

# Quest for a Regional Monetary Framework in East Asia

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## 1. Introduction: Key Issues

In recent years East Asia has seen rapid advances in market-driven economic integration through cross-border trade, investment and finance. Following the Asian newly industrialized economies (NIEs) and middle-income Association of Southeast Asian Nations (ASEAN) members, China is the most recent participant in this integration process as a result of further opening of its economy to international trade in goods and services and foreign direct investment (FDI). Growing economic integration has strengthened macroeconomic linkages across these East Asian economies.

The high and rising degree of economic interdependence in East Asia suggests that it is increasingly important for the region's economies to achieve intraregional exchange rate stability. The reason is that intraregional exchange rate stability supports expanding intraregional trade and investment. In addition, Asia is heading to become the largest economic bloc in the world in five years. Such a large integrated economic area should have intraregionally stable exchange rates, or may even have a common currency in the distant future.

In reality, however, the region remains characterized by diverse, uncoordinated exchange rate arrangements. Japan and China, the two dominant countries in East Asia, respectively adopt an exchange rate regime akin to a pure float and a tightly managed US dollar-based regime. Most other economies—except for the small open economies of Hong Kong and Brunei Darussalam both of which adopt currency board systems—employ intermediate regimes of managed floating with the US dollar as the most important anchor currency. As a result Asia has experienced several episodes of exchange rate instability led by capital flows, the most recent one is that of the Korean won which depreciated sharply following the outbreak of the global financial crisis in 2008. In particular the yen-won fluctuations were extensive. As it is becoming difficult to maintain intraregional rate stability through the traditional policy of dollar pegs, a regional framework for exchange rate policy coordination needs to be developed in East Asia. In particular, given the lack of dominant regional currency in East Asia, there is a case for using a basket of regional currencies—such as the Asian Currency Unit (ACU)—as the region's common anchor currency.

Reflecting these issues, this paper asks the following questions:

- Is East Asia—or a group of countries in the region—ready for creating a stable exchange-rate zone from economic perspectives, or does it satisfy optimum currency area (OCA) criteria?
- What are the practical steps for deepening regional monetary and exchange rate policy coordination, which may eventually lead to the creation of a single East Asian currency? What types of institutional support are needed for this purpose?

- Should it be led by the yen, the yuan, the US dollar, or a currency basket?
- What are the most serious impediments to such steps?

Essentially, East Asia faces three major policy challenges if it wants to achieve intraregional exchange rate stability. First, there must be some convergence of exchange rate regimes in East Asia, and the most realistic approach is the adoption of similar managed float regimes—rather than a pure float or a rigid peg to an external currency. This requires major Asian economies—including China—to move to a more flexible regime vis-à-vis the US dollar. Second, given the limited degree of the Japanese yen’s internationalization and the lack of the Chinese yuan’s full convertibility, East Asia needs to create a credible regional monetary anchor through a combination of some form of national inflation targeting and a currency basket system. An important challenge here is to find a suitable currency basket, particularly that of regional currencies. Third, if East Asia considers the creation of a stable regional monetary zone—and possibly a regional single currency in the distant future—as desirable, the region needs to articulate the required steps of monetary and exchange rate policy coordination that may eventually lead to a regional monetary union.

The paper is organized as follows. Section 2 reviews the past experiences of exchange rate instability within Asia, most of which were induced by international capital flows. Section 3 examines the current exchange rate arrangements in East Asia and identifies problems of the current lack of coordination. Section 4 tackles the question of whether an integrated East Asia can have a stable monetary zone supported by fixed exchange rates by considering OCA criteria and convergence issues. Section 5 explores policy steps of monetary and exchange rate policy coordination that could lead to stable intraregional exchange rates as well as the supporting institutional cooperation. Section 6 provides concluding remarks and Asia’s challenges.

## **2. Capital Flows and Exchange Rate Volatility in East Asia**

Although Asian economies did not face the type of currency crisis several East European countries and the Baltic states experienced in the wake of the global financial crisis, they have seen large exchange rate fluctuations over the last 13 years. The most notable was the large exchange rate depreciation during the Asian financial crisis of 1997-98. Other episodes include: the mini crisis of the Indonesian rupiah in the summer to fall of 2005; the rapid Thai baht appreciation that triggered capital inflow controls and sharp declines in stock prices in December 2006; and the depreciation pressure on the Vietnamese dong in the face of high and rising inflation and widening current account deficits in the spring of 2008. Finally the global financial crisis did have some impact on the Korean won. This section discusses some of these episodes.

### **Asian currency crisis of 1997-98.**

The crisis that started from Thailand and spread to Indonesia, Malaysia and Korea caused substantial currency depreciation and significant damages to the financial system as well as the real sector. It was a combination of currency and banking crises, driven by rapid capital inflows followed by equally rapid outflows of capital. In this sense, the currency crisis was

a capital account crisis, rather than the traditional current account crisis which had characterized many Latin American crises before the mid-1990s. The banking sector played a critical role in intermediating excessively large amounts of external short-term funds in foreign currency for long-term domestic investment, thereby creating potential for bad loans that led to a banking crisis. Relatively fixed exchange rates against the US dollar also encouraged unhedged capital inflows with the perception that the exchange rates would not change.

The Thai baht devaluation in July 1997 was triggered essentially by the investor perceptions of deteriorating financial sector conditions and of unsustainable overvaluation of the currency. Once the Thai baht collapsed, currency speculation and crises spread quickly to the Philippines, Indonesia, Malaysia, and Korea within a matter of a few months. The speed and extent of regional “contagion” of currency crisis was remarkable. The strong contagion effects within East Asia suggest that the economic linkage through intra-regional trade, direct investment and finance was much more pronounced there than in other regions.

The Asian financial crisis was a capital account crisis, in that rapid capital inflows and outflows, made possible by premature financial globalization, created the so-called “double mismatches” (in currency and maturity) in the balance sheets of banks and corporations which were exposed to risks of sudden withdrawals of capital. Rapid capital inflows created excess liquidity, over-extension of bank loans, over-investment and asset market bubbles, but once the market started to lose confidence about the sustainability of the exchange rate, equally rapid capital outflows occurred and created large downward pressure on the currencies. With steep currency depreciation, externally indebted banks and corporations found it difficult in repayment due to the inflated value of external debt measured in domestic-currency terms and magnified economic problems.

IMF intervened in Thailand, Indonesia and Korea, while Malaysia successfully responded to the crisis with solid domestic programs for bank and corporate restructuring by introducing capital outflow control and a currency re-peg to the US dollar in September 1998. It is noteworthy that the Asian currency crisis was a trigger of the subsequent ASEAN+3 monetary and financial cooperation (i.e., the Chiang Mai Initiative, the Economic Review and Policy Dialogue, and the Asian Bond Markets Initiative).

### **Episodes in Indonesia and Thailand**

Indonesia encountered a mini currency crisis in August 2005, when worsened investor confidence generated a sharp reversal of portfolio flows and caused a sharp decline in the stock market index. Investors were concerned over rising inflation and expanding fiscal deficits. Fiscal deficits widened due to the rising international oil prices and the resulting increase in oil and fuel related subsidies as the government was controlling oil and fuel related prices at low levels. Indonesian markets stabilized after the government announced a major cutback in fuel subsidies, which contributed to the reduction in budget deficits, and raised policy interest rates, which successfully contained inflation.

