very preliminary

Progress toward Common Currency Basket System

in East Asia

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Abstract

Ogawa and Shimizu (2005, 2006a) proposed a possible way in which an Asian Monetary Unit (AMU) could be created as a weighted average of thirteen East Asian currencies (ASEAN + China, Japan, and Korea) and develop AMU Deviation Indicators for a surveillance process under the Chiang Mai Initiative. Both the AMU and the AMU Deviation Indicators are important in helping the countries in the region to recognize the necessity to move toward a common currency basket system. However, there remains an open question about how to implement the common currency basket system in East Asian countries.

The purpose of this paper is to compile latest issues of currency basket itself and to develop the concrete steps towards common currency basket system in East Asia. Particularly, we simulate the possible individual currency basket weights based on trade shares of each East Asian country and convert them to G3 currency (the US dollar, the euro, and the Japanese yen) basket weights. We also discuss the discrepancies between the converted G3 currency basket weight of the AMU and the weights of common G3 currency basket, which would show the actual idea to implement a common currency basket system. We propose that the possible way to shift from an individual G3 currency basket system to the AMU currency basket system. In this process, we expect that the Japanese yen would play different role at each of the stages toward the monetary coordination in East Asia.

1. Introduction

On July 21, 2005, the Chinese government announced that the monetary authority adopted a managed floating exchange rate system with reference to a currency basket. Many scholars point out that the monetary authorities of East Asian countries are adopting a currency basket system in recent years. Also, some are discussing that East Asian countries should adopt a common currency basket regime in order to stabilize intra-regional exchange rates in a 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, which include the US dollar and the euro, to be restrained.

In Ogawa and Shimizu (2005, 2006a), we proposed a possible way in which an Asian Monetary Unit (AMU), as a regional currency basket, that is, a weighted average of thirteen East Asian currencies (ASEAN + China, Japan, and Korea) following the method used to calculate the European Currency Unit (ECU) under the European Monetary System (EMS) during the period from 1979 to 1998, could be constructed. We used the AMU to calculate the AMU Deviation Indicators for each East Asian currency, which show the degree of deviation from the hypothetical benchmark rate for each of the East Asian currencies in terms of the AMU. We suggested the AMU Deviation Indicators as one of surveillance indicators at the ASEAN+3 Finance Deputy Ministers Meeting under the Chiang Mai Initiative, which would induce the coordination exchange rate policy among East Asian countries in near future.

Under the common currency basket system, the monetary authorities of the East Asian countries use the value of a basket of major international currencies outside the region as a reference to make a regional coordination in exchange rate policies not so as to deviate each of the East Asian currencies from the common reference. In this way, the countries can achieve stability of intra-regional exchange rates, basically joint floating against the outside currencies. The idea of AMU would be important in helping the countries in the region to recognize the necessity to shift to common currency basket system. However, there remains several questions how to implement such a system in East Asian countries.

Objectives of this paper are to compile latest issues of currency basket itself and to consider concrete steps towards the common currency basket system in East Asia. Particularly, we simulate the possible individual currency basket weights based on trade shares of each East Asian country and convert them to a G3 currency (the US dollar, the

euro, and the Japanese yen) basket. We also discuss the discrepancies between the converted G3 currency basket weight of the AMU and the weights of common G3 currency basket, which would show the actual idea to implement a common currency basket system.

The reminder of this paper consists of the following sections. Section 2 discusses objectives of a common currency basket system in East Asia. Section 3 discusses the differences between the G3 currency basket and the regional currency basket such as the AMU. Section 4 argues the effectiveness of a common currency basket system compared with an individual currency basket system. Section 5 simulates the possible individual currency basket weights based on trade shares of each East Asian country, and converts them to G3 currency basket weights. We also discuss the discrepancies between the converted G3 currency basket weight of the AMU and the weights of common G3 currency basket. Section 6 proposes the possible way to shift from an individual G3 currency basket system to the AMU currency basket system and suggests the role of the Japanese yen in this process. The last section offers a concluding remark.

