can identify the degree to which the authorities allow or limit exchange rate flexibility depending in the size of the exchange rate volatility as measured by the estimated standard error of regression. A large size of the estimated standard error of regression implies that the authorities allow relatively large exchange rate flexibility, while a small size indicates they attempt to stabilize their exchange rates.

Table 4. Summary of Observed Exchange Rate Arrangements of ASEAN 5 + 3: 2000-2006

	Single Currency	Currency Basket
ASEAN5 + 3		
Pegged $0 \leq \text{volatility} < 0.0075$	<ul style="list-style-type: none"> China (Fixed peg to Malaysia, and thus to the US dollar) Malaysia (Fixed peg to China, and thus to the dollar) 	<ul style="list-style-type: none"> Singapore (Indonesia, Japan and Thailand)
Intermediate $0.0075 \leq \text{volatility} < 0.015$	<ul style="list-style-type: none"> Korea (Japan) 	<ul style="list-style-type: none"> Japan (Indonesia, Korea and Singapore) Philippines (Thailand, Indonesia) Thailand (Philippines, and Singapore)
Flexible $\text{Volatility} \geq 0.015$		<ul style="list-style-type: none"> Indonesia (Japan and Singapore)

Notes: 1 This follows Kawai (2002) categorization of exchange rate arrangements (pegged, intermediate and flexible), depending on the size of exchange rate volatility as measured by the standard error of regression.
2 In each category, countries are further classified into two groups, depending on what currency or basket of currencies is assigned a significant weight in the regression equation.
3 Countries in parenthesis were found significant in the regression analysis.

Table 4 interestingly features an empirical analysis of the exchange rate arrangements of ASEAN5 + 3. Not much has changed in terms of being dollar focused of the traditional ASEAN countries in general, and considering the observed exchange rate arrangements in Table 3, the US dollar has been employed as a numeraire in this analysis. In addition, the test limits the coverage within the ASEAN5 + 3 only.

The results for China and Malaysia are consistent with the respective exchange rate having a fixed peg to the US dollar. Singapore is categorized as pegged to a basket of multiple currencies, while the other countries are also pegged to a basket of currencies but within the intermediate (Japan, Korea, Philippines, and Thailand) and flexible (Indonesia) ranges. Note that Table 4 is rather consistent with the results in Table 3, except for that of Singapore. Singapore is known to have a managed float; however, the statistical tests undertaken reveal that it has a pegged structure vis-à-vis a basket of currencies.

V. Common Currency Basket Regime and Exchange Rate Stabilization

The current position is that East Asian countries should adopt a common currency basket regime in order to stabilize intra-regional exchange rates considering the situation where East Asian countries have closer trade and economic relationships with each other. A common currency basket peg would allow both misalignment among intra-regional currencies and volatility vis-à-vis the outside currencies (including the US dollar and the euro) to be restrained.

5.1. The Composition of a Basket

The concept of an optimal peg in the literature requires that one define the objective that is envisaged. It was generally agreed that an optimal peg should minimize the macroeconomic disturbance caused to an economy by the shocks it encounters from the fluctuations in the exchange rates of major currencies. Just what is implied by macroeconomic stability? The optimal peg was that which kept the nominal effective exchange rate constant.

A series of subsidiary questions concern whether weights in the effective exchange rate should be based on imports, exports, or total trade; whether to use trade weights or elasticity weights; whether weights should be based on the direction of trade or the currency of denomination; and whether to stabilize the nominal or real effective exchange rate. The arguments, however, favored using total trade weights rather than giving different treatment to exports and imports; using elasticity weights if these are available (which they usually won't be, but trade weights should be a reasonable proxy; using the direction of trade rather than the currency of denomination; and relying on the choice of peg just to stabilize the nominal exchange rate. It also appears that large baskets add extra complexity without having much impact on the behavior of the basket; "if country B does not contribute more than 5 percent of country A's trade, then its currency probably ought not appear in country A's basket." (Williamson, 2005)

Applying this analysis to East Asia, one would look to each country using as numeraire a basket of the currencies of those countries with which it conducts more than, say, 5 percent of its total trade, (see Table 5) with weights equal to the values of trade with that country divided by the value of total trade with all the countries that will make up the basket.

Table 5. Major bilateral trade partners (5 percent or more for a currency area), 2005

ASEAN 5	Trading Partners	Total trade weights %
Indonesia	Eurozone	11
	Japan	21
	United States	10
	China	9
	Malaysia	6
	Singapore	8
	South Korea	5
Malaysia	Eurozone	10
	Japan	13
	United States	17
	China	8

	Hong Kong	5
	Singapore	13
Philippines	Eurozone	10
	Japan	18
	United States	17
	China	9
	Hong Kong	7
	Malaysia	5
	Singapore	8
Singapore	Eurozone	11
	Japan	9
	United States	13
	China	9
	Malaysia	15
Thailand	Eurozone	9
	Japan	19
	United States	12
	China	8
	Malaysia	6
	Singapore	6

Note: The Eurozone includes only Belgium, France, Germany, Ireland, Italy, Netherlands, and Spain.

Source: International Monetary Fund, Direction of Trade Statistics, 2005.

Williamson in 2005 presented an interesting question: Should the basket consist of all major trading partners, or should it be restricted to extra-regional trading partners? If one wishes all countries to use a common basket, then only the latter is feasible. One cannot use as numeraire a common basket that includes countries within the region, for the basic reason that, for example, the Philippine basket would of necessity exclude the Philippine while the baskets of other East Asian countries would all include it. Thus, we may consider two options: one in which each of the five countries uses a basket that includes other East Asian currencies and is based on its own trade pattern and one in which it uses a common basket of extra-regional currencies (in practice dollar, euro and yen)

5.2. Individual-country baskets or a common basket¹

This section considers what criteria would be appropriate in choosing between the above-mentioned options. There are several obvious advantages in adopting a common basket rather than each country having a tailor-made basket based on its individual pattern of trade. In particular, this would guarantee that no change in third-country exchange rates would disturb the trading relationships among the East Asian countries themselves. Such insulation of the trading relationships of the region from outside disturbances is the major objective of adopting a common peg. Mckinnon (2002) has often emphasized that this is one of the major benefits of the region having a common dollar peg, but it is an advantage that could equally well be gained by adopting a common basket peg. But there are other advantages, too. It would, for example, also create a favorable environment for further advances toward regional monetary integration, should that be

¹ The former is based on own trade pattern and the latter is based on common currency basket weights within the region

the desired goal, since it would build in a presumption of stability among the participating currencies

Table 6. Basket Weights for the ASEAN5 and the ASEAN5+3

	Own Basket		Common Basket (US, EU and Japan)		Common Basket (ASEAN5 +3)	
Indonesia	USD	14.9	USD	40.2	China	35.80
	Euro	16.1	Euro	31.6	Indonesia	5.25
	Yen	29.7	Yen	28.2	Japan	28.60
	RMB	12.8			South Korea	10.08
	MYR	7.9			Malaysia	5.45
	Sing. Dollar	11.6			Philippines	2.98
	Won	7.0			Singapore	6.58
					Thailand	5.25
Malaysia	USD	25.8	USD	40.2		
	Euro	15.0	Euro	31.6		
	Yen	19.5	Yen	28.2		
	RMB	12.4				
	HK dollar	6.9				
	Sing. Dollar	20.3				
Philippines	USD	22.5	USD	40.2		
	Euro	13.8	Euro	31.6		
	Yen	24.5	Yen	28.2		
	RMB	12.6				
	HK dollar	9.1				
	MYR	6.6				
	Sing. Dollar	10.9				
Singapore	US dollar	22.5	USD	40.2		
	Euro	19.0	Euro	31.6		
	Yen	15.7	Yen	28.2		
	RMB	16.2				
	MYR	26.7				
Thailand	US dollar	19.9	USD	40.2		
	Euro	16.0	Euro	31.6		
	Yen	31.5	Yen	28.2		
	RMB	13.4				
	MYR	9.5				
	Sing. Dollar	9.8				

Source: Williamson (2005)

Table 7. Standard deviations of East Asian nominal effective exchange rates under different pegs, 2000 to 2004 (percent)

	Historical Peg	Individual Pegs	Currency Basket
Indonesia	6.35	6.32	3.55
Malaysia	5.29	3.44	1.89
Philippines	9.55	12.91	5.08
Singapore	2.54	1.78	2.54
Thailand	2.92	3.55	1.89

Source: Williamson (2005)

The information featured in the tables 6 and 7 reveal that a common basket thus seems to be of benefit in most countries because it stabilizes trade weighted exchange rates among the East Asian countries, which are now important trading partners. One can say thus that a common basket would reduce the instability of intra-regional exchange rates. Similar findings were encountered by Rajan (2002) and Ogawa and Shimizu (2006b). This position is further expanded in the last section by testing whether it is more beneficial to peg individual currencies vis-à-vis the US Dollar, the RMU or US-Yen-Euro basket.

VI. The ASEAN Monetary Unit (RMU) as a Proxy to the ASEAN Currency Unit (ACU)

Watanabe and Ogura (2006) show that the RMU as a weighted average of Asian currencies, including those of the ASEAN countries, Japan, China and South Korea. It is expected to evolve into a common currency. However, given that a currency union takes long to become a reality, it is proposed that an RMU be created even if there is no immediate prospect for the currency union. Eichengreen (2006) call this a parallel currency approach.

The RMU can be a good proxy for the purpose of this study. Similar to the ACU, the RMU is a weighted index of East Asian currencies. Using RMU as a proxy of ACU will not change the basic conclusion, although the ACU and the RMU may have differences in choosing the currencies and weight for each currency.

This paper considers the approach of Ogawa and Shimizu (2005), which follows the same principle of the European Currency Unit under the EMS, which is, computed as the weighted average of each country's currency in the region. In the same way that the ECU was defined as a basket of currencies of EU member countries, the RMU is defined as a basket currency of the ASEAN5 +3 countries (5 ASEAN countries: Indonesia, Malaysia, the Philippines, Singapore, Thailand, plus Japan, South Korea and China).

The weight of each currency in the basket is based on countries' respective share in regional GDP measured at PPP and their trade volume (the sum of exports and imports) from 2000 to 2005 to reflect the most recent trade relationships and economic conditions of the countries in question.

The value of the RMU is quoted in terms of a weighted average of the US dollar and the euro because of the importance of the US and European countries as trading partners for East Asia. The weighted average of the US dollar and the euro (US\$-euro) is based on the East Asian countries' trade volumes with the United States and the euro area. The weights on the US dollar and the euro are set at 65 percent and 35 percent, respectively.

6.1. Weights ¹and the Base Year

One major issue to consider is to choose the weight of each component currency. Generally speaking, the weight of the basket is supposed to represent the weight of the country's economic importance and contribution to economic cooperation in the region. Several factors are used for choice of the weight in this study: a) relative weight of each country's nominal GDP; b) relative weight of each country's GDP measured at purchasing power parity; c) and relative weight of each country's intra-regional trade and d) a combination of all three.

The RMU weights are calculated based on trade weights, GDP at PPP weight, and the arithmetic shares of trade volumes and GDP measures at PPP for the period 2001 and 2003.

¹ In Ogawa and Shimizu (2005) four different kinds of economic size indicators were examined: 1) Trade volume; 2) Nominal GDP; 3) GDP measured at Purchasing Power Parity; 4) International Reserves (minus Gold). From the standpoint of stability vis-à-vis the US\$-euro basket currency, the PPP measured GDP and trade volume were chosen as weights.

Table 8. RMU Weights of the ASEAN5+3 (Base year = 2000)

	A: Trade Volume (%)	B: GDP at PPP (%)	C: Ave (%)	D: XR	RMU Weights: A/D	RMU Weights: B/D	RMU Weights: C/D
China	22	49	36	0.1256	1.77	3.91	2.84
Indonesia	5	6	5	0.0001	481.64	570.95	526.30
Japan	28	29	29	0.0091	30.95	31.93	31.44
Korea	13	7	10	0.0009	147.36	75.87	111.62
Malaysia	39	2	6	0.2735	0.33	0.06	0.20
Philippines	3	3	3	0.0220	1.46	1.27	1.37
Singapore	12	1	7	0.5912	0.20	0.01	0.11
Thailand	7	4	5	0.0246	2.76	1.48	2.12

Source: Author's Computation but based from Ogawa and Shimizu (2005)

In addition, it is important to choose the base year. One of the most popular ways is to choose the year when a fundamental equilibrium of both internal and external sectors is achieved. Since the internal equilibrium of each country is very difficult to figure out, the based year is chosen such that total international transactions of the member countries are as close to being balanced as possible and their balances with the rest of the world are also small as possible. For an estimation of the study, the year 2000 is chosen as the benchmark year.

The base year is chosen based on the following criterion: a) the total trade balance of the member countries and b) the total trade balance of member countries with the rest of the world should be close to zero. Trade data given the period in question reveal that trade accounts were closest to balance for the period 2000 to 2001. For this benchmark period, the exchange rate of the RMU in terms of the US\$-euro is set at unity, then the exchange rate of each East Asian currency in terms of the RMU during the base year is defined as the benchmark exchange rate.

6.2. Calculation of the RMU

The weights above can be employed to calculate an exchange rate for the RMU in terms of the US\$-euro as follows:

$$\begin{aligned} \frac{US\$ - euro}{AMU} &= 2.84 \frac{US\$ - euro}{Ren\ min\ bi} + 526.30 \frac{US\$ - euro}{Rupiah} + 31.44 \frac{US\$ - euro}{Yen} + 111.62 \frac{US\$ - euro}{Won} + \\ &= 0.20 \frac{US\$ - euro}{Ringgit} + 1.37 \frac{US\$ - euro}{Phil\ peso} + 0.11 \frac{US\$ - euro}{SP\ dollar} + 2.12 \frac{US\$ - euro}{Baht} \end{aligned}$$

Exploring further, the exchange rate of the currency *i*, say, the Philippine peso in terms of the RMU (Phil peso / RMU) is affected by fluctuations in the exchange rates of a weighted average of exchange rates US\$-euro/RMU because the reciprocal of the Phil peso / RMU (RMU/Phil peso) is a product of US\$-euro/ RMU and a weighted average of US\$/Phil peso and euro/Phil peso as shown in the equation below.

$$\frac{\text{Phil peso}}{\text{AMU}} = \frac{\frac{\text{US\$ - euro}}{\text{AMU}}}{\frac{\text{US\$ - euro}}{\text{Phil peso}}} = \frac{\frac{\text{US\$ - euro}}{\text{AMU}}}{w \frac{\text{US\$}}{\text{Phil peso}} + (1-w) \frac{\text{euro}}{\text{Phil peso}}}$$

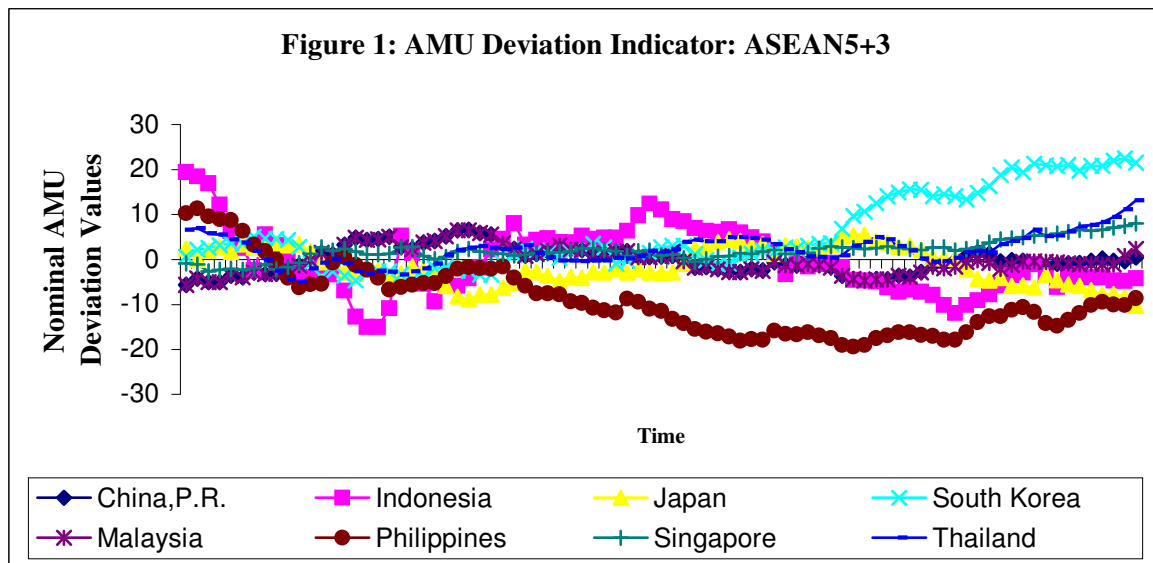
$$= \frac{\text{US\$ - euro}}{\text{AMU}} \left(\frac{1}{w \frac{\text{US\$}}{\text{Phil peso}} + (1-w) \frac{\text{euro}}{\text{Phil peso}}} \right)$$

where w is the weight of the US dollar of the US\$-euro currency basket (set at 65 percent) and $(1-w)$ is the weight of the euro of the US\$-euro currency basket (35 percent).