Thailand faced continuous capital inflows throughout most of 2006 and upward pressure on the baht. An appreciating baht raised concerns over the loss of international price competitiveness vis-à-vis other ASEAN countries and China which had more stable

exchange rates against the US dollar. The Bank of Thailand imposed controls on capital inflows in December 2006, requiring 30% reserves on short-term capital inflows. When this was met by a sharp decline in equity prices in the Thai stock exchange the next day, the authorities had to announce that the inflow controls would not apply to trade, FDI or portfolio equity, and they had to modify the controls in January 2007 to exempt hedged residential foreign currency borrowing. Eventually, the Bank of Thailand lowered the policy interest rate to respond to an appreciating baht.

### **Impact of the global financial crisis on the Korean won.**

The Korean economy had enjoyed relatively stable economic growth in the early 2000s, with a growth rate averaging 5% of GDP and strong fundamentals. The banking system was well-capitalized, nonperforming loans remained low, and large firms' balance sheets were generally healthy. However, there were some concerns over the high levels of foreign debt (\$210 billion in June 2008) and loan-deposit ratios (127%) in the banking sector. The Korean financial market was hit hard by the external shock following the collapse of Lehman Brothers in September 2008.

During October and November 2008, both domestic currency and foreign exchange liquidity tightened for domestic banks with large wholesale financing requirements, and foreign investors withdrew from Korea. As the global financial crisis deepened, funds flowed out of the country due to deleveraging by foreign financial institutions in response to heightened concerns about credit risk. Korean financial institutions faced shrinking foreign currency supply and a severe liquidity crunch even though they had not been exposed to large sub-prime mortgage related instruments.

The real economy also slipped into a recession, as Korean exports shrank rapidly, owing to the contraction of import demand in the developed markets of the US and Europe. Korean stock prices had been falling since May 2008 reflecting global weakening in liquidity. Moreover, the Bank of Korea had lost large amounts of foreign exchange reserves since March 2008; the reserves declined from US\$264 billion in March to just below US\$200 billion in November. The spread of credit default swap in Korea had started to rise in late 2007, reaching a peak of 700 basis points in late October 2008, just days before a currency swap arrangement with the US Federal Reserve (Fed) was arranged. The won started to depreciate rapidly, from a strong 907 won per US dollar recorded in October 2007 to 1,483 won per US dollar in November 2008.<sup>1</sup>

The authorities in Korea responded swiftly to the impacts of the global financial crisis. The Bank of Korea eased its monetary policy aggressively, to soothe the financial market unrest and ward off a sharp contraction of the real economy. It brought its Base Rate down by a total of 3.25 percentage points, to its lowest level of 2% in six steps from October 2008 until February 2009. Along with this, it expanded liquidity in those sectors badly affected by the credit crunch through its open market operations and lending facilities. At the same time, it actively provided foreign-currency liquidity to domestic financial institutions through, for example, the swap market, in order to stabilize the foreign exchange market

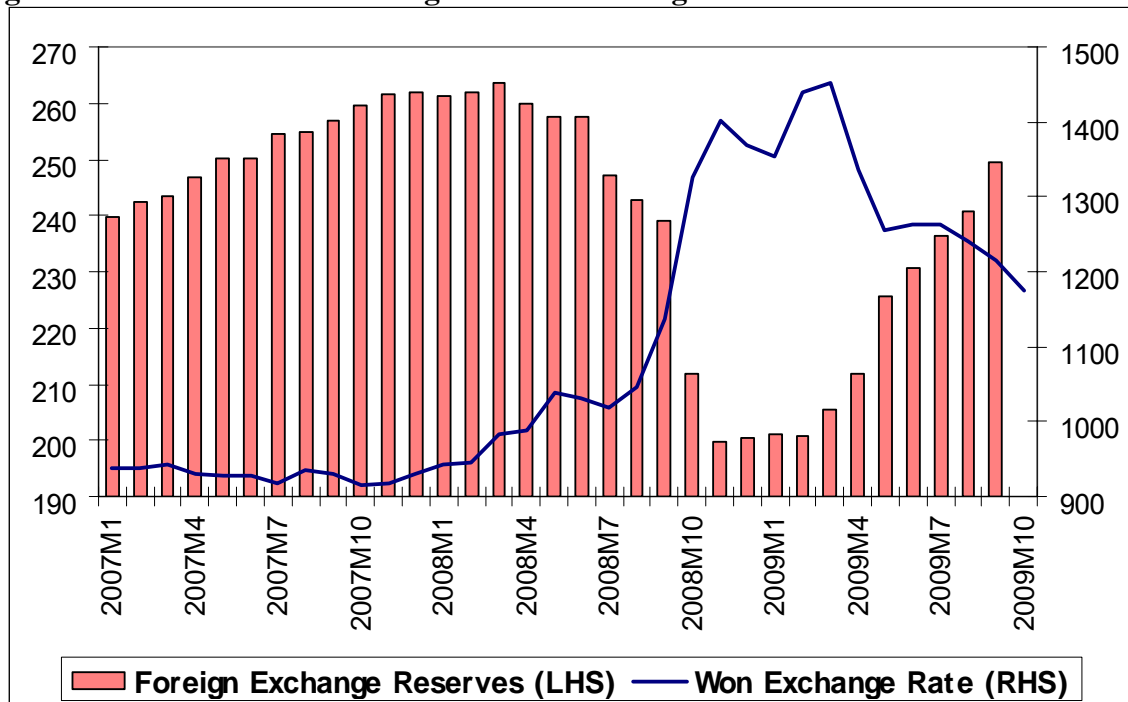
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<sup>1</sup> The value of the won recovered afterwards but then reached the weakest level of 1,516 won per dollar in February 2009. Since then the won has strengthened.

that was directly hit by the impact of the global financial crisis. The government also guaranteed all foreign debts in the banking sector until 2011. Unwilling to go to the IMF or CMI (which is tightly linked with IMF), the Korean authority entered into a US\$30 billion currency swap arrangement with the US Fed in October 2008 and with the Bank of Japan and the People’s Bank of China in December 2008.

The currency swap arrangement with the Fed had a significant stabilizing impact on the market. In 2009, the low won helped export recovery and reserve accumulation to 249 billion in September. The won began to restore its value gradually (see Figure 1).

**Figure 1. Korean Won and Foreign Reserves during the Global Financial Crisis**



### 3. East Asia’s Exchange Rate Arrangements

#### Diversity of exchange rate regimes

Given the heightened level of economic interdependence of economies in Asia, it may be argued that these East Asian economies should aim to stabilize intra-regional exchange rates through policy coordination rather than through stability vis-à-vis the U.S. dollar.

Despite close and rising interdependence of East Asian economies, however, no exchange rate policy coordination has been in place in East Asia. Moreover, the region’s exchange rate regimes are in serious disarray. In contrast to the pre-crisis period, where many emerging market economies in East Asia maintained *de jure* or *de facto* US dollar pegged regimes, the post-crisis period exhibits a greater diversity in exchange rate regimes.<sup>2</sup> The

<sup>2</sup> See Kawai (2002, 2008a).

two giant economies in the region, Japan and China, adopt different exchange rate regimes—Japan a free float and China a heavily managed, crawling peg regime targeted at the US dollar. Most other economies adopt intermediate exchange rate regimes, with the exception of Hong Kong and Brunei (see Table 1).

