Working Paper No. 208

Feasibility of an Asian Currency Unit

Abhijit Sen Gupta

Amitendu Palit

March 2008

INDIAN COUNCIL FOR RESEARCH ON INTERNATIONAL ECONOMIC RELATIONS

Foreword

One of the outcomes of the Asian financial crisis in 1997 was to strengthen the desire to promote greater economic and monetary cooperation in the region. One of the initiatives is the proposal to establish the Asian Currency Unit (ACU). This will allow economic agents in the region to invoice financial and trade transactions in a common currency and reduce exchange rate risks as well as channel Asia's savings more efficiently within the region.

This paper analyzes the viability of an Asian Currency Unit, identifying the political and economic constraints in it's development. It argues for an expansion of the initiative from its current scope to include major players in the region like India. The paper spells out a number of strategies that could be undertaken to remove the existing constraints and promote the use of the regional currency. It is hoped that the issues raised in the paper will provide useful inputs for policymakers across the region and deepen the discussion on this emerging issue.

Rajiv Kumar
Director & CE

March 10, 2008

Abstract

In this paper we evaluate the feasibility of a common Asian Currency Unit (ACU) involving countries of East and South Asia. We analyze the various properties of an ACU and calculate it's value using weighted averages of the values of Asian currencies. Looking at the movement of individual Asian currencies *vis-á-vis* the ACU, we find that there have been severe misalignments among the Asian currencies during the past seven years. We discuss the possibility of the Rupee figuring in the ACU and identify the major economic, political and historical impediments in the way of faster acceptance of ACU in the region. We point out the various strategies that could be employed to facilitate faster adoption of ACU. These include creating certain institutional safeguards as well as strengthening the existing ones. Finally, we highlight some ways to promote the use and acceptability of the ACU and also emphasize the importance of conceiving a larger framework of participating countries, including India.

JEL Classification: F36; F41;
Keywords: Asian Currency Unit, Regional integration, Monetary cooperation

Contents

List of Tables

List of Figures

Feasibility of an Asian Currency Unit*

1 Introduction

At the 39th Annual Meeting of the Asian Development Bank (ADB) in Hyderabad in May 2006, ministers from China, Japan and Korea announced that they would make concerted effort at coordinating their currencies with the objective of evolving towards the creation of a regional currency i.e. the Asian Currency Unit (ACU). It was also pointed out that as a result of the ever increasing linkages in trade, investment and financial flows among Asian countries, it is important to have stable intra-regional exchange rates while allowing sufficient flexibility against external currencies like the US dollar, Sterling and the Euro.

At the meeting it was also decided that the first step towards this objective will be the creation of an ACU, which is an appropriately weighted index of Asian currencies, and designed to monitor the collective movement of the participating currencies against the key external currencies as well as the individual currencies' movements relative to the ACU. This would enable the participating countries to stabilize their exchange rates against the ACU basket if at some later date they wanted to enter into an Exchange Rate Mechanism (ERM) like arrangement. As pointed out by Kuroda and Kawai (2002), the ACU is likely to act as a statistical indicator summarizing the collective movement of Asian currencies. It will also work as a market-based currency basket and serve as an official unit of account for monetary and exchange rate policy coordination.

As a regional benchmark, the ACU will help understand the degree of divergence of each participating countries' currencies, which can improve the understanding of the generic problems in a particular currency's market and in pursuing appropriate macroeconomic policies. The ACU can also be used to devise new instruments that

*Abhijit Sen Gupta, Fellow, Indian Council for Research on International Economic Relations, New Delhi (Email: abhijitsengupta@gmail.com). Amitendu Palit, Visiting Fellow: Indian Council for Research on International Economic Relations, New Delhi (Email: amitendu@gmail.com). We would like to thank Ramesh Chandra, Purnamita Dasgupta, Ravneet Kaur, Takehiko Kondo, Rajiv Kumar, Sim Yee Lau, Dil Bahadur Rahut and participants at the Workshop on Feasibility of Asian Currency Unit, New Delhi on October 15, 2007, for their very helpful comments. We would also like to thank Saswata Choudhury and Shounkie Nanwani for excellent research assistance. Financial assistance from Sasakawa Peace Foundation, Tokyo is acknowledged with thanks. All remaining errors are our own responsibility

can be easily traded across the border without the underlying exchange rate risk. Importers and exporters can denominate intra-Asia trade in ACU. Asian governments or corporates may wish to issue sovereign or corporate bonds in ACU. Various central banks can hold part of their reserves in ACU and even commercial banks could take deposits and give loans denominated in ACU. The widespread use of ACU will definitely increase the extent of financial and trade integration in this part of the world.

However, the success of this initiative requires an immense degree of political will. The promotion of the ACU will have to be backed by creation of new institutions and strengthening the existing ones to facilitate greater cooperation among the participating countries. Moreover, new strategies have to be developed to ensure greater use of the ACU among participating countries.

The rest of the paper is structured as follows. Section 2 provides a select review of the literature on optimum currency area and monetary cooperation. In Section 3, we focus on the European experience of a move towards a common currency and the lessons for Asian economies. Section 4 argues a case for the inclusion of the Indian Rupee in the ACU. In Section 5 we analyze the composition of the ACU involving different sets of participating countries and also highlight the deviation of the participating currencies from the regional benchmark. Finally, Section 6 outlines the various economic, political and historical obstacles that need to be overcome to ensure a successful move towards a common currency unit. We also discuss the various strategies and institutions that need to be set in place for a successful transition towards an ACU.

2 Selected Review of the Literature

Seminal contributions by Mundell (1961) and McKinnon (1963) gave rise to the theory of optimum currency area (OCA) as well as monetary and exchange rate cooperation among countries. Mundell (1961) points out that countries that are symmetrically affected by shocks are the prime candidates for an OCA. On the other hand OCA can comprise of countries that are impacted by asymmetrical shocks, provided that labor and capital are sufficiently mobile and prices are flexible enough so that persistent pockets of unemployment do not exist. Other relatively less important criteria include similarity of preferences over output-inflation trade-off and provision of supporting policies such as fiscal transfers.

The most conspicuous benefit of an OCA is the reduction in transaction costs involved with international trade in goods, services, labour and capital. Moreover, in OCA there is a decrease in the uncertainty associated with exchange rate, which is

likely to foster trade and investment flows. Entering an OCA also imposes a "discipline" on individual countries as it frees the central banks from the urge to embark on inflationary policies.

Speculation on changes in bilateral exchange rates leads to instability in foreign exchange markets, which in turn has negative effects on countries' internal and external balances. Such speculative attacks are greatly reduced from entering into an OCA. Countries are also deterred from pursuing uncoordinated economic policies like 'beggar thy neighbour', which has a negative impact on all the countries.

Costs associated with establishment of an OCA include the loss of autonomy in the conduct of monetary policy. In economies characterized by nominal rigidities and imperfectly integrated factor markets, monetary policy is an extremely important tool for stabilizing the economy. A change in the nominal exchange rate leads to a change in the real exchange rate and has an effect on the overall trade balance. The exchange rate also acts as an automatic stabilizer and helps the country maintain internal and external balance in the face of changes in aggregate demand.

Frankel and Rose (1998) mooted the idea that some of the OCA criteria discussed above can be endogenous. Once a group of countries establish a currency area by permanently fixing their exchange rates, the degree of intra-area economic integration will increase along with the degree of symmetry of economic shock. Thus deeper economic integration and symmetry of shocks are not the prerequisites of establishing a common currency area or other degrees of monetary cooperation. Instead, if these countries exhibit a strong political commitment to coordinate monetary and exchange rate policies, then their attempt to form a currency area can be successful as long as they satisfy the OCA criteria to some extent initially.

Eichengreen and Bayoumi (1999) analyze the economic and political prospects for monetary integration in East Asia, and based on the high level of trade and FDI integration, speed of adjustment to shock and symmetric supply and demand disturbances, conclude that the region satisfies the standard OCA criteria for the adoption of a common monetary policy. However a major deterrent to this process is the issue of sacrificing monetary autonomy especially given the weak financial system in a number of these countries.

Looking at the evolving trade patterns in Asia, Kawai and Motonishi (2005) find that in the last decade there has been a rapid expansion of intra-regional trade as well as vertical intra-industry trade in manufactured products. Moreover, intra-regional trade as a share of total trade in East Asia has risen from 35% in 1980 to 54% in 2003. In terms of FDI integration, Japan, United States and EU are equally important

foreign direct investors in East Asia, with Japan being the most significant in ASEAN.

Degree of labour market integration varies across the countries of the region. Developed economies of Japan and Korea have maintained tight restrictions on labour mobility. On the other hand, Southeast Asian economies of Thailand, Malaysia and Singapore are characterized by much greater labour mobility. Both Eichengreen and Bayoumi (1999) and Goto and Hamada (1994) note that labour markets are more flexible in Asia than they were in Europe in early 1990s.

3 The Euro Experience

The case for OCA received a strong fillip with the adoption of a common currency by 11 member countries of the European Union on January 1, 1999. However, the evolution of a common currency did not happen overnight and was a result of coordinated monetary policies over a period of more than 25 years. After the collapse of the Bretton Woods system in 1973, European countries allowed their currencies to float against the dollar but tried to narrow the degree of fluctuation *vis-á-vis* each other.

The first significant institutional step towards monetary unification was the formation of the European Monetary System (EMS). France, Germany, Italy, Belgium, Denmark, Ireland, Luxembourg and Netherlands began operating a system of mutually pegged exchange rates in March 1979. Even though inflation levels varied widely across these countries, the fixed-rate area in Europe succeeded through a mixture of policy cooperation and realignment.

The European Currency Unit (ECU) was an artificial "basket" currency that was used by these countries as their internal accounting unit. To protect the members from currency crisis as well as to provide greater latitude to conduct independent monetary policies, the EMS's operations were aided by several safety valves. The EMS defined bands in which the bilateral exchange rates of the countries could fluctuate and the bands of fluctuation were characterized by a set of adjustable bilateral central parities and margins that defined the bandwidth of permissible fluctuations. Thus the "fixed" exchange rates could fluctuate up or down by as much as 2.25% relative to an assigned par value, although several members were successful in negotiating bands of 6%.

The EMS also developed generous provisions of credit from strong to weak currency members. If the French franc depreciated too far against the Deutsche Mark, the Bundesbank was expected to lend the Bank of France Marks that could be sold for Francs in the foreign exchange market. Moreover, during the initial years of the

EMS, several countries like France and Italy maintained capital controls to reduce the possibility of a speculative attack.

Despite these safeguards, the EMS went through periodic currency realignments. There were 11 realignments between the start of EMS in 1979 and January 1987. Capital controls played an important role in shielding members' reserves from speculators during these adjustments. However, from 1987 there were concerted efforts to remove capital controls to achieve the objective of free movement of capital within the European Union (EU), which was a key element of the plan to turn Europe into a single unified market.

For a period of five and half years since January 1987, no adverse economic event shook the EMS's commitment to fixed exchange rates. In this period, the fixed exchange rate club grew adding Spain to it's ranks in 1989, Britain in 1990, and Portugal in early 1992. However, this arrangement faced a major shock after the German reunification. Large budget deficits, triggered by transfers in people and firms in Eastern Germany, together with an investment boom, accelerated demand in Germany. The inflation averse Bundesbank reacted by sharply increasing interest rates. However, other EMS countries such as United Kingdom, France and Italy were not witnessing a boom. With the removal of capital controls, if these countries were to maintain their peg with the German Deutsche Mark, they would have to raise their interest rates also, which would have pushed their economies into deep recession. This policy conflict between Germany and other EMS members led to a series of speculative attacks on the EMS exchange parities in September 1992. By August 1993, the EMS was forced to retreat to very wide (± 15 %) bands.

Due to the frequent realignments within the EMS, a committee headed by Jacques Dolores, president of the European Commission, recommended a three stage transition to an economic and monetary union (EMU), an European Union in which national currencies would be replaced by a single currency, managed by a sole central bank. It was believed that a single currency would produce greater degree of integration by removing the threat of currency realignments and eliminating costs to traders of converting one EMS currency to another. Secondly, German management of the EMS monetary policy had placed a one sided emphasis on German macroeconomic goals at the expense of it's partners' interests. The European Central Bank (ECB) that would replace the Bundesbank would be more considerate towards other countries' concerns. Finally, given the free movement of capital, there was little to gain and much to lose, by keeping national currencies fixed (but adjustable) parities rather than irrevocably locking parities through a single currency.

Table 1: Composition of the European Currency Unit

		13/03/79 to 16/09/84		17/09/84 to 21/09/89		21/09/89 to 31/12/99	
ISO	**Currency**	**Value**	**Weight (%)**	**Value**	**Weight (%)**	**Value**	**Weight (%)**
BEF	Belgian Francs	3.80	9.64	3.85	8.57	3.301	8.183
DEM	German Marks	0.828	32.98	0.719	32.08	0.6242	31.915
DKK	Danish Krones	0.217	3.06	0.219	2.69	0.1976	2.653
FRF	French Francs	1.15	19.83	1.31	19.06	1.332	20.306
GBP	British Pounds	0.0885	13.34	0.0878	14.98	0.08784	12.452
IEP	Irish Punts	0.00759	1.15	0.00871	1.20	0.008552	1.086
ITL	Italian Lira	109	9.49	140	9.98	151.8	7.840
LUF	Luxembourg Francs	(*)	(*)	(*)	(*)	0.13	0.322
NLG	Dutch Guilders	0.286	10.51	0.256	10.13	0.2198	9.87
GRD	Greek Drachmas			1.15	1.31	1.44	0.437
ESP	Spanish Peseta					6.885	4.138
PTE	Portugese Escudos					1.393	0.695

Technical Notes: The Belgian and Luxembourg francs were in a currency union. Thus, the ECU basket values are combined and shown only for Belgium. Weights are evaluated at central parities on March 13, 1979 and September 17, 1984.
From May 3, 1998 through December 31, 1998, the rates of the 9 currencies that are part of the ECU basket as well as euro-11 member currencies were irrevocably fixed. Weights are evaluated at the prevailing exchange rates on December 31, 1998.

On Dec 10, 1991, the leaders of EU met at Maastricht and proposed national ratification of several amendments to the existing Treaty of Rome (1957). The Mastricht Treaty had a provision that called for introduction of a single European currency and central bank no later than January 1, 1999. By 1993, all 12 countries then belonging to the EU had ratified the Mastricht Treaty. Austria, Finland and Sweden accepted the treaty's provisions upon joining in 1995.

The Mastricht Treaty specified that countries had to satisfy several macroeconomic convergence criteria before they could be admitted to EMU. These included pre-set targets on inflation, exchange rate variability, fiscal deficit and public debt. In addition, a supplementary Stability and Growth Pact (SGP) tightened the fiscal straitjacket even more. The reason for excessive controls on fiscal deficit and public debt was to ensure an environment of low inflation and fiscal restraint. Otherwise the Euro would be a weak currency and fall prey to the type of policies that fueled previous European inflations.

By May 1998, 11 EU countries had satisfied the convergence criteria and became the founder members of the EMU. These were Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal and Spain. Britain and Denmark exercised their privilege to stay outside the monetary union and Sweden failed to satisfy the criteria on exchange rate as it was never a member of the EMS.

4 The Rupee and the ACU

While initiating steps towards the creation of an ACU is indeed commendable, a perplexing feature has been the exclusion of Indian Rupee till now, in the formation of the ACU. An endevour to enhance regional cooperation in Asia must take into account the ground realities. India is currently the largest economy of South Asia and has been growing at an average annual rate of 8.5% during the past four years.

