The Role of Asian Currencies in the International Monetary System

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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 those East Asian economies that have also opened financial markets and liberalized capital accounts.

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. Some recent key policymakers in East Asia are increasingly vocal about the need to create a monetary union in the region (for example, De Ocampo 2004; Kuroda 2004; and Chino 2004). The reason is that they believe that intraregional exchange rate stability is desirable for East Asia and a monetary union is the ultimate form to ensure it.

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—adopt intermediate regimes of managed floating with the US dollar as the most important anchor currency. As it is becoming difficult to maintain intraregional rate stability through the traditional policy of dollar pegs, a regional framework for exchange rate regime 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—called the Asian Currency Unit (ACU)—as the region's common anchor currency.

Reflecting these issues, this paper asks the following questions:

- How important are the US dollar and the euro as international currencies vis-à-vis Asian currencies, particularly the Japanese yen?
- Is East Asia—or a group of countries in the region—ready for a regional single currency, satisfying optimum currency area (OCA) criteria?
- What is the practical first step towards regional monetary and exchange rate policy coordination and a roadmap to a future Asian monetary union? What role can an ACU play in this effort?
- What are the most serious impediments to such steps?

Essentially, East Asia faces three major policy challenges in identifying practical modalities for exchange rate coordination. First, to achieve intraregional exchange rate stability, there must be some convergence of exchange rate regimes in East Asia; the most realistic option is the adoption of similar managed floating 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. 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 secure 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 the creation of an East Asian monetary zone—and possibly a regional single currency in the distant future—is desirable, the region needs to articulate the roadmap, or the required steps, toward closer monetary and exchange rate policy coordination.

The paper is organized as follows. Section 2 reviews the importance of the U.S. dollar and the euro as international currencies in comparison to Asian currencies. Section 3 tackles the question of whether an integrated East Asia requires a common currency. Section 4 examines the current exchange rate arrangements in East Asia and identifies problems of the current lack of coordination. Section 5 explores policy steps to monetary and exchange rate policy coordination that leads to stable intraregional exchange rates as well as the supporting financial cooperation. Section 6 provides concluding remarks and policy implications.

2. International Roles of the U.S. Dollar, Euro and Japanese Yen

This section reviews the extent to which the U.S. dollar, the euro and the Japanese yen are used as international currencies in foreign exchange market trading, foreign exchange reserve holding, and foreign exchange rate policymaking. It briefly summarizes trends in yen internationalization and compares the share of the yen in these categories to those of other major international currencies.

Foreign exchange market trading and foreign exchange reserve holding. Table 1 summarizes currency compositions of foreign exchange trading in the world's major markets in April 2001 through April 2007. The table indicates that the share of foreign exchange trading involving the U.S. dollar has declined over the six year period, though its level is still significant. The share of the U.S. dollar was 90% in April 2001 and declined to 86% in April 2007. The euro share has remained about the same at 37%. In contrast, the share of the Japanese yen declined from 23% in April 2001 to 17% in April 2007.

The very high weight of the U.S. dollar in foreign exchange market trading suggests that the underlying requirement for the U.S. dollar in trade and capital transactions is large and that the dollar plays the role of a vehicle currency, mediating exchanges of various currencies. For example, conversion of the Japanese yen into the Korean won is done typically through the U.S. dollar, first converting the yen into the dollar and then the dollar into the won. This mediating, vehicle-currency role of the U.S. dollar is usually explained

by the low transactions costs due to economies of scale and the public goods nature of the dollar; people prefer to use the U.S. dollar because almost everyone else uses it too. There is no sign that the Japanese yen has been functioning as a vehicle currency in the world's foreign exchange markets.

Table 2 presents the shares of major currencies in the official foreign exchange reserves held by IMF reporting countries. The share of the U.S. dollar held by all IMF reporting countries, which was about 50% in the early 1990s rose to 71% in around 2000 and then declined to 64% in 2007. The share of the euro rose substantially from 18% in 1999 to 27% in 2007, while the share of the yen declined from 8% in 1990 to a mere 3% in 2007. The share of the U.S. dollar is high because industrialized countries—particularly Japan—prefer to hold the dollar. At the same time, a large part of the fluctuation in the yen's share over the past twenty years may be explained by rapid changes in the value of the Japanese yen vis-à-vis other major currencies.

Normal anchor currency role of the dollar, euro, and yen. I would like to focus on the nominal anchor currency role of the U.S. dollar, the euro, and the Japanese yen and to report the measured size of the respective currency areas.