**Table 1. Exchange Rate Arrangements in East Asia, 2008**

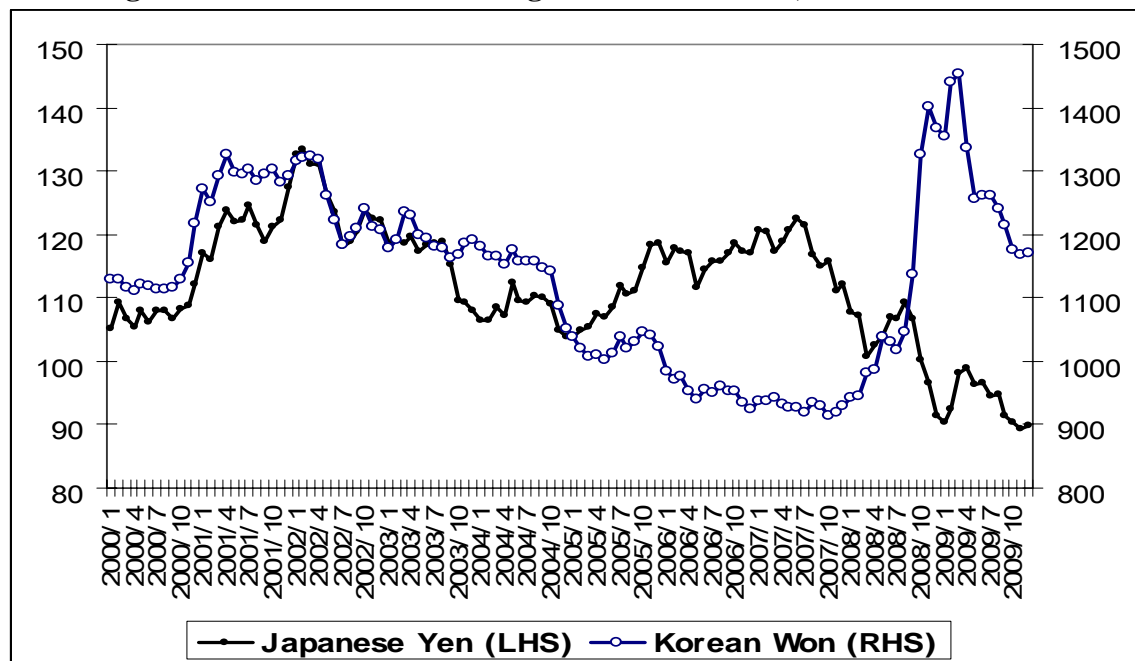
Exchange rate arrangements	Countries/economies (de jure arrangements)
<b>Hard peg</b>	Brunei, Hong Kong (currency board peg)
<b>Intermediate arrangements</b>	
Soft peg	China (conventional fixed peg)
Floating with very limited rate fluctuations	Vietnam (managed float)
Floating with limited rate fluctuations	Malaysia, Singapore, Taipei, China (managed float)
Managed float with large rate fluctuations	Cambodia, Indonesia, Laos, Thailand (managed float)
	Korea, Philippines (independent float)
<b>Free float</b>	Japan (independent float)

Notes: (a) This table summarizes de facto exchange rate arrangements in place by taking into account the arrangements reported by IMF, *Annual Reports on Exchange Arrangements and Exchange Restrictions*, 2007.

(b) “Managed float” refers to managed floating with no predetermined path for the exchange rate.

As a result, intraregional exchange rates do move in a volatile way. For example, the yen and the won have been fluctuating excessively, relative to the economic fundamentals. Figure 2 shows that the two currencies were moving in a parallel way between early 2000 and end 2004, but that beginning in early 2005, they began to show opposite movements in a wild way. Until the outbreak of the global financial crisis, the yen was weak and the won strong, but from mid-2008 the won began to collapse and the yen began to appreciate. In July 2007 the won depreciated from a peak of 7.55 yen/won in July 2007 to a low of 15.57 yen/won in February 2009, more than 100% depreciation. This is harmful.

**Figure 2. Yen and Won Exchange Rate Movements, 2000-2009**



### **Managing and capital flows**

Given the ongoing global financial crisis originating from the US, rapid slowdown of the US economy, and still large payments deficits, abrupt changes in international investor tolerance (or expectations) could put significant downward pressure on the US dollar and upward pressure on many East Asian currencies. A loss of confidence in the US economy—due to the worsening US financial conditions, the deepening economic crisis and the mounting public debt issued to cope with the crisis—could trigger a portfolio shift away from US dollar assets to other currencies.

In the next several quarters, capital inflows to emerging market economies—including East Asia—will be limited and some economies have experienced rapid capital outflows. For example, Korea had borrowed short-term external capital and accumulated large short-term foreign-currency debt faced rapid capital outflows and saw a sharply depreciating won and declining foreign exchange reserves.<sup>3</sup> Several other economies—like Indonesia and Philippines—have found it difficult to raise external funding due to the global credit crunch in the US dollar market and rising risk premiums on emerging market economies. Here an interesting counterfactual analysis of the global financial crisis would be to examine how Korea would have behaved if it had pegged its exchange rate to the yen, the yuan or a basket of these currencies, but this would be a future task.

Despite these difficulties, in the medium term, East Asia will likely face another surge of short-term capital inflows and the consequent upward pressure on currency values. The reason is that East Asia will remain the most robust economic region in the world economy. As these inflows are often directed to asset markets—for investment in equities and real property—and hence, if not managed properly, can be a source of macroeconomic and financial sector vulnerabilities. Policy to allow currency appreciation is advisable in the presence of domestic inflationary pressure and incipient asset price bubbles, but it can also damage the country's international price competitiveness vis-à-vis neighboring countries. So these problems may not be resolved through individual national policies alone. One of the most reasonable policy options is to allow “collective” currency appreciation, which does not differentially affect individual countries' relative price competitiveness.<sup>4</sup>

Joint currency appreciation requires a convergence of exchange rate regimes in East Asia to ensure intraregional exchange rate stability. For this to happen, the existing policy dialogue processes among the region's finance ministers (such as ASEAN+3) and central bank

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<sup>3</sup> Because of the funding difficulty and depleting foreign exchange reserves, Korea (together with Brazil and Singapore) signed a US\$30 billion currency swap arrangement with the US Fed in late October 2008, which stabilized the Korean financial market. Subsequently, Korea was successfully able to reach an agreement with Japan and China to expand the bilateral Chiang Mai Initiative (CMI) currency swap arrangements to US\$30 billion each in mid-December 2008.

<sup>4</sup> Collective currency appreciation would spread the adjustment cost across East Asia, thus minimizing individual country costs. Simple calculation would indicate that a 20% collective appreciation of East Asian currencies vis-à-vis the US dollar implies only a 9% effective (or trade-weighted) appreciation against trading partners—given the intra-regional trade share of 55%—even if all other non-East Asian currencies remain stable vis-à-vis the dollar. To the extent that other currencies also appreciate vis-à-vis the dollar, the degree of effective appreciation of the East Asian currencies would be more limited.



governors (such as EMEAP) can play a critical role. Clearly the first step is to adopt a regime that allows greater currency flexibility vis-à-vis the US dollar. China's yuan revaluation in July 2005 and its shift to a managed crawling peg—followed by Malaysia's similar shift to a managed float—suggest the beginning of such coordination.