Table 2: Share of Asian Economies in GDP, Merchandise Trade and International Debt Securities (2006)

	GDP			Merchandise Trade		International Debt Securities	
	Exchange Rate	PPP	Population	Import	Export	Residence	Nationality
Brunei	0.11	0.04	0.01	0.22	0.08	0.00	0.00
Cambodia	0.07	0.20	0.44	0.12	0.15	0.00	0.00
Indonesia	3.51	4.19	7.09	2.90	2.86	1.71	2.65
Laos	0.03	0.06	0.18	0.03	0.03	0.00	0.00
Malaysia	1.45	1.36	0.83	4.60	4.18	5.58	4.63
Myanmar	0.13	0.52	1.49	0.12	0.07	0.00	0.00
Philippines	1.13	2.02	2.72	1.33	1.57	6.80	4.64
Singapore	1.27	0.62	0.14	8.36	8.13	10.16	6.48
Thailand	1.99	2.62	1.92	3.93	4.37	2.42	1.76
Vietnam	0.59	1.21	2.68	1.12	1.36	0.37	0.00
*A*SEAN	*1*0.27	*1*2.85	*1*7.50	*2*2.74	*2*2.83	*2*7.04	*2*0.16
Japan	42.06	18.64	3.91	19.53	19.57	32.46	45.68
China	25.33	41.65	40.39	26.83	24.22	3.34	4.23
Korea	8.55	5.05	1.48	9.56	10.29	19.16	14.53
*A*SEAN+3	*8*6.21	7*8*.19	*6*3.28	7*8*.67	7*6*.91	*8*2.00	*8*4.60
India	**8.54**	**17.62**	**35.80**	**4.90**	**6.63**	**3.46**	**2.85**
*A*SEAN+3+1	*9*4.75	*9*5.81	*9*9.08	*8*3.57	*8*3.54	*8*5.45	*8*7.44
Hong Kong	1.83	1.14	0.22	10.01	10.07	10.51	9.33
Taiwan	3.43	3.05	0.70	6.42	6.40	4.04	3.23
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Data on GDP, import and export has been obtained from the *International Monetary Fund* while data on population is from UN Statistics. International debt securities data is extracted from *Bank of International Settlements*.

Table 2 looks at the share of the various Asian economies across some major economic indicators. Apart from the ASEAN+3 members it also includes India, Hong Kong and Taiwan. It can be clearly seen that India plays a far more dominating role in the region compared to most of the ASEAN countries. In terms of Gross Domestic Product (GDP), India accounts for 8.54% of the regional GDP whereas the entire ASEAN region accounts for slightly more than 10%. Once we consider the differences in cost of living across the countries, India's share in the regional GDP climbs to over 17%, nearly 1.5 times that of the entire ASEAN region. India is also home to

more than 35% of the region's population, which is nearly twice that of the combined countries of the ASEAN region. Moreover, in terms of FDI inflows, India received close to $17 billion in 2006 and was the fourth largest recipient in this region.

In the last decade and a half, India has undertaken several reforms in the external sector and as a result, it's import and export shares in 2006 stood at 4.90% and 6.63% of the region. India has also emerged as one of the top FDI recipients in the region. Finally, looking at the international debt securities issued country-wise we find that barring Singapore, Malaysia and Philippines, other ASEAN countries have a lower share than India.

Thus it is clear that India occupies an extremely important position in the region and it's opinions need to be taken into account while striving for a common currency unit. The Indian economy, currently valued over $ 1 trillion, has experienced a robust growth of over 8% during the last four years. The exchange rate regime, characterized as a managed float, allows the Indian Rupee far greater flexibility than some of it's East Asian neighbours like China, Malaysia and Hong Kong.[1] Moreover, in recent years India has consciously sought greater integration with East Asian countries as a part of it's Look East Policy.[2]

Finally, the ACU is being largely thought as a precursor to a common currency in the distant future, just like the European Currency Unit was the predecessor of the Euro. Thus it is important not to focus only on the current state but have a dynamic outlook about how the region will look 30-40 years from now. According to several estimates India is currently poised to be the third largest economy in the world and second largest in the region over the next 30 years.[3] Hence inclusion of India in an effort towards greater economic monetary integration in the region seems to be a prudent decision.

On it's part, India needs to take certain steps to ensure greater trade and investment integration with the region. Currently, India's merchandise trade with ASEAN+3 economies constitute around 25% of the total trade and this needs to be significantly increased. Moreover, India must also seek greater participation in other regional initiatives like the Chiang Mai Initiative and the Asian Bond Market Initiative to ensure greater integration of it's financial sector with similar segments in

[1]While the Chinese Renminbi and Malaysian Ringitt were pegged to the US Dollar till July 2005, the Hong Kong has a currency board arrangement with the US.

[2]India has already entered into bilateral trade agreements or is in the process of entering into such agreements with several East Asian economies. These include Comprehensive Economic Cooperation Arrangement (CECA) with Singapore, Free Trade Agreement with Thailand and framework arrangements with ASEAN, Indonesia and Malaysia.

[3]Dreaming with the BRICs: The Path to 2050

the region.

5 Composition of the Asian Currency Unit

The primary reason for a move towards any common currency unit is to reduce the volatility that is observed among bilateral exchange rates. Regional monetary and financial cooperation contributes a great deal to global and regional financial stability. Moreover, deepening monetary and exchange rate policy coordination would be especially beneficial to the highly export-oriented and deeply interdependent economies of Asia as it will facilitate trade by reducing the transaction costs. The ACU could also facilitate development of an Asian multi-currency bond market and a deepening of capital markets, which would help to reduce exposure to external shocks. In general reduced currency volatility in the region will ensure that more of Asia's saving remains in the region and the savings are efficiently put to work by the regional financial system. As pointed out by Kuroda (2006) this will significantly help in meeting Asia's massive need for infrastructure investment, which is currently unmet as excess financial savings are finding their way to the global capital markets.

The official value of the common currency unit in terms of a numèraire currency depends on two things, the weights of the different currencies in the basket and the value of these currencies in terms of the numèraire currency.

More specifically, the official price of the ACU in terms of currency i can be defined as

$$\xi^i_{ACU,t} = \sum_j \Psi_j \xi^i_{j,t}, \tag{1}$$

where
$\xi^i_{ACU,t}$ is the value of the ACU in terms of currency i at time t,
ψ_j is the share of currency j in ACU, and
$\xi^i_{j,t}$ is the value of currency j in terms of currency i at time t.

5.1 A Hypothetical ACU

For analytical simplicity, consider a hypothetical ACU, which includes the currencies of the four largest countries of East and South Asia, i.e. China, Japan, Korea and India. For simplicity we also assume that each country's currency has a equal weight in the ACU. Moreover, we use the Dollar as the numèraire currency. Based on the bilateral exchange rates between the four major currencies of Asia the value of ACU

is given as:[4]

$$
\begin{aligned}
&1\,\text{ACU} = 0.25\text{CNY}+0.25\text{JPY}+0.25\text{KRW}+0.255\text{INR} \\
&= 0.25 * 0.133\text{USD} + 0.25 * 0.025\text{USD} + 0.25 * 0.0088\text{USD} + 0.25 * 0.0011\text{USD} \\
&= 0.04189\text{USD}
\end{aligned}
$$

Now suppose owing to some exogenous shock, the Chinese Renminbi appreciates by 10% against the the dollar. Due to the arbitrage condition the Chinese Renminbi will also appreciate against the other three Asian currencies. In such a situation the revised value of the ACU is given as

$$
\begin{aligned}
&1\,\text{ACU} = 0.25\text{CNY}+0.25\text{JPY}+0.25\text{KRW}+0.255\text{INR} \\
&= 0.25 * 0.146\text{USD} + 0.25 * 0.025\text{USD} + 0.25 * 0.0088\text{USD} + 0.25 * 0.0011\text{USD} \\
&= 0.04521\text{USD}
\end{aligned}
$$

The above example shows that the variation in the exchange rates of the individual currencies *vis-á-vis* the ACU is lower than the variation in the bilateral exchange rates. In this example, the Chinese Renminbi appreciated against all other currencies by 10%. However, against the ACU it appreciated by only 1.9%, while the ACU appreciated against the USD by 7.9%. On the other hand while the Asian currencies depreciated against the Chinese Renminbi by 10%, they depreciated against the ACU by 7.35%. Any basket of currencies that are not perfectly correlated will exhibit diversification properties, i.e. the variability of the basket is less than the weighted sum of the variability in components.

Any ACU position can be replicated by transacting in all the individual participating currencies. However, that would subject agents to an overwhelming number of transactions. Moreover, these transactions would be taking place in thinly traded markets and would be in fractional and odd amounts. These would severely increase the transaction costs and render several investment projects unviable.

The financial markets in many Asian countries are small and they lack several financial instruments and products available to the more developed countries in the region. By undertaking transactions in a common unit, these lesser developed countries would be able to trade across a wider range of products at a more favourable rates than they might in their domestic terms.

[4]Exchange rates as on September 17, 2007 implied that $1\,\text{USD} = 7.52\,\text{CNY} = 40.36\,\text{INR} = 114.92\,\text{JPY} = 928.65\,\text{KRW}$

5.2 The Asian Big 4

In the hypothetical example considered in Section 5.1, we assigned equal weights to all currencies. However, typically, the weights assigned to individual currencies represent the economic importance or size of the countries. Economic size of a country can be measured in several ways like share in nominal GDP, share in GDP measured using purchasing power parity, share in intra-regional trade etc. In this section we calculate the value of ACU looking at different combinations of countries.

First we consider the case where only the currencies of the four largest countries of Asia enter into the value of the ACU. These include, Japan, China, South Korea and India. In terms of nominal GDP, these four countries account for 78% of Asia's GDP, while in terms of GDP based on purchasing power their share is over 74%. Clearly these countries have a major role to play in promoting economic and monetary integration in Asia.

The relative weight of each currency is determined by the economic size of the country. We use the share of these countries' GDP as well as their export share to calculate the weights. We also need to choose a base year i.e. a year when major macroeconomic indicators across various countries were relatively close to each other. The rationale behind such a move is that with the introduction of the common currency unit, the bilateral exchange rates become relatively fixed and there is a change in the array of economic policy instruments available to stabilize the economy. Members of a common currency unit need to follow a coherent set of domestic policies for the common currency unit to work effectively. The Maastricht convergence criteria for joining the European Economic and Monetary Union was established to promote coherent policymaking among the potential entrants. It involved convergence of inflation rate, annual government deficit, government debt, exchange rate stability and long term interest rate over a period of time. Following this convention, we look at the above macroeconomic indicators across the four countries. As a measure of external balance we also focus on the ratio of current account to GDP. We find that the variation in most of the macroeconomic indicators is least in the year 2001 and hence select that as the benchmark year.[5] Moreover, this choice of the base year also ensures that the estimation of the ACU is largely uninfluenced by the aftereffects of the 1997 Asian Crisis.

[5]Several other papers like Watanabe and Ogura (2006) and Ogawa and Shimizu (2005, 2006) have also referred to 2001 as the base years as the Asian economies showed least divergence among across major macroeconomic indicators like current account balance, fiscal deficit, inflation rates and public debt.

Table 3: Composition of ACU involving Asian Big 4

	Dollar as the Numèraire Currency						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	National Currency	GDP Nominal		GDP PPP		Exports	
	per $ (2001)	Weights (%)	Units	Weights (%)	Units	Weights (%)	Units
China	8.28	20.77	1.72	44.92	3.72	30.82	2.55
India	47.19	7.43	3.51	21.12	9.97	5.05	2.38
Japan	121.53	64.25	78.08	27.36	33.25	46.72	56.78
Korea	1290	7.56	97.47	6.60	85.19	17.42	224.69
	Euro as the Numèraire Currency						
	National Currency	GDP Nominal		GDP PPP		Exports	
	per €(2001)	Weights (%)	Units	Weights (%)	Units	Weights (%)	Units
China	7.41	20.77	1.54	44.92	3.33	30.82	2.28
India	42.25	7.43	3.14	21.12	8.92	5.05	2.13
Japan	108.77	64.25	69.88	27.36	29.76	46.72	50.81
Korea	1154.36	7.56	87.23	6.60	76.23	17.42	201.07

Finally, we need to choose an external currency against whom the value of the ACU will be measured. We consider the US Dollar as well as the Euro, given the growing importance of European Union as Asia's trading partner. The weights of the various currencies in the ACU should reflect their economic size. Consequently, we base the weights on GDP, in terms of nominal exchange rate as well as purchasing power parity and exports. Data on nominal and purchasing power based GDP is obtained from the *World Economic Outlook*, while data on exports and bilateral exchange rates is taken from the *International Financial Statistics*.

Column (1) of Table 3 lists the bilateral exchange rates of the Asian currencies *vis-á-vis* the US Dollar and Euro in the base year. In the base year, one unit of ACU is assumed to be equal to one unit of the numèraire currency, say the US Dollar. In 2001 Japan accounted for 64.25% of total area's nominal GDP and is followed by China, which contributed 20.77%. India and Korea accounted for 7.43 and 7.56% respectively. Given that the weights correspond to the economic size of the participating countries, it implies that one unit of the ACU will include $0.6425 equivalent of Japanese Yen, $0.2077 equivalent of Chinese Renminbi, $0.0756 equivalent of Korean Won and $0.0743 of Indian Rupee. Given the bilateral exchange rates between the Asian currencies and US Dollar in 2001, it implies the ACU will include 1.72 units of Chinese Renminbi, 3.51 units of Indian Rupees, 78.08 units of Japanese Yen and 97.47 units of Korean Won. The relative weights and corresponding amount of individual Asian currencies will expectedly change when we use GDP in terms of Purchasing

Power Parity as a measure of economic size. China has the highest weight with 44.92% followed by Japan at 27.36%, India at 21.12% and Korea at 6.60%. Finally, when we focus on exports as a measure of economic size, we find that Japan has the highest weight followed by China, Korea and India. The lower panel of Table 3 looks at the scenario where Euro is considered the numèraire currency.

Figure 1 outlines the movement of the ACU *vis-á-vis* the US Dollar and the Euro using different measures of weights. Apart from the three measures listed in Table 3, we also use weights that are calculated using the average of nominal GDP and exports as well as GDP using PPP measure and exports. Across the various measures of economic size, the ACU weakened by 1% to 2% between 2001 and 2002. However, since then the ACU has been steadily appreciating against the US Dollar and by middle of 2007, the ACU gained about 6 to 10% compared to the base year.

The other interesting feature is the fact that the value of the ACU *vis-á-vis* the US Dollar exhibited maximum volatility when economic size is measured using nominal GDP and least volatility when weights based on GDP using PPP measure is used. On the basis of nominal GDP, Japan is accorded the highest weight, and the Yen appreciated sharply against the US dollar between Feb 2002 and Dec 2004. Thereafter, the US Dollar regained some value against the Japanese Yen. On the other hand, when economic size is measured using PPP based GDP, China is given the maximum weight, and the Chinese Renminbi was pegged to the dollar throughout the period till July 2005.