6.3. Roles of an RMU

An RMU may be employed as a calculation unit for intra-regional trade and foreign exchange reserves. It could also serve as a measure of divergences of Asian currencies from a regional average. Some experts even envisage the issuance of RMU-denominated bonds. Whether an RMU will be used widely or not depends on the market perceptions of its usefulness. The public sector can play an important and meaningful role in catalyzing the use of an RMU.

6.4. The RMU as a Deviation Indicator



Source of basic data: <http://www.rieti.go.jp/users/RMU/en/index.html>

Note: Nominal RMU Deviation Indicators on a daily basis and Real RMU Deviation Indicators, which are adjusted for differences in inflation, on a monthly basis.

Table 9. The deviation indicators for ASEAN5 currencies in the case of RMU weight based on Trade Volume and GDP-PPP: Monthly period, 2005 and 2006

	Benchmark Rate/RMU	Mean	Standard Deviation
Indonesia	9723.85	-311.04	278.91
Malaysia	3.62	0.10	0.06
Philippines	48.58	4.47	1.84
Singapore	1.71	-0.09	0.03
Thailand	42.42	-3.43	1.17

Note: All figures are calculated by the author except for the benchmark rate/RMU which was taken from Ogawa and Shimizu.

Each currency's benchmark rate/RMU is the average of currency/basket rate from 2000-2001.

As mentioned, the ACU can play as an indicator of each currency's divergence from a regional average and this is similar to the RMU deviation indicator published by Hitotsubashi University and the Research Institute of Economy, Trade and Industry. These deviation indicators contribute to coordinated exchange rate policies in East Asia, thereby enhancing the monetary authorities' surveillance capabilities.

Ogawa (2005) mentioned that the Real RMU Deviation Indicators should be monitored rather than the Nominal RMU Deviation Indicators in order to consider effects of exchange rates on real economic variables such as trade volumes and real GDP. On the other hand, the Nominal RMU Deviation Indicators are more useful than the Real RMU Deviation Indicators when we consider both frequency and time lags as important for monitoring these measures. Accordingly, we should use the Nominal and Real RMU Deviation Indicators as complementary measures for surveillance of exchange rate policy and related macroeconomic variables and, in turn, for devising coordinated exchange rate policies among the East Asian currencies. Presented in Figure 1 is for the period 2005 and 2006, considering nominal deviation indicators for the ASEAN5+3.

One can see that China and Thailand has the relatively more stable exchange rates in terms of the RMU against the other East Asian currencies. In addition, Malaysia is rather stable. Singapore's exchange rate in terms of the RMU is appreciating, and Japan has a rather stable exchange rate vis-à-vis the RMU; however, its exchange rate is showing a depreciating trend. Indonesia and South Korea have the most erratic exchange rates against the RMU.

Table 9 features deviation indicators from the benchmark rates for each of the East Asian currencies for from January 2005 to December 2006. Considering the benchmark rate in 2000-2001, Malaysia, Philippines, Singapore and Thailand had deviations from the benchmark rate which are within the +/- 2.5 percent band. It is only Singapore which exhibited a significant degree of deviation from the benchmark rate. Thus, one can use the deviation indicators of actual exchange rate of East Asian currencies in terms of the RMU from the benchmark rate to identify how much each of the East Asian currencies deviates from the RMU, which is equivalent to a weighted average of the East Asian currencies. This measurement can be employed for active

surveillance process in terms of within-the-region exchange rates for purposes of coordinated exchange rate policies among the ASEAN5+3.

VII. An Evaluation Framework for the ASEAN5

There is a need to highlight the objectives of monetary authority regarding the exchange rate. One argue that monetary authorities should care about three goals: a) restoring external and internal balance; b) maintaining export competitiveness and stabilizing import cost; and c) reducing exchange rate fluctuations.

To restore external and internal balance, the formation of the exchange rate should reflect the middle and long-term demand and supply in the foreign exchange market, and therefore be consistent with the movement of the equilibrium exchange rate. To maintain competitiveness and stabilize import cost, the formation of RMB exchange rate are required to control the fluctuations of trade weighted exchange rate. To reduce exchange rate risks, the formation of the exchange rate in question is required to minimize the changes of bilateral exchange rate between the exchange rate and the US dollar, since most foreign assets and trade is denominated by the US dollar.

There are in fact conflicts among the three exchange rate policy objectives above. While the movement of equilibrium exchange rate may imply that the exchange rate in question should appreciate or depreciate, depending on the situation, the need to reduce exchange rate risks, on the contrary, may favor a fixed exchange rate between the RMB and the US dollar. Monetary authorities will have to make compromises among those policy objectives. Either pegging to the US dollar or free floating may be desirable for the focal country. Will pegging to the RMU satisfy three policy objectives simultaneously? The answer is no. So the problem is to find a second best solution and the attractiveness of pegging to the RMU depends on whether it is more attractive than existing formation mechanism of the exchange rate in question and other regional exchange rate cooperation schemes.

The evaluation undertaken in this section is confined within the attractiveness of the RMU in stabilizing the trade weighted exchange rate of the Philippines. To do this, the trade weighted exchange rate is pegged to the US Dollar, to the RMU and to a basket of G3 countries (US-Japan-EU). Next, the results will be evaluated as how volatile trade weighted exchange rates are

7.1. The US dollar peg versus a currency basket peg

Prior to the Asian financial crisis in 1997, most East Asian countries used to adopt de factor US dollar peg system. As it were, their announced exchange rate systems were not necessarily the same with the observed exchange rate system. The Asian crisis had underscored the undesirability of the dollar-peg in the region. And as the intra-regional trade share in East Asia is ever increasing (50 percent in 2004 and as high as the European Union currently), accordingly, stability of intra-regional exchange rates is becoming more important for economic growth and stability of East Asia. Therefore, a mechanism to keep intra-regional exchange rates stable in East Asia is needed.

One way for emerging countries to stabilize their currencies is pegging to one of major currencies. Mackinnon (2002) argued that an important virtue of a common US dollar peg for the region is that it would reduce intra-regional exchange rate instability. However, if a country pegs its currency to the US dollar, there is a possible risk to deviate its effective exchange rate from a desirable level. It is said that such an imperfection of US dollar pegging system was one of the precipitating factors of the Asian currency crisis.

7.2. US-Japan-Euro (G3) currency basket versus intra-regional currency basket (RMU)

Kawai (2002) advances that it is preferable for the emerging market economies in East Asia to try to stabilize the exchange rates against not the US dollar but a currency basket of the US Dollar, the Euro and the Japanese Yen because they have strong economic relationships with not only the United States but also Japan and EU. The most apparent benefit of the G3 currency basket system is to keep trade competitiveness relatively stable. Ito, Ogawa and Sasaki (1998) suggested that real effective exchange rates of East Asian currencies would be more stable against large shocks to their trade balances if Asian currencies peg to a GR currency basket with the optimal weights. Williamson (2005), Kawai and Takagi (2000), Ogawa and Ito (2002) suggested a G3 currency basket composed of three major currencies, which include the US Dollar, the Japanese Yen and the euro. Kawai and Takagi (2000) further posits that a G3 currency basket system preserves both flexibility and stability in order to promote international trade, foreign direct investment and economic developments.

Another currency basket regime is a currency basket composed of regional currencies. Their basket weights would reflect the regional trade volume weights and the relative economic importance of the countries in the region, just like the ECU (European Currency Unit) under the European Monetary System). Such a currency basket in East Asia might be called an Asian Currency Unit (ACU) or the RMU as the proxy.

One main advantage of the regional currency basket system is to stabilize intra-regional exchange rates. From the standpoint of regional monetary coordination in east Asia, a currency basket should consist of regional major currencies. Ogawa and Shimizu (2006b) investigated on the stabilization effects of a common RMU currency basket peg system on East Asian currencies. Analytical results are compared with the stabilization effects of a common G3 currency basket peg system in Williamson (2005) to obtain that a common RMU peg system would be more effective in reducing fluctuations of the effective exchange rates than the common G3 basket peg system for some of East Asian currencies. The common RMU peg system stabilizes the effective exchange rates more effectively for Indonesia, the Philippines, South Korea, and Thailand than a common G3 currency basket peg system.

7.3. Operational Pegs: US Dollar, ACU as proxied by RMU and G3 Currency Baskets

The trade weighted exchange rate of country i is operationally defined as the logarithm of the nominal exchange rate of country i which is equivalent to the weighted sums of country i 's exchange rates vis-à-vis the dollar, the yen, the euro and the ASEAN5+3, where the exchange rate is defined as the price of local currency as against the foreign currency.

All exchange rates are expressed in index, and the weights denote the share of the the United States, Euro Area, Japan and the ASEAN5 + 3 in country i 's total foreign trade volume.

We assume for convenience that the Philippines' trade partners consist only of the US, Euro Area, Japan, the ASEAN 5+3 countries. Consequently, this implies that the shares sum up to 1.

Pegging to the US dollar means that the $\log(USD/Currency\ i) = 0$. Combining this restriction with the general trade-weighted operational definition, the value of the trade-weighted exchange rate pegged to the US dollar is attained.

Pegging to the RMU means the $\log(RMU/Currency\ i) = \log[(RMU/USD)*(USD/Currency\ i)] = 0$, where the $\log[(RMU/USD)]$ is the sum of the weighted averages of the US dollar's price in terms of the various currencies, namely, that of country *i*, Japan and the ASEAN5+3. The weights are country *i*'s currency, Japanese yen, and the ASEAN5+3 currency's weight in the RMU. Calculating for the trade-weighted exchange rates considering these restrictions yield the general formula which is the weighted sum of logarithm of the exchange rates of the US dollar vis-à-vis the euro, the yen, and the ASEAN5+3. The weights will now have to be defined differently thus: a) the weight for the euro will just be the weight of the euro in country *i*'s total trade volume; b) the weight for Japan will be the ratio of the difference between the currency weight in the total trade volume of country *i* and Japan's currency weight in the RMU to the cumulative weights in the RMU of all countries included except for country in question; and c) the weight for the ASEAN5+3 is similar to b) except for the numerator where the figures for euro applies

Pegging to the G3 currency basket means that the weighted sum of the logarithm of the price of country-in-question's currency vis-à-vis the US dollar, the euro and the yen is zero, where the weights the US dollar, the euro and the yen's weight in the G3 currency basket and the sum of the weights is one.

7.4. Evaluation Results and Discussions

Table 10 presents the coefficient of variations of the trade-weighted exchange rates under the different pegging schemes to identify relative dispersion or simply the relative volatility of each scheme.

Table 10. Average Coefficient of Variations of the Trade Weighted Exchange Rate of the ASEAN5+3: January 2000 to December 2005

Pegging to the US dollar	Pegging to the RMU	Pegging to the EU-US-Japan
15.23%	12.49%	12.26%

Source: Author's Computations

Pegging to the currency basket EU-US-Japan outperforms the two other schemes for all countries, as evidenced by the average of the coefficient of variations. This scheme is also relatively better than pegging vis-à-vis the RMU. Nevertheless, one can consider the difference marginal. This is an interesting finding that can be ascribed to the significant increases in intra-regional trade.

Considering the relative differences, the outcome suggests that the fluctuations of US\$/euro, US\$/yen and US\$/ASEAN currencies are all reflected on the fluctuations of country *i*'s trade-weighted exchange rate under pegging to the US\$ scheme

For country *i*, the impacts of the fluctuations of the US\$/yen and the US\$ ASEAN currencies to the fluctuation of trade weighted exchange rate of country *i* are weakened under pegging to the RMU scheme, although the impact of fluctuations of US\$/euro remains.

Lastly, for country *i*, the impacts of the fluctuations of US\$/euro and US\$/yen to the fluctuation of the trade weighted exchange rate of country *i* are weakened under pegging to the G3 currency, although the impact of fluctuations of the US\$/ASEAN currency remains.

VIII. Proposals for the currency arrangements in East Asia

Scouring through the literature, most of the proposals regarding currency arrangements generally follow a three-stage process. Some of these proposals view a currency union as an ultimate goal, while others do not. Along the same vein, however, these proposals envision exchange rate stability among East Asian currencies in terms of a common currency basket.

Stage 1. The first stage calls for the adoption of a managed float based on a currency basket that is country specific. Where a country pegs its own currency to a basket composed of the currencies of key trading partners, say the yen, the US dollar and the euro, the country will be in a position to tolerate deviations from a central rate and can review the central rate if necessary. This allows for the extenuation of fluctuations in the nominal effective exchange rates of the countries.

Stage 2: The second stage necessitates the harmonization of the currency-weights in the basket. Harmonizing the weights attached to the currencies in questions across the East Asian countries further limits the fluctuations of the intra-regional exchange rates, with the resulting effect akin to that when a currency union is established.

Stage 3: This stage features the consolidation of the East Asian currencies into a single common currency. In light of the European experience, this stage requires strict adherence to pre-determined ranges for intra-regional exchange rate variations, enhanced coordination of macroeconomic policies and a creation of a trans-national central bank. At this stage, “East Asian countries are assumed to have attained economic as well as institutional convergence and have reached political agreement to participate in the union.

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Paper 2: Exploring the Use of the RMU on Financial Instruments

I. Introduction

The creation of financial instruments denominated in RMU is crucial to its success as a step toward Asian monetary integration as these will aid in extending the currency unit to regional trade transactions and investments. A proposal for such financial instruments must inevitably consider the experience of the European Union with the ECU. This paper will thus review the types of financial instruments utilized by the European Monetary Union to provide investment and hedging alternatives linked to the ECU. It will further evaluate the applicability of these instruments in the ASEAN+3 setting based on an assessment of the sophistication, liquidity and regulatory limitations of the financial markets of the member countries. Going beyond financial instruments previously utilized by the EMU, the latest financial products will also be analyzed to produce recommendations for marketable ASEAN+3 monetary unit-related financial instruments. Finally, this paper will provide recommendations on the policy environment conducive to the use of these instruments.

II. Review of ECU-denominated Financial Instruments

II.A. Bank Accounts

The bank account was the first financial instrument denominated in ECU. ECU-denominated accounts were first created by banks in Brussels and Luxembourg to address the need of Community institutions located there and of consumers who needed a way to manage their ECU-denominated resources¹. In this way, the ECU was introduced into private payments in the form of book money as there were of course no physical ECU notes or coins. The banks which opened ECU accounts for Community institutions extended the service to other interested parties, starting first with large customers (with minimum balance of 5 million ECU in 1979 to 1980) but soon after broadened their scope to include smaller clients (minimum balance of 10,000 ECU). By 1984, ECU-denominated current accounts, from which money may be withdrawn anytime, and ECU-denominated deposit accounts, in which money is lodged for a fixed period, could be opened in a number of Member States in exactly the same manner as national currency accounts and with virtually no minimum limit being applied².

Initially, ECU deposits accepted by banks immediately had to be split up into the nine component currencies whenever a holder of ECU-denominated deposits made drawings on his bank account. However, as the market developed and the number of both account holders and borrowers in ECU grew, the banks were able to transfer ECU deposits to ECU users without having to split up the ECU into its component currencies. Further efforts to reduce the need to split up the ECU led banks to deal with each other in ECUs and later led to the creation of clearing systems which settled payments in ECUs. On the markets in which ECUs were traded, an independent exchange rate and an independent

interest rate were determined by supply and demand without a detour through the nine component currencies².

II.B. ECU-Denominated Loan Issues

The opening of bank accounts denominated in ECUs led to the need to on-lend these funds. The ECU bank market expanded rapidly from 1984 to 1985, led by ECU-denominated lending to the non-bank sector. In July 1982, the first syndicate loan of ECU was made for the Italian government owned telecommunication carrier STET. Since then, 8 ECU denominated syndicated loans totaling USD 351 million were made in the same year and 23 additional loans worth USD 1,049 million in 1983. The ECU market demonstrated its resilience when it was not affected by contractions in the whole syndicate loan market caused by the debt crisis in Latin American countries in 1983. In 1985, 85 ECU syndicate loans summing to USD 2,038 million loans were made. This amount was 6% of the entire syndicate loan market of that year. It was such lending to non-bank sectors that led the whole development of the ECU bank market⁴.

At the onset, most ECU-denominated issues carried a fixed rate and had maturities of between six to eight years (ten to fifteen years in exceptional cases)³. Medium-term ECU notes appeared at the beginning of 1988. There also developed a market in ECU commercial paper⁵. Issues floated in ECUs were quoted on the Luxembourg stock exchange. A fledgling secondary market developed for issues already in circulation, enabling ECU-denominated issues to be dealt in at any time without difficulty even after their initial flotation³.

Looking at the breakdown of the borrowers, 85% of the ECU syndicated loans were for borrowers of member states, of which 70% was for French and Italian borrowers, whose governments were encouraging the use of ECU. Belgium, Luxembourg, France and Italy were the center of the entire ECU bank market as of 1986. From amongst these countries, Belgium and Luxembourg mainly accepted ECU deposits, including that of EC institutions, and these deposits were lent to the non-bank sectors in France and Italy. As for the share of lending to non-bank institutions, France was at the top.

The ECU bond market experienced much growth since the first issue in 1982. For the new issues by EC12 residents in 1991, ECU accounted for the 2nd position after the pound, and in the world, it accounted for the 3rd position following dollar and yen. Besides this, the issuance of ECU government bonds continued in some EU countries.