### **Dollar, yen, or yuan as East Asia's anchor?**

Even when there is a strong case for some exchange rate policy coordination in East Asia, the issue is how a mechanism can be introduced to achieve such coordination in the region. There are at least two ways to do this. One is for each economy to stabilize its currency to a common key currency or a common basket of key (and other) currencies. The other way is for these economies to jointly create a regional, cooperative system similar to the Snake or Exchange Rate Mechanism (ERM) in Europe. Given that economic (particularly structural) convergence among the East Asian economies is not sufficiently advanced—and that political relationships are not sufficiently mature to support the creation of a tightly coordinated regional system—the first option appears more realistic. Only with sufficient economic convergence—and with strong political consensus—East Asia may move to the stage of joint exchange rate stabilization.

Given East Asia's diverse economic relationship with the major countries and areas in the world, the traditional practice of choosing the US dollar as the region's sole monetary anchor is no longer the best policy. An obvious alternative is to choose the yen and/or the yuan as a monetary anchor, given the size and importance of Japan and China in East Asia. However, the yen's power waned in the 1990s due to Japan's lost decade following the bursting of asset price bubbles, though it still has potential to play a critical role. In addition, over time Japan's relative economic size and its import absorptive capacity are expected to decline while that of China will rise rapidly, surpassing Japan in the next ten years.

As has been discussed earlier, the yuan's international role will rise over time with the country's persistently strong growth performance, but decades will have to pass before it becomes fully convertible and can assume an international currency status equivalent to that of the US dollar, the euro, or the yen. Some East Asian economies—particularly those with strong trade ties with China—may consider pegging their currencies to the yuan as desirable from trade perspectives, but many other economies with increasingly open capital accounts will have little incentive to do so because of the limited usefulness of the yuan for international settlement, clearance, financing and liquidity holding. It will take a long time for China to establish a truly independent, credible central bank and to put in place strong prudential and supervisory frameworks governing its financial systems.

Other East Asian economies, however robust their monetary policies, are too small for their currencies to take on a meaningful international role. This clearly makes it desirable—even necessary—to introduce a mechanism for intraregional exchange rate stability based on a currency basket, as no single currency is capable of playing a monetary anchor role at least in the near future.

### **A currency basket system**

Three options may be considered for the region's currency basket:

- An SDR comprising the US dollar, the euro, the pound, and the yen;
- an SDR-plus currency basket comprising the US dollar, the euro, the pound, the yen, and emerging East Asian currencies; and
- an Asian Currency Unit (ACU)—an appropriately weighted basket of East Asian currencies including the yen, yuan, won, baht, ringgit, etc.

The first two options above would not require a substantial degree of policy coordination because they rely on external nominal anchors. But the third option requires a high degree of monetary policy coordination, as a regional nominal anchor would have to be jointly established—and neither Japan nor China is likely to play the sole leadership role at least for now. The first option is the simplest, and the third option the most complex. One of the advantages of the second option is that it will be easier to move to the third option at a later stage by reducing weights on the dollar and the euro to zero.

So long as Japan continues to maintain its current free float, it would make sense for other economies in East Asia, including China, to adopt the SDR as a reference currency (the first option). By so doing, they could enjoy more stable effective exchange rates, with less susceptibility to dollar-yen and dollar-euro fluctuations than a standard US dollar-based system. Korea and Thailand, in recent years and without any formal commitment, appear to have already adopted a regime resembling an SDR system. Singapore has already been managing its exchange rate in a manner of an SDR-plus system (the second option) as its basket apparently includes the US dollar, the euro, the pound, the yen and other major and regional currencies. In July 2005, China and Malaysia also said that they started to move in this direction.

By agreeing on the adoption of an SDR or SDR-plus currency basket, East Asian economies will have in place a mechanism through which collective exchange rate adjustment can be engineered. First, this system is particularly suited to China as adopting a freely flexible exchange rate regime is ill-advised unless the country is confident of the depth, functioning and maturity of its money markets and the health of its banking sector, and is ready for advanced liberalization of capital accounts. Until then an SDR or SDR-plus basket system would serve China best in striking the difficult balance between maintaining a certain degree of exchange rate stability while allowing sufficient exchange rate flexibility against the US dollar—particularly given the backdrop of US current account deficits and China’s rising surpluses and official reserves. Second, this system can protect East Asia as a whole against the possibility of a sharp fall in the value of the US dollar in the face of mounting global payments imbalances and/or surging capital inflows. Third, this system can be supported by the ongoing efforts to strengthen the reserve pooling arrangement in East Asia—through multilateralization, size increase, lesser links with IMF programs, and flexible use of Chiang Mai Initiative (CMI) currency swap arrangements.

#### **4. Optimum Currency Area (OCA) Criteria and Macroeconomic and Structural Convergence**

Ongoing market-led economic integration in East Asia suggests that the region is emerging as one satisfying optimum currency area (OCA) conditions. One of the lessons from

European monetary integration leading up to the introduction of the euro in 1999 and the accession of new member states to the EU and the euro zone in the subsequent period is that macroeconomic and structural convergence is critical if a group of economies is to form, or join, a common currency area as equal (or symmetric) partners. Macroeconomic convergence criteria were explicitly embedded into the Maastricht Treaty and are still required when a new EU member state joins the euro zone, while structural convergence has been made explicit for countries considering EU accession—well before considering to join the euro zone.

### **Is East Asia an OCA?**

If the exchange rate is fixed permanently and irreversibly among economies—including through the adoption of a single, common currency—together with free mobility of goods, services, money, capital and labor, then an area comprising such fixed-exchange rate economies is called a “currency area.” According to the theory of “optimum currency areas” developed by Mundell (1961) and McKinnon (1963), a currency area is optimum—that is, the economies are indeed better off adopting permanently fixed exchange rates, or forming a currency area—under the following conditions:

- Openness to the area members;
- Product, factor and financial market integration;
- Symmetry of shocks affecting the area members;
- Similarity of macroeconomic responses reflecting similar preferences over output-inflation tradeoffs; and
- Willingness to coordinate on supporting policies such as fiscal policies.

These are often called the OCA criteria. The first three criteria are the most fundamental because they reflect the intrinsic nature of the economies while the last two are additional, weaker conditions.<sup>5</sup>

The consensus among experts on the applicability of OCA criteria in East Asia is that this region as a whole may not be an optimum currency area, but several sub-groups of the region’s economies may form such currency areas (see Watanabe and Ogura, 2006).

Mundell (2005) argues that there are many benefits from Asian monetary integration, including: greater trade and investment; alternatives for countries forced out of the US dollar area; stronger voice in world affairs; cushion in crises; avoidance of exchange rate conflict; better monetary policy; reduced destabilizing speculation; regional decision-making; and a more efficient Asian economy.