2. The US dollar peg versus a currency basket peg

The experience of *de facto* dollar-pegging countries during the Asian currency crisis told us that the monetary authorities of East Asian countries should not *de facto* peg their home currency to the dollar. Before the currency crisis, most East Asian countries used to adopt *de facto* US dollar peg system. However, their announced exchange rate systems were not necessarily the same with reality. For example, the monetary authority of Thailand announced its exchange rate system as a basket currency peg system. However, in fact the dollar weight in its currency basket was estimated to be larger than 90 percent, which meant a *de facto* dollar peg system. The Asian currency crisis taught us that the dollar-peg was not the most desirable exchange rate regime in the region. As the intra-regional trade share in East Asia is larger than 50 percent in 2004 and now as high as in the European Union. Accordingly, stability of intra-regional exchange rates is becoming more important for economic growth and stability of East Asia. Therefore, we need any mechanism to keep intra-regional exchange rates stable in the East Asia.

One way for emerging countries to stabilize their currencies is pegging to one of major currencies. For example, most of East Asian countries used to peg their currencies to the US dollar before the Asian currency crisis. Usually these pegging systems were adopted commonly among the region. McKinnon (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 causes to induce Asian currency crisis.

On the other hand, pegging to a currency basket with trade based basket weights could stabilize the effective exchange rate. Actually, Kawai (2002) indicated that some East Asian countries had already adopted a *de facto* currency basket system in recent years. We estimated the weights on the US dollar, the euro, and the Japanese yen in a possible currency basket for each of the East Asian countries according to a method of Frankel and Wei (1994).[1] Table 1 shows the latest actual weights on the three major currencies for East Asian currencies in 2004 and 2005. As a result, we can divide seven sampled East Asian currencies into the following two groups: a group of the currencies who have still kept a strong linkage with the US dollar and the other group of the currencies who have increased their weights on the Japanese yen.

The former is a group of the US dollar pegging currencies. Coefficients on the US dollar were almost unity in the cases of the Chinese yuan and the Malaysian ringgit. These results indicate that they have still kept their *de facto* dollar peg system in 2005.

The latter is a group of the currencies who seem to adopt a currency basket system. We obtained the following results of estimated weights in a possible currency basket. In the case of Singapore, their weights on the US dollar, the euro, and the Japanese yen were 0.5787, 0.1603, and 0.2729, respectively in 2004, and they have changed to 0.5021, 0.1707, and 0.3926, respectively in 2005.[2] In the case of Thailand, the weights on the US dollar, the euro, and the Japanese yen were 0.7272, 0.1920, and 0.1923, respectively in 2004, and they have changed to 0.6172, 0.1301 (insignificant), and 0.3124, respectively in 2005. We can find the similar movements in the cases of South Korea, Indonesia, and the Philippines. Even in the case of the Chinese yuan, the weight on the Japanese yen has become significant (0.0935) in 2005. [3]

These results indicate that an introducing a common currency basket system

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[1] The log differences of exchange rates of each East Asian currency in terms of the Swiss franc were regressed on log differences of three major currencies in terms of the Swiss franc.

[2] Since Brunei adopts the Singapore dollar peg system, we can find the almost same movements in the case of Brunei dollar.

[3] In the cases of other minor currencies, such as the Cambodia riel, the Las kip, the Myanmar kyat, and the Vietnamese dong, coefficients on the US dollar were close to unity in 2004. Their weights on the US dollar were still close to unity but have slightly decreased in 2005 due to the announcement of Chinese government's changing its exchange rate system on July 21, 2005.

might not be so difficult for at least some of East Asian countries, who have already adopted a currency basket system individually.

3. G3 currency basket versus intra-regional currency basket (AMU)

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 the EU. Such an arrangement could be called a G-3 currency basket system (Kawai (2002)).

The most apparent benefit of the G-3 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 G-3 currency basket with the optimal weights,.[4] 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. In Kawai and Takagi (2000), they recommend that a G3 currency basket system preserves both flexibility and stability in order to promote international trade, foreign direct investments, and economic developments.

Another currency basket 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 EMS (European Monetary System). Such a currency basket in East Asia might be called an ACU (Asian Currency Unit) or the AMU. The former is being prepared to create by the ADB (Asian Development Bank) while Ogawa and Shimizu (2005, 2006b) created the latter.[5]

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[4] Also in terms of capital flows, the G-3 currency basket system has advantages over the *de facto* dollar peg system. Ogawa and Sun (2001) conducted a simulation analysis to find out if the G-3 currency basket system would have had an overwhelming effect on capital inflows to Korea and Thailand.