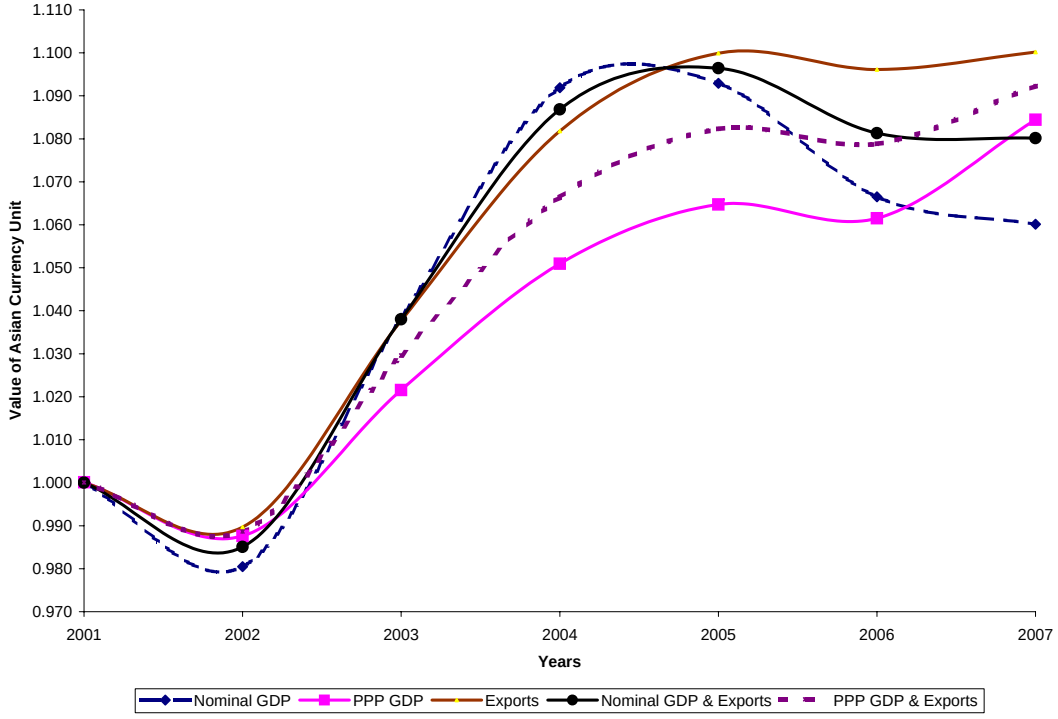
On the other hand, between 2001 and 2007, the Euro has become relatively stronger against the ACU as the latter lost about 30% of it's value against the former. When we use Euro as the numèraire currency, the value of ACU shows relatively similar volatility across the various measures of weights used. Compared to 2001, the Chinese Renminbi depreciated by 38.4% against the Euro while Indian Rupee and Japanese Yen depreciated by 33.7% and 44.6% respectively. In contrast, the Korean Won depreciated by only 7.5%. As a result, the value of ACU using weights based on export shares, where Korea has a significant presence, shows least volatility.

To calculate the exchange rate of national currencies of Asian Big 4 *vis-á-vis* the ACU we use the following arbitrage condition.

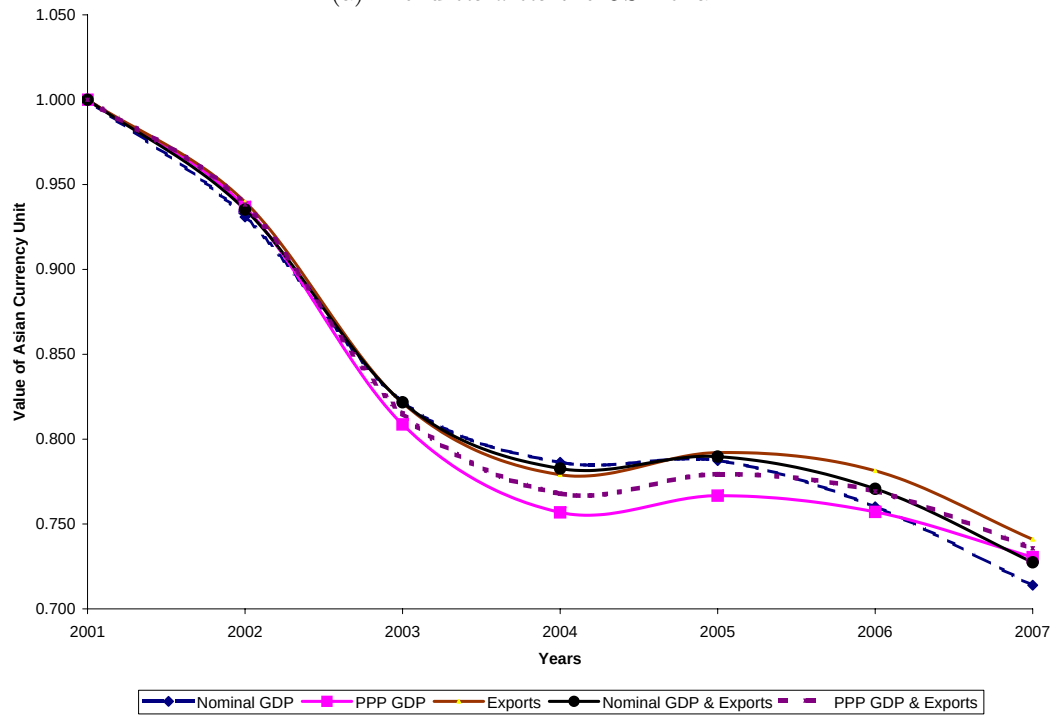
$$\xi_{i,t}^{ACU} = \xi_{i,t}^{Num} \xi_{Num,t}^{ACU}$$

where
$\xi_{i,t}^{ACU}$ is the value of the currency i in terms of ACU at time t,
$\xi_{i,t}^{Num}$ is the value of the currency i in terms of the numèraire currency at time t, and
$\xi_{Num,t}^{ACU}$ is the value of numèraire currency in terms of the ACU at time t.

Figure 1: Trend of the ACU Based on Asian Big 4



(a) Trend *vis-á-vis* the US Dollar



(b) Trend *vis-á-vis* the Euro

Next, we define 'Percentage Deviation' of the various Asian currencies from the ACU as:

$$\text{Percentage Deviation} = \frac{\xi_{i,t}^{ACU} - \xi_{i,0}^{ACU}}{\xi_{i,0}^{ACU}}. \tag{2}$$

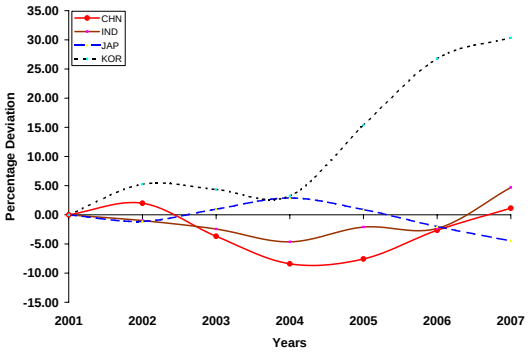
where $\xi_{i,0}^{ACU}$ is the value of the Asian currency in terms of ACU in the base year, i.e. 2001. The deviation indicator takes a value of 0% in the base year by construction. Figure 2 shows percentage deviation in the value of the Asian currencies *vis-á-vis* the ACU, using US dollar as the numèraire currency. Across the various measures of weight we find that the Korean Won has shown the maximum volatility, where as the Indian Rupee is the most stable currency.

There is also evidence of strong misalignment among the four currencies. The Korean Won experienced over 25% deviation from the benchmark rate in 2007. It experienced a strong overvaluing deviation of nearly 20% between 2004 and 2006, primarily because the Won was appreciating steadily against the Dollar. The Japanese Yen showed a small negative deviation from the base rate in 2002. However, thereafter it became stronger *vis-á-vis* the ACU till 2004 as the Yen became stronger against the Dollar. From 2004, the Japanese Yen started becoming weaker against the ACU and by 2007 it exhibited about negative 7% deviation.

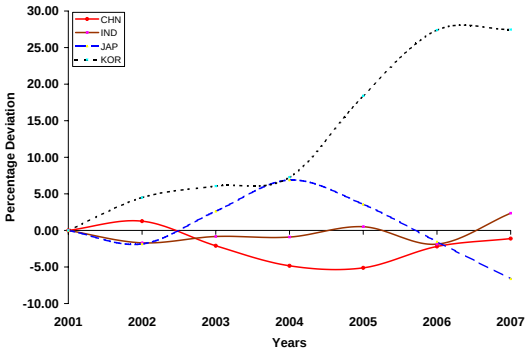
The Indian Rupee has been relatively stable against the ACU and it has fluctuated between a band of ±5% during the entire period. Finally, the Chinese Renminbi became weaker *vis-á-vis* the ACU from 2002 to 2004. During this period the Chinese Renminbi was strictly pegged to the Dollar and as the Dollar became weaker against the other Asian currencies so did the Renminbi. However, in August 2005, People's Bank of China (PBOC) announced a revaluation of the currency and a reform of the exchange rate regime. Under the reform, the PBOC incorporated a "reference basket" of currencies when choosing it's target for the Renminbi. Since then the Renminbi has become relatively stronger against the ACU and in 2007 it stood within a narrow ±2% band *vis-á-vis* the ACU.

Figure A.1 in Appendix calculates the percentage deviation in the value of the Asian currencies *vis-á-vis* the ACU using Euro as the numèraire currency. The results differ substantially from when US Dollar was considered as the numèraire currency. The Korean Won continues to be the most volatile currency and appreciated by 15% in 2007 compared to the benchmark value. On the other hand, the Chinese Renminbi, Japanese Yen and Indian Rupee became weaker relative to the benchmark value. From 2001 to 2004, the Chinese Renminbi, by the virtue of being pegged to the US Dollar, became weaker by 15%. However, since then it has recovered some of it's value and in

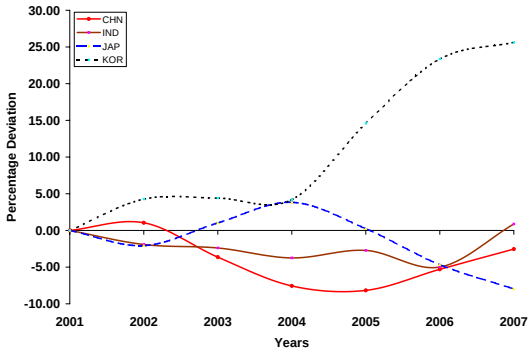
Figure 2: Change in the Value of Participating Currencies *vis-á-vis* ACU: Asian Big 4, (Numèraire Currency: US Dollar)



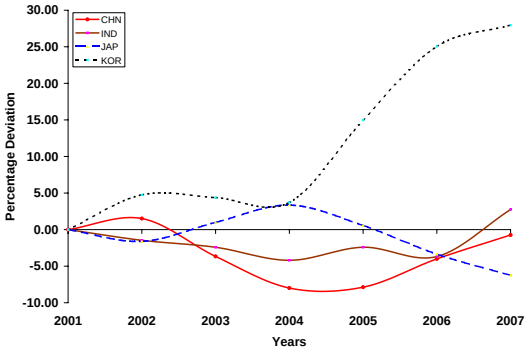
(a) Nominal GDP



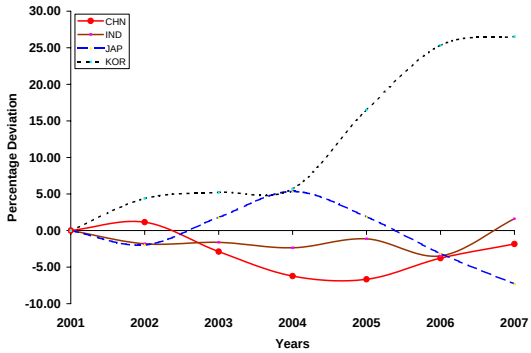
(b) GDP Based on PPP Measure



(c) Exports



(d) Exports and Nominal GDP



(e) Exports and GDP Based on PPP Measure

2007 was about 8% weaker compared to the benchmark value. In 2007, the Japanese Yen and the Indian Rupee were weaker by around 15% and 8% respectively, relative to the benchmark value.

Thus the percentage deviation indicators are extremely sensitive to the choice of the numèraire currency. In 2007, both the Chinese Renminbi and the Indian Rupee were stronger relative to their benchmark value when the ACU is calculated using the US Dollar as the numèraire currency. However, when Euro is used as the numèraire currency, both these participating currencies found themselves weaker relative to the benchmark value.

5.3 Inclusion of Extra Regional Currencies in Asian Currency Unit

Next, we extend the analysis by evaluating the composition of the ACU involving the Asian Big 4 countries along with the ASEAN member states and economies of Australia and New Zealand. These 16 countries are a part of the East Asia Summit (EAS) where issues of common political, economic and strategic interest are being discussed.

One of the key issues being debated at the East Asia Summit involve the strengthening of the Asian monetary and financial architecture involving the EAS countries through the creation of an Asian Currency Unit and using it to facilitate intra-regional trade and exchange rate stability. In this section, we calculate an ACU made up of currencies of countries involved in the EAS and focus on the percentage deviation of the participating currencies from this ACU.

It is clearly evident that the inclusion of the additional countries has a relatively small impact on the GDP based weights of the Asian Big 4. The latter continue to corner a significant part of the regional GDP. In terms of nominal GDP, the Asian Big 4 countries account for nearly 87% of the nominal GDP while in terms of GDP based on PPP their share is over 83%. Only in the case of export based weights, there is a significant decline in the share of the Asian Big 4 with several of the ASEAN 10 economies like Singapore, Thailand and Malaysia, as well as Australia and New Zealand being significant exporters of the region.

Evaluating the movement of the ACU based on 16 participating currencies, in Figure 3, reveals that while the trend is broadly similar to Figure 1, there are some important quantitative differences. The ACU again experienced an appreciation against the US Dollar but the quantum of appreciation is significantly higher than the previous section. This was primarily due to the inclusion of Thai Baht, Singapore Dollar, Australian Dollar and New Zealand Dollar, all of which experienced significant appre-

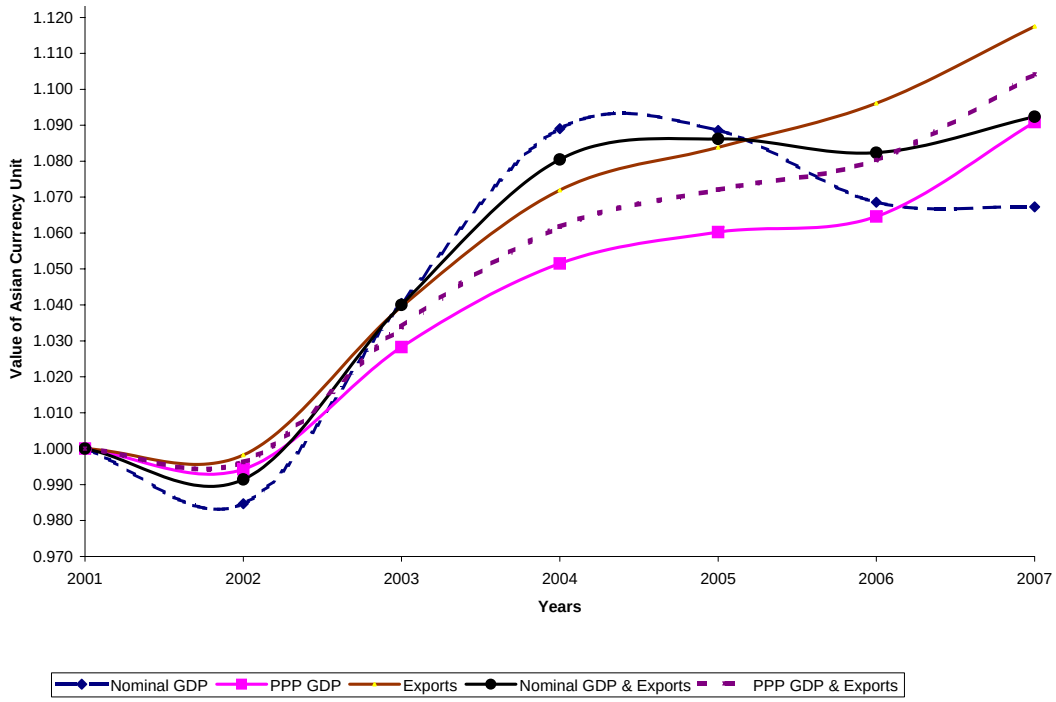
ciation *vis-á-vis* the US Dollar. Moreover, since most of the above mentioned countries are major exporters of the region, the ACU witnessed maximum appreciation when export based weights are used.