### **Economic integration**

Economic integration in East Asia has been deepening through the market-driven forces of cross-border trade, FDI, and finance. Trade in goods and services and FDI activities have expanded rapidly over the past twenty years thanks to the multilateral and unilateral trade liberalization processes. The removal of various types of cross-border barriers and the

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<sup>5</sup> Since these criteria can vary across countries and over time, no single exchange rate regime is right for all countries or at all times as discussed by Frankel (1999).

geographical proximity of East Asian economies have created natural economic linkages among them. In a sense, regional economic integration has been a natural outcome of economic globalization.

The main driver behind economic integration through trade is the intraregional business activity of multinational manufacturing corporations—initially those from Japan, Europe, and the United States (US), followed by those from emerging East Asia. These multinational corporations (MNCs) have formed closely organized production networks and supply chains across East Asia, linked with the global market. Such business arrangements have promoted vertical intra-industry trade within East Asia in capital equipment, parts and components, intermediate inputs, semi-finished goods, and finished manufactured products.<sup>6</sup>

Financial markets are also integrating rapidly in East Asia due to the deregulation of domestic financial systems, opening of financial services, and progressive relaxation of capital and exchange controls. Data analysis shows that levels of cross-market differentials in interest rates and bond yields have been declining in recent years.<sup>7</sup> Also, simple correlation analysis of stock returns would demonstrate a relatively high level of co-movements in East Asia's equity markets, even after eliminating the global common factor, in comparison to those in money and bond markets.

Compared with trade and FDI integration, however, regional financial integration, through portfolio investment, in East Asia has been less pronounced. An important reason for the limited degree of financial integration is that, apart from Japan, Hong Kong, and Singapore, many economies in East Asia still impose significant capital and exchange restrictions and other barriers, which impede free flows of financial capital. In particular, China and low-income ASEAN countries apply heavy controls and regulations. Another reason is that the domestic financial systems of many emerging market economies are still underdeveloped and shallow and, thus, cannot attract regional investors.

### **Macroeconomic interdependence**

An important consequence of these growing real and financial linkages—although the latter is limited—is the heightened macroeconomic interdependence and business cycle co-movements within East Asia. Growth rates of real macroeconomic activities have become increasingly synchronized. Using annual data for 1980–2002, Kawai and Motonishi (2005) demonstrate that the real activity variables—such as growth rates of real GDP, real personal consumption, and real fixed investment—were highly correlated among major economies in East Asia, notably among Japan; Korea; Taipei, China; Singapore; Malaysia; and Thailand, while Indonesia and the Philippines were beginning to join this group (but not China and low-income ASEAN members). This study also suggested that major East Asian economies—including Japan and its emerging neighbors—were subject to common supply shocks, which were different from shocks hitting the US or the EU.<sup>8</sup>

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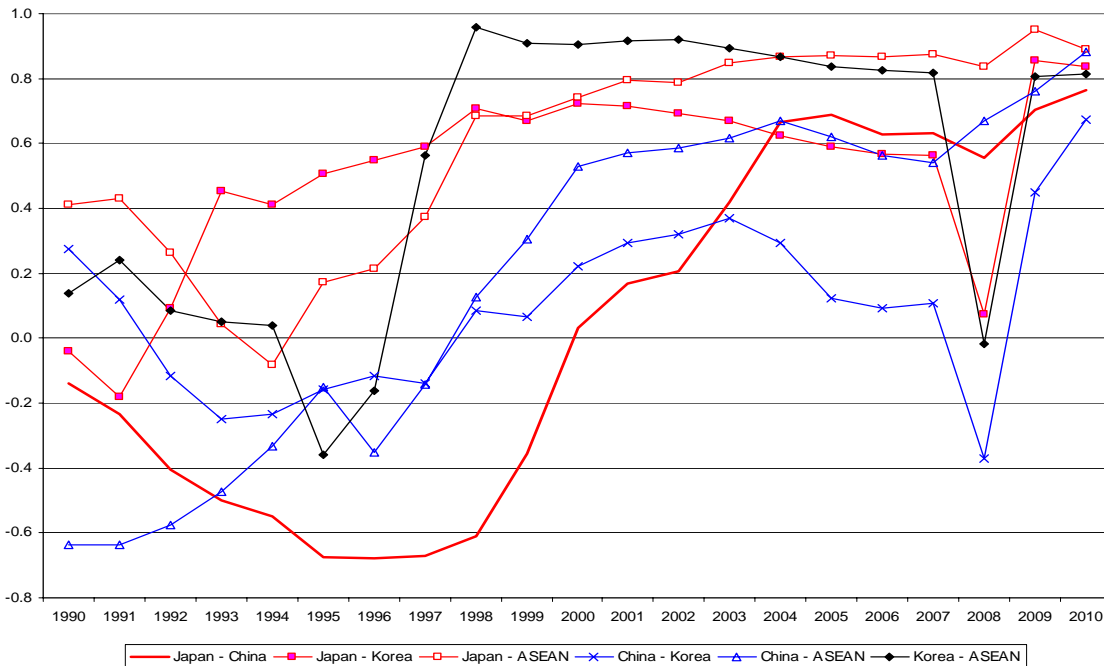
<sup>6</sup> See Kawai and Urata (1998), Fukao, Ishido, and Ito (2003), Kawai (2005b), and Athukorala (2005).

<sup>7</sup> This part is drawn from ADB, *Asia Bond Monitor*, November 2005.

<sup>8</sup> See Bayoumi and Eichengreen (1994) for evidence up to the early 1990s.

Using annual GDP data for ASEAN+3 countries for which data are available, Figure 3 shows simple 10-year moving correlations between real GDP growth of Japan, China, Korea and ASEAN for the period 1990-2010 (where data for 2009 are estimates and for 2010 projections). The figure shows that correlations have been increasing, especially after the Asian financial crisis, suggesting greater correlation of business cycles among ASEAN+3.<sup>9</sup> These results suggest that East Asia's real activity variables tend to be increasingly synchronized. China now appears to show positive co-movements with other East Asian economies as its economy becomes more market-based, as it opens to trade and investment, and as it becomes more integrated regionally and globally.

**Figure 3. Real GDP Growth Rate Correlations, with 10-Year Rolling Window**



### Macroeconomic convergence

Strictly speaking, macroeconomic convergence of economies among economies is not part of OCA criteria; it is not a prerequisite for a single currency area. For example, a country suffering from high inflation can unilaterally peg its exchange rate to the currency of a low, stable inflation country so that the pegging country can import low and stable inflation policy from the anchor country. This was one of the reasons for a high inflation country—like Italy—to join ERM as this allowed the country to import Bundesbank's non-inflationary monetary policy through currency pegging to the Deutsche mark.<sup>10</sup> In the case

<sup>9</sup> The only exception is Korea, where correlation appears to be falling somewhat after 1998.

<sup>10</sup> The reason the ERM (or the earlier Snake) did not require *ex-ante* macroeconomic convergence was that there was perhaps an implicit assumption that Germany would provide a stable anchor currency and other countries would stabilize their currencies against the Deutschmark, thereby importing non-inflationary policy from Germany. This may explain why the ERM functioned as an asymmetric exchange rate system, despite the fact that it was designed initially as a symmetric arrangement.

of such unilateral—or asymmetric—currency pegging, *ex-ante* macroeconomic convergence is not a prerequisite, although successful pegging would eventually require a certain degree of *ex-post* macroeconomic convergence.