[5] Ogawa and Shimizu (2005, 2006a) proposed an Asian Monetary Unit (AMU) as a surveillance indicator for ASEAN+3 Finance Deputy Ministers Meeting common currency basket in East Asia. In addition, we proposed AMU Deviation Indicators which show a deviation measurement of each East Asian currency from its benchmark level in terms of the AMU. They are updated and uploaded on the website of RIETI (http://www.rieti.go.jp/users/amu/index.html) on a weekly basis.

A main advantage of the regional currency basket system is to stabilize intra-regional exchange rates. From a standpoint of a regional monetary coordination in East Asia, a currency basket should consists of regional major currencies which include the Japanese yen. Ogawa and Shimizu (2006b) investigated the stabilization effects of a common AMU currency basket peg system on East Asian currencies. We compared our analytical results with stabilization effects of a common G3 currency basket peg system, which shown in Williamson (2005) to obtain that a common AMU 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.[6]

However, we could not clearly show differences between the common G3 currency basket and the AMU clearly so far. In this paper, we try to show them by simulating both of their time series. Before the simulation analysis, we should discuss another topic about a currency basket that is comparison between a common currency basket in the region and an individual currency basket in terms of effectiveness of stabilizing effective exchange rates.

4. Common currency basket versus individual currency basket

As we mentioned in section 2, there are two different way to adopt a currency basket, individually or commonly in the regions. The former is based on own trade pattern and the latter is based on common currency basket weights within the region.

Basically a country who adopts an individual currency basket system determines its basket weights by its own individual trade composition. It is because such a trade volume based currency basket achieves the stability of its effective exchange rate. Williamson (2005) called it "tailor-made currency basket". He compared the stabilization effects on nominal effective exchange rate between a tailor-made currency basket and a common currency basket for several East Asian countries empirically, and he obtained the superior performance of a common currency basket peg over a series of tailor-made currency baskets. He explained that it is the fact that a common currency basket peg can eliminate instability of intra-regional exchange-rates. Ogawa and Shimizu (2006b) showed the effectiveness of the AMU currency basket peg in stabilizing effective exchange rates compared with the individual currency basket peg. Rajan (2002) pointed out that the common currency basket system might be favorable

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[6] The common AMU 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.

because the possibility of a competitive devaluation would exist if the monetary authorities can choose their own individual currency basket.

Mori, Kinukawa, Nukaya, and Hashimoto (2002) recommended a two-step approach. The first step is that each of the countries should adopt an individual currency basket system by each country. The second step is that they should move from the individual currency basket system to a common currency basket. Ngiam and Yuen (2002) recommended a similar approach that is called "Cluster Approach." They pointed out that some different clusters should adopt a common currency at first, expand the cluster, and finally unify those clusters in order to have one regional currency in the region.

These ideas suggest that any individual currency baskets could develop a common currency basket in the region. Accordingly, we do not need to insist that a common currency basket is a start point. Rather, we should recognize that a common currency basket is good for stability of intra-regional exchange rate.

There is a difference between them. As we mentioned above, an individual currency basket is composed with its own trade partner currencies based on its own trade weights while a common currency basket is composed with common currencies based on a common basket weight. Too variety of individual currency basket composition would have adverse effects on stability of intra-regional exchange rates if the monetary authorities of East Asian countries target the individual currency basket.

5. Converting the AMU and an individual currency basket to a G3 currency basket

As we empirically analyzed the latest actual weights on the three major currencies for East Asian currencies in section 2 (see Table 1), most of the East Asian currencies are strongly related with the US dollar. Some of them are significantly related with the US dollar, the Japanese yen, and the euro. Thus, East Asian currencies are able to be converted to 100 percent of the US dollar or some types of G3 currency basket.

Suppose that country A adopts a currency basket system where currency A is pegged to a currency basket composed of the G3 currencies (the US dollar, the Japanese yen, and the euro), currency B, and currency C. Country B adopts a currency basket system where currency B is pegged to a currency basket composed of the G3 currencies. Country C adopts a dollar peg system where currency C is pegged tot the US dollar. These exchange rate systems are shown in the following equations:

$$CurrencyA = W_{A,USD} \cdot USD + W_{A,JPY} \cdot JPY + W_{A,euro} \cdot euro + W_{A,B} \cdot CurrencyB + W_{A,C} \cdot CurrencyC$$
$$CurrencyB = W_{B,USD} \cdot USD + W_{B,JPY} \cdot JPY + W_{B,euro} \cdot euro$$
$$CurrencyC = W_{C,USD} \cdot USD$$

(1)

where $W_{i,j}$: weight on currency j in its currency basket for currency currency i, Currency A, B, C, USD, JPY, and euro are exchange rates of the relevant currencies, respectively.