First of all, we identify what currency or currency basket each country in the world has chosen as a nominal anchor, that is, as a target currency or currency basket for exchange rate stabilization. To do this, we extend work by Frankel and Wei (1993 and 1994) and Kawai and Akiyama (1998) and attempt to find whether each country's exchange rate is affected by the currencies of major industrialized countries, such as the U.S. dollar, the euro, the U.K. pound sterling, and the Japanese yen.[1] Specifically, we regress the log first difference in a country's exchange rate (measured in terms of the Swiss franc) on a constant term and the log first differences in the exchange rates of the major international currencies (all measured vis-à-vis the Swiss franc).[2] The coefficients that are estimated to be statistically significant are interpreted as the weights assigned by the authorities to the corresponding currencies in their exchange rate stabilization policies.

Next, GDP and trade (exports plus imports) are used to measure the economic size of the currency areas for the U.S. dollar, the euro, the U.K. pound, and the yen. For example, for a country pegging its exchange rate to a particular international currency, its entire GDP (or trade volume) is classified as belonging to the currency area formed by this particular currency. If a country does not peg the exchange rate to a single currency but instead assigns several different weights to a basket of major or regional currencies, its GDP (or trade volume) is divided according to these weights and distributed to the corresponding currency areas. The result is summarized in Table 3.

[1] Since some countries are known to stabilize their exchange rates against currencies other than major industrialized countries' currencies (i.e., the South African rand in Africa, and the Australian dollar, the Singapore dollar, and the Indian rupee in Asia), we include in the regression equation the exchange rates of such relatively minor or regional currencies for certain groups of countries.

[2] In carrying out econometric exercises, we have deleted data observations with values of log first differences greater than 0.1 to eliminate the effects of discrete currency revaluations or devaluations.

Table 3 indicates that according to the GDP measure, the world economy covered by the U.S. dollar area has declined from 53% in the early 1970s to about 45% in 2005-2007. In contrast, the share of the euro area has risen from 22% to 36% during the same period. The share of the yen area has not changed much at 11%, although its relative size rose to 17% during 1985-1999. The U.K. pound area also remains about the same in relative size at 7.6%. The dollar area is large because many developing countries regard the dollar as the most important global anchor. The Japanese yen area is slightly larger than the weight of the Japanese economy in the world. The yen area outside Japan is less than 3 percent of the world economy and, hence, the yen cannot be said to be a full-fledged, global nominal anchor currency. If the trade measure is used, the relative size of the dollar area has not shrunken, and the relative size of the euro area has risen from 36% to 46% over the last 37 years. The relative size of the yen area has diminished from 10% to 7%.

Limits to the yen's international currency role. The weight of the Japanese yen as an international currency has been limited both in comparison to the U.S. dollar and the euro and relative to the size of the Japanese economy. The yen has not been playing a major role as international money or as a nominal anchor to which other countries may peg, or stabilize the value of, their own currencies. Several explanations can be given for the limited use of the yen as an international currency.

First, use of the Japanese yen in invoicing Japan's trade has been limited due to the country's specific trade structure (see Table 4). Japan has been dependent on the United States as its major export market and on imports of large quantities of minerals, fuels, raw materials, and basic commodities for its industrial production. Trade with the United States and trade in primary commodities tend to be dollar denominated, further reducing the use of the yen.

Second, Japanese money and capital markets, particularly for treasury bills and other private short-term instruments, have not been as well liquid as markets in New York or London. Institutional limitations, the lack of a market infrastructure with a global standard, and the perceived overregulation in Tokyo money and capital markets have been pointed to as severe impediments to an expanded use of the yen by many authors (see Garber 1996). As a result of these impediments in the Tokyo markets, foreign monetary authorities and private investors have been reluctant to use yen instruments to carry out international trade and capital transactions. Table 5 reports currency shares used for invoicing Korean and Thai trade. It is clear that the U.S. dollar is the most dominant invoicing currency and the use of the Japanese yen—though the second most important invoicing currency for these economies—is far below that of the U.S. dollar.