Table 4: Composition of ACU involving Extra Regional Currencies

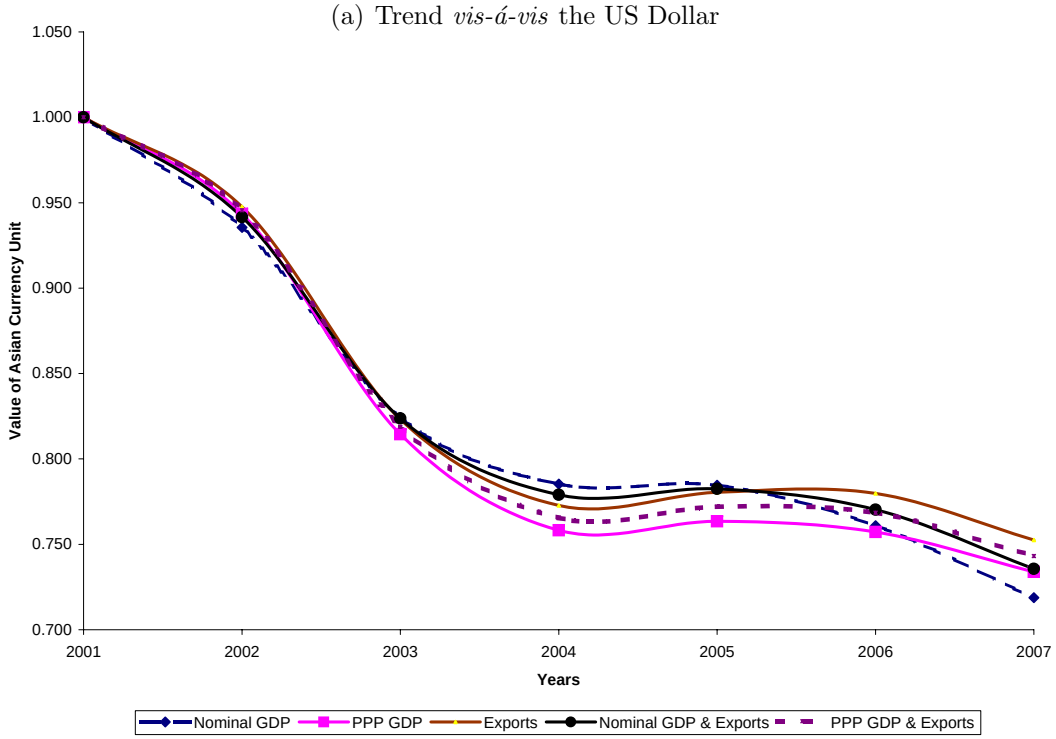
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Dollar as the Numèraire Currency						
	National Currency	GDP Nominal		GDP PPP		Exports	
	per $ (2001)	Weights (%)	Units	Weights (%)	Units	Weights (%)	Units
Brunei Dar.	1.790	0.076	0.001	0.051	0.001	0.264	0.473
Cambodia	3916.330	0.054	2.110	0.176	6.911	0.129	505.051
China	8.280	17.977	1.489	37.151	3.076	19.117	158.289
India	47.190	6.430	3.034	17.471	8.244	3.846	181.513
Indonesia	10260.900	2.180	223.692	4.477	459.370	4.010	41148.620
Japan	121.530	55.608	67.580	22.627	27.498	30.186	3668.485
Korea	1290.990	6.540	84.434	5.462	70.516	11.415	14737.140
Lao PDR	8954.580	0.024	2.141	0.061	5.428	0.029	262.217
Malaysia	3.800	1.194	0.045	1.424	0.054	6.543	24.863
Myanmar	6.680	0.088	0.006	0.415	0.028	0.177	1.182
Philippines	50.990	0.966	0.493	2.148	1.095	2.285	116.504
Singapore	1.790	1.160	0.021	0.653	0.012	9.534	17.066
Thailand	44.430	1.568	0.697	2.726	1.211	4.981	221.291
Vietnam	14725.200	0.441	64.948	1.169	172.154	1.141	16795.063
Australia	1.936	4.996	0.097	3.451	0.067	5.184	0.100
New Zealand	2.379	0.698	0.017	0.538	0.013	1.159	0.028
	Euro as the Numèraire Currency						
	National Currency	GDP Nominal		GDP PPP		Exports	
	per €(2001)	Weights (%)	Units	Weights (%)	Units	Weights (%)	Units
Brunei Dar.	1.594	0.076	0.001	0.051	0.001	0.264	0.421
Cambodia	3388.657	0.054	1.826	0.176	5.980	0.129	437.002
China	7.414	17.977	1.333	37.151	2.755	19.117	141.741
India	42.219	6.430	2.715	17.471	7.376	3.846	162.392
Indonesia	9214.138	2.180	200.872	4.477	412.507	4.010	36950.857
Japan	108.921	55.608	60.568	22.627	24.645	30.186	3287.859
Korea	1157.713	6.540	75.717	5.462	63.236	11.415	13215.735
Lao PDR	6830.971	0.024	1.633	0.061	4.141	0.029	200.031
Malaysia	3.408	1.194	0.041	1.424	0.049	6.543	22.298
Myanmar	5.976	0.088	0.005	0.415	0.025	0.177	1.058
Philippines	45.860	0.966	0.443	2.148	0.985	2.285	104.783
Singapore	1.606	1.160	0.019	0.653	0.010	9.534	15.314
Thailand	39.913	1.568	0.626	2.726	1.088	4.981	198.792
Vietnam	13475.670	0.441	59.436	1.169	157.545	1.141	15369.891
Australia	1.733	4.996	0.087	3.451	0.060	5.184	0.090
New Zealand	2.130	0.698	0.015	0.538	0.011	1.159	0.025

On the other hand, the ACU calculated using GDP-PPP weights experienced the least appreciation through most of the period. Again, this was largely due to the strict peg between Chinese Renminbi and the US Dollar. Only during the first 6 months of 2007 that the value of ACU based on GDP-PPP weights is higher than the ACU based on nominal GDP weights. During this period, Japanese Yen, which carries the highest weight in terms of nominal GDP became weaker relative to the US Dollar and the Chinese Renminbi, which carries the highest weight in terms of GDP-PPP, appreciated against the US Dollar.

Figure 3: Trend of the ACU Based on Extra Regional Currencies



(a) Trend *vis-á-vis* the US Dollar



(b) Trend *vis-á-vis* the Euro

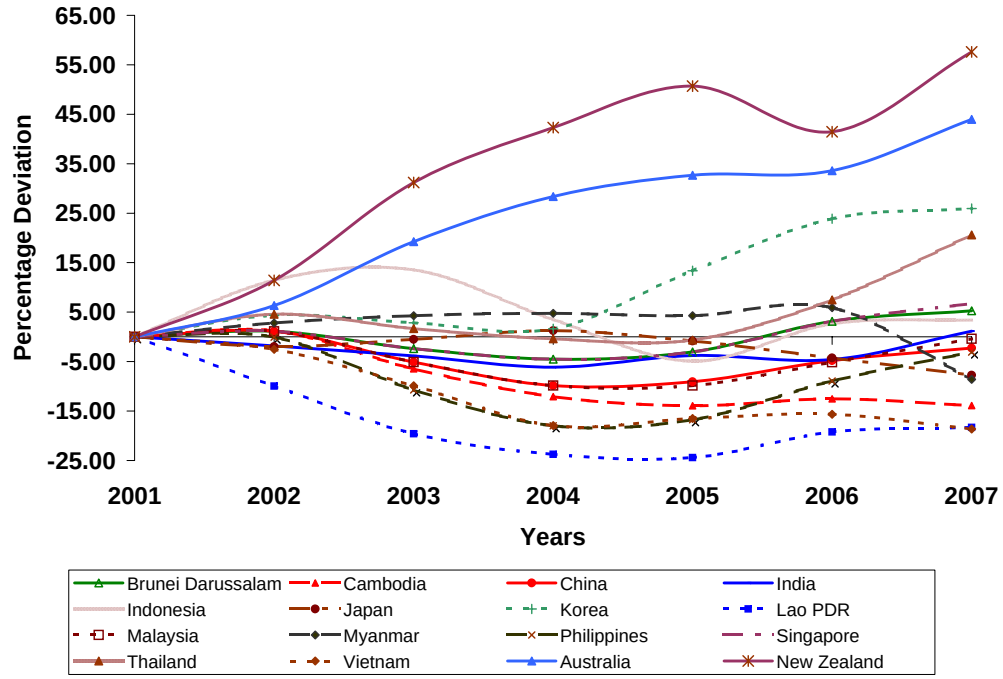
If Euro is taken as the numèraire currency, the results are again similar to that of Asian Big 4. The ACU lost about 30% of it's value against the Euro during the period. There is less divergence among the various values of ACU, calculated using different measures of weight, compared to the trend *vis-á-vis* the US Dollar.

Figure 4 shows that the participating currencies have exhibited very diverse trends *vis-á-vis* the ACU over the last seven years. The Lao Kip has shown the maximum negative percentage deviation during this period. Compared to the base year, the Lao Kip depreciated by more than 22% in 2005 against the ACU but since then it has become stronger by 5%. The Vietnamese Dong and the Cambodian Riel also steadily lost their value and by 2007 were weaker by 18 and 13% respectively, in 2007 relative to their base year value. As pointed out in Kawai (2007) these countries have primarily followed an intermediate exchange rate system like a managed float during this period. On the other hand, Brunei Darussalam has a currency board arrangement with Singapore and as a result the Singapore Dollar and Brunei Dollar showed exactly the same percentage deviation against the ACU. Both these currencies became weaker relative to the ACU from 2002 to 2005, but have experienced significant strengthening during the last couple of years, and in 2007 were 6% stronger than the benchmark rate.

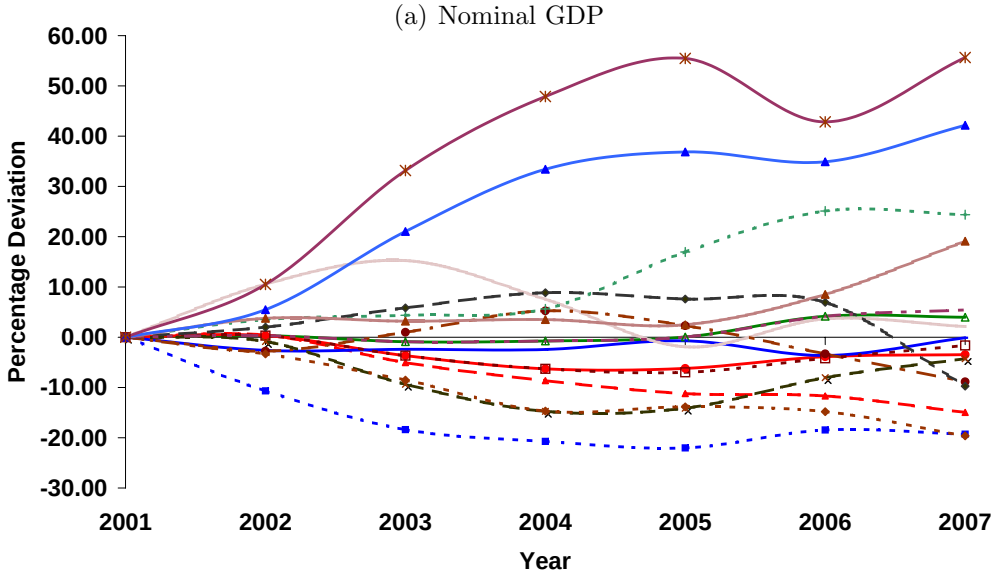
Among the major economies in the ASEAN region, Indonesian Rupiah had the largest overvaluing deviation between 2001 and 2003 when it was stronger against the ACU by nearly 14% compared to the base year value. However, since then it's value steadily declined compared to the ACU till 2005 when it was 5% weaker than the base year value. In recent years the Indonesian Rupiah has again exhibited a resurgence and by 2007 had gained more than 3% from it's base year value. In contrast, the Phillipine Peso became weaker by nearly 18% in 2004 from it's benchmark value but recovered smartly in the last couple of years, and in 2007 was weaker by only 3% from the base value.

The Korean Won steadily appreciated against the ACU with most of the appreciation coming in the last two years. By the middle of 2007, the Korean Won was 26% stronger *vis-á-vis* the ACU. The Thai Baht has also gained considerably against the ACU. Most of this gain has come since 2005 when the Thai Baht gained more than 17% *vis-á-vis* the US Dollar. Both Malaysian Ringitt and the Chinese Renminbi show exactly the same extent of percentage deviation from 2001 till 2004 since both currencies were pegged to the US Dollar during this period and they become weaker by nearly 9% against the ACU. Malaysia announced the end of the peg to the U.S. dollar immediately after China's announcement of the end of the Renminbi peg to the U.S. dollar on July 21, 2005. Since then the Chinese Renminbi and Malaysian Ringitt have shown slightly diverse movement. At the end of the first six months of 2007, the

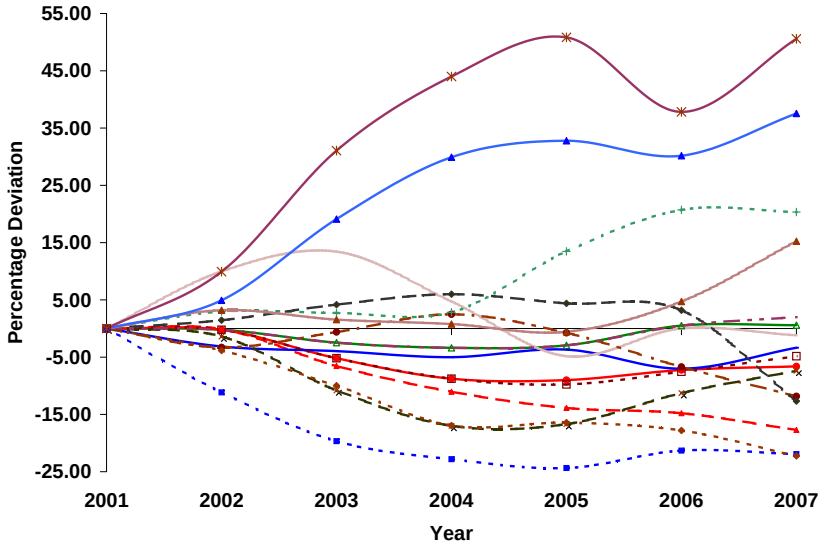
Figure 4: Change in the Value of Participating Currencies *vis-á-vis* ACU: Extra Regional Currencies, (Numèraire Currency: U.S. Dollar)