Then, currency A's basket weights are converted only to the weights on three major currencies as follows:

$$CurrencyA = \left(W_{A,USD} + W_{A,B} \cdot W_{B,USD} + W_{C,USD}\right) \cdot USD$$
$$+ \left(W_{A,JPY} + W_{A,B} \cdot W_{B,JPY}\right) \cdot JPY$$
$$+ \left(W_{A,euro} + W_{A,B} \cdot W_{B,euro}\right) \cdot euro$$

(2)

The results of Table 1 are used to calculate estimated G3 currency basket weights for the seven East Asian currencies in 2004.[7] Table 2 shows the estimated G3 currency basket weight as well as their exchange rate systems. We regard that three of them, Singapore, Korea and Thailand adopt a *de facto* currency basket system and other East Asian countries adopt a *de facto* US dollar peg system.

At first, we convert the AMU of Ogawa and Shimizu (2005, 2006a) by applying these weights and formula (2), and compare it with a common G3 currency basket of Williamson (2005).[8] Table 3 shows the results. Because the weight of China is the highest in the AMU, the converted US dollar weight of the AMU is 64.17 percent, which is higher than the US dollar weight of the common G3 currency basket (46.6 percent). The converted Yen weight of the AMU (31.96 percent) also is higher than the Yen weight of the common G3 currency basket (23.4 percent). It is because the AMU includes the Japanese yen and three East Asian currencies, which adopt a *de facto* currency basket system, as a composed currency. On the other hand, the converted euro weight of the AMU is 3.87 percent. It is far smaller than the weight of the common G3 currency basket weights (30.0 percent). It is because the euro is not the composition

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[7] We apply the results of table1 in 2004 because we use the trade data in 2004.

[8] In Williamson (2005), the weight of the dollar was supplemented by trade with the rest of the Western Hemisphere, the rest of non-Japan East Asia, and two-thirds of the Rest of the World, to reflect the fact that the former two regions and a large number of rest of the world countries have traditionally pegged to, or measured their exchange rates in terms of, the U.S. dollar. Similarly, the weight of the euro was supplemented by one-third of the trade with the Rest of the World, reflecting the fact that a number of other currencies peg to the euro or else that their exchange rates tend to be influenced by the euro.

currency of the AMU and only three countries among ASEAN+3 adopt a *de facto* currency basket system at the moment. Figure 1 shows the historical movement of both currency baskets against the US dollar from Jan 2000 to May 2006. Because the AMU's converted weight of the euro is so small, the AMU currency basket is relatively stable compared with the common G3 currency basket.

Because the AMU is composed with ASEAN+3 currencies, its converted weights of G3 currencies are affected by their choice of currency regime. At the moment, the converted US dollar weight is higher than the US dollar weight of the common G3 currency basket, which were calculated by actual trade volume share with the United States and the US dollar related outside countries. It is because more than half of the AMU member countries still adopt a *de facto* US dollar pegging system. If each AMU member country gradually moves to individual currency basket system based on its trade volume, then the converted G3 currency basket weights of the AMU will be close to the common G3 currency basket weights.

Next, we convert each East Asian currency's trade based currency basket weights to G3 currency basket weights. Table 4 shows the results. The second column shows "trade weights", which are calculated by trade volume (exports plus imports) from each country's government statistical website.[9] These weights add up to less than 100 percent, since they do not include all trading partners. Therefore, the weights are blown up to make the weights sum to 100 percent. The composition of the resulting basket is in the third column of "individual currency basket weights". The forth column is "individual G3 converted basket weights", which are calculated by using the converting weights of each East Asian currency in table 2.

At first, the result of Singapore is interesting. As Singapore is said to adopt a currency basket individually, the individual currency basket weights are well balanced with major three currencies and six Asian currencies. However, their converted US dollar weight is 68.06 percent, which is far higher than trade based weight of the US dollar (15.77 percent). It is because Singapore has strong trade relationships with the countries who adopt *de facto* US dollar peg system, such as Malaysia, China, Hong Kong, and Taiwan.