Similar to the case in the ECU bank market, the EC institutions also initiated the earlier development in ECU loan issues. In 1981, EC institutions accounted for half of the issuing amount, and from 1982 to 84, for about one fourth. However, it was the French and Italian issuers that were the driving force of the ECU bond market in this period. From 1981 to 85 there were 275 issues, out of which 54 were from France and 21 from Italy. The issuance by non-EC countries such as the United States and Japan expanded rapidly too and the number of issues in the same period reached 20 and 23, respectively⁴.

On the other hand, private issuers such as banks and enterprises, and especially foreign issuers, rarely used ECU obtained by their issue as they were instead exchanged into their domestic currency through swaps. The ratio of the issues with swap arrangements to all issues is presumed to have reached 80% in 1985⁴.

In the period between 1979 and 1987, ECU's character as a "Basket currency of the European Monetary System (EMS)" was attractive and it supported private ECU development. The movements of inflation rates and interest rates in each EMS country were still largely divergent. France and Italy found advantages as borrowers in ECU as their currencies were weak and carried higher interest rates. Hence, borrowings in ECU provided a cheaper source of funding. In addition, capital controls were extensive in France and Italy. On the other hand, Benelux countries had low interest rate and thus benefited as investors in ECU which provided a higher return⁴. In the convergence of the EMS and the liberalization of capital movements, private ECU gradually lost its advantage, ending this cycle in 1987. In summary, the reason for the decline was the loss of the advantage for borrowers in high interest rate countries as a result of the convergence in the EMS and the liberalization of the capital movements within the EC which made it possible for French and Italian borrowers to issue Eurobonds not in ECU but in their own currencies⁴.

II.C. ECU-linked Loan Issues

ECU was also occasionally used as a reference currency for loan issues. In 1981, for instance, the Belgian government floated a loan tranche that was denominated in Belgian francs and indexed to the ECU. Subscribers were assured of receiving back as many Belgian francs as corresponded to the ECU value if the Belgian franc did not perform as well as the ECU. A Turin-based bank also floated an ECU-indexed issue³.

II.D. Summary

In practice, the ECU never achieved a significant role in the business of the European Community and the EMS in particular. Although credits within the EMS were denominated in ECU, they were extended in national currencies. The ECU's unit of account role was limited to the financial accounts of EC institutions and a few European corporations engaging in extensive cross-border business. In the 1990s only about one per cent of trade within the Community was invoiced in ECUs. At their height, ECU-denominated claims still amounted to less than 10 percent of the non-dollar foreign currency claims of banks reporting to the Bank for International Settlements. ECU bonds never accounted for much more than 20 percent of all non-dollar Eurobonds. Medium-term ECU notes accounted for barely 15 percent of the non-US dollar market in such notes, and ECU commercial paper for only about 10 percent of all euro-commercial paper. Despite the increasing integration of the European Community, Europe's residents did not conduct more of their transactions in ECU. Two of the main obstacles to this end were (1) the continuing reliance of member countries on their national currency due to historical inertia and (2) the inability of the ECU to out-compete the US dollar as an international currency with which European countries' financial and

commercial transactions with one another and with the rest of the world were invoiced and settled⁵.

III. Applicability of ECU Financial Instruments in the ASEAN+3 setting

Drawing from the experience of the ECU, we can see that there is still room for the private RMU to develop. Two reasons for this possibility are (1) the lack of convergence of interest rates and inflation rates within Asia and (2) the existence of restrictions on the capital movements in some Asian countries. These circumstances are similar to that of the early stage of development of private ECU from 1979 to 1987.

The RMU might be developed as an investment currency and render an alternative instrument to Asian investors in low interest rate countries to diversify their portfolios. RMU will also provide Asian borrowers in high interest rate countries a relatively attractive means of borrowing. As risks associated with the depreciation of the dollar are increasing, the use of RMU will serve as an important alternative both for investors and borrowers in the Asian region. In addition, the relatively small size of domestic bond markets and the shortage in liquidity may render a comparative advantage for the RMU bond market⁴.

There are several regulatory hurdles, however, to the creation of financial instruments in the ASEAN+3 setting. One major difference between the ECU and the proposed RMU currency basket is that in the ECU, all currencies could be freely traded. Thus, actual currency baskets comprised of varying proportions of each member currency could be created; whilst in the case of RMU, trade in the currencies of majority of the member currencies is restricted. Hence, the transition from a currency unit used mainly by central banks to that used by the private sector would be more difficult.

III.A. Bank Accounts

The creation of bank accounts denominated in ASEAN+3 is unfortunately unworkable due to the non-convertibility of several of the member currencies. (See Table 1 for listing of currency exchange controls). In the case of the ECU, it was possible to put together the currency units by combining the proper proportions of each member currency and then depositing these currencies into another account. This is not possible with the proposed RMU because of foreign exchange controls on a number of the member currencies. A company in Japan, for example, would not be able to purchase Philippine pesos to complete their currency basket because pesos cannot be transferred outside the country.

This is unfortunate as the existence of RMU-denominated bank accounts would create a natural source of liquidity for further transactions in the currency unit. In order for this to be possible, ASEAN+3 countries would need to deregulate their capital and foreign exchange controls to allow convertibility in both the current and capital accounts.

III.B. RMU-Denominated Loan Issues

As mentioned earlier, much of the success experienced by the ECU was due to lending to non-bank sectors. Again, it is currently not possible for the RMU to follow suit due to the non-convertibility of several of the currencies comprising the currency unit. Hence, it would not be possible for lenders to invest in the loan issues as they would not be able to complete the currency baskets they would need to invest.

III.C. RMU-linked Loan Issues

One of the financial instruments used previously by the European Community which is possible to denominate in RMU is the ECU-linked loan issue. This is because a bond which is indexed to the RMU does not have to be comprised of actual, physical quantities of each member currency; it only needs to mirror the returns of an investment in a bond composed of a theoretical currency basket.

The creation of bonds indexed to the RMU does, however, require the existence of active non-deliverable forward (NDF) markets and option markets in each currency. At present, these markets have enough liquidity in some but not all of the member currencies. However, the creation of the RMU currency basket from the reserves of the thirteen countries should produce adequate transaction volumes to jump-start these markets. Moreover, within ASEAN+3, Japan, China and South Korea have unrestricted foreign exchange markets or have active NDF markets (in the case of China). Within the ten ASEAN countries, Indonesia, Malaysia, the Philippines, Singapore and Thailand also fulfill the requirement for the creation of RMU-linked bonds. At this point, banks would only be able to hedge out positions in these member currencies.

Table 2

ASEAN	with active NDF market
Bruneian Dollar (BND)	
Cambodian Riel (KHR)	
Indonesian Rupiah (IDR)	√
Lao Kip (LAK)	
Malaysian Ringgit (MYR)	
Myanmar Kyat (MYK)	√
Philippine Peso (PHP)	√
Singapore Dollar (SGD)	√
Thai Baht (THB)	√
Vietnamese Dong (VND)	
+ 3	
Chinese Yuan (CNY)	√
Japanese Yen (JPY)	√
South Korean Won (KRW)	√

Banks that would be capable of structuring notes linked to Asian currency baskets are multinational financial institutions that have a presence in most, if not all, the countries

involved. They would need to have active currency option trading desks capable of hedging the positions created by issuing such structured notes. Examples of these would be global banks such as Deutsche Bank, HSBC, and Citibank.

The use of RMU-linked bonds instead of regular RMU-denominated bonds provides several advantages due to their flexibility. RMU-linked bonds can be structured as an investment which benefits if the RMU performs strongly. On the other hand, it can also be structured as a hedge against movements in the opposite direction.

IV. Proposal for Financial Instruments linked to the RMU

Based on the discussion in the previous section, we have concluded that given current existing restrictions in the different member currencies, financial instruments linked to the RMU must be created in synthetic form, i.e. the instruments must only mirror the performance of a theoretical RMU-denominated instrument instead of being comprised of actual, physical currency baskets.

IV.A. Investment Instruments

The first main category of financial instruments linked to the RMU is comprised of instruments created for investment purposes. Investors for these types of notes would be mainly funds that want to diversify and that have an exposure to the different Asian markets.

A simple example of a structured note linked to the RMU would have the following return:

$$\text{Redemption Rate} = 100\% + X1\% \left[\frac{CCY1_i - CCY1_f}{CCY1_i} \right] + X2\% \left[\frac{CCY2_i - CCY2_f}{CCY2_i} \right] + \dots + Xn\% \left[\frac{CCYn_i - CCYn_f}{CCYn_i} \right]$$

where CCY_f = exchange rate of currency at end of period

CCY_i = exchange rate of currency at start of period

$X\%$ = weight of the currency within the basket

note: The standard format for quoting exchange rates is as the amount of local currency equivalent to the value of one U.S. dollar. Hence, an increase in exchange rate would mean a depreciation of the currency vs the U.S. dollar.

The structured note above would be denominated in one currency (for example, the Philippine peso), but its return would not be linked simply to the peso interest rate. Its return would instead be linked to the performance of the currencies that comprise the RMU. This note takes a bullish view on ASEAN+3 currencies, i.e. an investor would buy this note if he expects the RMU to appreciate. (Note: according to current market standards, the values of currencies are tracked vs. the value of the U.S. dollar, but this formula does not need to adhere to this standard).

Starting from this simple structure, banks can create several variations of the RMU-linked note. Some possible features are as follows (each feature is not mutually exclusive and may be combined with other features):

IV.A.1. Principal Protection:

It is possible to structure this note in a way that losses are minimized by embedding an option into the note. Based on the equation provided above, the redemption rate on a principal protected version of this note would have a minimum of 100%. In other words, the investor would receive his original investment back in the event that the RMU depreciates upon maturity date. This feature would be attractive to more risk-averse investors. However, principal protection is not free and hence, participation by the investor on any appreciation of the RMU would be reduced in this case. If the participation is 100% in the initial format, it may be reduced to, let's say, 80%. This means that if total appreciation of RMU is 10%, the investor would only get a return of 8%.

IV.A.2. Full or Partial Participation:

Another way that an investor can tweak the structure to suit his risk appetite is to choose a participation rate in the performance of the RMU. Reducing the participation decreases the return that an investor would get in the event of an appreciation in the RMU. However, reducing the participation rate may pay for other ways to reduce risk such as structuring in principal protection or maintaining a fixed rate portion.

IV.A.3. With fixed rate portion:

An investor may also want to specify a minimum fixed rate ($X\%$) that he would like to receive from a note. This is something commonly seen in the market as investors often look for a minimum return for their funds. This is very similar to the principal protection feature previously mentioned but it would instead return $100\% + X\%$ + the performance of the RMU. Since specifying a minimum fixed rate would entail a cost, this would mean that the participation rate would probably be reduced. This is not a set rule, however, and will vary according to existing market conditions at the time of trade. Also depending on market conditions, there may be times when it would be impossible to price this trade. This would happen if the embedded options are too expensive.

IV.B. Hedging Instruments

One of the more important uses of RMU-linked notes is as that of a hedging instrument. Being able to provide such instruments and thus decreasing the risk of investing in the ASEAN region would work to attract more investors.

It is possible to use the types of notes in part A of this section to attract corporations which have exposure to different ASEAN currencies. An example would be a manufacturer in the U.S. that imports goods or services from several ASEAN countries

who would be hurt by rising expenses if the respective ASEAN currencies appreciate. Investing in this type of note would act as a hedge against rising expenses due to currency appreciation because the company would be able to get higher returns from the structured note in this event. The formula for the return of such a note would be exactly the same as the one shown in the previous section:

$$\text{Redemption Rate} = 100\% + X1\% \left[\frac{\text{CCY1}_i - \text{CCY1}_f}{\text{CCY1}_i} \right] + X2\% \left[\frac{\text{CCY2}_i - \text{CCY2}_f}{\text{CCY2}_i} \right] + \dots + Xn\% \left[\frac{\text{CCYn}_i - \text{CCYn}_f}{\text{CCYn}_i} \right]$$

where CCY_f = exchange rate of currency at end of period
 CCY_i = exchange rate of currency at start of period
 $X\%$ = weight of the currency within the basket

Another possible scenario would entail a different type of hedging instrument. This would refer to a company located in an ASEAN member country who has loans in US dollars (as is the case with many ASEAN-based multinational companies). These companies borrow in US dollars but have revenues in several ASEAN currencies. These companies would therefore be exposed if ASEAN currencies depreciate since their revenues will be reduced and the value of their loans will increase in relative value to their revenues. Such a company would benefit from entering into an arrangement wherein they would realize a gain if ASEAN currencies depreciate. This would effectively hedge their foreign exchange exposure between their revenues and their borrowings. For this note, the formula would be different:

$$\text{Redemption Rate} = 100\% + X1\% \left[\frac{\text{CCY1}_f - \text{CCY1}_i}{\text{CCY1}_i} \right] + X2\% \left[\frac{\text{CCY2}_f - \text{CCY2}_i}{\text{CCY2}_i} \right] + \dots + Xn\% \left[\frac{\text{CCYn}_f - \text{CCYn}_i}{\text{CCYn}_i} \right]$$

where CCY_f = exchange rate of currency at end of period
 CCY_i = exchange rate of currency at start of period
 $X\%$ = weight of the currency within the basket

C. A Note on the Asian Bond Fund⁹

In recent years the Executives' Meeting of East Asia and Pacific Central Banks (EMEAP), comprising 11 central banks and monetary authorities in the East Asia and Pacific region, developed products which are complimentary to the efforts toward building an RMU. These are the ABF1 (Asian Bond Fund first stage) and the ABF2 (Asian Bond Fund second stage).

The Asian Bond Fund is an initiative developed by the EMEAP Group aimed at broadening and deepening the domestic and regional bond markets in Asia. ABF1, a fund which is invested in a basket of US dollar denominated bonds issued by Asian sovereign and quasi-sovereign issuers in EMEAP economies (excluding Australia, New Zealand and Japan), was launched in June 2003. ABF2, a fund similar to the first stage version but now invested in bonds denominated in local currencies, was launched in December 2004. The total funding for ABF2 alone is USD\$2 billion. ABF2 comprises a Pan-Asian Bond Index Fund (PAIF) and eight Single market funds. The PAIF is a single

bond fund investing in sovereign and quasi-sovereign local currency-denominated bonds issued in the eight EMEAP markets. The eight Single market funds will each invest in sovereign and quasi-sovereign local currency-denominated bonds issued in the respective EMEAP markets.

As opposed to the previous products in this proposal which were aimed mainly at institutional and corporate investors, the funds created by the Asian Bond Fund initiative are also accessible to individual investors. For example, the PAIF is an exchange traded fund listed on the Hong Kong Stock Exchange. Hence, this is a good way to bring ASEAN +3 into the retail sector.

The eight markets in which ABF1 and ABF2 are invested are: China, Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, and Thailand. Out of these eight markets, only the Hong Kong dollar (which is currently pegged to the U.S. dollar) is not included in ASEAN+3. This will help in increasing liquidity in the ASEAN+3 region. In terms of regulatory limitations, the ABF2 initiative has helped accelerate tax and regulatory reform at both regional and domestic levels to facilitate cross-border investments. For instance, the PAIF is the first foreign institutional investor that has been granted access to China's interbank bond market. Malaysia has since liberalized its foreign exchange administration rules, opened up its domestic market to issuances by multilateral financial institutions, and non-residents are now exempted from withholding tax on the interest income received from investment in ringgit-denominated debt securities. Thailand has also granted non-resident investors exemption from withholding tax on all income from investing in Thai government bonds and government agency bonds. Continued developments are seen in the relevant regulations to facilitate listing of bond funds or fixed-income Exchange-Traded Fund in their respective markets. Hence, the existence of the Asian Bond Fund initiative can be seen as an aid in overcoming liquidity and regulatory hurdles towards achieving an RMU.

Another possibility to consider is to take advantage of the existence of these funds and the regulatory reforms that have taken place since their creation to produce new funds starting with the debt securities of the seven ASEAN+3 members already included in ABF and later on, to expand the fund to include other ASEAN+3 members as their respective markets become more liquid and accessible.

V. Clearing and Settlement Systems

The synthetic nature of the proposed financial instruments allows them to be settled through existing settlement systems managed by Euroclear Bank and Clearstream (Deutsche Borse Group). Euroclear is a premier settlement system for domestic and international securities transactions, covering bonds, equities and investment funds. Market owned and market governed, Euroclear provides securities services to major financial institutions located in more than 80 countries⁷. Clearstream is a leading supplier of post-trading services which maintains relationships with customers in over 100 countries. Its global network extends across 42 markets and settles more than 250,000 transactions daily⁸.

For previous ECU transactions, a clearing system had to be set up between the major banks doing ECU business². This is not necessary in the case of the proposed financial instruments for the RMU as physical transfers of the currency basket are not required. Since the transactions will only be concerning bonds in a single currency, currently existing clearing and settlement systems could accommodate them. The main requirement is for the issuing entities to have accounts with either Euroclear and/or Clearstream. Should the issuers be major banks such as the ones previously mentioned in section III, it can be assumed that these accounts are already in place.