Nonetheless, a high degree of *ex-ante* macroeconomic convergence is critical once countries decide to join a single currency area as equal—or symmetric—partners, as in the case of the formation of the Economic and Monetary Union (EMU) in Europe. The reason is that without macroeconomic convergence, it will be difficult for a group of economies experiencing differential inflation rates and fiscal deficits to agree on a common, non-inflationary monetary policy. This is one important reason why the Maastricht convergence criteria—on inflation rates, interest rates, fiscal deficits, public debt and exchange rate stability—were introduced early in the 1990s to encourage European Monetary System (EMS) countries to achieve convergence of monetary and fiscal conditions before they become eligible for EMU membership..

Table 2 summarizes major macroeconomic indicators considered for the Maastricht convergence criteria. It is clear from the table that East Asia has not achieved macroeconomic convergence in terms of inflation rates, interest rates, fiscal deficits and fiscal debt (Maastricht convergence criteria). There is no exchange rate stabilization mechanism in the region.

**Table 2. East Asia's Macroeconomic Indicators, 2007 (%)**

	Public Sector Debt % of GDP	Fiscal Balance General Government % of GDP	CPI Inflation Rate %	Interest Rate	
				Rate on Time Deposit of 12 months %	Lending Rate %
<b>Japan</b>	162.5	-3.2 <sup>(b)</sup>	0.1	0.38	1.88
<b>China</b>	17.3	0.7	4.8	3.29	7.47
<b>Hong Kong</b>	1.7 <sup>(a)</sup>	7.2	2.0	2.80	6.75
<b>Korea</b>	33.3	3.8	2.5	5.17	6.55
<b>Taipei,China</b>	34.9 <sup>(a)</sup>	-0.3 <sup>(b)</sup>	1.8	2.40	4.31
<b>Singapore</b>	--	9.0 <sup>(b)</sup>	2.1	0.83	5.33
<b>Brunei Darussalam</b>	--	12.8 <sup>(a)</sup>	0.3	1.14 <sup>(a)</sup>	5.50
<b>Cambodia</b>	--	-1.2	5.9	7.05	16.18
<b>Indonesia</b>	35.7	-1.2	6.2	8.20	13.86
<b>Lao PDR</b>	--	-2.7	4.5	--	30.00
<b>Malaysia</b>	55.6	-3.2	2.0	3.70	6.41
<b>Myanmar</b>	--	--	33.9	--	17.00
<b>Philippines</b>	62.3	-0.2	2.8	3.10	8.69
<b>Thailand</b>	37.5	-1.7	2.2	2.32	7.05
<b>Vietnam</b>	43.0	-5.4	8.3	8.80	11.18 <sup>(a)</sup>
<b>India</b>		-2.9	6.3	8.40	13.02

Notes: (1) Public sector debt refers to consolidated government debt except for Indonesia and Korea, while the Philippines refers to nonfinancial public sector debt.

(2) (a) refers to data for 2006; (b) refers to general government fiscal balance.

Sources: IMF, *International Financial Statistics*; ADB, *Key Indicators*, 2008.

### **Structural convergence**

Structural convergence—such as industrial structure, financial sector development, capital account openness, institutional and policy frameworks, and market infrastructure—is not part of OCA criteria, and it was never part of the Maastricht convergence criteria. A country without strong economic structures and foundations—and, hence, most likely without sound macroeconomic policy institutions like a credible, independent central bank and a disciplines fiscal authority—can still unilaterally peg its exchange rate to the currency of a country with strong structures and institutions.

During the recent negotiations of EU accession of Central and Eastern European countries as well as some CIS countries, these candidate countries have almost always been required to go through structural reforms, various liberalization measures and improve the quality of policy and institutional frameworks. Once admitted to the EU, new member states can be considered for joining the euro zone. Those EU member states wishing to join the euro zone must satisfy the Maastricht macroeconomic convergence criteria in order to seriously qualify for consideration. The idea here is that to become a full (and symmetric) member of the euro zone, each candidate country must first improve the quality of economic structures, foundations, and institutions so that it becomes similar structurally to those in the EU and then demonstrate a sufficient degree of macroeconomic convergence vis-à-vis incumbent countries so that it can pursue low and stable macroeconomic performance.

Table 3 summarizes some economic and structural indicators, and it is clear that East Asia has not achieved structural convergence. Differentials in per-capita incomes, industrial structures, institutional quality and various foundations for a well-functioning market economy are wide among the East Asian economies. To consider the possibility of a monetary union in East Asia, the first priority for developing and emerging economies in the region is to continue to pursue policy, institutional and structural reforms so as to strengthen domestic economic and structural fundamentals, improve institutional quality as well as domestic macroeconomic performance, and eventually achieve structural and macroeconomic convergence.

[Insert Table 3]

### **5. Steps of Asian Exchange Rate Policy Coordination**

Despite the desirability of intraregionally stable exchange rates, currently, there exists no coordination of exchange rate or monetary policies across East Asia as each country wishes to pursue its own domestic objectives. To pursue policy coordination, a gradual, step-by-step approach is appropriate. The first step is to initiate an intensive policy dialogue covering exchange rate movements, regimes and issues as part of the region's economic and surveillance exercise. The second step is to coordinate informally on exchange rate regimes by moving toward greater exchange rate flexibility vis-à-vis the US dollar. The third step is to adopt formal, but loose exchange rate policy coordination to promote intraregional rate stability without rigid coordination of monetary policy. The fourth and fifth steps are to progressively intensify formal exchange rate policy coordination (see

Table 4). Each of these steps needs to be complemented by stronger cooperation in the areas of finance and trade.

**Table 4. Steps toward Exchange Rate and Monetary Policy Coordination**

Progress	Exchange rate policy	Supporting institutions	Trade-investment
<b>Current State</b>	Uncoordinated exchange rate arrangements	CMI & regional surveillance	Uncoordinated FTAs
<b>1. Intensive policy dialogue on exchange rates</b>	Intensive policy dialogue on exchange rates; use of an ACU index for surveillance	Secretariat for CMI multilateralization & regional surveillance	Coordination of rules & provisions among FTAs
<b>2. Informal coordination (exchange rate regimes)</b>	Greater exchange rate flexibility vs. US dollar; An SDR-plus currency basket as loose reference	Asian Monetary Cooperation Fund	A single East Asia-wide FTA ; East Asian Investment Area
<b>3. Formal and loose coordination (exchange rate policy)</b>	SDR-plus currency basket system with clear rules for intraregional rate stability	Very short-term liquidity facility	Asian customs union
<b>4. Tight coordination (monetary policy)</b>	ACU-based system: Asian Snake” or “Asian ERM”	ACU clearing and settlement system	Asian common market
<b>5. Full coordination</b>	Asian monetary union	Asian central bank	Asian single market

#### **Intensive policy dialogue on exchange rate policy**

The first step is the introduction of intensive policy discussions on exchange rate policy as a part of the regional economic surveillance process. The objective is to cultivate a culture that views exchange rates as not merely national concerns but also regional matters, and intensify discussions among policymakers in order to reach a consensus regarding the implications of large currency misalignments within East Asia. At this stage, an ACU index could be introduced as a benchmark, a tool to measure the value of East Asian currencies as a whole against external currencies—such as the US dollar and the euro—as well as the degree of divergence of each currency’s value from the regional average set by the ACU.<sup>11</sup> Once China moves to a more flexible exchange rate regime, ACU index movements and divergences of component currency values can provide more meaningful information.