Compared with Singapore, the converted G3 currency basket weights of South Korea and Thailand, who also seem to adopt a currency basket system individually, are similar and well balanced. For example, Thailand has relatively strong trade relationships with Japan and EU, and good trade relationships with Singapore and Korea. These make both the converted Yen weight (27.92 percent) and the converted

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[9] We treat the EU as the euro related trade due to data constraints.

euro weight (18.06percent) higher than trade based weight of the Japanese yen (25.20 percent) and the euro (16.04 percent).

For US dollar pegging countries, their converted G3 currency basket weights based on their trade relationships are almost similar except for the case of Hong Kong and Indonesia. These results indicate that a common currency basket could be developed if they gradually move from *de facto* US dollar peg system to an individual currency basket system based on their own trade share.

6. Steps toward a currency basket system in East Asia

The results in the previous section suggest that a common currency basket system in the region will be gradually developed by adopting an individual currency basket in each East Asian country. Then, is Japanese yen insider or outsider of common currency basket? The future of Japanese yen is one thing to consider. We expect that the Japanese yen would play different role at each of the stages toward the monetary coordination in East Asia.

At the first step, the monetary authorities of ASEAN+3 will start policy dialogue about exchange rates and exchange rate policies. At the time, the AMU and AMU deviation indicator should be used to conduct surveillance over the exchange rates and exchange rate policies as well as domestic macroeconomy at the Economic Review and Policy Dialogue (EPRD) of ASEAN+3. The surveillance process based on the AMU should include Japan. Accordingly, the Japanese yen should be included in the AMU because the AMU is used as a deviation indicator at the surveillance process of the Economic Review and Policy Dialogue (EPRD) of ASEAN+3.

At the second step, the monetary authorities of ASEAN+2 (China and Korea) will adopt a managed floating exchange rate system with reference to its own individual G3 currency basket for managed floating countries. At the same time, the monetary authorities of AESAN+3 should keep to conduct the surveillance process by using the AMU deviation indicators.

At the third step, the monetary authorities of ASEAN+2 shifted to a managed floating exchange rate system with reference to a common G3 currency basket for managed floating countries. At the same tile, the monetary authorities of AESAN+3 should keep to conduct the surveillance process by using AMU deviation indicator. At the second and third steps, the Japanese yen is one of the G3 currencies that the monetary authorities of ASEAN+2 target in conducting their exchange rate policies.

At the forth step, some countries of ASEAN+3 (we call as "core countries")

would peg to a common regional currency basket, that is the AMU, in order to stabilize intra-regional exchange rates. They should conduct coordinated monetary policies in order to stabilize intra-regional exchange rates. At the time, the core countries should be limited to those that adopt the AMU peg system.

At the fifth step, some of ASEAN+3 would introduce a bilateral Grid method based on the AMU to conduct some intervention in foreign exchange markets of the relevant intra-regional exchange rates. An Asian Exchange Rate Mechanism should be established for their coordinated intervention. It is a kind of Exchange Rate Mechanism under the EMS before introducing the euro.

At the forth and fifth steps, the core countries should include Japan as an anchor country. In this case, the Japanese yen should be a regional key currency in terms of keeping its value appreciating against the US dollar and the euro and conducting disinflationary stance of monetary policy. East Asian currencies should be linked with such a regional anchor and key currency as the Japanese yen in order that their value should keep stable and currency crisis should be prevented.

7. Conclusion

In this paper, we discussed the latest issues of currency basket and to develop the concrete steps towards common currency basket system in East Asia. Particularly, we simulate the possible individual currency basket weights based on trade shares of each East Asian country and convert them to G3 currency basket. We also discuss the discrepancies between the converted G3 currency basket weight of the AMU and the weights of common G3 currency basket.

We obtained the following results. First, we found that the AMU's converted weights on G3 currencies were affected by the choice of currency regime in the region. At the moment, the converted US dollar weight in the AMU is higher than the US dollar weight of the common G3 currency basket. It is because more than half of the AMU member countries still adopt a *de facto* US dollar peg system. If each AMU member country gradually moves to individual currency basket system based on its trade share, then the converted G3 currency basket weights of the AMU will be close to the common G3 currency basket weights. These results indicate that a common currency basket could be developed if East Asian countries gradually move from *de facto* US dollar peg system to an individual currency basket system based on their own trade share.