In terms of the currencies and asset types covered by these two clearing entities, a summary is found in the table below. The data provided shows that the proposed financial instruments may be issued in the currencies listed below (considering only ASEAN +3 currencies) given current capabilities of Euroclear and Clearstream. The scope of the two settlement agencies may be changed, however, should the need and/or sufficient liquidity arise. Furthermore, structured notes may also be denominated in Eurodollar or US dollar while still referencing the movements in the currencies of ASEAN +3 nations. These would also be clearable through Euroclear and Clearstream.

Table 3

	Clearstream ⁸		Euroclear ⁷	
	Currency	Asset types	Currency	Asset types
ASEAN				
Bruneian Dollar (BND)		Government debt securities		International debt securities
Cambodian Riel (KHR)		Corporate debt securities		Foreign bonds
Indonesian Rupiah (IDR)	Yes	Equities	Yes	Equities
Lao Kip (LAK)		Warrants		Warrants
Malaysian Ringgit (MYR)	Yes	Investment funds	Yes	Investment funds
Myanmar Kyat (MYK)		Exchange traded funds		Money market instruments
Philippine Peso (PHP)	Yes	Depository receipts	Yes	Depository receipts
Singapore Dollar (SGD)	Yes		Yes	Domestic bonds
Thai Baht (THB)	Yes		Yes	Asset-backed securities
Vietnamese Dong (VND)				Other collateralised debt securities
+ 3				
Chinese Yuan (CNY)				
Japanese Yen (JPY)	Yes		Yes	
South Korean Won (KRW)				

Euroclear Bank services for securities issued in this country are temporarily suspended.

Sources:

Euroclear Bank Eligible Securities (brochure). November 2006.

http://www.clearstream.com/ci/dispatch/en/kir/ci_nav/1_settlement/010_over/020_asset), January 2007.

VI. Policy Environment

In order for the RMU to gain widespread use, it is necessary for the ASEAN+3 member countries to begin the process of reducing restrictions on capital movements and foreign exchange markets within the region. In the case of the European Community, the ECU was able to achieve natural sources of liquidity due to the creation of bank accounts denominated in ECU. This led to the development of the ECU-denominated loan issues market wherein the ECU achieved its greatest success. Despite these, the ECU never achieved a significant role in the business of the European Community due to inertia to

the continued reliance on national currencies and due to the inability of the ECU to compete with the US dollar.

The RMU will encounter even greater problems given the number of restrictions on most of the currencies in the basket. Because of these restrictions, financial instruments may only be linked to the RMU but not denominated in RMU. The financial instruments proposed in this paper are based on what can possibly be created given the existing restrictions. However, in order for the RMU to gain widespread use, it must be possible to make physical transactions of the member currencies to be able to create bank accounts and loan issues denominated in this currency unit. It is only in this way that greater liquidity in the different member currencies can be achieved.

Table 1 (source: ADB Asian Bonds Online website¹⁾)

Market	Import		Export		Borrowing/Lending			Hold Accounts	
	Local Currency	Foreign Currency	Local Currency	Foreign Currency	Residents Borrowing Overseas	Nonresidents Borrowing Locally	Residents	Nonresidents	
Brunei Darussalam	No restrictions.	No restrictions.	No restrictions.	No restrictions.	No restrictions.	No restrictions.	No restrictions.	No restrictions.	
Cambodia	Maximum USD10,000 or its equivalent. Must be declared upon arrival.	Maximum USD10,000 or its equivalent. Must be declared upon arrival.	Maximum USD10,000 or its equivalent. Must be declared upon arrival.	Maximum USD10,000 or its equivalent. Must be declared upon arrival.	Allowed through authorised intermediaries.	Allowed through authorised intermediaries.	No restrictions.	No restrictions.	
PRC	Maximum CNY20,000 for both residents and nonresidents.	Amounts exceeding USD5,000 require filing customs report.	Maximum CNY20,000.	Maximum USD10,000 or its equivalent in cash; amounts in excess allowed as traveler's check or other payment certificate. Amounts above USD5,000 require License for Carrying Foreign Currencies	All foreign borrowings must be registered with SAFE.	Only financial institutions authorized by the People's Bank of China.	Foreign currency accounts allowed for approved domestic or foreign-funded enterprises.	Nonresidents allowed to hold both CNY and foreign currency accounts.*	
Hong Kong, China	No restrictions.	No restrictions.	No restrictions.	No restrictions.	No restrictions.	No restrictions.	No restrictions.	No restrictions.	
Indonesia	BI approval and custom declaration required in excess of IDR100 million.	No restrictions.	BI approval and custom declaration required in excess of IDR100 million.	No restrictions.	Allowed subject to reporting requirements.	No restrictions.	No restrictions.	No restrictions.	
Japan	Reporting required above JPY1 million or its equivalent.	Reporting required above JPY1 million or its equivalent.	Reporting required above JPY1 million or its equivalent.	Reporting required above JPY1 million or its equivalent.	No restrictions.*	No restrictions.	No restriction.	No restrictions.	
Korea	Customs declaration required for KRW above USD10,000 or its equivalent.	BOK permission required for amounts above USD10,000.	Customs declaration required for KRW above USD10,000 or its equivalent.	Bank of Korea permission required for amounts above USD10,000.	MOFE notification required for amounts above USD50 million.	Foreign exchange banks lending KRW to nonresidents above KRW1 billion require BOK approval.	No restrictions.	Allowed subject to certain restrictions.	
Lao PDR	BOL authorization required for amounts above LAK5 million.	Customs declaration and BOL approval are required for amounts above USD2,000 or its equivalent.	BOL authorization required for amounts above LAK5 million.	Customs declaration and BOL approval are required for amounts above USD2,000 or its equivalent.	Requires BOL approval.	Not permitted.	Foreign currency accounts held abroad require BOL approval.	No restrictions.	
Malaysia	COFE authorization required for amounts above MYR1,000.	No restrictions.	COFE authorization required for amounts above MYR1,000.	COFE authorization required for amounts above MYR10,000.	Amounts exceeding certain limits require COFE approval.	No restrictions.	No restrictions.	Allowed through licensed banks.	
Myanmar	Not permitted.	Nonresidents are allowed to bring up to USD2,000 or its equivalent without approval.	Not permitted.	Allowed with specific restrictions.	Requires CBM approval.	Not permitted.	Requires CBM approval.	Requires CBM approval.	
Philippines	Prior authorization from BSP required for amounts above PHP10,000.	Amounts exceeding USD10,000 or its equivalent must be declared.	Prior authorization from the BSP required for amounts above PHP10,000.	Amounts exceeding USD10,000 or its equivalent must be declared.	BSP registration and/or approval required.	No restrictions.	Residents are allowed to hold foreign currency accounts locally and abroad.	Nonresidents are permitted to hold PHP and foreign currency accounts.*	
Singapore	No restrictions.	No restrictions.	No restrictions.	No restrictions.	Only allowed to maintain foreign currency account with an Asian Currency Unit (ACU)-licensed bank in Singapore.	No restrictions.	No restrictions.	Approval required for amounts above SGD5 million.	
Thailand	No restrictions.	Conversion into THB required.	A maximum of THB500,000 is allowed when traveling to Thailand's neighboring countries. Elsewhere, the limit is 100,000 THB.	Conversion into THB required.	No restrictions.	THB borrowings limited to THB50 million.*	Allowed subject to minor conditions.	Allowed provided that funds originate abroad.	
Viet Nam	Customs declaration and SBV approval are required for amounts above VND5 million.	Customs declaration and SBV approval are required for amounts above USD3,000.	Customs declaration and SBV approval are required for amounts above VND5 million.	Customs declaration and SBV approval required for amounts above USD3,000.	Subject to SBV registration and approval.	Subject to SBV registration and approval.	SBV approval is required.	SBV approval is required.	

* Certain conditions apply. Please refer to individual market pages for details.

Source: International Monetary Fund Annual Report on Exchange Arrangements and Exchange Restrictions 2004, Economist Intelligence Unit Country Reports; and information compiled by AsianBondsOnline from links listed in market pages.

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Paper 3: The State of Data and Statistical Information in ASEAN+3: Preparing for the RMU

1. Introduction

Nearly ten years after the Asian financial crisis, efforts in strengthening regional financial cooperation intensify. These efforts are aimed at avoiding the problems encountered during the crisis. The Asian crisis emphasized several points: there were no well-developed supranational institutions to provide early warning signals of balance of payments problems; lack of access to funds that will help cope with financial problems; and the absence of a common defensive mechanism to deal with fluctuations in exchange rates (Wilson, 2002).

In order to address these concerns, considerable number of studies surveyed the possibility of a common monetary and exchange rate policy in the Asian region. A study done by Wilson (2002) reviewed the prospects for greater monetary integration in the region and reported that a good case can be made for delegating responsibility for the macroeconomic surveillance and regional resource pooling within a permanent institution. This institution could eventually evolve into an infrastructure that is more sensitive to the monetary set-up of Asian economies. Furthermore, previous researches done by Eichengreen and Bayoumi (1996) analyzed the economic and political prospects and found out that the region fulfills the standard optimum-currency-area criteria for a common monetary policy. The creation of a durable common peg would minimize the uncertainties due to the small and open economies of most of the member countries in the region.

Before the proper institutions for the regional monetary unit are identified, a survey of the available data and statistical information needs to be done. This will help determine how far we can go in terms of preparing for the regional monetary unit. This paper specifically aims to achieve the following: (1) determine the data and statistical information necessary for the regional monetary unit by looking at the European Union experience; (2) survey the macroeconomic databases of the individual ASEAN+3 economies; (3) identify the data gaps in each country; (4) recommend a course of action on how individual countries can meet the necessary data requirements; and (5) identify appropriate institutions for the collection and compilation of these data sets. It is also essential to determine whether the available data will be useful and timely for policy coordination in preparation for the common currency. These available data can be assessed whether a solid early warning system can be put up specifically to prevent fluctuations in the common currency.

2. The European Monetary Union Experience

2.1. A Brief History

The evolution of the European Monetary Union could be a source of lessons for our own regional monetary union. The experiences and stages it went through contain valuable events we could draw insights from. In 1957, the Treaty of Rome was established and it served as the founding act of the European Community (Wyplosz, 1997). After several years, the Maastricht Treaty was established. It updated and incorporated the Treaty of Rome, which also incorporated the Single European Act. This stipulated free movement of people, capital and goods among member countries. The European Union's main objective was to adopt a single currency, which would mainly benefit trade within the region. Among the benefits of a single currency are lower transaction costs, and disruptions of trade related to fluctuations in the bilateral exchange rates between potential common currency participants are avoided (Bayoumi, Eichengreen, Mauro, 1999).

The implementation of the European Monetary Union came in stages. The first stage began in 1992 with the formal ratification of the treaty. However, as mentioned in the previous paragraph, the initial attempts on integration of the region started as early as the 1950s. The second stage occurred in 1994 which was marked by the establishment of the European Monetary Institute (EMI). In addition to this, the national central banks were given formal independence and cease to grant direct loans to their nation's treasuries (Bayoumi et al., 1999). The European Monetary Institute served as the central bank for the region and operated under two main functions. First, it prepared the creation of a Central Bank. Second, it supervised the "convergence criteria" which was used to decide which countries are ready to enter the monetary union. As soon as a sufficient number of countries met the convergence criteria this marked the beginning of the third stage. This "convergence criteria" according to Bayoumi et al. (1999) operated under the fundamental notion that unless countries enter the single currency with similar inflation rates and fiscal positions, the single currency will not work

The economic criterion for the single currency adopted in the European region is based on the theory of optimum currency areas. This suggests that the importance and composition of intra-regional trade provide information about the probable benefits of a monetary union. Another economic criteria are the nature of shocks and flexibility of factor markets. Moreover, the similarity of economies in terms of their past macroeconomic policies, stage of economic development, and similarity of financial systems may provide information on potential difficulties of introducing a common currency (Bayoumi, et al., 1999) are also considered. Economies are easier to integrate if they have a similar level of economic development. The case of the European Union indicates that the process of forming a monetary union was associated with a significant degree of convergence in output per capita.

2.2. Benefits Experienced by EU Countries

Schneider (2004) discussed in detail some of the positive effects of the monetary union for the EU countries. The first deals with economic growth in general, which is justified by the following hypothesis: the creation of a monetary union leads to a decline in exchange rate uncertainty. This reduction in uncertainty leads to a decrease in the risk premium of the interest rate and a decrease in the economy's real interest rate. It was also noted that it leads to a decrease in transaction costs, particularly the cost of exchanging currencies and of insuring against risk of exchange rate fluctuations (Schneider, 2004). Moreover, the creation of a monetary union leads to increase in price transparency, which leads to more competition, low prices. All these contribute to economic growth, which is explained by the new growth theory.

Another positive effect is the faster growth of less-developed EU countries. Less developed countries in the region will benefit from the spillover effects caused by the removal of exchange rate uncertainties, rise in direct foreign investment and possible increase of financial transfers to them (Schneider, 2004).

2.3. Necessary Data and Statistical Information: EU Experience

Based on studies made on the European Monetary Union, there are several essential requirements for the viability of a common currency in the region. This could be a source of essential information in preparation for the regional monetary union in Asia.

The first requirement is to determine whether the ASEAN+3 countries have reached a certain degree of openness. As Rose and Engel (2002) put it, currency unions are more open than countries with their own currencies. Specifically, both exports and imports are larger as percentages of GDP to a degree that is both statistically significant and economically essential (Rose et al., 2002). Given this, the first data requirement is intra-regional trade, particularly net exports and their percentages of GDP. Evidence show that the greater the intra-regional trade, the larger the benefits that a common currency is likely to achieve.

Another data requirement is the behavior of the exchange rate in the ASEAN+3 region. The behavior of exchange rates should be monitored to find out if they remained within the normal bands without severe tension for at least two years (Wyplosz, 1997). In other words, fluctuations in the exchange rate should be minimal. Stable real exchange rates means that they converge more quickly and have lower short-run volatility.

Economic growth of member countries, which is measured by GDP and GNP growth rates, should also be monitored in order to assess how each economy is doing compared to other economies. This will also help trace whether there was an improvement after the common currency is implemented. It is hypothesized that economic growth is expected as one of the positive results of a common currency and a monetary union (Schneider, 2004). He pointed out that the realization of monetary union leads to a reduction of

exchange rate uncertainty, a decrease in the risk premium of interest rate and a decrease in the economy's real interest rate (Schneider, 2004).

Information on inflation rates is also needed in the analysis. Countries that enter into a single currency should have similar inflation rates. In the case of the European Union, the inflation rate of any joining country must be within 1.5 percent points of the average of the three lowest in the region (Wyplosz, 1997). In studies made by Kenen (1994), inflation rate among member EU countries was measured by the average percentage change in the consumer price index for twelve months (one year).

We also consider data on interest rates. Once again, the movement of this variable should not be too diverse among countries within the region. In the case of the European Union, long term interest rate in a country joining the single currency must not exceed by not more than 2 % points the interest rates observed in the three countries with the lowest inflation rates (Wyplosz, 1997). This was measured by the average interest rate on long-term government bonds in twelve months (Kenen, 1994).

Fiscal deficit and public debt could also be used as indicators or data monitoring instruments. A country having excessive public debt is a reflection of the economy's financial standing. This may also be a reflection of poor macroeconomic policy on the part of the government. Needless to say, this is reality among some of the Asian countries.

Lastly, information on the various fiscal and monetary policies of countries in the region would help assess the preparedness for a regional monetary union. The similarity of the economies in the area of macroeconomic policies will make it easier for a convergence in the currency. As it was pointed out by Bayoumi et al. (1999), a flexible and sustainable fiscal policy will lead to lesser need for countries to rely on monetary policy to respond to shocks.

2.4. Summary

The EMU has gone a long way and we have yet started in our own undertaking as a region towards a monetary union. There are similarities in the ASEAN region now and the pre-EMU economic condition. Before the EMU went in full operation, pre-member countries had heterogeneous economic characteristics. The same is the case for the ASEAN region. This was observed by Wilson (2002) in his working paper on Asian monetary cooperation. He points out that countries such as Singapore, Taiwan, Hong Kong and Korea are way ahead among its neighboring countries in terms of income per capita (Wilson, 2002). In addition, macroeconomic variables such as growth rates, exchange rate and interest rates of member ASEAN+3 countries are very diverse from each other, which was also the case during the pre-EMU period. Another significant similarity is the financial crisis that both regions experienced independently. This crisis was one of the motivations for the creation of the EMU during the early 1980s.

Despite the similarities, the question on preparedness and willingness still remains for the Asian region. Do we have the correct information, which will act as an early warning system for the common currency in the region to work in our favor? This also goes to say, do we have the right facilities in terms of data requirements. The next section will deal with the survey on the requirements and availability of data necessary for the common currency.

3. Survey of Macroeconomic Databases

There are important things to consider in preparing for the regional monetary union in Asia. One is the preparedness in terms of having the necessary macroeconomic databases that would serve as an input to an early warning system against devaluation. The Asian region has started preparing for this, as initiated by the Asian Development Bank. The following section will discuss briefly the initiatives that were done towards an early warning system.