The third explanation concerns the historical context of Japan's postwar economic development. The post-World War II reconstruction and growth of the Japanese economy were made possible by financial aid and trade opportunities provided by the United States. Japan received U.S. aid during the reconstruction period, depended on the open U.S. market for its subsequent exports, and relied on the U.S. dollar money markets to finance its trade and balance of payments. Essentially, Japan commenced its postwar growth as a dollar-area country, just as many other East Asian economies and, to some extent, Western

European countries did. Western European countries were at a similar stage of economic development, and their economic interdependence, particularly through foreign direct investment and intra-industry trade, deepened naturally and rapidly after the postwar reconstruction. Therefore, given the high degree of regional trade and investment interdependence, a high proportion of intra-European trade was invoiced in these countries' own national currencies. After the introduction of the euro, many European countries naturally selected the euro as an invoicing currency. In contrast, Japan's postwar development far outpaced other East Asian economies and its trade with developing East Asia tended to be an interindustry, rather than intra-industry, type. Most of Japan's trade with other East Asian economies, which used to be dollar-area economies, was invoiced primarily in the U.S. dollar. This is the historical context of Japan's rapid economic growth and trade expansion, which has not been matched by a commensurate increase in the use of the yen as an international currency.

Fourth, the developing East Asian economies have had little incentive to stabilize their currencies against the Japanese yean. The rapid economic development and growth in East Asia since the 1980s have been made possible partly by the steep appreciation of the Japanese yen vis-à-vis the U.S. dollar that started in 1985. The yen appreciation has forced many Japanese manufacturing firms to cope with the reduced international price competitiveness and generated foreign direct investment in the manufacturing sectors in developing East Asia, particularly in the Asian newly industrialized economies and ASEAN, which have been transformed into a cost-competitive industrial base. The foreign direct investment inflow into East Asia has expanded exports of industrial products and contributed to dynamic economic growth and market-driven economic integration. To summarize, the East Asian economies would not have enjoyed an explosive economic performance if they had stabilized their exchange rates against the Japanese yen. They maintained stable exchange rates vis-à-vis the U.S. dollar, thereby importing monetary discipline from the United States and taking advantage of the yen rate appreciation to accomplish substantial restructuring of the economy.

Finally, a prolonged period of economic and financial stagnation of Japan in the 1990s prevented the yen from being used as an international currency. Being damaged by the financial crisis Japanese banks were paralyzed in advancing international businesses, and as a result the internationalization process of the yen stopped. In addition, the size of the Japanese economic, measured in terms of the U.S. dollar, hardly grew during this period and this also hurt the relative use of the Japanese yen as an international currency.

Possibilities for an increased role of the yen. One can make a case for a growing role of the yen, since the above-mentioned factors limiting the international use of the yen are gradually disappearing. First, Japan's trade structure has been changing in the last 10 years. With diversified trade partners and increased intra-industry trade, Japan has been importing increasing amounts of manufactured products, particularly from East Asia. These changes are expected to increase the international use of the Japanese yen as a trade-invoicing currency.

Second, serious deregulation and liberalization of Japanese money and capital markets has proceeded in the aftermath of the financial crisis. After resolving the banking crisis and encouraging bank restructuring, the Japanese government began to react to the "hollowing out" of the Tokyo money and capital markets and to make Tokyo as one of the global financial centers. The latter example includes Prime Minister Ryutaro Hashimoto's November 1996 announcement of Japanese-style "big bang", overhauling and liberalizing the Japanese financial sector by the year 2001.

Third, Japan's economic interdependence with East Asia has increased over time, aided by previous substantial yen appreciation and the rising trends of intra-industry trade in machinery and equipment, direct investments, and various types of financial flows. This points to a possibility of a rising international role of the yen in East Asia. This process will be hastened as the East Asian economies grow further, raise their per capita income, and become similar to Japan in their economic and industrial structure and in the composition of output and trade. In addition, there is evidence that the yen is being used widely to denominate long-term debts in East Asia; the East Asian economies have shifted the currency composition of external debts away from the dollar toward the yen since the 1980s.

Fourth, Japan's low, stable inflation together with the continuous current account surpluses will enhance the attractiveness of the Japanese yen as an international currency.[3] In contrast, the ongoing financial crisis—originating from the U.S.—continuous current account deficits posted by the United States and the expected long-run decline in the value of the dollar may reduce its international role. If the international use of the dollar declines relatively in East Asia, it is likely to be accompanied by a rise in the use of the yen in East Asia.