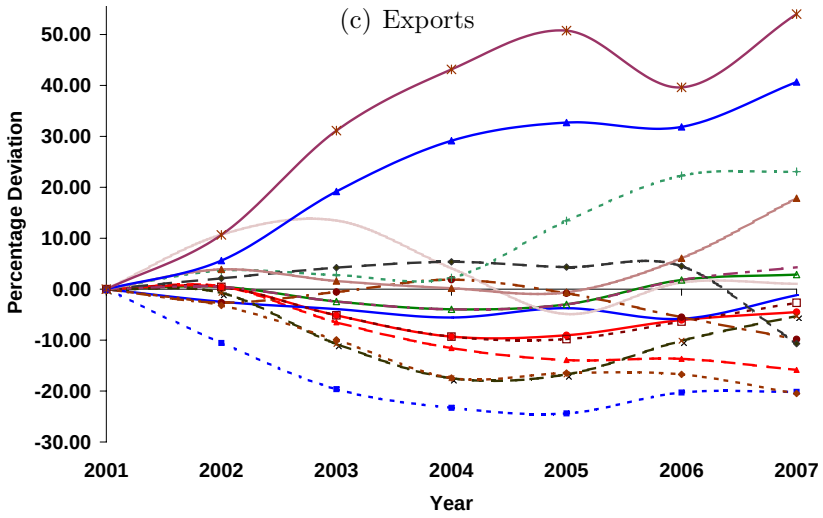
(a) Nominal GDP



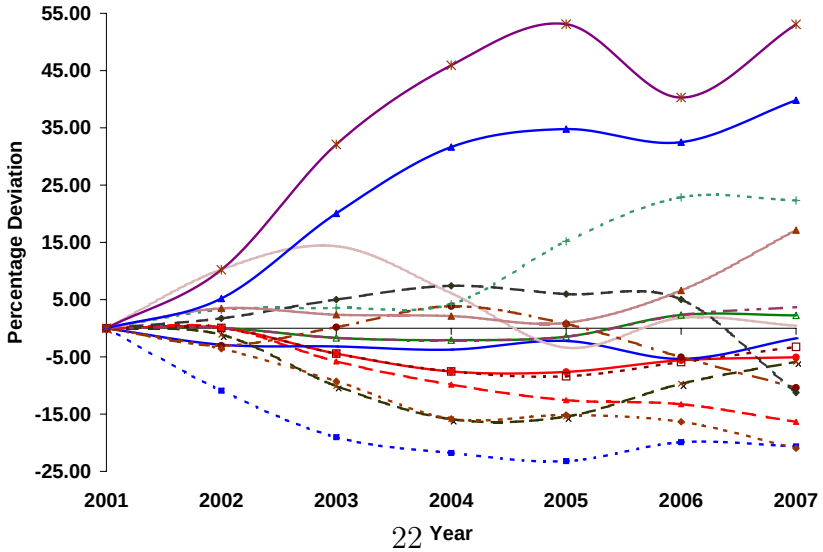
(b) GDP Based on PPP Measure



(c) Exports



(d) Exports and Nominal GDP



(e) Exports and GDP Based on PPP Measure

Chinese Renminbi was weaker by 2% from it's base year value, whereas the Chinese Renminbi was almost at par with it's base year value.

The Japanese Yen has been relatively stable *vis-á-vis* the ACU from 2001 to 2004 and fluctuated between a narrow range of ±2%. However, since then the Japanese Yen started depereciating *vis-á-vis* the ACU and by 2007 had lost nearly 8% against the ACU. The Indian Rupee has been one of the most stable currency of the region and exhibited the least amount of volatility relative to the ACU. Relative to the base year value, it's value in any year has remained within a range of ±6%.

Figure A.2 illustrates the deviation of participating currencies when the ACU is calculated using the Euro as the numèraire currency. We again find that though broadly the results are qualitatively similar to the earlier case, there are significant quantitative differences. The Lao Kip steadily weakened against ACU and by 2007 was weaker by more than 28% compared to the base year. During this period Vietnamese Dong, Cambodian Riel and Myanmar Kyat also became weak *vis-á-vis* the ACU by more than 14%, 8% and 6% respectively. Owing to the currency board arrangement between the Brunei and Singapore Dollar, both these currencies exhibit similar movement *vis-á-vis* the ACU. Both currencies experienced significant depreciation between 2002 and 2004. However, since then both these currencies have strengthened considerably, and by 2007 gained more than 10% compared to the base year.

Both the Korean Won and Thai Baht witnessed significant appreciation *vis-á-vis* the ACU. While the Korean Won gained more than 28%, the Thai Baht became stronger by 24%. The Indonesian Rupiah appreciated by 15% between 2001 and 2003 but thereafter it considerably depreciated such that by 2005 the value of the Indonesian Rupiah relative to the ACU was lower by 3% compared to the base year. In recent years the Rupiah has experienced some appreciation. Between 2002 and 2004, Malaysian Ringitt and Philippine Peso became weaker by 8% and 16% respectively. Both these currencies appreciated in recent years, and by 2007 while Malaysian Ringitt was nearly 3% stronger compared to the base year, Philippine Peso was a par with it's base year value.

Both Japanese Yen and Indian Rupee remained relatively stable against the ACU, and fluctuated within a band of ± 5% throughout this period. On the other hand, the Chinese Renminbi, by virtue of being pegged to the dollar, became weaker *vis-á-vis* the ACU by 8%. However, after abandoning the peg in August 2005, the Renminbi gained substantially and was at par with it's benchmark value.

Thus it is clearly evident that regardless of the choice of the numèraire currency in the calculation of ACU there were severe misalignments among the Asian currencies

during the past seven years. While the Korean Won and Thai Baht became stronger by more than 20% from their base year value, Lao Kip and Vietnamese Dong became weaker by a similar amount.

6 Towards a Common ACU

The creation of the Asian Currency Unit will play a significant role in stabilizing exchange rate volatility in the region and encourage monetary policy coordination. Reduction of exchange rate volatility will substantially enhance intra-regional trade, promote an Asian bond market and help investors in planning their future investment decisions. However, to realize these benefits, the participating countries will have to make extra efforts to promote the ACU as they will have to overcome the historical inertia associated with the use of national currencies. Typically it is unattractive for any particular agent to move towards ACU, abandoning the historical means of exchange, unless sufficient number of agents have already done so. This 'first mover disadvantage' can act as a major hurdle in the creation of a critical mass of agents using the ACU that is needed for the latter to be accepted as a standard means of exchange.

All participating countries will have to think of strategies to promote the use and acceptance of the ACU. At the outset it will be a good idea to distinguish between a common currency and a parallel currency. Common currency implies that member countries do not retain sovereignty over currency creation and monetary policy. The Euro is a typical example. On the other hand, in the case of a parallel currency, the member countries are in control of their currencies and monetary policy and in addition participate in creating a joint currency that is allocated among members according to some pre-determined rules. As pointed out by Eichengreen (2006) and Mundell (2001), while Asia may not be ready for a common currency, the time is right to work towards a parallel currency.

In this regard, while the European experience can be instructive in striving for a common currency, the Asian economies will have to be careful in interpreting the lessons, and adapt, rather than adopt, these lessons. When the European Monetary System first came into effect in March 1979, very few people believed that within two decades a single European currency would be a reality. At the time of inception the European Currency Unit (ECU) had as little chance of becoming Europe's currency as the Special Drawing Rights (SDR) had of becoming the world's currency.

A successful move towards an Asian Currency Unit has to overcome a number of obstacles that are associated with greater economic and monetary integration. We take a close look at some of these constraints.

6.1 Obstacles

6.1.1 *CMI Framework: Weak Institution?*

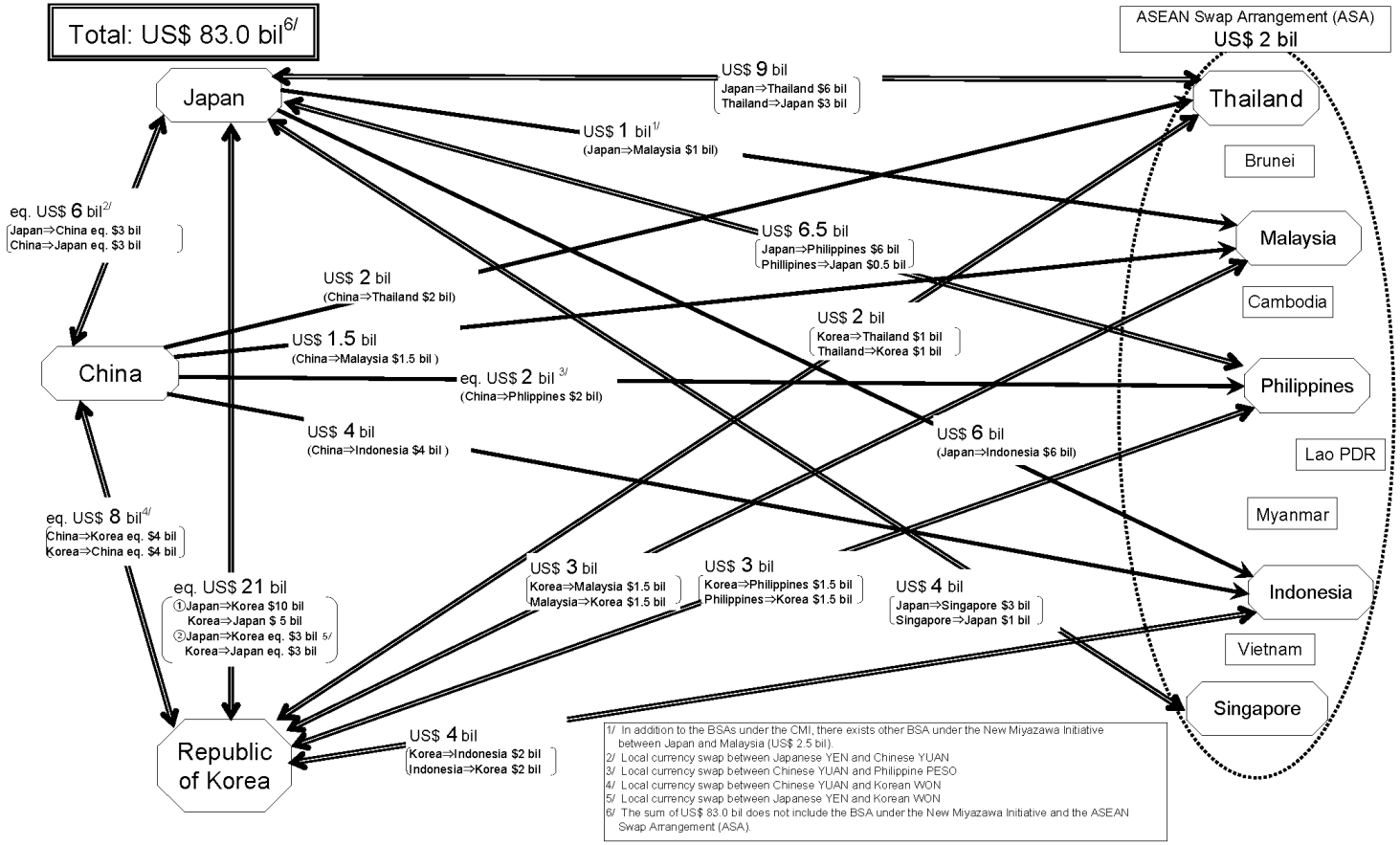
In any kind of a formal exchange rate arrangement within a region there is need for a mechanism providing some degree of collective defence against speculative attacks on a single currency. The recently developed Chiang Mai Initiative (CMI) can provide some institutional support against such speculative attacks. Following deliberations in Chiang Mai in May 2000, Japan, China and South Korea signed bilateral agreements with the original five ASEAN member countries establishing a network of bilateral swap agreements (BSAs) aiming at greater monetary cooperation.[6] The network enabled participating countries to draw from their respective BSAs for a period of 90 days. The first drawing could be renewed seven times. The interest rate applicable to the drawing is the LIBOR plus a premium of 150 basis points for the first drawing and the first renewal. Thereafter, the premium increases by 50 basis points for every two renewals, within an overall ceiling of 300 basis points. As can be seen in Figure 5, the currency swaps amounted to over $83 billion in July 2007. To mitigate the problem of moral hazard, these BSA swaps are linked with IMF disbursements. A country can borrow only up to 20% if it is not under an IMF programme.

Apart from benefits arising from nominal swaps, the BSAs signal political and economic support in the event of a financial distress. If the ACU is to become a viable parallel currency, the Chiang Mai Initiative has to play a very important role. Unfortunately, the current structure of the CMI has several shortcomings that can reduce it's effectiveness. In it's present form CMI is primarily bilateral in nature. The use of BSAs requires approval from each lender. Under such circumstances, if a number of members refuse to provide swaps or various swap providers demand different terms and conditions, the CMI looses it's effectiveness as a lender of last resort. Moreover, discussion with various swap providers is time consuming and deprives swap requesting countries of the ability to mount an effective and prompt defence against speculative attacks. Thus steps should be taken to multilateralize the existing bilateral swap arrangements so that swap disbursements are made in a concerted and timely manner.

The BSA facility is only a small step towards financial cooperation in the region. The current size of the swap facility has only marginally increased the financial resources available to countries for helping them to meet their liquidity needs, and is inadequate to prevent a financial crisis of the kind witnessed in 1997. Moreover, only 20% of the BSA facility is immediately available to the borrowers while the remaining 80% requires IMF approval and hence is subject to IMF conditionalities. Such linkages preserve the hegemony of the U.S. in the regional financial framework, something that the Asian countries are keen on breaking.

[6]The original 5 members were Thailand, Malaysia, Indonesia, Philippines and Singapore.

Figure 5: Network of Bilateral Swap Arrangements (BSAs) under the Chiang Mai Initiative (July 2007)



CMI's current structure also ensures that participating countries do not feel an urgent need to establish a central agency for conducting regional surveillance. The absence of a central body to manage the resources and monitor the financial developments in the region is a serious impediment to the evolution of a joint decision making process.

Recognizing these shortcomings, the ASEAN+3 ministers agreed to take steps to enhance the effectiveness of the CMI. These include further integration and enhancement of ASEAN+3 economic surveillance into the CMI framework, clear definition of the swap activation process and the adoption of a collective decision-making mechanism, increase in the size of swaps, and improvement of the drawdown mechanism.

6.1.2 *Inadequate Surveillance in the Region*

Effective regional surveillance of national policies is a prerequisite for countries attempting to adopt a singular currency or undertaking looser forms of monetary cooperation. One of the primary reasons for linking the BSA's activation to the IMF is due to the availability of a credible surveillance mechanism with the Fund for member countries.

During the fallout of the Asian crisis, the need for some sort of an Asian surveillance mechanism was recognized and it's objective was to devise an early warning system to prevent similar crises in the future as well as limit the impact of cross country contagion during the fallout of the Asian crisis.

The ASEAN+3 countries have an existing system of surveillance process with technical assistance from the Regional Economic Monitoring Unit (REMU) of the ADB called the ASEAN+3 Economic Policy Review and Dialogue Process.[7] The process includes the preparation of a confidential staff report by the ADB, which is reviewed by the policymakers of the member countries. The report is thereafter discussed at a finance ministers' meeting and is brought out as an agreed ministerial statement.