Thus we propose the possible way to shift from an individual G3 currency basket system to the AMU currency basket system. Additionally, we expect that the

Japanese yen would play different role at each of the stages toward the monetary coordination in East Asia.

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Table 1. *De facto* currency basket weight of three major currencies

year of 2004	US dollar		euro		Japanese yen		Adj. R2
Chinese yuan	1.0003 (0.0002)	***	−0.0004 (0.0006)		−0.0001 (0.0002)		0.9999
Singapore dollar	0.5787 (0.0229)	***	0.1603 (0.0622)	**	0.2729 (0.0208)	***	0.9095
Thai baht	0.7272 (0.0273)	***	0.1920 (0.0741)	**	0.1923 (0.0248)	***	0.8962
Malaysian ringgit	1.0046 (0.0026)	***	0.0001 (0.0070)		−0.0035 (0.0023)		0.9992
Philippine peso	0.9101 (0.0230)	***	0.0004 (0.0624)		0.0661 (0.0208)	***	0.9323
Indonesian rupiah	0.7445 (0.0631)	***	0.1309 (0.1714)		0.1973 (0.0573)	***	0.6216
South Korean won	0.7557 (0.0454)	***	0.2412 (0.1233)	*	0.1905 (0.0412)	***	0.7706

year of 2005	US dollar		euro		Japanese yen		Adj. R2
Chinese yuan	0.9213 (0.01974)	***	0.0412 (0.06141)		0.0935 (0.02100)	***	0.9576
Singapore dollar	0.5021 (0.0271)	***	0.1707 (0.0844)	**	0.3926 (0.0289)	***	0.8817
Thai baht	0.6182 (0.0374)	***	0.1301 (0.1163)		0.3124 (0.0398)	***	0.8163
Malaysian ringgit	0.9869 (0.0252)	***	0.0228 (0.0784)		−0.0124 (0.0268)		0.9337
Philippine peso	0.8428 (0.0374)	***	0.0727 (0.1162)		0.1178 (0.0397)	***	0.8473
Indonesian rupiah	0.6728 (0.1161)	***	0.0910 (0.3614)		0.2305 (0.1236)	*	0.3075
South Korean won	0.5597 (0.0594)	***	0.2179 (0.1847)		0.2169 (0.0632)	***	0.5715

Calculated by authors. All exchange data are from Datastream.

1. We estimated weights on the US dollar, the euro and the Japanese yen in a possible currency basket for some East Asian countries according to a method of Frankel and Wei (1994). We use the Swiss francs as a numeraire currency.

2. Standard errors are in parenthesis. *、** and *** denote statistical significance at the 10%, 5% and 1% levels, respectively.

Table 2.

Estimated currency regime and converting weights to G3 currency basket (2004)

	Estimated currency regime	G3 currency basket weights (%)		
		US dolalr	Yen	euro
Singapore	Basket	57.19	26.97	15.84
South Korea	Basket	63.64	16.04	20.31
Thailand	Basket	65.43	17.30	17.27
China	US Dollar peg	100	0	0
HongKong	US Dollar peg	100	0	0
Taiwan	US Dollar peg	100	0	0
Malaysia	US Dollar peg	100	0	0
Philippines	US Dollar peg	100	0	0
Indonesia	US Dollar peg	100	0	0

Author's calculation.

These are from the results of 2004, Table 1. Each weight is adjusted to make its sum up to 100.

Table 3.

The AMU and the Common G3 currency basket of Williamson(2005)

	AMU weights (%)	Converted G3 basket weights of AMU (%)			Common G3 basket weights of Williamson (2005), (%)		
		US dolalr	Yen	euro	US dolalr	Yen	euro
Brunei	0.41						
Cambodia	0.20						
China	34.79						
Indonesia	5.12						
Japan	27.80						
South Korea	9.76						
Laos	0.08	64.17	31.96	3.87	46.6	23.4	30.0
Malaysia	5.34						
Myanmar	0.38						
Philippines	2.93						
Singapore	6.36						
Thailand	5.08						
Vietnam	1.74						

Authors calculation

AMU weights are from Ogawa and Shimizu (2006). Converted G3 basket weights of AMU are calculated by converting weights of table 2. Common G3 basket weights of Williamson are from Williamson (2005).

Table 4.