3.1. Early Warning System Against Financial Crisis

One of the important points that were underscored during the Asian financial crisis was the need for a supranational institution that would serve as an early warning system (EWS) against the devaluation of the common currency. The EWS would help identify emerging, macroeconomic, financial, and corporate sector vulnerabilities in order to avoid future financial crisis. In 2001, the Asian Development Bank approved a small-scale regional technical assistance (TA) that would develop a regional EWS prototype. The preliminary results of the development of the EWS prototype was used to prepare a vulnerability assessment report (VAR) that analyzes emerging economic and financial sector vulnerabilities in the region (ADB, 2002).

The regional EWS prototype consisted of a nonparametric and parametric EWS models. The preliminary results show that the performance of models was reasonably good. This led to the second technical assistance that would help developing member countries of ASEAN+3 implement the EWS prototype and make it operational. This would entail making necessary adjustments to the regional EWS prototype to suit individual country's circumstances, developing special computer software, and training concerned government officials to operate the EWS models. Among the possible modifications in the model could be exploring alternative data sources (i.e. use of national vs. international data sources and access to confidential country data), fine-tuning of model variables (i.e. relevance or irrelevance of certain variables to a country-specific model), and accommodating specific requests from government (ADB, 2002).

To date, information and updates on the regional technical assistance project is tentative and indicative, based on the Asian Development Bank. This goes to say that the details and results of the early warning system are not yet available on hand. This gives us reason to review what are the available macroeconomic data and statistical information necessary for the regional monetary union.

3.2. Individual Macroeconomic Databases

A survey of online available macroeconomic databases of the ASEAN+3 countries was done in order to assess the level of preparedness and usefulness of the data. Most of the databases were accessed from the ASEAN website, while others were taken from each country's statistical online database.

3.2.1. Brunei, Cambodia and Myanmar

One of the notable things about the online databases of these countries is its limited access. The macroeconomic data is not as complete and comprehensive as that of the others. Another observation is that some of these online databases have no English version, i.e. Brunei statistics. A closer survey of each country would reveal the following observations.

It could be noted that information on Brunei macroeconomic data available online, which consists of financial and economic statistics, is generally accessible. However, specific data such as data from the Brunei International Financial Center are restricted. This could mean that selected people are allowed to access the said information. Other statistics such as monetary data are available on a yearly basis from 1990 to 2002. Other macroeconomic data such as gross domestic product and inflation rates are not available online since its site was under construction.

Cambodia, on the other hand, has accessible databases but they are not comprehensive. Most of the macroeconomic data such as GDP and growth rates are available on a yearly basis from 2000 up to 2005. The Ministry of Economy and Finance of Cambodia has its own website that contains information on GDP, inflation rates, net exports and government budget accounts. The frequency of the data mentioned is only on a yearly basis.

Myanmar has the least sufficient macroeconomic data available online. The online site of the Central Bank of Myanmar does not contain any monetary statistical data. It only serves as a host to general information on the country's monetary policy. Another online site is the Central Statistics Organization which contains monthly data on foreign trade, consumer price index, and exchange rate among others. This is only available for the years 2004 to 2006.

3.2.2. Indonesia, Malaysia, Philippines, and Thailand

The countries Indonesia, Malaysia, Philippines and Thailand have more or less similar macroeconomic data available online. Macroeconomic data and other statistical information are easily accessible compared to the countries mentioned earlier. However, the language i.e. Bahasa could serve as a hindrance to access the information. It should be noted that all the four countries, except Philippines, provides an English version of their database site but there are some information in the national language.

Indonesia has the following government agencies online, which could be sources of macroeconomic data. First is the Bank of Indonesia which provides monetary data on a monthly basis. The Jakarta Stock Exchange is also a good source of market information such as the exchange rate. Another possible source is the site of Ministry of Finance but this does not have an English version. Other information such as national and government accounts are also available but only on a yearly basis.

Malaysia is very similar because it has sites for the following government agencies: central bank, ministry of finance and central bank. The first two websites contain important statistical information but not monthly unlike that in central bank site. The good thing about their website is that it has an English version, which makes it accessible to everyone.

The Philippines has a very comprehensive macroeconomic database available online from government agencies such as National Statistics Office, Bangko Sentral ng Pilipinas and National Statistics Coordinating Board. The data available online is very extensive but are more on a yearly basis. There is information on important macroeconomic data such as inflation rates, national income accounts and exchange rates which are available on a monthly basis. The online sites of these government agencies are very easy to follow which makes it user friendly.

Thailand, on the other hand, has websites such as national statistics, national economic and social development, Bank of Thailand and stock exchange which houses various macroeconomic data. The frequency of the data is monthly, quarterly and yearly. Some of the monthly data include exchange rates, among others. National income, trade data and government accounts are all on a yearly basis.

3.2.3. Singapore, Japan, China and Korea

Among the countries in the Asian region, it is the industrialized countries such as Singapore, Japan and Korea that houses the most comprehensive and updated macroeconomic data and statistical information. China is fast catching up with the abovementioned but offers data for 2000 (at least for most of the macroeconomic data) onwards. Its openness to make available online macroeconomic data is not yet comparable to the other countries in the region. However, its efforts are evidently geared towards making this information available online.

Singapore has a very comprehensive database on macroeconomic data and statistical information which ranges from daily, weekly, monthly to yearly. Government agencies such as the statistics office, ministry of finance and monetary authority are among the databases available online that offer a wide variety of information. It is notably easy to access the data since they are arranged in a straightforward manner. Daily and weekly information on the country's exchange rate from the year 1990 to 2007 is available which makes it very useful for monitoring and forecasting. Other data are offered on a monthly basis on the Monthly Statistical Bulletin.

Japan also has a wide array of macroeconomic data available online in various government agencies such as its national statistics, Bank of Japan, and Ministry of Economy. However, this is not as comprehensive as that of Singapore. Among the monthly data that could be found online are the GDP, exchange rate and interest rates. It is noteworthy to mention that the Ministry of Economy offers detailed information for each industry.

Korea's online databases, on the other hand, are quite different from that of Singapore and Japan. Almost all the macroeconomic data are available online but only on a yearly basis, at least based on the Statistics and Bank of Korea website. One observation is that is more complicated compared to the sites of Singapore and Japan. Nevertheless, they house important data needed for monitoring.

Lastly, China offers information from its statistical office and the Bank of China. It was observed that most of the macroeconomic data is offered on a monthly basis but starts from the year 2002. Examples of data offered on a monthly basis are inflation rates, exchange rates, and the BOP among others. National accounts, on the other hand, are offered on a yearly basis.

The ASEAN+3 countries have different ways of presenting their macroeconomic data. Not all member countries have the same frequency for each macroeconomic variable. For instance, information on exchange rates is available on a daily, weekly, monthly, and annual for different countries. Based on the survey that was made, it was only Singapore that had information on daily exchange rates available for a considerable long period of time. If this is the case, it would be difficult for monitoring to take place in the region as there are no consistent macroeconomic data.

3.3. Other Macroeconomic and Statistical Data Sources

International institutions such as the World Bank, International Monetary Fund and the Asian Development Bank also houses countries' macroeconomic databases but it is not as detailed as that of the individual country database. Most of the information is on an annual trend. The advantage of these databases is that comparing the countries makes it easy because the frequency of data is consistent across the countries.

The International Monetary Fund is host to the International Financial Statistics, Balance of Payments and Trade Accounts. The essential macroeconomic data are available here but they are only on a yearly basis, mostly from the year 2000 until 2005. The Asian Development Bank, on the other hand, is host to Asia Regional Integration Center (ARIC) which also offers macroeconomic data. It is noteworthy to mention that the ARIC was created to monitor the macroeconomic indicators in the Asian region.

These databases serve as a supplement to the growing need of the region to maintain a transparent and efficient database of macroeconomic data and statistical information. This is essential to monitor the fiscal and monetary policies of each country to help assess its readiness for the regional monetary union.

4. Conclusion and Recommendation

Having surveyed and reviewed the various macroeconomic databases of the ASEAN+3 member countries, there is still a lot of work that needs to be done in order to establish a device called the Early Warning System. This system, as mentioned earlier, would help detect whether the region is experiencing “birth pains” that would lead to a financial crisis or something similar. This would help avoid macroeconomic problems such as currency devaluation and balance of payment account concerns.

It was observed that the essential macroeconomic data such as exchange rates, inflation rates, interest rates, trade data, GDP and balance of payment accounts among others is not consistent across member ASEAN+3 countries. Moreover, several countries such as Cambodia, Myanmar, Laos and Vietnam lag behind its counter parts since they do not have the necessary database available online. Another problem encountered is the accessibility and availability of data in terms of language. Having accessible data at all times is very essential as it lowers the transactions cost of finding data online. The accurateness and timeliness of the information is also very essential. This goes to say that information online needs to be maintained and updated frequently. However, there are countries which cannot comply due to lack of technology and capital.

The next question that needs to be addressed is what else is needed in preparation for the creation of an early monitoring system? It would be helpful for the region if there was a separate institution for the regional monetary union that would house the macroeconomic data and statistical information from the member ASEAN+3 countries. This institution would also provide technical support for the maintenance and updating of the database. In the case of the European Monetary Union, they have set up a Euro website that houses all macroeconomic information of member countries for easy access and monitoring.

One possible way to do this is to strengthen the role of the ASEAN+3 finance ministers who could take the lead in preparing the infrastructure for the early monitoring system. This could imply that the meetings should be made more frequently i.e. once a month or quarterly. It would also be ideal if the central bank governors of each member country were involved in the planning as they are more adept with the monetary policy of their respective country.

Once the necessary ingredients for the institution are set up, the participation of member countries in giving their macroeconomic data and statistical information should be ensured. Furthermore, everyone should have access to this data and this could only be done by creating some information sharing arrangements that would benefit the majority. Barriers such as language and other restrictions to macroeconomic information should be minimized if not eliminated.

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Paper 4: Institutional Infrastructure for the Regional Monetary Unit (RMU)¹

Economic integration among the ASEAN+3 economies has gained momentum in the previous decade. The Asian Financial Crisis proved to be a driving force behind this phenomenon. It highlighted how the regional economic landscape has changed, and opened the idea that more and not less integration is beneficial for East Asia. One of the most widely discussed initiatives is monetary integration among the ASEAN+3 economies. True, the region is still a long way off from a monetary union, but proposals for other forms of monetary cooperation are seriously being considered. One of these is the proposal for a regional currency unit (RMU).

The RMU, which is often referred to as the Asian Currency Unit (ACU), is defined as a common currency unit composed of a basket of currency. The literature discusses several aspects of the RMU including its benefits and feasibility. An aspect that needs more examination is the institutions necessary to support an RMU in the ASEAN+3.

This paper examines the institutional infrastructure necessary for the RMU. However, a better understanding of the infrastructure requires that the discussion present the rationale behind the RMU and the lessons that ASEAN+3 could learn from the experience of the European Union prior to the introduction of the Euro. The paper's specific objectives include: 1) review the basis for greater monetary cooperation in the ASEAN+3 (specifically the RMU), 2) linked to the first objective, identify the appropriate institutional infrastructure for the RMU, 3) draw lessons from the European Currency Unit (ECU), and 4) present policy recommendations.

Why an RMU?

While economic cooperation is not an entirely new concept in the region, the idea of closer economic and monetary ties gained momentum after the Asian Financial Crisis hit in 1997. The Asian Miracle, a largely export-led phenomenon, has inevitably linked the ASEAN+3 economies. As rapid growth unfolded, the process of integration took place—market-led or otherwise. For instance, intraregional trade in East Asia as a percentage of total trade grew from about 20 percent in 1980 to about 30 percent in 1990 (Burton et. al, 2006). At the same time, growth in the region attracted foreign direct investments (FDI). The ASEAN economies accounted for 11 percent of total FDI to developing countries in 1970, which increased to 29 percent in 1980, and rose further to 34 percent in 1990. The increase in trade and investment in the ASEAN+3 economies inevitably linked these economies.

In addition to market-led integration, other initiatives also contributed to closer regional economic ties. ASEAN-led initiatives such as the Common Effective Preferential Tariff (CEPT) Scheme for the ASEAN Free Trade Area (AFTA) promoted

¹ Prepared for the ASEAN+3 Research Group 2007. Please do not quote without the author's permission. Comments welcome.

greater economic integration in the region. The various agreements on economic cooperation before 1997, as listed in Box 1, somehow did not cover the financial and monetary sector. Efforts to improve cooperation in the financial and monetary sector only came after 1997.

The collapse of the Thai baht in July 1997 triggered other currencies in East Asia to follow suit, which soon led to the collapse of the regional economy. Lipsky (1998) notes how the Thai baht's devaluation immediately led to speculative pressures on the currencies of Indonesia, Malaysia, and the Philippines. This highlighted how the region's economies have become more vulnerable to each other's weaknesses. An even more important observation was how the market treated the economies as a single market. Investors panicked at the first sign of trouble in Thailand and pulled capital out from the rest of the region despite individual country merits.

The financial crisis was unique in that it was not the result of the usual suspects—fiscal or balance of payments trouble. Martinez (1998) notes the absence of huge fiscal deficits or high inflation that countries in crises usually experience. A sudden change in investor attitude, which led to massive capital outflow, caused the economic turmoil. What caused the shift in investor sentiment? The culprit was the financial sector, specifically the banking sector. Studies reveal how capital account liberalization took place without sufficient reforms in the domestic financial sector. The literature points to the double mismatch problem—the mismatch of maturity and currency—as the cause of the crisis (for instance Kuroda and Kawai, 2003). The analysis of Radelet et al. (1998) showed that local bank lending expanded rapidly—financed by short term borrowing abroad and mostly invested in the local property sector. The system proved to be unsustainable, and perceived weaknesses in the private sector led to a loss of investor confidence. The collapse of the Thai Baht brought a domino effect to the region's economy. Average growth rate in the region, as Table 1 indicates, was seven percent from 1990 to 1996. It slowed down to five percent in 1997, but the meltdown came in 1998, when the region's economy contracted by four percent

The crisis brought upon several important lessons. First, as already mentioned earlier, is the realization that the region's economies have become closely linked to one another. This opened opportunities, but at the same time, made the economies vulnerable to each one's weaknesses. Lipsky (1998) argues that intra-regional ties have strengthened more than extra-regional ties in the 1990's, which led to the rapid spread of the crisis from Thailand to the other economies in the region. Second, the financial sector proved to be a weak link in the region's development. Martinez (1998) explains how banks' imprudent lending policies have contributed to the crisis. In the aftermath of the crisis, recovery efforts focused on these two aspects. Should there be more or less integration? What economic reforms are needed especially in the financial sector? The post-crisis efforts inevitably focused on strengthening regional cooperation and reforming the financial and banking sectors. The ASEAN+3 moved towards more, and not less, regional economic ties. One very important outcome was the concerted effort to strengthen cooperation in the financial and monetary sectors. The significant role the

financial sector played in triggering the crisis, and the immense exchange rate instability that ensued made the case for more regional cooperation in these areas.

Efforts to improve financial and monetary cooperation aimed to achieve a healthier financial sector and more stable currencies the region. Proposals ranged from strengthening policy dialogue to calls for an Asian Monetary Fund (AMF). It is important to review these initiatives since some of them, as will be discussed later, could potentially be part of the institutional infrastructure for the RMU.

One of the earliest post-crisis initiatives was the strengthening of policy dialogue among the region's economies. Formal dialogues in the ASEAN were limited to its member countries, but the crisis prompted the leaders of the ASEAN-10 and China, Japan and South Korea to discuss economic and financial policy. The ASEAN+3 forum emerged as a serious economic forum. The ASEAN+3 Finance Ministers Meeting was first held in 1997, obviously as a response to the situation at that time. The meetings continued however even after the region has recovered from the crisis. The Chiang Mai Initiative (CMI) and the early warning system are just some of the outputs of these meetings.

The CMI is a network of bilateral swap arrangements (BSA) among the ASEAN+3 economies. It is targeted towards assisting countries in managing swings in capital flows and maintaining exchange rate stability. In addition to the BSA, other measures in the CMI as enumerated by Rana (2002) are:

- Promote the timely exchange of data and information on capital flows using the ASEAN+3 Framework
- Establish a regional financing arrangement to expand existing international facilities
- Establish an early warning system that could provide sufficient and timely financial stability in the region

The Asian Bond Markets Initiative (ABMI), launched in December 2002, is long-term post-crisis effort. The ABMI can address two issues: a) over dependence of Asian firms on bank financing and 2) the lack of financial instruments where the region's savings can be channeled. One feature of the region's economy is its heavy dependence on the banking sector for financing investments. There is clearly a need for an alternative, and developing a bond market can be the solution. Almost all ASEAN+3 economies, as Table 2 shows, are net savers. Unfortunately, the observation is that these funds are mostly invested in the West. The bond market can provide the region with an alternative financial instrument so these funds do not need to leave the region.

While these proposals took off, a few others were not implemented. In the aftermath of the crisis, there was much disappointment in the region with the way the International Monetary Fund (IMF) handled the situation. As a result, some sectors, most notably Japan, called for the formation of the Asian Monetary Fund (AMF). The AMF

did not push through however due largely to opposition from the United States and the IMF.

As financial cooperation in the region started to improve, individual countries began the hard task of reforming their financial and banking sectors. The reforms include strengthening the regulatory system, improving disclosure, and implementing standardized accounting rules. Needless to say, considerable progress in financial and monetary cooperation has been achieved because of these regional and country level efforts.