Thus, one cannot deny a distinct possibility that the East Asian economies will start regarding the yen as one of the important nominal-anchor currencies, while the role of the U.S. dollar will continue to be significant because of the effects of inertia and history. The yen may come to share the nominal anchor-currency role with the dollar—and eventually with the Chinese yuan—in the East Asia, in the sense of receiving greater weights assigned by the East Asian authorities in their currency basket policies.[4]

3. Optimum Currency Area Criteria and Macroeconomic/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

[3] Current account surpluses, other things being equal, are expected to increase the use of the yen in Japan's international trade and finance for two reasons. Since exports exceed imports, the weight of the yen used to denominate trade becomes higher than otherwise, given that the proportion of exports denominated in yen is generally bigger than that of imports. Japanese investors, to the extent they care about exchange risk, are likely to demand increasingly that their foreign investments be denominated in yen.

[4] Hence, the yen's role will not be as distinct as the one played by the deutsche mark in the EMS. Even in Western Europe, however, the nominal anchor-currency role of the deutsche mark appears to have been shared by the French franc in the 1980s and 1990s (see Kawai and Akiyama, 1997).

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 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.[5]

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 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.

[5] 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).

Table 6 indicates that East Asia's intraregional trade has expanded remarkably over the last several decades.[6] The share of East Asia's intraregional trade in its total trade has risen from 37% in 1980 to 54% in 2007. This share is higher than the peak figure of 49% for the North American Free Trade Area (NAFTA), achieved in 2001, though still lower than the peak figure of 66% for the original 15 European Union countries (EU-15), achieved in 1990.[7] The intensity of regional trade in East Asia is also comparable to that in the EU or NAFTA.[8]

Table 6. Intraregional Trade Share, 1980–2007 (%)[/a]

Region	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007
NIEs (4)[/b]	8.6	9.2	11.9	15.5	15.5	15.3	15.8	15.2	14.6	13.9	13.6	13.5
ASEAN (10)[/c]	17.9	20.3	18.8	24.0	24.7	24.1	24.4	26.6	26.7	27.2	27.2	26.9
ASEAN + China + Korea + Hong Kong + Taipei,China (14)	22.7	27.2	33.0	39.1	40.6	41.1	43.4	44.7	45.2	45.5	45.8	45.2
ASEAN+3 (13) [/d]	30.2	30.2	29.4	37.6	37.3	37.1	37.9	39.0	39.2	38.9	38.3	38.4
ASEAN+3 + Hong Kong + Taipei,China (15)	36.8	39.0	43.1	51.9	52.1	51.9	53.8	55.4	55.9	55.4	54.5	53.8
NAFTA (3)	33.8	38.7	37.9	43.1	48.8	49.1	48.4	47.4	46.4	46.1	44.3	43.0
MERCOSUR	11.1	7.2	10.9	19.2	20.3	17.9	13.6	14.7	15.2	15.5	15.7	15.2
Old EU (15)	60.7	59.8	66.2	64.2	62.3	62.2	62.5	63.0	62.2	60.4	59.5	56.9
New EU (27)	61.5	60.0	66.8	66.9	66.3	66.7	67.4	68.1	67.6	66.2	65.8	67.2

Notes: /a Intra-regional trade share is computed as X_{ii} / [(X_{iw} + X_{wi}) / 2], where X_{ii} is the value of intraregional exports, X_{iw} is the value of total exports of the region to the world, and X_{wi} is the value of total exports of the world to the region.
/b NIEs = Hong Kong; Republic of Korea; Singapore; and Taipei,China.
/c ASEAN = Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam.
/d ASEAN+3 = 10 ASEAN countries, China, Japan, and Korea.
Sources: IMF Direction of Trade Statistics . Data for Taipei,China for the period 1989–2007 sourced from the Bureau of Foreign Trade website, and for the period 1980–1988 sourced from the Statistical Yearbook published by the Directorate-General of Budget, Accounting and Statistics.

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.[9] Table 7 indicates that while global MNCs from the major industrialized countries remain important investors in several economies in emerging East Asia, the Asian NIEs' firms have become much more important, accounting for 35 percent

[6] Here, East Asia includes fifteen economies—four Asian newly industrialized economies (Hong Kong; Korea; Singapore; and Taipei,China), ten ASEAN countries (Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singpaore, Thailand, and Vietnam), China, and Japan. Note that Singapore is an Asian NIE as well as an ASEAN member

[7] The original EU-15 comprises Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and United Kingdom.

[8] Petri (2006) has found a rising regional trade bias in East Asia since the 1980s after the secular decline in the post-WWII period.

[9] See Kawai and Urata (1998), Fukao, Ishido, and Ito (2003), Kawai (2005b), and Athukorala (2005).

of total FDI inflows to emerging East Asia—particularly in China and Vietnam. The table also indicates ASEAN 9 (non-Singaporean) firms are becoming active in emerging East Asia.