This policy dialogue process should be complemented by enhanced financial cooperation. ASEAN+3 finance ministers and central bank governors need to work closely by creating an independent secretariat to support a fully multilateralized, enlarged, and lesser IMF-linked CMI and a more effective regional economic surveillance (ERPD) mechanism. In particular, the scale of CMI needs to be expanded from the current bilateral swap size of \$US 90 billion—or the agreed size of a new multilateral CMI of \$US120 billion—to \$US200 billion or more.<sup>12</sup> ERPD should focus more intensively on “peer reviews” of economic performance and policies, particularly including exchange rate issues by using an ACU index and divergence indicators. In addition, an Asian version of the “Financial Stability Board” for finance ministry and central bank officials and financial sector

<sup>11</sup> The ACU could also be developed for invoicing trade-related transactions and serving as a denomination for Asian bond issues. See Kawai (2009), and several other papers in Chung and Eichengreen (2009).

<sup>12</sup> Note that as a result of the December 2008 agreement among China, Japan and Korea to increase the Japan-Korea BSA and the China-Korea BSA to US\$30 billion each, the size of CMI BSA has been expanded to US\$175 billion.



supervisors and regulators may be established to facilitate information exchange, policy dialogue, and mutual cooperation for the deepening and integration of financial markets.

### **Informal coordination of exchange rate regimes**

The second step is the introduction of informal policy coordination to achieve both greater exchange rate flexibility vis-à-vis the US dollar and improved exchange rate stability within East Asia by using a basket of SDR-plus currencies—comprising the SDR and a basket of emerging Asian currencies—as a loose reference.<sup>13</sup> By adopting a managed float policy targeted at an SDR-plus currency basket—as is currently practiced by Singapore—all emerging East Asian economies could enhance the degree of exchange rate stability with each other. The weights of East Asian currencies in the basket could vary across countries, at least initially. How strictly countries maintain the value of their currency in line with the basket currency could depend in each case on country conditions and preferences. National monetary authorities could maintain most of their autonomous policymaking by combining an appropriately defined inflation target policy and a basket-based managed floating policy (Kawai and Takagi 2005). Once China moves to a more flexible exchange rate regime, ACU index movements and divergences of component currency movements can provide more meaningful information.

Supporting institutional arrangements should be further enhanced to support such informal policy coordination. The CMI-ERPD secretariat will be transformed into a more structured Asian Monetary Cooperation Fund (AMCF), like a European counterpart—the European Monetary Cooperation Fund (EMCF)—which conducts more intensive ERPD, with advanced “peer review” and “due diligence” elements, and drafts lending conditionality when a member country needs to draw CMI resources that are now fully independent of IMF programs. Various other regional entities—including for credit guarantees and enhancements, and regional settlements and clearance—will have become fully operational to support the development of regional currency bond markets. Coordination of financial supervisors and capital market regulators will have to be advanced for regional harmonization starting with mutual recognition of supervisory and regulatory practices with minimum standards.

### **Formal but loose exchange rate policy coordination**

The third step is the joint adoption of a formal policy of stabilizing intraregional exchange rates using a common basket of SDR-plus currencies as a reference. The basket stabilization policy should be clearly defined with well-defined rules on exchange rate parity against the common basket, a relatively wide exchange rate band (such as a range of  $\pm 10\%$ ) around the central rate, and the ability to adjust both the central rate and the band—along the lines proposed by Williamson (2005). This policy affords the authorities greater exchange rate flexibility vis-à-vis the US dollar at the expense of a lesser degree of national monetary policy autonomy. The ACU index should continue to serve as an important indicator in measuring joint movements and divergences of East Asian currencies, and its use in the financial markets should be encouraged.

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<sup>13</sup> Note that an SDR-plus currency basket could be defined as a basket of the US dollar, the euro, the pound and an ACU, which is a basket of the Japanese yen and other Asian currencies.

This formal exchange rate policy coordination will require the availability of a very short-term liquidity facility so that the central banks can frequently intervene to maintain exchange rate stability within a band.

### **Tight, systematic coordination of exchange rate and monetary policies**

The fourth step is the launch of more systematic exchange rate and monetary policy coordination to create a regional monetary anchor. Here, two approaches are possible—the “European” approach and the “parallel currency” approach (Eichengreen, 2006). Under the “European” approach, a common basket peg similar to the snake or exchange rate mechanism (ERM) could be introduced. All currencies will become freely flexible vis-à-vis external currencies, such as the US dollar and the euro, but maintain intraregional stability through joint stabilization of individual currencies to the ACU. The mechanism should include clearly-defined, transparent monetary policy and intervention rules so as to provide a credible monetary anchor within East Asia as well as a fully elaborated short-term liquidity support arrangement, which is large and speedy enough for frequent interventions in the region’s currency markets.<sup>14</sup> The AMCF will become the clearing house of frequent interventions as well as the issuer of official ACUs. Fiscal policy rules may also be designed to lend credibility to the exchange rate stabilization scheme.

The “parallel currency” approach could be considered in the absence of strong political will. This approach involves issuance of an ACU as a parallel legal tender together with national currencies, issuance of ACU-denominated bonds, and the establishment of a clearing and settlement system for ACU transactions. In the longer term, as the volume of ACU transactions increases, the ACU could develop into the sole legal tender within the region.<sup>15</sup> The centralized reserve pool could then be converted into an Asian Central Bank.

The final stage is complete monetary policy integration and a full delegation of monetary policymaking to a regional supra-national authority. In this ultimate phase, a single regional currency may be introduced. But this remains a long-run possibility for the region.

### **A multi-track, multi-speed approach**

A practical path toward policy coordination (and, ultimately, policy integration) is to take a multi-track, multi-speed approach, whereby economies ready for deeper policy coordination begin the process while others prepare to join later. A group or pairing of economies that are sufficiently integrated—Japan and Korea; China and Hong Kong; or Singapore, Malaysia, and Brunei Darussalam —and also possess sufficient political

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<sup>14</sup> Under the ERM of the European Monetary System, the deutschemark emerged as a *de facto* anchor currency despite the system having been designed as a symmetric exchange rate stabilization scheme. In Asia, it is also possible for the yen, the yuan, or another currency to play such an asymmetric, monetary anchor role, but the choice will be left to the natural evolution of non-inflationary policymaking and credibility of the region’s central banks.