The inherent structure of the entire review and surveillance process reveals several glaring inadequacies. Firstly, since the staff knows that the final document is going to be vetted by the various ministers, it is likely to be largely inoffensive in nature and unlikely to underpin countries following policies that could be destabilizing for the region. Such a document, as evident from the recent ministers' statements, is unlikely to encourage discussions about the incipient risks in the region.

[7]The REMU has been since renamed as Office of Regional Economic Integration (OREI)

Moreover, unlike the IMF surveillance, the ASEAN+3 process does not specify the precise content of the information each government needs to provide. Consequently, the information available to the various members is at the discretion of the reporting country. This makes it very difficult to draw comparisons among the various countries and provide policy related conclusions.

This lack of independent and credible surveillance to monitor economic and financial developments in the region is a significant obstacle to greater economic and monetary integration. This is, of course, not to suggest that the Fund's surveillance mechanisms, essentially in the form of Article IV consultations, are decidedly superior. However, compared with the perceived lack of teeth in the ASEAN+3 surveillance mechanism, there are probably important lessons to be learnt from the more upgraded system of the Fund.

6.1.3 *Underdeveloped Bond Market*

A deep and well developed bond market facilitating orderly cross country flows of debt within the region is an important prerequisite for the ACU. To that extent the initiative of setting up the Asian Bond Fund (ABF) was definitely a step in the right direction as it enabled the bringing together of Asian economies with different sizes and economic structures. The eleven members of the Executives' Meeting of East Asia-Pacific Central Bank (EMEAP) agreed in 2003 to establish the ABF, a regional investment fund investing in bonds denominated in U.S. dollars.[8] The initial corpus was $1 billion with the various governments voluntarily contributing about 1% of their reserves. The Fund was supposed to invest in bonds issued by the public sectors of eight countries, the developed countries of Australia, New Zealand and Japan only being lenders to the ABF.

With different countries in the region exhibit varying degrees of current account deficits and surpluses, development of a strong bond market would have enabled useful absorption of intra-regional debt flows. However, the initial form of the ABF had severe limitations that required to be resolved for ensuring greater financial cooperation. Firstly, the ABF could invest mainly in dollar denominated securities and was unable to resolve an insolvency crisis of an Asian bond issuer in cases involving a sharp declines in the values of the Asian currencies *vis-á-vis* the U.S. dollar like the kind experienced by Thailand and Korea during the 1997 financial crisis. Thus there was a critical problem of 'currency mismatch'. Secondly, majority of the bond issuers belong to the private sector, and they tend to use the funds for long-term investments

[8]The EMEAP comprises of central banks of eleven economies: Reserve Bank of Australia, People's Bank of China, Hong Kong Monetary Authority, Bank Indonesia, Bank of Japan, Bank of Korea, Bank Negara Malaysia, Reserve Bank of New Zealand, Bangko Sentral ng Pilipinas, Monetary Authority of Singapore, and Bank of Thailand

while foreign lenders are mostly of the short-term variety. When business conditions or expectations worsen, foreign lenders are likely to reduce their risk exposure by withdrawing funds, plunging local business into insolvency. Thus apart from currency mismatch, the Asian Bond Fund also suffered from 'maturity mismatch'. This 'double mismatch' was one of the main reasons for the Asian financial crisis in 1997.

Recognizing the threat of 'currency mismatch' and with the objective of promoting local currency denominated bonds, the ABF-2 was introduced in December 2004. This involved purchases of $2 billion of Asian-currency denominated sovereign and quasi-sovereign bonds. ABF-2 also introduced a Pan-Asian Bond Index Fund (PAIF) and a Fund of Bonds Fund (FBF). PAIF is a single bond fund index investing in local currency bonds issued by eight countries. On the other hand, the FBF is made up of two tiers. The parent fund is further divided into eight sub funds, each of which invests in the local currency bonds issued in their respective markets.

Size again is a major weakness of this initiative. The current size of $2 billion is insignificant compared to the reserve holdings or the infrastructural financing requirements of most of these countries. Second, the Fund covers only eight Asian economies excluding some ASEAN members as well as other significant economies like India. Thus there is tremendous scope for improving both the coverage and the size of the regional debt market. Moreover, owing to the limited supply of good quality sovereign and quasi-sovereign bonds, initiatives like the ABF can actually crowd out private bond purchases leading to no new net financing.

6.1.4 *Diverse Exchange Rate Regimes*

The European experience, outlined in Section 3, indicates that the presence of a common monetary regime, i.e. pursuit of region wide exchange rate stability, played a key role in evolution of greater monetary cooperation. However, as can be seen from Table 5, Asian countries follow a diverse range of exchange rate regimes. While a number of the Asian currencies including Indian Rupee, Singapore Dollar, Thai Baht, and Malaysian Ringitt can be classified as managed floats, other countries are following different exchange rate mechanisms. Brunei Dollar and Chinese Renminbi continue to be pegged mainly to Singapore Dollar and U.S. Dollar respectively.[9] On the other hand, Japanese Yen, Korean Won, Indonesian Rupiah and Philippine Peso

[9]On July 21, 2005 China announced a 2.1% revaluation of the Renminbi-U.S. Dollar exchange rate and a change in it's exchange rate arrangement to allow the value of the Renminbi to fluctuate based on market supply and demand with reference to an undisclosed basket of currencies. From end-July 2005 to end-July 2006, the Renminbi exchange rate was more flexible, but the fluctuation in the Renminbi-U.S dollar exchange rate was less than the 2% range (for a three-month period) used in the IMF's *de facto* exchange rate classification system as an indicator for a conventional fixed peg exchange rate arrangement.

are freely floating.

Table 5: Exchange Rate Arrangements in Asian Countries

Exchange Rate Arrangement	**Countries**
Currency Board	Brunei Darussalam
Other Conventional Fixed Peg Arrangements	China and Vietnam
Managed Floating with No Predetermined Path	India, Lao PDR, Malaysia, Singapore Cambodia, Myanmar and Thailand
Independently Floating	Indonesia, Japan, Korea and Philippines

Source: IMF's *De facto* Classification of Exchange Rate Regimes and Monetary Framework

Such diverse exchange rate arrangements in the Asian region reflect the different objectives followed by the monetary policymaker. These range from fixing the exchange rate with another country in a currency board system to import the latter's monetary policy, to keeping the exchange rate undervalued to promote export led growth, and explicit inflation targeting. Reconciling such diverse objectives within the region is bound to be a challenging task.

6.1.5 *Economic, Historical and Political Heterogeneity*

While arguing for greater economic integration in Asia, it is important to keep an eye on the political, economic and historical differences between the countries in the region. Asian countries differ widely in terms of economic structure and level of development. Divergence in per capita GDP between the former is much higher than that in Europe or North America. In 2006, Japan and Singapore's per capita GDP in PPP terms was nearly 15 times that of Lao PDR. Similarly, share of exports in GDP range from below 15% in Japan to well over 100% in Malaysia and Singapore. Several countries like China and the newer ASEAN members have extensively regulated financial systems and are unlikely to release operational control in the near future.

Moreover, while in Europe, Germany took the lead role in pushing towards monetary integration, there is an absence of a clear leader in the Asian region. Japan is the most developed country in the region but has unsettled historical issues with neighbouring countries like China and Korea. Thus any bloc with Japan as the sole center is unlikely to find many takers in Asia. China, owing to it's size and an impressive growth over the last 25 years, can be another potential centre. However, it's relatively underdeveloped financial architecture, inconvertible currency, and a central bank with limited autonomy can be major impediments to any such claims. Moreover, China also has it's share of unresolved issues with Korea and India. Also it is likely to face

competition from India, another big and rapidly growing economy of the region, in it's pursuit to emerge as the core of a regional currency arrangement.

The absence of a central country till now means that Asian cooperation needs to rely more on a symmetric approach. Such cooperation requires a strong region wide political commitment. The vast heterogeneity among countries, however, impedes the fostering of political will. The Asian countries have wide differences in social structures, and economic systems, ranging from mature market economies like Japan and Korea to economies in transition like China, India and Vietnam. Although, in recent years countries have cooperated in areas of security and strategic interests, residual Cold War attitudes might still constrain greater economic and monetary cooperation. One of the key issues in this regard is the strategic relationships that many countries in the region have with the US, which might create an ambiguity in pursuing Asian regionalism. There exists doubts over whether regionalism would provide greater benefits than multilateralism in the region. Such arguments have influenced several countries in Asia and discouraged the build up of the political consensus needed for closer cooperation. The process has become more difficult due to the wide divergence in political systems and institutions in the region (eg. non-democratic governments in China and Myanmar and mature democracies in India, Japan and Korea).

6.2 Strategies

A successful move towards an Asian Currency Unit needs to overcome the above obstacles. Thus the move needs to be supported by two sets of factors. Firstly, certain institutional safeguards have to be created or the existing ones strengthened, for preventing the participating countries from breaking away from such an arrangement. Secondly, strategies need to be devised for promoting the use and acceptability of this parallel currency. We list below some of the safeguards and strategies that in our opinion are key to the success of the ACU.

6.2.1 *Periodic Review of the ACU*

Given the extent of dynamism in most of the Asian economies, it is very important to periodically review the composition of the ACU for ensuring that it reflects current economic realities. The amount of each component currency will remain fixed while it's contribution to the ACU will vary with the exchange rate. As currencies appreciate (depreciate), there will be an increase (decrease) in their contribution to the ACU. This will ensure that the ACU captures the relative changes in economic activity and performance in the region in an effective and dynamic manner.

6.2.2 *Monetary and Exchange Rate Cooperation*

A move towards an ACU would necessitate significant monetary and exchange rate cooperation among the participating countries. Given the differences in the exchange rate policies and inflation rates among these countries, a system as tight as the ERM will not be feasible. Several other alternative proposals have been mentioned, each of which has it's merits and demerits.

Williamson (1999) proposed that the Asian economies can adopt a common currency peg *vis-á-vis* the U.S. Dollar, Euro and Japanese Yen. This would stabilize exchange rates both internally as well as *vis-á-vis* other major trading partners, Euro Area and the U.S. Under this arrangement the member currencies have a common set of weights based on the regional trade shares. The members announce a central parity *vis-á-vis* the basket and pledge to keep the central parity within a unilaterally chosen band. The central parity and the band is allowed to crawl in response to changes in the fundamental. In response to massive speculative attacks countries are allowed to temporarily suspend the peg with a credible pledge to return as soon as possible.

The biggest advantage of this arrangement is that it allows coexistence of the various exchange rate regimes prevailing in the region like managed float in India, Thailand and Singapore, independent float in Korea and the peg in China. Furthermore, while there is less need for policy coordination and surveillance under this arrangement due to a unilaterally chosen parity and band, the arrangement itself acts as a catalyst for greater convergence and exchange rate stability, which is needed for a future move towards a common currency as pointed out by Kawai and Takagi (2003). However, a major problem in this arrangement is the adoption of common regional weights against the target currencies. If some participating country's trade share (weights) *vis-á-vis* the target countries is very different from the region as a whole then a change in the bilateral exchange rates of the target currencies will have a skewed impact on these countries and they will experience a loss of export competitiveness.

Another alternative arrangement suggested by Oh and Harvie (2001) analyzes the potential of replicating the EMS's Exchange Rate Mechanism in the Asian region, with notable differences. Under this arrangement, an Asian Currency Unit similar to the one developed in Section 5 will be put in place. The member countries' exchange rate will float within a $\pm$ 15% band of the central parity determined by an authority. Such an arrangement comes with several benefits. It will significantly reduce interregional volatility of the nominal exchange rate as well as real effective exchange rate (REER) resulting from intraregional parity changes and a greater degree of comovement of the intraregional exchange rates. It will also induce faster economic and monetary integration in the region. However, since the target is a basket of member country currencies, realignments between major currencies outside the basket will not

be reflected in the bilateral exchange rates. On the other hand if the U.S. Dollar depreciates against the Euro but not the Japanese Yen then exports from countries pegged to the U.S. Dollar will become more competitive in Euro land compared to these Asian economies. Similarly, if the Japanese Yen appreciates by 10% against the U.S. Dollar and Japan has 50% weight in the ACU, then other members of the ACU will witness a 5% appreciation, which may reduce their competitiveness *vis-á-vis* other dollar bloc countries.

Dornbusch and Park (1999) floated the idea of monetary cooperation among Asian economies with the Japanese Yen as the anchor currency, a role performed by the German Deutsche Mark under the ERM. However, given that the Japanese economy has not been in very robust health in recent years it might be difficult to push for this proposal. Moreover such an arrangement will entail a loss of competitiveness of Asian exports *vis-á-vis* other dollar blocs like MERCOSUR and NAFTA if Japanese Yen appreciates against the U.S. Dollar.

6.2.3 *A Centre Country*

One of the commonly cited reasons for the successful monetary integration in Europe is the central role played by Germany. It is widely believed that the presence of a strong currency, Deutsche Mark, which acted as a nominal anchor in the EMS, facilitated the integration. Moreover the Deutsche Mark was backed by the strong *Bundesbank* - which focused on price stability and created an independent monetary policy committee - features that have become trademarks of modern central banks.

While in hindsight the role played by Germany seems to be pivotal for European integration, at that time such a role was not planned and, when it existed, was studiously underplayed. Formally, the EMS was a set of bilateral exchange rate arrangements with no central currency. Economically strong and weak countries were subject to identical obligations and interventionist rules. The emergence of the Deutsche Mark as the nominal anchor took several years and was facilitated by irresponsible monetary management by other large economies in the region, which led to speculative attacks on their currencies and sapped their positions.

In the Asian context, while it is true that some form of country leadership is desirable, such leadership should not be seen as intimidating and must be counter balanced. In doing so, political and historical sensitivities, as well as current power configurations must be kept in mind. While Japan continues be a major player in the region, China and India have begun mounting serious challenges to Japan's hegemony. Hence a cohesive move towards greater Asian integration must take shape around these few leading countries. The absence of a single centre of influence will ensure that the leadership is balanced.

6.2.4 *Strengthening the Chiang Mai Initiative and the Asian Bond Fund*

At the ASEAN+3 Finance Minister's meeting held in Istanbul during May 2005 it was decided by the participating countries to make several changes in the existing CMI structure. Apart from agreeing to integrate economic surveillance into the CMI to develop an effective regional surveillance, the member countries also agreed to adopt a collective decision making mechanism as a first step towards multilateralization. It was also decided to expand the size of the bilateral agreements and increase the amount a country can draw without having an IMF program.

While the amount that a country can draw without being subject to an IMF program has been increased from 10% to 20%, not much progress has been made on the other issues. The combined size of the network of BSAs has increased from $36.5 billion in April 2004 to $83 billion in July 2007 (Fig 5). Strong measures need to be undertaken to further increase the size of this arrangement. One possible way is to invite new members like India, which has almost $300 billion as reserves, into the arrangement. Moreover, almost all the bilateral swaps are negotiated between China, Japan, Korea and the original ASEAN countries. The smaller ASEAN members like Brunei, Cambodia, Laos, Myanmar and Vietnam are covered only by the ASEAN Swap Agreement, which has a corpus of a measly $2 billion.

Similarly the Asian Bond Fund also needs to be increased from it's current size and coverage. Newer countries like India as well as other ASEAN economies can be invited to join the fund. There is a serious need to amplify the corpus of funds available with the ABF for it to play a deciding role in deepening capital market integration in the region. Thus the central banks of the participating countries need to commit greater resources to the Fund.