Table 7. Emerging East Asia's Foreign Direct Investment Inflows, 1995–2005 (%)

FDI Inflows to:	Source Regions/Countries of FDI Inflows to Emerging East Asia						
	United States	European Union	Japan	Asian NIEs	ASEAN 9		Total
	%	%	%	%	%	%	(US$Mill)
Asian NIEs	16.8	15.8	8.1	5.2	3.9	100.0	(437,999)
Hong Kong	5.1	7.4	5.7	5.3	1.8	100.0	(215,999)
Korea	22.4	40.1	13.3	4.1	7.4	100.0	(55,975)
Singapore	31.7	19.3	8.5	4.0	5.8	100.0	(142,748)
Taipei,China	19.9	13.1	15.5	14.2	2.5	100.0	(23,277)
ASEAN 9	18.4	29.1	19.1	29.2	4.2	100.0	(116,413)
Indonesia	5.7	50.9	3.3	15.0	9.3	100.0	(11,839)
Malaysia	27.4	23.4	13.6	22.0	2.1	100.0	(44,651)
Philippines	23.4	10.3	23.1	16.9	1.1	100.0	(13,709)
Thailand	10.5	10.5	25.1	27.6	0.9	100.0	(37,428)
Vietnam	4.8	19.1	14.4	39.2	6.6	100.0	(18,225)
China	8.1	8.1	8.6	54.0	1.6	100.0	(537,163)
Total	13.9	14.7	10.5	34.9	3.1	100.0	(992,516)

Notes: (a) NIE = newly industrializing economy; FDI = foreign direct investment.
(b) FDI recipient data compiled by Institute for International Trade and Investment (IITI) are adjusted to make them consistent with BOP figures.

Sources: UNCTAD, *World Investment Report* 2006; IMF, *International Financial Statistics*; ASEAN Secretariat for Singapore and ASEAN 9 data; *China Statistical Yearbook* for PRC data; OECD publication for Korea data; IITI for Hong Kong and Taipei,China data.

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.[10] 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 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.

[10] This part is drawn from ADB, *Asia Bond Monitor*, November 2005.

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 Deutschemark.[11] In the case 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 8. East Asia's Macroeconomic Indicators, 2007 (%)

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

[11] 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 Deutschemark, 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 desigend initially as a symmetric arrangement.

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*.

Table 8 summarizes major macroeconomic indicators considered for the Masstricht 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.

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 9 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.

4. East Asia's Exchange Rate Arrangements

Lack of exchange rate policy coordination. The scale of interdependence among East Asian economies has risen to a level almost matching that in Europe, at least Europe in the 1980s-90s. Given the heightened interdependence of economies in the region and its weak interdependence with U.S. business cycles, it may be argued that these East Asian countries

should aim to stabilize intra-regional exchange rates through policy coordination rather than through stability vis-à-vis the U.S. dollar. The ultimate goal in this move, it might be thought, might be the creation of an Asian common currency.

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. The 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.

Global financial crisis and capital inflows. 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 system and a likely economic recession could trigger a portfolio shift away from US dollar assets to other currencies. Although in the next several quarters, capital inflows to emerging market economies—including East Asia—will be limited, 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.[12]

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 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.

[12] 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.

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 its import absorptive capacity are expected to decline while that of China will rise rapidly, surpassing Japan in the next ten years.

As China continues its strong growth performance, the yuan's international role will rise over time, 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 can be considered for the region's currency basket:

- a G3 currency basket comprising the US dollar, the euro, and the yen;
- a G3-plus currency basket comprising the US dollar, the euro, 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 a G3 basket system (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 a G3 basket system. Singapore has already been managing its exchange rate in a manner of a G3-plus basket system (the second option) as its basket apparently includes the US dollar, the euro, the yen and other major and regional currencies. In July 2005, China and Malaysia also started to move in this direction.

By agreeing on the adoption of a G3 or G3-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 a G3 or G3 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.

5. Steps towards Asian Exchange Rate Policy Coordination

The deepening regional economic integration and rising business cycle synchronization within East Asia suggest that the region would be better off by maintaining intraregionally stable exchange rates. But, 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 coordinate informally on exchange rate regimes by moving toward greater exchange rate flexibility vis-à-vis the US dollar. The second step is to initiate exchange rate policy coordination to ensure some intraregional rate stability without rigid coordination of monetary policy. The third step is to adopt tightly agreed exchange rate and monetary policy coordination (see Table 10). Each of these steps needs to be complemented by stronger cooperation in the areas of finance and trade.