At this point, the ASEAN+3 is exploring steps to go beyond financial and monetary cooperation. Several proposals have emerged on how the region should move forward in this area. One that gained much attention is the idea of forming a monetary union like the European Union, and having a common currency for the region. The idea is not completely baseless, as some studies have showed that ASEAN+3 is an optimum currency area (OCA). Mundell (2001) in Rana (2002) suggests that in the long run, the will need a common currency like the euro. Eichengreen and Bayoumi (1996) and Madhur (2002) posit that the region fulfills the standard OCA criteria for a common monetary policy. Establishing a monetary union is, of course, easier said than done. In the interim however, Rana (2002) suggests some transitional regional cooperative arrangement. One proposal that gained momentum is the RMU.

An RMU, as mentioned earlier, is often defined as a common currency unit consists of a currency basket. It is perceived the ASEAN+3 will benefit from an RMU since it will provide exchange rate stability, and at the same time, reduce transactions cost in the region. This is also more feasible than a monetary union that others proposed. An RMU however, could be a precursor for a common currency. However, whether or not ASEAN+3 decides to embark on the path to a monetary union, it is still beneficial to explore the steps towards an RMU.

Institutions for the RMU

An important issue that requires examination is the institutional infrastructure necessary to support an RMU. Establishing an RMU entails having the appropriate institutions and facilities at the regional level. The post-crisis initiatives can serve as the building blocks for these initiatives. The crisis immediately resulted in greater dialogue among the ASEAN countries and China, Japan, and South Korea. Discussions among the ASEAN+3 economic ministers paved the way to concretize efforts such as the development of a regional financing facility and the Asian Bond Fund. A regional financing facility, in the form of the CMI, is already in place albeit limited.

While it is true that some progress has been achieved in the area of financial and monetary cooperation, an RMU needs more institutional support. The necessary support includes the following: 1) political support, 2) support for the viability of the RMU, 3) and support for the promotion of its use. Each of these will be discussed in detail.

First, even before the RMU can take off, there has to be a clear motivation and a strong political will for this. Cooperation efforts in the financial and monetary sectors were largely driven by the crisis. The realization that ASEAN+3 economies have become closely linked to each other in terms of trade and investment also brought the awareness that countries have become vulnerable to each other's weaknesses. In addition, dissatisfaction with the way the IMF responded to the crisis brought upon a strong impetus for ASEAN+3 to form stronger financial and monetary ties. Almost a decade after the crisis, the region has recovered and is back on the economic map. Although efforts for trade and investment integration remain intense, work towards monetary cooperation has received not as much enthusiasm.

There is a need for a strong political will among the ASEAN+3 leaders to concretize the RMU. Integration in the region was largely market-driven, and not politically motivated like that of the EU. From the Treaty of Rome to the Maastricht Treaty, European leaders showed strong political will to see their goal to completion. ASEAN+3 leaders, on the other hand, have not shown the same political will. Without this, it is difficult to push the RMU agenda further.

Second, common policies and institutions must be present to ensure the viability of the RMU. Kenen and Meade (2006) state that most Asian economists and officials writing on monetary cooperation are well informed of the matter, but hardly emphasize this as a hindrance to a full-fledged monetary union. Again, although a monetary union is not necessarily the end goal of the RMU, the creation of common policies and common institutions is still required for the monetary unit. One issue to deal with is the fact that ASEAN, as a political and economic block, has maintained a policy of non-intervention. If the region will have common policies and common institutions, this policy would obviously have to change. Kenen and Meade (2006) argue that if Asian countries are to embark on closer monetary cooperation, they must be open to a more intrusive process. Furthermore, these countries must be able to discern between constructive criticism targeted toward enhancing exchange rate arrangements, and violating the long held tradition of non-intervention in each other's internal affair (Kenen and Meade, 2006). While relations among the ASEAN+3 economies are generally friendly, it is not evident that how willing these countries are to have common policies and institutions. In such a situation, one or two economies might emerge as the leader, and there is a general distaste for dominance in the region. As such, attitudes in ASEAN+3 on the non-intervention policy should change first to be able to establish common policies and institutions.

Third, Eichengreen (2004) in Pomfret (2004) lists four pre-conditions for a monetary union:

- 1) capacity to delegate monetary policy to an international institution which should be accountable, representative, efficient, and effective,
- 2) a culture of monetary policy transparency,
- 3) open capital accounts,

- 4) a common transmission mechanism,

Although an RMU will not necessarily lead to a monetary union, it still has to fulfill at least some of these conditions. The region must be able to agree on which agency should deal with the RMU. Obviously, this has to be an institution in the regional level. The ASEAN+3 leaders must decide on structure of this agency and ensure that it is accountable, representative, efficient, and effective. More importantly, it should be able to delegate functions or even authority to this agency.

For instance, the RMU will require the disclosure of timely and consistent information. These include data on national output, exchange rates, interests rates, balance of payments, and fiscal and public debt. Timely release means that quarterly or annual disclosure might not be enough. Countries might need to collect and disclose the data on a monthly basis. As such, the ASEAN+3 economies might find it necessary to have a regional agency that monitors data, a responsibility that is currently at the individual country level. This again leads to the question of how much authority individual countries will be willing to give up for the RMU. At the very least, countries must be willing to share data on a timely basis. Timely and consistent sharing of data will require economies to be transparent.

Further liberalization of capital accounts is necessary if the region wants to promote the use of the RMU. The EMU liberalized capital movement as part of its efforts toward a common currency. If the RMU is to be used for official and commercial transactions, a more important move is to remove some restrictions on capital movements and exchange rates. In addition, restrictions on some banking services should also be removed to facilitate the use of the RMU. Governments should make it easier for banks to offer services in foreign or multi-currencies. For example, banks should be able to allow their clients to hold saving and current accounts denominated in the RMU. Financial instruments should also be denominated in the RMU and should be available to domestic and foreign residents.

Lessons from the EMU

What lessons can ASEAN+3 learn from the EMU? In terms of institution building, the region can learn significant lessons from the EMU countries. First, even if the RMU will not require a common central bank, it will require the ASEAN+3 economies to give up some monetary authority, as mentioned earlier. The EMU countries had to give up monetary authority to have a common central bank, now called the European Central Bank (ECB). Germany, having the most credible central bank—the Bundes Bank—now hosts the ECB. Wyplosz (2001) states that although EU institutions tend to move slowly, the building of institutions was crucial to the integration process. Furthermore, the author states that Germany is often perceived to have played a pivotal role in the EMU. Germany's influenced not only the location of the ECB, but also the name of the common currency, the long transition process (or the convergence criteria) and the objectives of the ECB (Wyplosz, 1997).

What does this imply for ASEAN+3? Even if the region is not about to launch a monetary union, a significant push towards the realization of an RMU will only prosper if there is distinct leadership in the ASEAN+3. This means one or two countries must take the lead in designing the RMU. In the case of the EMU, Germany was clearly the leader since it had the most credible central bank and the deutschmark was a dominant currency at that time. In the case of the ASEAN+3 countries, Singapore and Japan would have the most credible monetary policy, but the Singaporean dollar has little impact on the rest of the region's economy. China, in terms of economic size, greatly affects economic activity in the ASEAN+3 countries. However, China is hardly to lead the RMU if the renminbi remains inconvertible. At the moment, Japan appears to be the ideal leader for any initiative on monetary cooperation. More than finding the ideal leader however, the more important issue is that ASEAN+3 must concede to the fact that one or two countries must take the lead. If this is possible bearing in mind East Asia's history is yet to be seen.

Second, the process of monetary integration takes a long period of time—and sometimes, even costly mistakes. The euro was born almost after almost half a century after the 1952 Treaty of Rome. The European Economic Community also experienced a currency crisis on the path to monetary integration. In September 1992, the mechanisms of the European Monetary System (EMS) seem to be falling apart (Wilson 2002). As such, European citizens were having second thoughts about voting in favor of a full monetary union (Wilson 2002). Despite these obstacles, the Euro eventually became a reality. ASEAN+3 should be willing to go through the process of implementing an RMU, which although should not be as complicated as building a monetary union, will nonetheless have its own difficulties.

One should take into consideration the different patterns of development in the ASEAN+3 economies. Even if the CLMV economies are initially excluded in the RMU, growth disparities among the remaining countries remain huge. Japan and Singapore are among the richest countries in the world, while living standards in Indonesia and the Philippines struggle to catch up with their neighbors. In addition to differences in income, the development of the financial and monetary sectors is also very diverse. Clearly, the ASEAN+3 economies will have to be prepared for what appears to be bumpy ride to the RMU.

Third, ASEAN+3 must choose if it wants to launch steps toward monetary integration even without full trade integration. True, there is considerable progress in the area of trade, but the situation is far from a completely liberalized trading regime. Supply chains or regional production networks drive much of the economic integration across the region. Thus, some sectors (e.g. electronics) are highly integrated, but many others are not. The Balassa framework suggests that there should be full trade integration before monetary integration. If the ASEAN+3 will launch the RMU before full trade integration, it will go against this orthodoxy. Wyplosz (2001) suggests that the European way of having trade integration prior to monetary integration may not be the only viable system, but even if the ASEAN+3 system is acceptable, it remains to be seen if it is viable.

Lastly, ASEAN+3 leaders should bear in mind that the lessons from the EMU are just that—lessons that must be kept in mind. The EMU is not a blueprint for the RMU or any type of regional monetary integration. Needless to say, there are a lot of differences between the EU and the ASEAN+3 economies. More importantly, the region's efforts to move towards greater monetary cooperation prior to full trade integration make it different from the EMU. As such, the EMU cannot be an accurate model for the RMU. The ASEAN+3 economies will need to come up with their own model and systems. The lessons from the EMU should be at most, used a guide to avoid costly mistakes.

Policy Prescriptions

What concrete policy steps must ASEAN+3 take towards institution building for the RMU? First, there is a need for a common agency or commission at the regional level which purpose is to oversee the implementation of the RMU. This agency or commission should be supported at the level of the finance ministers of the ASEAN+3. Its functions are 1) to ensure the economies timely release of consistent and correct data necessary for the RMU, 2) provide technical advice to the ASEAN+3 countries, 3) strengthen the ASEAN+3 Finance Ministers Meeting, and 4) provide an early warning system to the ASEAN+3 economies. With respect to the third function, the ASEAN+3 Finance Ministers Meeting should be done on a more regular basis, for instance quarterly at the ministerial level, and monthly at the sub-ministerial level. Why is there a need for a separate commission or agency? Why can't the mechanisms currently in place insufficient for the RMU? Wang and Woo (2004) in Kenen and Meade (2006) state that the ASEAN process cannot provide an early warning of potential risks since the ASEAN meetings only look at recent developments and information that countries voluntarily supply. Clearly, this system will not help the viability of the RMU. There has to be a more active agency or commission that will ensure the quality of the surveillance process and provide high quality technical advice.

Second, to address the issue of leadership, clearly one or two countries must step up. As discussed earlier, in terms of economic size, the two likely leaders are Japan and China. However, with the renminbi remaining inconvertible, China is unlikely to lead. Thus, to address the leadership issue, China has to make the renminbi convertible and gradually liberalize its capital account. This will allow China, together with Japan, to lead in the process of building an RMU.

Third, to promote the use of the RMU in official and commercial purposes, there has to be a regional agreement on the usage of the RMU. There has to be a general consensus to use the RMU as a numeraire in maintaining the currency parities and serve as a unit of account for the settlement of claims. The regional agreement on the usage of the RMU will hopefully pave the way for its widespread use in the ASEAN+3 economies.

Summary

The Asian Financial Crisis has opened the path for stronger financial and monetary cooperation in the region. While a monetary union is still far off for ASEAN+3, in the interim, a monetary arrangement such as the RMU is desirable. An important factor for the viability of the RMU is the support of institutional infrastructure at the regional level. One observes, however, that the lack of political will and common policies and institutions in ASEAN+3 will potentially hinder the viability of an RMU. ASEAN+3 must work to ensure the viability and success of the RMU. A regional agency or commission has to be established to oversee the RMU. There has to be distinct leadership in the region, which in terms of economic size, are likely to be Japan and China. However, China is unlikely to assume a leadership role if the renminbi is convertible. Thus, the RMU calls for the convertibility of the Chinese currency and China's gradual capital account liberalization. Lastly, there has to be a regional agreement on the usage of the RMU to promote its use for official and commercial purposes.

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Table 1: Pre and Post Crisis Growth (in percent)

Country Name	1980-1989	1990-1996	1997	1998
China	9.7	10.5	8.8	7.8
Hong Kong, China	7.3	4.9	5.1	-5.0
Indonesia	6.4	8.0	4.7	-13.1
Japan	3.7	2.3	1.9	-1.1
Korea, Rep.	7.7	7.9	4.7	-6.9
Malaysia	5.9	9.5	7.3	-7.4
Philippines	2.0	2.8	5.2	-0.6
Singapore	7.5	8.9	8.5	-0.9
Thailand	7.3	8.6	-1.4	-10.5
Average	6.4	7.0	5.0	-4.2

Source: World Development Indicators [2005]

Table 2: Adjusted savings: net national savings (% of GNI)

Country Name	Average	
	1992-1997	1998-2003
Cambodia	-0.48	8.14
China	32.79	33.13
Indonesia	23.55	14.54
Japan	15.82	11.83
Korea, Rep.	23.21	21.25
Lao PDR	7.52	12.53
Malaysia	25.54	26.64
Philippines	10.76	14.86
Singapore	35.61	33.34
Thailand	23.19	16.29
Vietnam	9.83	21.65

Note: No data from 1992 to 1994 for South Korea and Laos

Source: World Development Indicators [2005]

Box 1: Pre 1997 Major ASEAN Economic Agreements

Agreement on the ASEAN Preferential Trading Arrangements

24-Feb-77

Manila

Basic Agreement on the ASEAN Industrial Projects

6 March 1980, Kuala Lumpur

ASEAN EEC Cooperation Agreement

7 March 1980, Kuala Lumpur

Basic Agreement on the ASEAN Industrial Complementation

18 June 1981, Manila

Revised Basic Agreements on ASEAN Industrial Joint Ventures

15 December 1987, Manila

Agreement on the CEPT Scheme for the ASEAN Free Trade Area

28 January 1992, Singapore

Framework Agreement on Enhancing ASEAN Economic Cooperation

28 January 1992, Singapore

ASEAN Framework Agreement on Services

15 December 1995, Bangkok

ASEAN Framework Agreement on Intellectual Property Cooperation

15 December 1995, Bangkok

Basic Agreement on the ASEAN Industrial Cooperation Scheme

27 April 1996, Singapore

Paper 5: Promoting the Use of the RMU for Official and Commercial Purposes

Introduction

The 1997 financial crisis has increased the interest of policymakers in finding ways to achieve exchange rate stability in the region. This happened as most economies have abandoned in a way the de facto exchange rate pegs against the dollar, which was previously used to help stabilize exchange rates in Asian economies. The experience of the financial crisis has reminded most economies in the region of a fact that a de facto dollar peg was dangerous and a common currency that has linkages with not a single major currency but a currency basket is more appropriate. The switch by a number of economies from a quasi-fixed to floating exchange rate has increased interest in searching for an exchange rate system which can provide stability to intra-Asian exchange rates to allow the expansion of intra-regional trade and capital mobility. A regional currency arrangement is said to be one that will provide the flexibility needed with regard to major global currencies such as the dollar, euro and yen. A number of studies indicate that a regional currency arrangement can be attractive especially for ASEAN region since its trade is highly diverse and there is no single currency against which to peg.

The successful launch of the euro in 1999 has heightened the interest for the region to further integrate. Factors such as the differences in the levels of development, standards of living and economic conditions may hinder the realization of economic integration in the region. However, the considerable credibility of macroeconomic policy of major economies in the ASEAN region particularly the achievement of low inflation, small fiscal deficit and modest government debt to GDP ratios has provided a number of ASEAN member economies to be potential partners towards the creation of a common currency unit.¹

Several studies have showed that a common currency unit may contribute to the further strengthening of trade balance and capital flows particularly in East Asian economies. Empirical studies like that of Ito, Ogawa, and Sasaki's (1998) found that an optimal currency basket system would contribute to stabilizing trade balances and capital flows for East Asian countries. The study showed that the de facto dollar peg system did not stabilize trade balances for East Asian countries before the Asian currency crisis. On the other hand, Ogawa and Sun (2001) concluded that the de facto dollar peg system stimulated capital inflows to the crisis-hit countries before the Asian currency crisis. Monetary authorities are said to be unwilling to adopt a basket peg system due to a coordination failure that may exist as currency basket peg system may momentarily destabilize it relations with neighboring countries that are still pegged to the US dollar. Ogawa and Ito (2000) used a theoretical two-country model to examine an optimal exchange rate regime for East Asian countries that export goods to the US, Japan, and neighboring countries in order to minimize the fluctuation of trade balances in the environment where the yen-dollar exchange rates fluctuates. It showed how the country's

¹ Bayoumi, Eichengreen and Mauro (1999)

choice of an exchange rate regime (or weights in the basket) is dependent on the neighboring country. Compared to the de facto dollar peg system, a currency basket peg system would increase a fluctuation of the exchange rate of the home currency in relation to the US dollar while it reduces a fluctuation of the exchange rate of the home currency in relation to the Japanese yen. An appreciation of the US dollar against the Japanese yen makes the home currency appreciate more widely under the dollar peg system than under the currency basket peg system. Likewise, a depreciation of the US dollar makes the home currency depreciate more widely under the dollar peg system than under the currency basket peg system. Thus, the creation of a common currency basket might help prevent competitive devaluation among the related currencies in a region.