In it's current form the ABF is managed by the Bank of International Settlements (BIS) an association of global central banks. Thus the business of investing these funds is primarily in the hands of central bankers who tend to be more conservative and willing to sacrifice return for liquidity. To ensure greater development of international capital markets in the region, participation of the private sector in the form of investment bankers and institutional investors in the ABF needs to be encouraged.

6.2.5 *Asian Monetary Cooperation Fund*

Apart from strengthening the Chiang Mai Initiative and the Asian Bond Fund, the Asian countries could create a regional fund denominated in the ACU. Such a fund could be used to facilitate interventions in the currency markets, effect liquidations between the central banks and manage short-term credit facilities associated with exchange rate cooperation. This fund could be created by tapping the enormous

amount of foreign reserves of East and South Asian countries. Each member country could contribute a certain percentage of their foreign reserves into the fund. Given that the total reserve holdings of the economies considered in Section 5.3 is in excess to $3 trillion, even if these countries contribute 10% of their reserve holdings, a fund with over $300 billion will be created.

If the exchange rate of a participating currency falls too far, the Asian Monetary Cooperation Fund (AMCF) could buy quantities of the currency on the foreign-exchange market, and if it rises too far, AMCF could sell enough of the currency to bring down the exchange rate. Alternatively, the AMCF could also issue a parallel currency, Asian Currency Unit, which would be a weighted composition of member countries' currency. ACU denominated bonds can be encouraged and a regional clearing and payment mechanism can be established for ACU transactions. Over time the AMCF can be converted to Asian Central Bank and assume the role of conducting monetary policy in East and South Asia.

The corpus available could be used to fund several developmental needs of the region. Primary among these uses could be financing infrastructural investment. Many countries of the region like India, Vietnam, Indonesia etc. are facing massive infrastructure deficits, especially in physical infrastructures like highways, power, airports etc. The AMCF could allocate funds, denominated in ACU, for such projects. This would not only help mitigate the massive infrastructure deficit in the region but also promote the public and the private sector use of ACU. Other developmental needs that could be funded by the AMCF include social infrastructure like health and education, environmental protection and strengthening of the financial sector, among others.

6.2.6 *Implementing an Effective Regional Surveillance System*

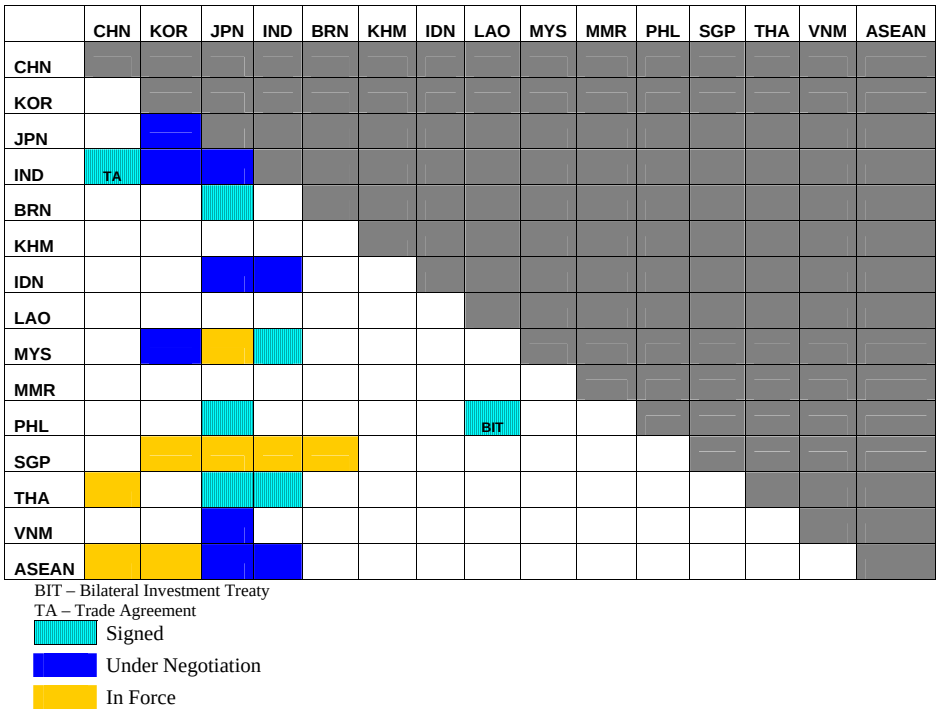
One of the biggest challenges facing the ACU is the implementation of an effective regional surveillance mechanism. The existing ASEAN+3 surveillance mechanism needs to be significantly strengthened if it is to act as a meaningful instrument for greater economic and monetary cooperation. According to Kenen and Meade (2008) and Girardin (2004) the Asian economies need to move away from the principle of 'non-intervention in other countries' affairs' and actively provide their opinion on the policies followed in member countries. While a confrontational approach involving direct criticism of the neighbouring countries' policies might not be feasible at this stage, several other, less confrontational, measures can be undertaken. Kenen and Meade (2008) and Grenville (2004) suggest a mechanism where the analysis and the recommendations of an independent surveillance team is put before the member country and the government is allowed to respond to the submissions. A healthy debate on major macroeconomic and financial sector issues impacting the reporting country is a must for better surveillance and greater coordination. This underlines the need for greater

constructive criticism among the member countries even if it comes at the expense of occasionally overlooking the Asian tradition of not interfering in neighbours' affairs.

6.2.7 *Greater Integration of Goods and Services Market*

Monetary cooperation in Europe was achieved with the goal of turning Europe into a truly unified market. The 1957 Treaty of Rome founding EU had established a customs union and barriers to goods and services trade were significantly reduced over the next four decades. Thus trade cooperation began long before financial cooperation. On the other hand, in East Asia financial cooperation took lead mainly as a response to the financial crisis of 1997. Such financial cooperation now needs to be complemented with greater trade cooperation in the region. With the likelihood of progress in implementing the Doha Development Agenda appearing highly limited, countries in the region need to enhance trade cooperation through bilateral agreements, rather than relying on multilateral trade talks. Figure 6 outlines the status of various trade agreements in the region. It can be clearly seen that while some countries like Japan have been vigorously pursuing bilateral trade agreements, other countries like Philippines and Indonesia are lagging behind.

Figure 6: Status of Trade Agreements in Asia



Preferential or free trade agreements are likely to induce greater cooperation as they are more flexible, wider and relatively easily achievable . Greater market integration through PTA/FTAs will not only provide larger market access across the region but will also impart efficiency through competition. In several cases trade agreements can be used as a strategy for pushing domestic reforms. The foundation for Asian economic agreement lies in increasing common economic interests based on economic interdependence. The "flying geese model" helped to build a vertical chain across the region by encouraging capital mobility and technology transfer, thereby formulating a high degree of intra-regional exchange. Such economic interdependence can be further exploited through more free/preferential trade agreements among the region. With greater intra-Asia trade integration, business cycles will be more correlated across countries and it will be easier for the latter to engage in exchange rate cooperation, which is crucial for moving towards an Asian Currency Unit.

6.3 Promoting the use of ACU

Currently, a substantial fraction of the Asian countries' financial and trade-related transactions are invoiced and settled in dollars. The dollar continues to dominate the Asian bond market and provides many advantages as a parallel Asian currency and also has the advantage of incumbency. Thus the dollar acts as the *de facto* parallel currency for the Asian region just like it did for the European countries in early 1970s. This is also one of the reason why the ECU never succeeded. However, current circumstances are very different from the 1970s and they necessitate a move away from the U.S. dollar.

A contraction in output accompanied by weakening fundamentals of the U.S. economy points to further erosion in the value of the U.S. dollar *vis-á-vis* other major currencies. Given that most of the assets of the Asian central banks are still denominated in U.S. dollar, the value of these assets are likely to dip further. Thus it is in the interest of the Asian central banks to move away to assets denominated in an alternative currency, and the ACU could be one such alternative. Moreover, such a move will have a positive impact on reduction of global imbalance as it will hasten the depreciation of U.S. dollar *vis-á-vis* other currencies.

One of the reasons why countries hold reserves is to self insure themselves against "sudden stops" of capital inflows and be able to finance imports in the case of a significant decline in their exports. To make it attractive for the Asian countries to hold reserves in the form of ACU denominated assets, exports and imports of the region, as well as financial instruments, need to be invoiced in ACU. Thus the national governments should create right incentives, which will induce traders to take and give credit in ACU. These could range from fiscal concessions to regulatory waivers.

The Asian countries could also denominate significant amount of debt instruments in the ACU. This is of course contingent upon growth of a deeper and wider bond market in the region. The existence of a regional ACU-denominated bond market is likely to provide issuers with a greater availability of funds at a lower cost with deeper, more liquid markets on which a larger diversity of instruments is traded. The success of the ACU will depend on the participation of regional and extra-regional borrowers, frequency and volume of the issues, and market liquidity. Given the current level of integration in Asia, governments and the central banks of the participating countries need to provide special support to ensure the success of ACU in the bond market.

The various multilateral agencies in the region like the ADB, ASEAN secretariat etc. could also play a positive role in enhancing the use of the ACU. The ACU could be used to establish the internal accounts of these multilateral organizations just like the the internal accounts of the European Commission was established in ECU in the early 1970s. Moreover, these multilateral agencies could issue bonds and loans denominated in the ACU.

Following the multilateral agencies, the sovereign countries could also issue sovereign bonds. This would particularly help the smaller countries of the ASEAN bloc to develop active and liquid bond markets. In the other major Asian countries such bonds would help fund the infrastructural needs of the government. The regional investors will also have the benefit from holding an internationally diversified asset portfolio that is closely related with the regional conditions.

The development of a regional bond market needs to be supplemented by the creation of a regional credit rating agency. This will help clear some of the information asymmetry that international credit rating agencies suffer from, and as a result bond issuers can be rated independent of their sovereign's ratings. This will establish a way for corporates and firms to borrow in this market as many of them have an investment grade that does not allow them to raise capital in the global markets owing to the information asymmetry.

A well functioning corporate bond market in Asia will be a major step in corporate financing and will help the move away from bank-intermediated finance, which has been dominant in the region. The issue of ACU denominated bond by the Asian firms and the holding of such bonds by Asian banks is an ideal way to move towards a balanced and viable way of corporate financing. Once the Asian banks start holding ACU denominated bonds, it would be easier for them to start accepting deposits and granting loans in ACU.

7 Conclusion

The primary objective of this paper was to study the feasibility of an Asian Currency Unit in the region. The study concludes that there is an urgent need for the development of a parallel currency in the region to ensure greater trade and financial linkages. This will also reduce the dependence of the Asian countries on dollar denominated assets by extending a viable alternative to the central banks in the region who could park their reserves in ACU denominated assets.

However, there are several obstacles in the path towards a successful ACU, which range from political, economic and historical differences among the member countries to the presence of relatively weak multilateral institutions in the region. The CMI has provided only limited international support and is unlikely to facilitate the ACU. Lack of effective policy surveillance and an underdeveloped regional bond market are also important roadblocks. Finally, diverse economic structures and institutions, coupled with strong differences in political systems and several unresolved bilateral issues, make the task of promoting the ACU a significant challenge to the region. However, most of these difficulties are surmountable provided that there is strong political will in the region.

The current discussion on the feasibility of the ACU hardly features India. As we have argued, this is a notable omission and overlooks the current economic realities of the region. As of now, the proposed ASEAN+3 framework envisaged for the ACU needs to be expanded by including India (as well as Australia and New Zealand). This will ensure a larger and proper financial integration of the region. The move will also generate greater political and strategic support for the ACU given India's escalating strategic significance in the region.

References

Dornbusch, R. and Y. C. Park (1999). 'Flexibility or Nominal Anchors?' In S. Collignon, J. Pisani-Ferry, and Y. C. Park, eds., 'Exchange Rate Policies in Emerging Asian Economies,' Routledge.

Eichengreen, B. (2006). 'The Parallel Currency Approach to Asian Monetary Integration.' *American Economic Review*, 96 (2).

Eichengreen, B. and T. Bayoumi (1999). 'Is Asia an Optimum Currency Area? Can It Become One? Regional, Global and Historical Perspectives on Asian Monetary Relations.' In S. Collignon, J. Pisani-Ferry, and Y.-C. Park, eds., 'Exchange Rate Policies in Emerging Asian Countries,' pp. 347–366. Routledge, London.

Frankel, J. A. and A. K. Rose (1998). 'The Endogeneity of the Optimum Currency Area Criterion.' *Economic Journal*, 108; pp. 1009–1025.

Girardin, E. (2004). 'Information Exchange, Surveillance Systems, and Regional Institutions in East Asia.' In 'Monetary and Financial Integration in East Asia: The Way Ahead,' volume 1, pp. 53–95. Palgrave, Basingstoke.

Goto, J. and K. Hamada (1994). 'Economic Preconditions for Asian Regional Integration.' In T. Ito and A. O. Krueger, eds., 'Macroeconomic Linkage: Savings, Exchange Rates, and Capital Flows,' pp. 359–385. University of Chicago Press, Chicago.

Grenville, S. (2004). 'Policy Dialogue in East Asia: Principles for Success.' In G. d. Brouwer and Y. Wang, eds., 'Financial Governance in East Asia; Policy Dialogue, Surveillance and Cooperation,' pp. 16–37. Routledge.

Kawai, M. (2007). 'Toward a Regional Exchange Rate Regime in East Asia.' ADBI Discussion Paper No. 68.

Kawai, M. and T. Motonishi (2005). 'Is East Asia an Optimum Currency Area?' Paper presented at Second KIEP-PRI Seminar on Financial Interdependence and Exchange Rate Regimes in East Asia.

Kawai, M. and S. Takagi (2003). 'Proposed Strategy for a Regional Exchange Rate Arrangement in Post-Crisis East Asia.' World Bank Policy Research Paper No. 2503.

Kenen, P. B. and E. E. Meade (2008). *Regional Monetary Integration*. Cambridge University Press.

Kuroda, H. (2006). 'Towards Deeper Asian Economic Integration: Progress and Prospects.' Speech given at Asia Business Conference 2006.

Kuroda, H. and M. Kawai (2002). 'Strengthening Regional Financial Cooperation in East Asia.' *Pacific Economic Papers*, 51.

McKinnon, R. I. (1963). 'Optimum Currency Areas.' *American Economic Review*, 53 (4); p. 717725.

Mundell, R. (2001). 'Keynote Address.' In C. Edmonds and S. Medina, eds., 'Defining an Agenda for Poverty Reduction,' volume I.

Mundell, R. A. (1961). 'A Theory of Optimum Currency Areas.' *American Economic Review*, 51 (4); pp. 509–617.

Ogawa, E. and J. Shimizu (2005). 'AMU Deviation Indicator for Coordinated Exchange Rate Policies in East Asia.' RIETI Discussion Paper No. 05-E-017.

Ogawa, E. and J. Shimizu (2006). 'AMU Deviation Indicator for Coordinated Exchange Rate Policies in East Asia and its Relation with Effective Exchange Rates.' RIETI Discussion Paper Series 07-E-002.

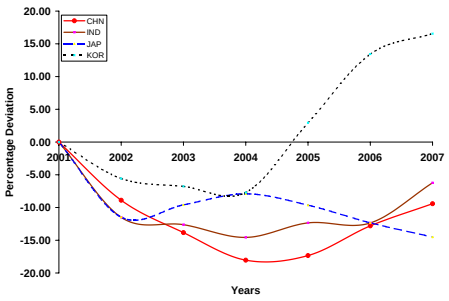
Oh, J. and C. Harvie (2001). 'Exchange Rate Coordination in East Asia.' *Journal of Korean Economy*, 2 (2); pp. 249–296.