<sup>15</sup> The appeal of the “parallel currency” approach is dictated more by economic forces (i.e., market forces) than by politics. This is consistent with the greater emphasis placed by East Asian countries on market-led rather than policy-led integration. It also accommodates the fact that the East Asian political context is very different compared with that of Europe. An underlying commitment to political solidarity drove the transition to a monetary union in Europe. Europe also considered the parallel currency approach, but it was abandoned in favor of the Maastricht process because of the strong political commitment that existed at the time.

commitment, may wish at this stage to initiate subregional currency stabilization schemes. Each subregional group could intensify exchange rate and monetary policy coordination within the group while allowing the possibility, or even crafting a road map, for others to join them subsequently. Over time these groups may start negotiations to integrate into a larger monetary zone.<sup>16</sup>

## **6. Conclusion: Asia's Challenges**

Asia has seen rapid market-driven economic integration through trade, investment and finance and will become the largest economic zone soon. An integrated Asia with the largest economic size will need much more stable exchange rates intraregionally and may eventually require a single currency. Given capital inflow risks, it is time to prepare for exchange rate policy coordination to better manage macroeconomic and financial-sector conditions, while maintaining intraregional exchange rate stability. Asia clearly needs to start intensive policy dialogue on exchange rates and embark on informal coordination of exchange rate regimes.

The most serious impediments to closer monetary and exchange rate policy coordination that is needed for the formation of a regional or subregional currency area may include:

- reluctance to lose national sovereignty over economic policymaking;
- diversity of economic and political systems and of policy and institutional quality; and
- a lack of integrationist tradition, political commitments, mutual trust, and the supporting institutions.

To overcome such impediments, Asian countries need to deepen various types of economic and financial policy coordination, including the formation of an Asia-wide FTA, enhancement of the Chiang Mai Initiative so that it can be transformed into an AMCF, deepening of Asian currency-denominated bond markets, and establishment of an Asian Financial Stability Board. In addition, countries where policy and institutional quality is weak—particularly China and low-income ASEAN countries—are encouraged to improve it at the national level. China must make efforts to strengthen its financial sector and achieve capital account liberalization at a sequenced manner with a comprehensive program, while low-income ASEAN members must pursue institutional and governance reforms to enable them to benefit from real and financial integration.

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<sup>16</sup> Asians must also make a strong case that Asian monetary cooperation provides a win-win solution for the world economy, including the US and Europe. In this regard, interesting remarks have been made by Adams (2006), Under Secretary for International Affairs of the US Treasury at the time. He states: “With respect to an Asian Currency Unit (ACU), there has been some confusion about the US position on this topic. ... We do not see the ACU as a competitor to the dollar. ... We believe that greater exchange rate flexibility is desirable for the region, but are open-minded as to whether that involves currency cooperation within the region.” On broader regional financial cooperation, while he wants to see more “clarity on the CMI” with regard to the amounts available absent IMF programs and the conditions imposed by CMI creditors, he states “we ... support regional cooperation that is consistent with multilateral frameworks.”

These challenges are significant, but countries that are close to each other can begin tighter exchange rate policy coordination. For example, volatile exchange rates between the yen and the won, observed since 2005, are harmful so that authorities of the two countries may initiate policy dialogue to explore ways and means of achieving more stable exchange rates. As another example, the return of the Chinese yuan to a US dollar peg in August 2008 can be problematic for the neighboring countries if not addressed soon. The reason is that once capital inflows resume in Asia, the yuan's dollar peg is likely to discourage authorities in other Asian countries to allow currency appreciation for fear of loss of international price competitiveness vis-à-vis China. As a result these countries may import financial sector and macroeconomic instability through foreign reserve accumulation, which can ignite domestic inflation, overheating and asset price bubbles, a recipe for future financial and currency crises.

The immediate first step to exchange rate policy coordination would be for the regional economies to discuss exchange rate issues as part of enhanced economic surveillance, for which Asian Currency Unit (ACU) indexes will be a useful instrument. The next step is the adoption of a common exchange rate regime, such as a managed float based on an SDR-plus currency basket system based on the U.S. dollar, the euro, the pound and the ACU. Greater political support for economic policy coordination could eventually lead to further institutional integration capable of supporting intraregional exchange rate stability. For this purpose substantial convergence will have to be achieved across countries in the region over time in terms of economic, financial, and structural conditions, performance, and policies.

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**Table 3. Economic and Structural Characteristics of East Asian Economies, 2007**

	GDP/POP US\$	Inv/GDP %	Sav/GDP %	CA/GDP %	Industrial Structure				Exp/GDP %	Imp/GDP %	FDI/GDP %	Governance Index			
					Agr	Ind	[Man]	Serv				Gov.Eff.	Reg.Qual.	Rule.Law	Con.Co
<b>Japan</b>	34,182	24.0	25.0	3.9	1.5	29.9	[21.0]	68.6	14.3	13.0	2.5	89.1	83.5	90.0	84.
<b>Hong Kong</b>	27,507	21.4	32.9	10.6	0.1	9.3	[ 3.4]	90.6	205.4	194.0	405.2	94.3	99.0	90.5	92.
<b>Korea</b>	18,347	29.8	30.9	0.7	3.2	39.6	[27.8]	57.2	43.2	42.1	8.0	86.3	78.6	74.8	68.
<b>Taipei,China</b>	16,031	21.3	25.9	6.7	1.7	27.7	[22.9]	70.7	69.8	64.2	13.8	82.5	79.6	70.5	70.
<b>Singapore</b>	30,045	18.8	50.5	27.5	0.1	34.7	[29.2]	65.2	252.6	220.9	159.0	100.0	98.5	95.2	96.
<b>Brunei</b>	30,270	10.4	--	45.3	0.7	73.4	[10.5]	25.9	71.2	25.0	85.3	77.7	81.6	59.5	63.
<b>Cambodia</b>	514	21.5	14.5	-4.6	30.1	26.2	[18.6]	43.7	68.8	75.8	40.7	20.9	30.6	13.8	8.
<b>Indonesia</b>	1,636	24.6	29.4	2.7	12.9	47.0	[28.0]	40.1	30.9	26.1	5.2	41.7	43.7	27.1	27.
<b>Lao, PDR</b>	586	32.5	26.2	1.2	42.0	32.5	[20.9]	25.5	36.0	42.3	24.9	21.3	15.0	17.1	13.
<b>Malaysia</b>	5,774	20.7	37.7	16.9	8.7	49.9	[29.8]	41.3	117.0	100.0	35.6	82.9	67.0	65.2	62.
<b>Myanmar</b>	232	--	--	--	--	--	[ -- ]	--	--	--	--	2.4	1.5	5.2	1.
<b>Philippines</b>	1,363	14.3	13.1	5.0	14.2	31.6	[22.9]	54.2	46.4	47.6	14.6	56.4	50.5	33.8	22.
<b>Thailand</b>	3,254	27.9	31.8	1.1	10.7	44.6	[35.0]	44.7	73.7	69.8	33.0	61.6	56.3	52.9	44.
<b>Vietnam</b>	725	35.7	32.4	-0.4	20.4	41.6	[21.3]	38.1	73.5	76.8	54.8	41.2	35.9	38.6	28.
<b>China</b>	2,016	44.6	52.5	9.4	11.7	48.4	[ -- ]	39.9	40.1	32.2	11.1	61.1	45.6	42.4	30.
<b>Indonesia</b>	822	33.9	31.1	-1.0	17.5	27.9	[16.3]	54.6	23.0	25.8	5.6	57.3	46.1	56.2	47.

*Note: Gov.Eff. = government effectiveness; Reg.Qual. = regulatory quality; Rule.Law = rule of law; Con.Corr. = containing corruption*

*Source: World Bank, World Development Indicators Database; Worldwide Governance Indicators; IMF, International Financial Statistics; UNCTAD, World Investment Report*