The proposed establishment of an Asian Currency Unit (from here will be referred to as the Regional Monetary Unit or RMU) created renewed interest in the region to prevent the recurrence of capital account depletion. The ASEAN+3 Finance Ministers Meeting in May 2006 at Siem Reap, Cambodia endorsed further studies on the proposed RMU. In the event that a regional currency arrangement is established, government must look into ways to promote the use of such regional currency unit. The use of the RMU will be dependent on how it is promoted and the market perceptions on its usefulness. The European experience particularly that of the establishment of the European Currency Unit (ECU) can provide significant lessons for the establishment of the proposed Regional Monetary Unit (RMU).

The objective of this paper is to review and examine the ECU as a guide to the establishment and promotion of the RMU. This paper is structured as follows: First, it will review how the ECU was established, its functions, types (official and private) as well as discuss the benefits and problems encountered on its use. Based on the lessons learned from the European experience, the second part of the paper will enumerate the possible benefits of establishing an RMU in Asia. This will also include the possible options to promote the use of the RMU for official and commercial purpose. Lastly, the paper will enumerate some hurdles to the successful promotion of the RMU, then present a roadmap of the RMU and discuss steps in moving forward towards a possible monetary union.

REVIEW OF THE ECU

The European Currency Unit (ECU) was created in 1979 under the European Monetary System (EMS) to strengthen the coordination of monetary and economic policies among the members of the Community, in which the eventual goal is to lead towards monetary unification in Europe. The idea was a response to the external and internal monetary instability that occurred in the late 1970s.

The ECU was envisioned to function like a currency unit consisting of specified amounts of the currencies of the Member States of the European Communities. The value of the ECU is equal to the sum of the following elements: the number of units by

with a currency is represented in the ECU and, converted into that currency at the going exchange rate, the amounts of the other ECU components.

The weights are determined by a country's share in the community-wide GDP, intra-community trade and total quota of EMS financial support. The amounts of the currencies are not fixed as it was re-examined every five years. The re-examination does not necessarily follow an actual revision of the weights. This is done to assess whether or not a revision is needed, considering the size of the discrepancy between the weights of the currencies in the ECU and the relative economic importance of the Member States. A re-examination can also be done upon request from Member States if the weight of any currency has changed by 25 percent or more. Actual revision has to be mutually accepted by a unanimous decision by the Council of Ministers of the Community and consultations with the Monetary Committee and the Board of Governors of the European Monetary Cooperation Fund. In effect, revisions are not based actual changes but on the agreement of the Council. In its history, actual revisions were only made in 1984 and 1989 as the Maastricht Treaty in November 1993 approved indicated a no revision policy in preparation for the introduction of a single currency. Newer members such as the Austria schillings were not added to the ECU composition after 1993. Table 1 shows the actual composition and weights from 1979 and the subsequent revisions in 1984 and 1989. The ECU Commission also announces the exchange rate daily.

Table 1: Actual composition and weights of the ECU basket

	13 March 1979		17 Sep 1984		21 Sep 1989	
	composition	weight %	composition	weight %	composition	weight %
Belgian Franc	3.66	9.28	3.71	8.2	3.301	7.6
Danish Krone	0.217	3.06	0.219	2.7	0.1976	2.45
German Mark	0.828	32.98	0.719	32.0	0.6242	30.1
Greek Drachma	-	-	1.15	1.3	1.440	0.8
Portuguese Escudo	-	-	-	-	1.393	0.8
French Franc	1.15	19.83	1.31	19.0	1.332	19.0
Dutch Guilder	0.286	10.51	0.256	10.1	0.2198	9.4
Irish Punt	0.00759	1.15	0.00871	1.2	0.00855	1.1
Luxembourg Franc	0.14	0.35	0.14	0.3	0.130	0.3
Italian Lira	109.0	9.5	140.0	10.1	151.8	10.15
Spanish Peseta	-	-	-	-	6.885	5.3
Pound Sterling	0.0885	13.34	0.0878	15.0	0.08784	13.0

Source: Commission of the European Communities

From a mere 25 billion ECU in 1979, the ECU grew to nearly 55 billion ECU at the end of 1994. Though a substantial increase was recorded, the use of ECU was said to be limited as compared to the ideal framework of the ECU playing a central role in the European monetary system.

The ECU is divided into two kinds namely: (a) the official ECU; and (b) the private ECU. Under the EMS, 20 percent of the member central banks' holdings of gold and US dollar reserves will be exchanged with the European Monetary Cooperation Fund (EMCF), which holds the official ECU. The official ECU is held as exchange reserves and can be used to settle ECU debts that originate from borrowings within the Community currencies for foreign exchange intervention purposes. On the other hand, private ECUs are ECU denominated liabilities by the commercial banking system used for commercial transactions.

Role of the Official ECU

The official ECU in 1979 consisted of nine European central banks, in which its creation served as an attempt to stabilize the exchange rates within the Community with the ultimate aim of achieving further price stability and greater economic growth in the region. A special feature of the ECU is that can be used as a means of payment, in a limited capacity. In general, the official ECU was used in the following areas:

- (a) **The ECU acts as a numeraire for the currency parities in the EMS.** The official ECU was used to measure a member country's divergence from the average value of European currencies. The currency of countries involved has a parity expressed in ECU and intervention limits are set at 2.25 % of the bilateral parities. Thus, if market conditions drive a currency to its upper or lower limits, central banks must intervene to keep the limit from being crossed. However, there were instances when fluctuations of up to 6% were allowed (i.e. for Italian lira, British pound and Spanish peseta) which caused huge volatilities among the ECU exchange rates.
- (b) **The ECU acts as a denominator.** The ECU can be used for claims and liabilities between the EMS central banks based on the result of its intervention in other country. As such, the currency needed for intervention can be borrowed as short-term claim from the issuing central bank.
- (c) **The ECU as reserve requirement.** The ECU can also be used as exchange reserves and to settle ECU debts that originated from borrowings of the Community currencies for intervention purposes.

Private ECU

The private ECU was created by the commercial banking system and has the same functional characteristics of money. Monetary authorities, other foreign monetary authorities of the Community as well as European nationals treat the ECU as a foreign currency. In effect, the ECU can be used for international commercial as well as financial dealings. Although it is not considered as a domestic currency, private ECU was able to obtain the characteristics of a currency such as a numeraire, means of payment, and store of value. Some studies indicate that the ECU case is exceptional as it was able to transform a unit of account into a fully usable foreign currency with national authorities helping in the transformation process.

Monetary authorities of Member States have treated the private ECU as a foreign currency with the exception of Germany. Thus, it is implied that it is formally recognized in countries that apply exchange control measures. As such, residents can utilize it in the same manner done with other foreign currencies in which, foreign exchange control restrictions were also applied to the ECU, as done with other currencies.

With this development, Member States have started to allow the ECU to form part of its daily official determination of exchange rates in the market as early as 1981. The rates were said to be determined by market rates, with central banks intervening when arbitrage is not sufficient.

ECU syndicated loans first appeared in 1980 and experienced significant growth as borrowers from Africa, Eastern Europe and Asia started to use the ECU credit facilities. At the end of 1986, syndicated loans were estimated to have reached 10 billion ECU.

The issuance of Eurobonds on the other hand began in 1981 and has rapidly increased throughout the year it was launched. In 1981, Eurobonds in ECU accounted 200 million ECU and has rapidly grown to more than 9.4 billion by 1985. It became one of the main driving forces as issues by non-Europeans increased to 1/3 of the total amount issued. The increase was felt up to the beginning of the 1990s when ECU bonds reached its highest level of US\$ 32.5 billion in 1991, equivalent to a little more than 10% of the international bonds issued. By the end of 1994, the outstanding value of ECU denominated securities accounted for 4 percent of the world's securities.

The relative success of the private ECU were due to the following: (a) co-existence with the official ECU, which promoted the use in the financial markets; (b) attractiveness of the private ECU due to the use of financial institutions; and (c) support provided by the Member States in promoting its use in the market.

The main contributing factor to the development of the private ECU market is that it has the characteristics of being attractive to both European as well as non-European users. For instance, Europeans should find the ECU as attractive since ECU rates in

terms of a component currency are generally more stable and predictable compared to the rates of the component currencies. Exchange rate risk for ECU has been considered low by European users. In terms of interest rates differentials, European users have benefited from the use of ECU as borrowings were generally made by high interest rate countries like Italy and France, while ECU resources tend to originate more from low interest rate countries. For non-European users, the ECU may not have the same degree of stability in terms of their own currency but investment in the ECU as a whole will provide lesser risk than its individual component currencies.

However, Eichengreen (2006) posit that despite the positive developments in ECU, it was not widely used in most transactions as it was envisioned. For instance, only about one per cent of trade within the Community was invoiced in ECUs in the 1990s. At their height, ECU denominated claims still amounted to less than 10 percent of the non-dollar foreign currency claims of banks reporting to the Bank for International Settlements. Also, ECU bonds never accounted for much more than 20 percent of all non-dollar Eurobonds. Medium-term ECU notes on the other hand accounted for barely 15 percent of the non-U.S. dollar market in such notes, ECU commercial paper for only about 10 percent of all euro-commercial paper.

Several studies indicated that the use of private ECU especially for commercial transactions did not become widespread due to the following reasons: (1) there was no cash currency; (2) use of money transfers in ECU entailed time and cost burdens; (3) availability of information and technical support for ECU denominated transactions was limited; (4) taxes and salaries had to be paid in domestic currencies; and (5) international settlement systems were inadequate and security and functionality.²

Comparison between the official and private ECU circuits

The official ECU circuit existed before the private one. During the time when the ECU was used in the market, it adopted the ECU as defined by the Community legislation, which includes the revisions of its composition. The adoption of the definitional link became important for the development of the private ECU markets, since it guarantees the unity and marketability of present and future ECU denominated instruments.

Although linked by the same definition, the official and private ECU circuits are completely divided. For instance, only EC central banks and some holders can use the ECU issued by the European Fund for Monetary Cooperation. On the other hand, the ECU created by the private market can be used by all, including central banks. Although some EC and foreign central banks are involved in the private ECU market as buyers and sellers, the ECUs are not mixed with the official ECU reserves. They are considered as diverse assets with respect to the issuer and their usability and also to some extent with respect to their exchange and interest rate.

² Jozzo (1989), Cahen (1991), Lomax (1991), Watanabe and Ogura (2006)

The exchange rate applicable to the official ECU is not strictly a market rate but a rate calculated once a day. Also, the official ECU's interest rate is calculated as the weighted average of domestic money market instruments. On the other hand, private ECU market uses an interest rate which is based on the Euro-money rates of the component currencies.

The common definition of the official and private ECU guarantees that these differences would not prevent the establishment of an operational link between the two circuits when, at some time in the future, the officially issued ECU starts searching for a market and the private market ECU starts looking for an official issuer.

Benefits of an RMU

The perceived benefits of having an RMU have increased interest of policymakers towards the promotion of integration in the region. The formation of an RMU is an intermediate stage that could eventually lead to an Asian Monetary Unit (AMU) in the long run. The RMU could promote the joint objectives of an orderly exchange rate structure, greater regional cooperation, the ability of currencies in the region to move against other major world currencies (such as the dollar and euro) without experiencing serious intraregional shifts in competitiveness. At the same time, the system would be sufficiently flexible (by allowing periodic central parity realignments) to allow for some intraregional exchange rate movement, either to allow for nominal exchange rate adjustment to make up for previous inflation differentials (as was typical of European ERM realignments in the 1980s), or to allow countries with undervalued real exchange rates to move their real exchange rates upward as development circumstances allowed. A move to coordinate Emerging Asian exchange rate policy (with its consequent implications for monetary policy) would not hinder the need for the region to proceed with structural reforms in its financial systems, including strengthening of the local banking systems and deepening regional bond and other securities markets.³

Second, it provides both investors and operators whose trade or financial flows are mostly within the region to diversify. The diversification can be in the form of working balances denominated in RMU rather than other international currencies.

Third, RMU can be used as a unit of account for pricing and denominating invoices within and around the region. This is particularly beneficial for multinationals that operate mainly within the region.

Fourth, firms who will use RMU as a unit of account and instrument to denominate their invoices can use RMU as an instrument for settlement, opening accounts as well as seeking financing.

As seen from the European experience, the ECU gained popularity because of the use by importers, exporters and financial market participants. European banks started

³ See Suttle and Fernandez for detailed discussion on the benefits of RCU (<http://www.morganmarkets.com>)

using ECUs in order to handle deposits of member states institutions and governments. This facilitated the development of interbank and private ECU deposits as multilateral clearing system was established for ECU deposits. Due to the increase in ECU deposits, the issuance of ECU bonds became attractive and medium term ECU notes started to appear in 1988. This also led to the development of a market in ECU commercial paper.

Learning from the experience of the ECU, the establishment of a private RMU may also offer greater business for private sector particularly those in financial institutions. First, the RMU can be used as a hedging instrument for trade. Private exporters or importers in the region might hedge their exposures by using foreign exchange forward transactions of the RMU. Because the RMU would be a composite of major currencies, market makers could produce long-term forward exchange rates against a country's local currency rather easily and economically. This might offer better chances for the private sectors in countries where long-term forward rates of the home currency are difficult to obtain.

Another advantage of the RMU is that it might offer good possibilities for funding. Most of the Asian economies have been trying to develop their long-term bond markets especially after the Asian currency crisis. However, the market sizes are still limited. In the RMU market it would be possible for the issuers in these countries to get long-term funds with less foreign currency risks. For investors in the region, which has been growing steadily and will expand further, the RMU might offer better yield and less foreign currency fluctuations.⁴

OPTIONS FOR PROMOTING RMU FOR OFFICIAL AND COMMERCIAL PURPOSE

The RMU can follow the same framework used by the ECU to promote the use for official purpose. As Eichengreen (2006) suggests, the RMU can be made up of a weighted average of member currencies and should be allowed to circulate alongside national currencies. Like the ECU, the RMU would be defined as a fixed number of units of each currency. The quantity of each component currency would be fixed but its contribution to the value of the RMU would vary depending on its exchange rate. The composition of the basket may be revised to reflect the changing weights of the participating countries. Official RMUs can be created in exchange for swaps of a fraction of the international reserves of participating central banks. The participating central bank would agree to accept RMUs in transacting among them. These benchmarks would make it more attractive for financial and non-financial forms to accept and issue RMU-linked assets and liabilities.

As such, the key factors in the promotion of RMU will be based on the following key options:

⁴ The detailed discussion is found in the paper of Mori, Kinukawa, Nukaya, & Hashimoto (2002)

(1) RMU as an indicator of divergence

The RMU can be used as an indicator of Member Country's divergence from the average value of the basket. Movements between the currencies in the system would be constrained in which policymakers may wish to set its own exchange rate bands of tolerance as in the case of the ECU, which set a central rate of 2.25% band as an indicator of divergence with possible 6% bands on currencies needing more room for flexibility because of domestic economic weaknesses. In the case of the ECU, the flexibility of up to 6% was made for the Italian lira, British pound and Spanish peseta in the exchange rate. Under the system, central banks would be required to intervene to support the weak currency and sell the strong one when any cross rate approached the permitted limit of fluctuation. Should any currency become individually too strong to stay within the system, then a realignment of the central rates would be made possible. In this way, the RMU can reduce the problem of intra-Asian exchange rate variability, through the external numeraire. The advantage of using a pre-announced fluctuation bands is the consideration that ASEAN economies have different levels of economic development and the readiness to participate. It can be suggested that countries with stronger economies maintain a more rigid peg against the common currencies, while weaker economies may be allowed a wider fluctuation band. This approach can further help Member Countries to maintain monetary independence (since fluctuation bands are already pre-determined) while achieving intra-Asian external monetary stability.

(2) RMU as a legal tender

As in the experience of Europe, most transactions were conducted in national currencies. The reason was that it was unattractive for individual European producers to set prices in ECU unless other European producers did so, limiting transactions costs. It was also unattractive for individual financial institutions to float bonds denominated in ECU unless other financial institutions did likewise, creating the critical mass needed for the creation of a deep and liquid secondary market. It was unattractive to quote product prices in ECU so long as wages and other domestically-sourced inputs were priced in the national currency. Therefore, as Eichengreen (2006) suggests, giving a legal tender status to the RMU for domestic use along with the national currency will make it more attractive to promote its use. This would help promote RMU as invoicing and settling can be done without converting to other international currency such as the dollar or euro.

Although there are benefits to an RMU that can be used as a legal tender, the current restrictions on most ASEAN economies with regard to capital and foreign exchange controls make it impossible to use RMU as a legal tender. However, in the long-run, having an RMU that can be used as legal tender can increase the promotion of such currency not only in the region, but also in other parts of the world.