Trade based Individual currency basket weights (base year=2004)
Singapore

Major Trading partner	Trade weights	Individual currency basket weights	Individual G3 currency basket weights (%)		
			US dolalr	Yen	euro
Malaysia	15.21	19.32			
EU	13.24	16.81			
US	12.42	15.77			
China	9.19	11.67			
Japan	8.93	11.34	68.06	13.12	18.82
HongKong	6.20	7.87			
Taiwan	5.15	6.54			
Tailand	4.21	5.35			
South Korea	4.19	5.32			
	78.74	100.00			

South Korea

Major Trading partner	Trade weights	Individual currency basket weights	Individual G3 currency basket weights (%)		
			US dolalr	Yen	euro
China	16.59	24.84			
US	14.98	22.43			
Japan	14.18	21.23	59.34	21.23	19.42
EU	12.97	19.42			
HongKong	4.47	6.69			
Taiwan	3.59	5.38			
	66.78	100.00			

Thailand

Major Trading partner	Trade weights	Individual currency basket weights	Individual G3 currency basket weights (%)		
			US dolalr	Yen	euro
Japan	18.66	25.20			
EU	11.88	16.04			
US	11.80	15.94			
China	7.92	10.70			
Singapore	5.80	7.83	54.02	27.92	18.06
Malaysia	5.62	7.59			
Taiwan	3.42	4.62			
HongKong	3.26	4.40			
Indonesia	2.87	3.88			
South Korea	2.82	3.81			
	74.05	100.00			

Authors calculation

All Trade data are from each country's government statistical website.

Trade based Individual currency basket weights (base year=2004) continued

China

Major Trading partner	Trade weights	Individual currency basket weights	Individual G3 currency basket weights (%)		
			US dolalr	Yen	euro
EU	15.35	21.55			
US	14.69	20.62			
Japan	14.54	20.41			
HongKong	9.76	13.70	52.67	23.04	24.29
South Korea	7.80	10.95			
Taiwan	6.78	9.52			
Singapore	2.31	3.24			
	71.23	100.00			

HongKong

Major Trading partner	Trade weights	Individual currency basket weights	Individual G3 currency basket weights (%)		
			US dolalr	Yen	euro
China	43.75	54.66			
Japan	14.47	18.08			
Taiwan	6.33	7.91			
US	4.31	5.38	73.42	20.03	6.55
EU	3.94	4.92			
Singapore	3.74	4.67			
South Korea	3.50	4.37			
	80.04	100.00			

Malaysia

Major Trading partner	Trade weights	Individual currency basket weights	Individual G3 currency basket weights (%)		
			US dolalr	Yen	euro
US	16.81	20.06			
Singapore	13.24	15.80			
Japan	12.75	15.21			
EU	11.76	14.03			
China	8.11	9.68	60.08	21.32	18.60
Thailand	5.10	6.09			
HongKong	4.49	5.36			
Taiwan	4.25	5.07			
South Korea	4.17	4.98			
Indonesia	3.13	3.73			
	83.81	100.00			

Authors calculation

All Trade data are from each country's government statistical website.

Trade based Individual currency basket weights (base year=2004) continued
Philippines

Major Trading partner	Trade weights	Individual currency basket weights	Individual G3 currency basket weights (%)		
			US dolalr	Yen	euro
Japan	19.29	22.23			
US	16.64	19.18			
EU	12.27	14.14			
Singapore	7.15	8.24			
China	6.49	7.48	57.14	25.72	17.14
Taiwan	6.42	7.40			
HongKong	6.07	7.00			
Malaysia	4.72	5.44			
South Korea	4.50	5.19			
Tailand	3.22	3.71			
	86.77	100.00			

Indonesia

Major Trading partner	Trade weights	Individual currency basket weights	Individual G3 currency basket weights (%)		
			US dolalr	Yen	euro
Japan	18.66	29.17			
EU	11.82	18.48			
Singapore	10.23	15.99	42.24	34.93	22.83
US	10.15	15.87			
China	7.37	11.52			
South Korea	5.73	8.96			
	63.96	100.00			

Authors calculation

All Trade data are from each country's government statistical website.

Figure 1. The G3 basket and the AMU, (against US dollar, Jan 2000=1)

- G3 basket (Williamson (2005))
- AMU basket (Ogawa and Shimizu (2005,2006)