Table 10. Steps toward Exchange Rate and Monetary Policy Coordination

Progress	Exchange Rate Policy	Institutions	Trade-Investment
Current State	Uncoordinated exchange rate arrangements	CMI &ERPD; Asian Bond Markets Initiatives (ABMI)	Uncoordinated FTAs (Asian noodle bowls)
Informal Coordination (exchange rate regime coordination)	Move to greater exchange rate flexibility vs. US dollar; A G3 or G3-plus currency basket as loose reference; ACU index for surveillance	Multilateralized CMI; An independent secretariat for a multilateral CMI & ERPD; Asian Financial Stability Forum	Coordination and harmonization of rules (including rules of origin) & provisions among FTAs
Loose Coordination (exchange rate policy coordination)	A G3-plus currency basket system with well-defined rules for intraregional rate stability	Asian Monetary Cooperation Fund; Regional infrastructure for bond markets (credit guarantees, clearance, rating)	East Asian FTA (ASEAN+3 or ASEAN+6); East Asian Investment Area
Tight Coordination (monetary policy coordination)	ACU-based system—"Asian Snake" or "Asian ERM"	Regional regulatory authority; Very short-term liquidity arrangement	Asian customs union
Complete Coordination	Asian monetary union	Asian central bank	Asian common market

Informal coordination of exchange rate regimes. The first step is the introduction of informal coordination to achieve both greater exchange rate flexibility vis-à-vis the US dollar and some exchange rate stability within East Asia by using a basket of G3-plus currencies (the US dollar, the euro, the yen and emerging East Asian currencies) as a loose reference. This can be done by those economies under US dollar pegs to increase exchange rate flexibility and by all emerging East Asian economies to adopt managed floating targeted at a G3-plus currency basket—as is currently practiced by Singapore. The currency weights in the basket could vary across countries, at least initially. How strictly countries stabilize currencies to this basket could depend in each case on country conditions and preferences. National monetary authorities can maintain most of their autonomous policymaking by combining an appropriately defined inflation targeting policy and basket-based managed floating. At this stage, an Asian Currency Unit (ACU) index—as a weighted average of the yen and emerging East Asian currencies—can also be introduced as a tool for measuring the degree of joint movements of East Asian currencies and the degree of divergence of each currency movement from the regional average set by the ACU.[13] Once China moves to a more flexible exchange rate regime, ACU index movements and divergences of component currency movements can provide more meaningful information.

This informal currency coordination should be complemented by enhanced financial cooperation. This includes a strengthened CMI—through its full multilateralization, expansion in size, and delinking from IMF programs—and more effective regional economic surveillance (ERPD). In particular, the scale of CMI needs to be expanded drastically, given the ongoing financial crisis, from the current bilateral swap size of $US 84 billion (see Table 11)—or the agreed size of a new multilateral CMI of $US80 billion—to more than $US200 billion. ERPD should focus more intensively on frank discussions, with "peer review" elements, and on exchange rate issues by using an ACU index and

[13] The ACU could also be developed for invoicing trade-related transactions and serving as a denomination for local currency bond issues. See Kawai (2008).

divergence indicators.[14] ASEAN+3 finance ministers and central bank governors are encouraged to work closely to strengthen their policy dialogue. In addition, an Asian version of the "Financial Stability Forum" for finance ministry and central bank officials and financial sector supervisors and regulators may be established to facilitate information exchange, policy dialogue, and mutual cooperation among them.

Table 11. Current Status of BSAs under CMI (as of January 2008), US$ billion

To: / From:	China	Japan	Korea	Indo-nesia	Malay-sia	Philp-pines	Singa-pore	Thai-land	Total
China	--	3.0[(a)]	4.0[(a)]	4.0	1.5	2.0[(a)]		2.0	16.5
Japan	3.0[(a)]	--	13.0[(a)]	6.0	1.0[(b)]	6.0	3.0	6.0	38.0
Korea	4.0[(a)]	8.0[(a)]	--	2.0	1.5	2.0		1.0	18.5
Indonesia			2.0	--					2.0
Malaysia			1.5		--				1.5
Philippines		0.5	2.0			--			2.5
Singapore		1.0					--		1.0
Thailand		3.0	1.0					--	4.0
BSA Total	7.0	15.5	23.5	12.0	4.0	10.0	3.0	9.0	84.0
ASA									2.0

Notes: (a) The agreements are in local currencies, and the amounts are US dollar equivalents.
(b) There is also a US$2.5 billion commitment (made on August 18, 1999) under the New Miyazawa Initiative.
Source: Data from Japanese Ministry of Finance website.