(3) RMU as a reserve instrument

As done in the case of Europe, the EMCF are required to deposit 20 percent of their gold and dollar reserves for the issuance of an ECU. The ECU can be used to settle debts that originated from the borrowings of the Community currencies for intervention purposes. In relation, the RMU can also be issued to central banks in exchange for a certain percentage of their international reserves in an official form. The RMU may be used as means of settlement between Member Countries for foreign exchange interventions.

(4) RMU as an investment instrument

The RMU may be developed as an investment instrument and provide alternative to Asian investors in low interest rate countries to diversify their portfolios. RMU may also provide Asian borrowers in high interest rate countries a relatively attractive means of borrowing. As risks associated with the depreciation of the dollar are increasing, the use of RMU will serve as an important alternative both for investors and borrowers in the Asian region.

However, given the problem related to restrictions on capital movements in some Asian countries, an RMU denominated financial instrument is unlikely to happen in the near future. Therefore, the issuance of ACU-linked loan financial instruments appears to be the better alternative at the moment. An ACU-linked instrument can mirror the performance of a theoretical ACU-denominated instrument.

(5) RMU as a way to develop a liquid secondary market

The issuance of debt denominated in RMU helps create benchmark asset which would make it more attractive for financial and non-financial firms to issue and accept RMU-denominated liabilities and assets. However, any changes in the composition of the official RMU will also mean changes in the value of the private RMU. The value of the private RMU may be guaranteed by the issuer to convert the instrument into its components. In any case, the issuance will help create and develop a more liquid secondary market.⁵

The development of a liquid secondary market in this case can only happen if the RMU currency basket can be freely traded. This would mean that Member Countries must deregulate their capital and foreign exchange rate controls to allow easier convertibility.

(6) A regional clearing and settlement system for RMU

The establishment of an efficient regional clearing and settlement system will promote greater use of the RMU. As done with the ECU, custodial and settlement operations for ECU bonds were handled by two International Central Securities

⁵ Eichengreen (2006)

Depositories namely Euroclear and Clearstream (or Cedel) will help develop safe and efficient settlement systems and financial markets. However, a regional clearing and settlement system can only be useful when RMU denominated financial instruments can already be issued in the market.

(7) Wider use of RMU at the official level

The RMU must be widely used at the official level so that the private use of the RMU will develop. The most basic is that central banks should agree to accept RMUs in transactions among themselves. A wider use of the RMU at the official level can help promote an RMU denominated bonds market in Asia, which is essential in reducing financial instability in the region. At present, this will also help in coping with the global imbalance problem (ongoing current account deficit in the US and the surplus in East Asian economies).⁶

(8) Establishment of an Asian Exchange Stabilization Fund (AESF)

An institution that will monitor exchange rate divergence is a key to a successful RMU. As in the case of the EMS, three pillars should be combined into one institution. These are (a) ECU; (b) provision of liquidity; and (c) exchange rate mechanism. The objective of an Asian Exchange Stabilization Fund (AESF) is to provide emergency as well as financial support in the region to further prevent financial crisis from recurring in the region. More importantly, the institution will ensure the stability of exchange rate in the region.⁷ The AESF must also be capable of holding consultations on macroeconomic policies and implement mutual surveillance of national policies when needed.

An AESF can serve as an option for the region in the long run. Several questions must be answered before establishing an AESF such as how will it be established? Who will provide capital for its establishment? Who will lead the AESF? Who will be accountable for any misuse of funds? These questions must be answered before establishing an AESF. At present, there seems to be a need for an immediate establishment of an AESF, given the fact that the procedure for the official RMU is that central banks are required to intervene in the market to support a weak currency and sell the strong one when any cross rate approached the permitted limit of fluctuation means that the role of the AESF will be minimal. Also, the agreement for an expanding CMI for multilateral arrangements during the ASEAN Finance Ministers Meeting in 2006 may already provide enough provision for liquidity in the market for the time being.

Hurdles to the Promotion of RMU

(A) Deregulation of capital and foreign exchange controls

⁶ See Moon, Rhee and Yoon (2006)

⁷ For further discussion, see Moon, Rhee and Yoon (2006)

One major difference between the ECU and the proposed RMU currency basket is that all currencies could be freely traded in the ECU and thus actual currency baskets comprised of varying proportions of each member currency could be created while in the case of RMU, a number of the member currencies are restricted. As such, there is a need for ASEAN+3 countries to deregulate their capital and foreign exchange controls to allow convertibility in both the current and capital accounts.

(B) Strengthening political and institutional foundations

In the case of Europe, central exchange rates were established with strict capital control while capital flows in Asia are more vulnerable to large fluctuations in private capital flows due to a more liberalized financial market. Therefore, there is a need to further strengthen political as well as institutional foundations to support regional integration. Several studies have indicated that Asia has a relatively short history of economic integration compared with other regions as the ASEAN+3 Summit started only in 1997. The Asian Bond Fund (ABF) as well as the Chiang Mai Initiative (CMI) is still in the early stages of existence⁸. The ABF was established in 2003 to foster local bond market. The CMI on the other hand was born out of the agreement in 2000 to enhance currency cooperation in the region thru currency swap agreement.

(C) Diversity in the level of economic development across countries

This degree of diversity is higher in the ASEAN than among the countries of the EU, which could make it difficult to sustain a monetary union. It was noted that income differentials across countries could pose a constraint to only to the extent that they reflect dissimilarities in the production structures across countries. To manage a currency union for a group of countries with a large difference in level of development, it would be important to allow a freer flow of capital and labor across borders. With regard to fiscal policy, a large centralized budget at the union level is needed to make resource transfers across countries. Greater mobility of factors of production will be able to reduce the amount of fiscal transfers needed over the medium to long term. Country-specific fiscal policies can be used to respond to asymmetric shocks across countries within the union.

(D) Weakness in financial sectors in a number of Member Countries

A weak banking system could also undermine a common currency arrangement. When countries with weak banking and financial sectors and heavy dependence on foreign capital peg their exchange rates, banking problems could turn into an exchange rate crisis. The 1997 financial crisis exposed the fragility of the banking systems and the financial sectors of many countries in the region. Until now, the remaining agenda of banking reforms is relatively large. Further restructuring of the financial sectors and the banking systems will be required among the ASEAN

⁸ See Watanabe and Ogura (2006)

countries before they can adopt a common currency. Countries with stronger banking systems can specialize in providing financial services at a regional level, which could lead to greater harmonization in financial sector practices and raise banking and financial sector standards.

(E) Inadequacy of region-level resource pooling mechanisms

Inadequate mechanisms for regional reserve pooling and the absence of regional institutions are also constraints; however, they can be addressed initially through reserve sharing arrangements under the Chiang Mai Initiative. The Chiang Mai Initiative was developed as a regional swap mechanism to promote currency cooperation in the region. In May 2006, it was agreed that the mechanism will be further developed into a multilateral arrangement in the hope of strengthening the resource pooling mechanism of the region. There must be stronger economic cooperation between Member Countries as well as find ways in achieving prudent macroeconomic policies as well as sound financial markets to maintain credibility and limit excessive capital outflows if and when a financial crisis occurs again.

(F) Lack of political preconditions for monetary cooperation

Another major challenge is that the ASEAN+3 have not developed the political preconditions necessary for a common currency. In Europe, discussions on monetary integration progressed simultaneously with discussions of political integration and creation of a supranational entity with the power to override sovereign national governments. It is understood that if the economic advantages of a regional monetary union are large, countries may have to set aside political differences and form political alliances to reap the economic benefits.

(G) Active support by Member Countries

Active support in terms of political commitment is needed towards a successful RMU. Member countries must ensure that the RMU will not be perceived as a fixed exchange rate system which can be a source of speculative attacks. Also, a market expectation towards eventual currency unification is an important ingredient for greater promotion of the RMU. This would involve a more active role for the government of member countries in pursuing RMU.

Roadmap for a Regional Monetary Unit

Based on the options enumerated, the roadmap for the establishment and promotion of the RMU could be done using a two stage approach:

Stage 1:

(A) Establishment of a RMU as indicator of divergence

Member Countries must set its own exchange rate bands of tolerance similar to the ECU depending on the level of economic development and readiness to participate. For instance, countries with stronger economies must maintain a more rigid peg against common currencies while weaker economies must be allowed a wider fluctuation band. However, the exchange rate band must be pre-determined so that Member Countries can still maintain its monetary independence while achieving an intra-Asian external monetary stability.

(B) RMU for commercial purpose

As previously discussed, the issuance of an RMU denominated financial instruments is not feasible given the existence of restrictions on capital movement within the region. Therefore, an RMU-linked financial instrument can be issued instead. The advantage of an RMU-linked financial instrument is that it does not have to be comprised of actual, physical quantities of each Member Country; instead, it only needs to mirror the returns of an investment in financial instruments composed of a theoretical currency basket, and thus the RMU can be created in synthetic form. The synthetic nature of the proposed RMU linked denominated instruments allows transactions to be settled through existing settlement systems such as Euroclear Bank and Clearstream.

(C) Promotion of a monitoring and early warning system

The promotion of a monitoring and early warning system becomes an important aspect towards the greater promotion of the RMU in the region. This is to make sure that potential problems in the financial markets can easily be detected and avoid the same problems encountered in the 1997 financial crisis.

(D) Strengthening of financial institutions

The financial crisis in 1997 was further aggravated due to the weak banking and financial sector in the region. Although reforms have been set-up for the improvement in the banking system, further restructuring is necessary to strengthen the financial markets in the region towards a successful RMU. If the financial sectors have been reinforced, deregulation should follow so that an RMU denominated financial instruments can be created in the region.

In this regard, strengthening the market for an RMU linked financial instruments must be encouraged within the region as Member Countries must find ways to deregulate their capital and foreign exchange rate controls to allow easier convertibility. Deregulation of capital movements will be instrumental in fostering the development of the capital market in the region.

Stage 2:

(A) Liberalization of capital and foreign exchange controls

The liberalization of capital and foreign exchange controls will help allow easier convertibility of currency within the region and reduce transaction costs. Also, the liberalization of capital and foreign exchange controls can achieve natural sources of liquidity due to the creation of bank accounts denominated in RMU. This could lead to the development of a RMU-denominated financial instrument.

(B) Establishment of a clearing and settlement system

When capital and foreign exchange controls have been deregulated, the issuance of an RMU denominated financial instruments can now be possible. However, in moving towards an RMU denominated financial instruments, a clearing and settlements system must be established similar to what was established in the EMU. The clearing and settlement systems will make the markets more attractive and further develop in the region.

(C) RMU as reserve instrument

In this arrangement, central banks should be required to exchange a portion of their international reserves for an RMU. The percentage will be determined by the Member Countries and should be substantial to help promote the use of RMU. The RMU can be used as means of settlement between Member Countries and can be used for foreign exchange interventions.

(D) RMU as denominator

RMU can be used for claims and liabilities between Member Countries depending on the result of intervention in other country. This means that the currency needed for intervention can be borrowed as short-term claim from the issuing central bank.

(5) Establishment of a common agency or commission

Studies indicate that that the ASEAN process cannot provide an early warning of potential risks since the ASEAN meetings only look at recent developments and information that countries voluntarily supply. Therefore, the system will not help the viability of the RMU. There has to be a more active agency or commission that will ensure the quality of the surveillance process and provide high quality technical advice. In this regard, the establishment of a common agency or commission at the regional level is needed to oversee the implementation of the RMU. This agency or commission should be supported at the level of the finance ministers of the ASEAN+3. Its functions are 1) to ensure the economies timely release of consistent and correct data necessary for the RMU, 2) provide technical advice to the ASEAN+3 countries, 3) strengthen the

ASEAN+3 Finance Ministers Meeting, and 4) provide an early warning system to the ASEAN+3 economies.

As discussed, there are two main motivations for monetary cooperation in Asia; first is to limit the exchange rate variability within the region which promotes intra-region investment and trade. Second, having a common basket peg reinforces exchange rate stability. Pegging Asian currencies to the dollar or euro makes transactions of outside currencies with Asia more attractive. To gain popularity the RMU must not only compete with existing Asian currencies, but the dollar as well. This led others to observe that the dollar should be accepted as a common parallel currency in the region; however as intra-trade grows in the Asian region, so does the attractiveness of a common currency. In a way, the dollar could become more volatile relative to the Asian currencies as they abandon their pegs for greater flexibility, such as the case of US deficits lead to a weaker dollar. This would make the RMU more attractive than the dollar. It is only when producers and consumers have adopted the parallel currency approach in large numbers will it be clear whether the market structure and behavior can be adapted toward a single currency. An Asian Central Bank can then be created in the near future with exclusive responsibility for monetary policy in the region. Governments can start by promulgating a true free trade area and the expansion of supply chain networks in Asia to make the use of the parallel currency more attractive. Issuing RMU denominated debts in this approach, governments can create a benchmark asset and more liquid secondary markets. Investing in the establishment of an efficient regional clearing and settlement system can also make the markets in the parallel currency more attractive.

Moving Forward: Promotion towards Monetary integration

In the European experience, the transition from incomplete to incomplete monetary union came with the institution of the European Monetary System (EMS). The consistent goal of the EMS was to strengthen the coordination of monetary and economic policies among its members. Although there is little evidence that it was instrumental in reducing internal monetary instability, it has been praised for providing a stable framework for a coordinated policy response to outside shocks. Some studies have found that East Asia does not possess enough solidarity for a monetary union for now. Issues such as economic disparity have worked against the idea. It would be risky to pursue integration if divergence is present in the region.

Yuen (1999) indicated that there are varying time goals to monetary integration. The short term goal is to achieve monetary stability, the medium term goal is to attain greater economic convergence and the long term goal is the creation of the monetary union.

The first stage, to achieve monetary stability, leads to efforts to coordinate policies among the Asian countries. The first policy option is a generalized move to a common basket peg with a fluctuation band. The idea is that pegging the countries to a

single currency swings their effective exchange rate because of changes in rates of third countries. A common basket peg which reflects the average trade pattern is needed. Using a common basket peg enables the members to have flexibility in choosing exchange rate regimes. Pegging the Asian currencies also reduces the problem of intra-Asian exchange rate variability, through an external numeraire. Economically stronger economies can maintain a more rigid peg against the common basket and weaker economies can have a wider fluctuation band around the basket. Through this, members with varying degrees of readiness can retain some monetary independence while also attaining external monetary stability.

Another option is fixing of exchange rate without giving up national money. This approach is said to be far more practical approach given the diversity in Asian economies. It would be undertaken through the clustering of smaller currency areas first, then later, the enlargement of the clusters. Countries with close trade ties, factor mobility and synchronized business cycles would gain from the currency union. Yuen explains that this can be attained by working with the existing Brunei-Singapore currency arrangement and extending this to Malaysia, which shares a high degree of economic and social ties to the two countries. This union would form the basis of monetary cooperation in the region.

A third alternative is to first establish a regional monetary fund. An Asian monetary fund could reflect shared ideas on currencies and assistance in crisis management. The monetary fund should be a venue in holding consultations regarding macroeconomic policies, surveillance of national policies and assistance in foreign currency liquidity. It could be a prelude to greater integration in the region.

The second stage involves the convergence of monetary and economic policies. Convergence reduces costs of joining a monetary union by reducing the need for exchange rate adjustments or a differentiated monetary policy. First, countries joining the union would need to be at similar points of the economic cycle, so that there would be no need for several amounts of monetary ease or restraint. Second, their economies should respond in similar ways to changes in interest rates. Otherwise, differences in the transmission mechanisms of monetary policy make it less likely that a common monetary policy becomes appropriate for the members of the union. More definition and binding to the guidelines of economic policy is needed to ensure harmonization in the currency clusters.

The final stage involves monetary unification. Moving toward a full monetary union is a long term process, and without first designing conditions for its success, asymmetric shocks could result within the union because of insufficient fiscal redistribution and limited labor mobility. It is understood that significant degrees of convergence are needed before monetary unification.

Yuen (1999) also suggests that a gradual approach towards monetary union be used since most of the participating economies are less homogeneous. However, there

are risks involved in a gradual approach particularly the problem of sustainability during the transition period, especially if policies are overly rigid and unrealistic

The idea of a common currency symbolizes political cohesion in the region. With the use of a common currency, the instability of the use of money as a unit of account is eluded and certain exchange risks and transaction costs are avoided. The goal of reaching a common currency in the region depends on the existing economic conditions as well as the politics behind the move.

CONCLUSION

The paper discussed the ways to promote the use of RMU based on the lessons learned from the European experience. A successful RMU requires various preconditions, as with the experience with the ECU suggests. The deregulation of the capital and foreign exchange controls in the region seems to be the first step so that currencies can be freely traded as well as a more a stronger financial market that would work towards the full harmonization of the financial sector practices and raise banking and financial sector standards in the region.

A firm political commitment, well functioning financial markets and cross-border payment and settlement system as well as a market expectation of eventual currency integration are key elements for a successful RMU.

A currency can only obtain international role if it's economic and financial performance carry some weight internationally. The development of the RMU will largely depend on the firm commitment of Member Countries in the region towards greater economic as well as financial integration. The RMU will therefore serve as a stepping stone towards a more stable and better financial market in the region.

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