Watanabe, S. and M. Ogura (2006). 'How Far Apart Are Two ACUs from Each Other? : Asian Currency Unit and Asian Currency Union.' Bank of Japan Working Paper No. 06-E-20.

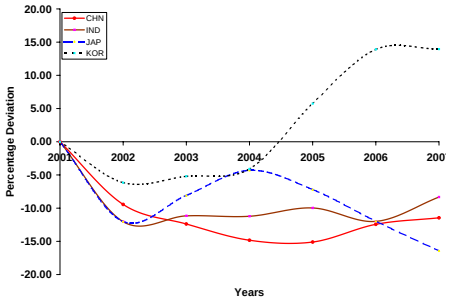
Williamson, J. (1999). 'The Case for a Common Basket Peg for East Asian Currencies.' In S. Collignon, J. Pisani-Ferry, and Y. C. Park, eds., 'Exchange Rate Policies in Emerging Asian Countries,' pp. 327–343. Routledge.

Appendix

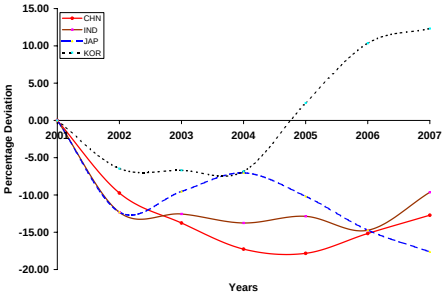
Figure A.1: Change in the Value of Participating Currencies *vis-á-vis* ACU: Asian Big 4, (Numèraire Currency: Euro)



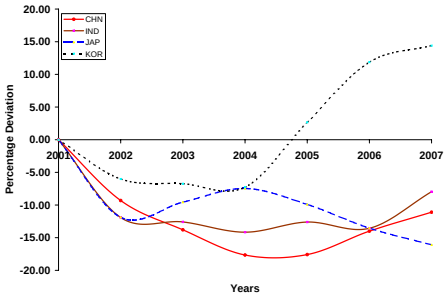
(a) Nominal GDP



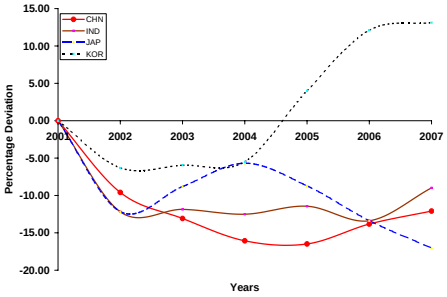
(b) GDP Based on PPP Measure



(c) Exports

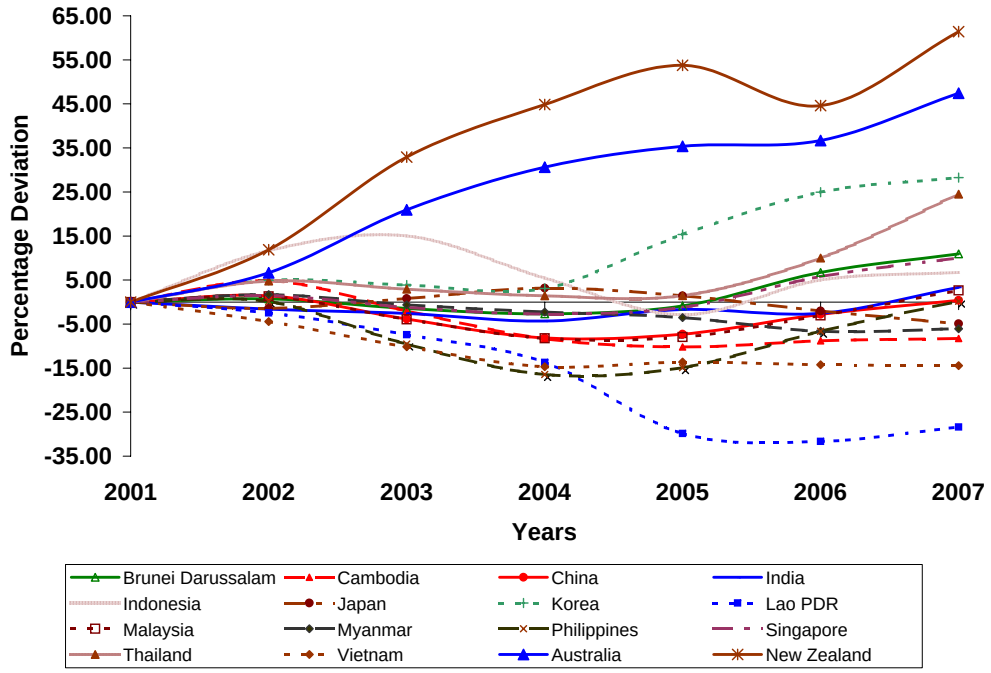


(d) Exports and Nominal GDP

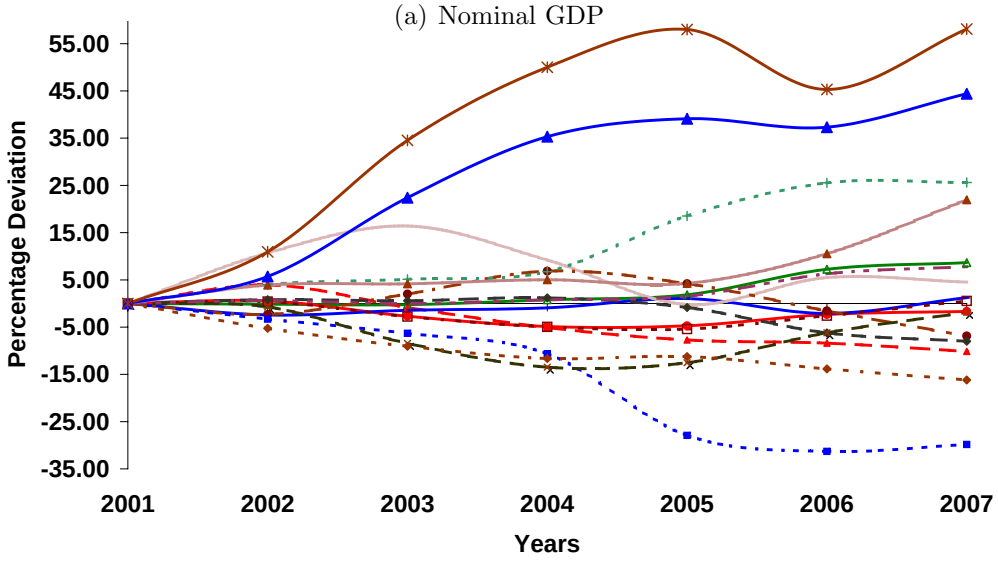


(e) Exports and GDP Based on PPP Measure

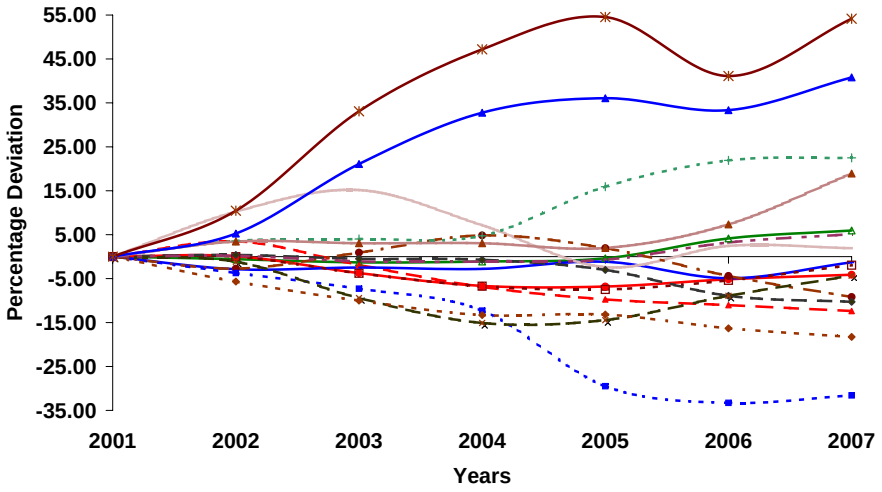
Figure A.2: Change in the Value of Participating Currencies *vis-á-vis* ACU: Extra Regional Currencies, (Numèraire Currency: Euro)



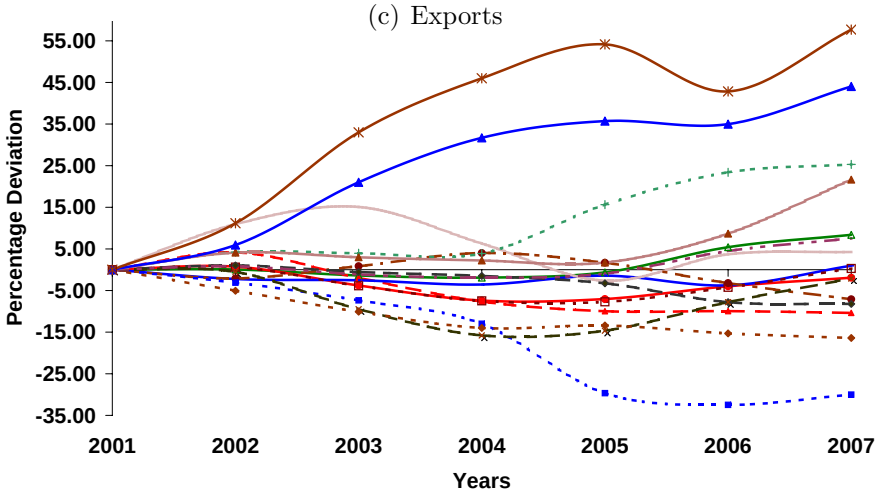
(a) Nominal GDP



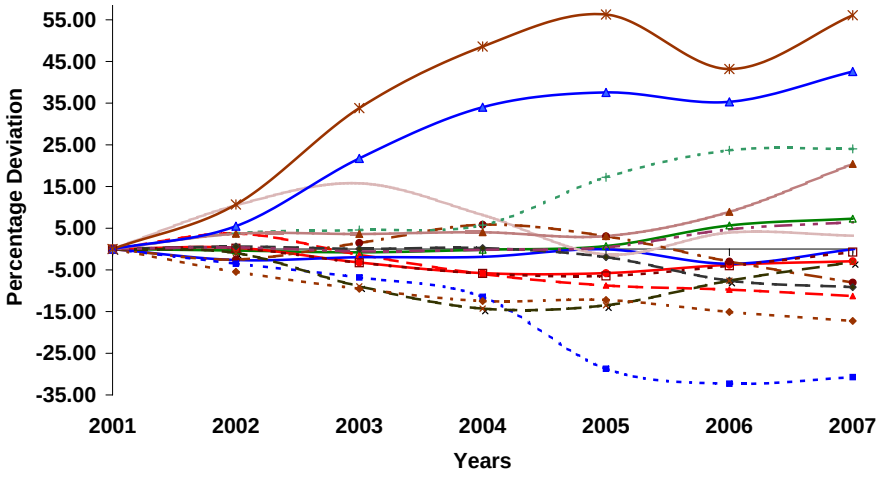
(b) GDP Based on PPP Measure



(c) Exports



(d) Exports and Nominal GDP



(e) Exports and GDP Based on PPP Measure

LATEST ICRIER'S WORKING PAPERS

NO.	TITLE	AUTHOR	YEAR
207	MINERAL POLICY ISSUES IN THE CONTEXT OF EXPORT AND DOMESTIC USE OF IRON ORE IN INDIA	A. S. FIROZ	MARCH 2008
206	COST OF HOLDING EXCESS RESERVES: THE INDIAN EXPERIENCE	ABHIJIT SEN GUPTA	MARCH 2008
205	RURAL NONFARM EMPLOYMENT AND INCOMES IN THE HIMALAYAS	MAJA MICEVSKA DIL BAHADUR RAHUT	FEBRUARY 2008
204	COMPETITION CLAUSES IN BILATERAL TRADE TREATIES: ANALYSING THE ISSUES IN THE CONTEXT OF INDIA'S FUTURE NEGOTIATING STRATEGY	SANGHAMITRA SAHU NEHA GUPTA	FEBRUARY 2008
203	TOWARDS A COMPETITIVE MANUFACTURING SECTOR	RAJIV KUMAR ABHIJIT SEN GUPTA	FEBRUARY 2008
202	SOUTH ASIAN INTEGRATION PROSPECTS AND LESSONS FROM EAST ASIA	RAMESH CHANDRA RAJIV KUMAR	JANUARY 2008
201	DETERMINANTS OF COMPETITIVENESS OF THE INDIAN AUTO INDUSTRY	BADRI NARAYANAN G. PANKAJ VASHISHT	JANUARY 2008
200	INDIA PAKISTAN TRADE POSSIBILITIES AND NON-TARIFF BARRIERS	NISHA TANEJA	OCTOBER 2007
199	ECONOMY-WIDE IMPACT OF EXPORT PROMOTION SCHEMES: A QUANTITATIVE ASSESSMENT OF SEZS, EOUS AND STPI	ARADHNA AGGARWAL	SEPTEMBER 2007
198	IMPACT OF PREVENTIVE HEALTH CARE ON INDIAN INDUSTRY AND ECONOMY	ALKA CHADHA ALI MEHDI GARIMA MALIK	SEPTEMBER 2007

About ICRIER

ICRIER, established in August 1981, has successfully completed its 25 years as an autonomous, policy-oriented, not-for-profit research institute. We have nurtured our cherished autonomy by establishing an endowment fund, income from which meets all our administration expenses. ICRIER's offices are located in the prime institutional complex of India Habitat Centre, New Delhi. The prime focus of all our work is to support India's interface with the global economy.

ICRIER's founding Chairman was Dr. K.B. Lall who led the organization from its inception from 1981 to 1992 when he handed over the Chairmanship to Mr. R.N. Malhotra (1992-1996). He was followed by Dr. I.G. Patel who remained Chairman from 1997 to 2005 until his demise in July 2005. ICRIER's current Chairperson is Dr. Isher Judge Ahluwalia.

Amongst ICRIER's founding member are: Dr. Manmohan Singh, Dr. C. Rangarjan, Dr. M.S. Swaminathan, Dr. Jagdish Bhagwati, Mr. Montek Singh Ahluwalia and Mr. Bharat Ram.

ICRIER conducts thematic research in the following six thrust areas:

- Trade, Openness, Restructuring and Competitiveness
- WTO Related Issues
- Regional and Bilateral Issues
- Financial Liberalization and Integration
- Macro-economic Management in an Open Economy
- Strategic Aspects of India's External Relations

In addition, ICRIER holds public policy workshops to bring together policy makers, academicians, Union Cabinet Ministers, senior industry representatives, Members of Parliament and Media persons to try and forge a consensus on issues of major policy interest. In the effort to better understand global developments and experiences of other economies which have bearing on India's policies and performance, ICRIER invites distinguished scholars and policy makers from around the world to deliver public lectures on economic themes of interest to contemporary India.

ICRIER's highly qualified core team of researchers includes several PhD's from reputed Indian and foreign universities. At present the team has 18 economists. The team is led by Dr. Rajiv Kumar, D.Phil in Economics from Oxford University.