Formal exchange rate policy coordination. The second step is the joint adoption of a formal policy of stabilizing intraregional exchange rates using a common basket of G3-plus currencies (i.e., the US dollar, the euro, and the ACU) as a reference. The basket stabilization policy will have to be clearly defined with transparent rules on exchange rate parity against the common basket, a relatively wide exchange rate band (like ±10%) around the central rate, and adjustment of both the central rate and the band—along the lines proposed by Williamson (2005). The authorities would allow greater exchange rate flexibility vis-à-vis the US dollar while enjoying 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.

Supporting institutional arrangements should be developed to a much greater extent. An independent secretariat will have to be created to support a fully multilateralized, enlarged CMI that is more independent of IMF programs, and much more enhanced ERPD, with advanced "peer review" and "due diligence" elements, for ASEAN+3 finance ministers and central bank governors. Various regional entities—including for credit guarantees and

[14] 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 flexiblity is desirable for the region, but are open-minded as to whether that involves currency cooperation within the reigion." 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."

enhancements, and regional settlements and clearance—will become fully operational to support the development of local currency bond markets. Coordination of financial supervisors and capital market regulators will have to be strengthened for regional harmonization starting with mutual recognition of supervisory and regulatory practices with minimum standards.

Tight, systematic coordination of exchange rate and monetary policies. The third 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 well-defined 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.[15] 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. The centralized reserve pool could then be converted into an Asian Central Bank.[16]

A practical approach 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 of economies that are sufficiently integrated—Japan and Korea; China and Hong Kong; or Singapore, Malaysia, and Brunei Darussalam—and with sufficient political commitment, may wish at this stage to initiate subregional currency stabilization schemes. Each subregional group could intensify exchange rate and monetary policy coordination while allowing the possibility for others to join them subsequently. Over time these groups may start negotiations to integrate into a larger monetary zone.

[15] 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.

[16] 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.

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

6. Conclusion

Judging from the OCA criteria, one can argue that entire East Asia—the ASEAN+3 group plus Hong Kong and Taipei,China—is not an optimum currency area. For example, low-income ASEAN economies have yet to develop their basic institutions and policy frameworks before they become legitimate members to embark on regional monetary policy coordination. Though China is deepening its economic integration with other East Asian economies in terms of trade and FDI, it is not well integrated in terms of financial and macroeconomic activity. China will have to achieve further financial sector reform and capital account liberalization in order to integrate itself fully with other East Asian members. However, several economies in the region, including Japan, Korea, Singapore, Malaysia and Thailand are well-integrated with each other in terms of trade, finance and macroeconomic activity. Indonesia and the Philippines are close to this league. These economies can form a currency area, at least from economic perspectives. The view that OCA criteria are endogenous would suggest that once these economies fix the exchange rates or form a monetary union, economic integration will deepen and the degree of symmetry of supply shocks will heighten.

The most serious impediments to the formation of an East Asia-wide single currency may include:

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

Sharing a long-term vision for the future of East Asia helps to strengthen regional economic policy coordination and, in this regard, the recent initiative to create an “East Asia Economic Community” helps greatly. In addition, further economic integration will promote further economic regionalism and trust building.

There are additional challenges for the region. First, the regional economies should accelerate institutionalization of trade and investment integration by creating an East Asia-wide FTA, an important basis for the formal institutionalization of financial and macroeconomic integration. For this purpose, regional trade agreements that are currently under negotiation need to avoid the counterproductive “spaghetti bowl” effect and maintain WTO consistency. This requires conscious efforts to maintain consistency and coherence across the multiplicity of bilateral FTAs and to achieve a “WTO-plus” (see Kawai and Wignaraja, 2008)

Second, the regional economies must make greater efforts to strengthen regional financial cooperation—the reserve pooling arrangement (Chiang Mai Initiative [CMI]), regional

economic surveillance (Economic Review and Policy Dialogue [ERPD]), and Asian Bond Markets Initiative (ABMI) under ASEAN+3. Once the region achieves substantial enhancement of the CMI through further enlargement, full multilateralization, and meaningful reduction in its IMF linkages, and once the region strengthens its capacity to formulate independent adjustment policy—through its own secretariat—in the event of another liquidity crisis, East Asia will have effectively established its own monetary fund that can contribute to regional, as well as global, financial stability without creating fears of moral hazard. For this purpose greater collaboration between the region's finance ministers and central bank governors will be required. Greater coordination and harmonization will also be necessary among the region's financial supervisors and capital market regulators.

Third, it is time to initiate exchange rate policy coordination. The immediate step 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 G-3-plus currency basket system based on the U.S. dollar, the euro 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 in terms of economic, financial, and structural conditions, performance, and policies.

Finally, it is important to pursue further structural reforms on the part of all economies, particularly in China and many ASEAN countries. China must make efforts to strengthen its financial sector and achieve capital account liberalization at a sequenced manner with an integrated program. An integrated ASEAN is essential as a hub for East Asian economic, financial and monetary integration. The middle-income member states of ASEAN must reform their economies to cope with greater international competition, particularly vis-à-vis China, while its low-income members must pursue institutional and governance reforms to enable them to benefit from real and financial integration.

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Table 1.

Currency Distribution of Reported Foreign Exchange Market Turnover[(a)]

(% shares of average daily turnover in April)

	2001	2004(b)	2007
US dollar	90.3	88.7	86.3
Euro	37.6	36.9	37.0
Yen	22.7	20.2	16.5
Pound sterling	13.2	16.9	15.0
Swiss franc	6.1	6.0	6.8
Australian dollar	4.2	5.9	6.7
Canadian dollar	4.5	4.2	4.2
Swedish krone	2.6	2.3	2.8
Hong Kong dollar	2.3	1.9	2.8
Norwegian krone	1.5	1.4	2.2
New Zealand dollar	0.6	1.0	1.9
Mexican peso	0.9	1.1	1.3
Singapore dollar	1.1	1.0	1.2
Won	0.7	1.2	1.1
Rand	1.0	0.8	0.9
Danish krone	1.2	0.9	0.9
Rouble	0.4	0.7	0.8
Zloty	0.5	0.4	0.8
Indian rupee	0.2	0.3	0.7
Renminbi	0.0	0.1	0.5
New Taiwan dollar	0.3	0.4	0.4
Brazilian real	0.4	0.2	0.4
All currencies	200.0	200.0	200.0
Emerging market currencies[(c)]	16.9	15.4	19.8

Note : (a) Because two currencies are involved in each transaction, the sum of the percentage shares of individual currencies totals 200%, instead of 100%. Data are adjusted for local and cross-border double-counting.

(b) Data for 2004 have been revised.

(c) Defined as the residual after accounting for the top eight currencies, the Norwegian knone, the New Zealand dollar, and the Danish knone.

Source : BIS

Table 2. Share of National Currencies in Total Identified Official Holdings of Foreign Exchange (End of Year, %) [(a)]

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
All Countries																		
U.S. dollar	50.3	50.9	55.1	56.2	55.9	59.0	62.1	65.2	69.3	71.0	71.1	71.5	67.1	65.9	65.9	66.9	65.5	63.9
Euro	--	--	--	--	--	--	--	--	--	17.9	18.3	19.2	23.8	25.2	24.8	24.0	25.1	26.5
Pound sterling	3.2	3.4	3.2	3.1	3.5	2.1	2.7	2.6	2.7	2.9	2.8	2.7	2.8	2.8	3.4	3.6	4.4	4.7
Japanese yen	8.2	8.7	7.8	8.0	8.2	6.8	6.7	5.8	6.2	6.4	6.1	5.0	4.4	3.9	3.8	3.6	3.1	2.9
Swiss franc	1.3	1.2	1.1	1.2	1.0	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.4	0.2	0.2	0.1	0.2	0.2
Deutsche mark	17.4	15.7	13.5	14.1	14.3	15.8	14.7	14.5	13.8	--	--	--	--	--	--	--	--	--
French franc	2.3	2.8	2.4	2.2	2.1	2.4	1.8	1.4	1.6	--	--	--	--	--	--	--	--	--
Netherlands guilder	1.0	1.1	0.6	0.6	0.5	0.3	0.2	0.4	0.3	--	--	--	--	--	--	--	--	--
ECU[(b)]	9.6	10.0	10.1	8.3	7.8	8.5	7.1	6.1	1.3	--	--	--	--	--	--	--	--	--
Other currencies	6.7	6.2	6.1	6.2	6.6	4.8	4.3	3.8	4.5	1.6	1.5	1.3	1.6	2.0	1.9	1.7	1.8	1.8
Industrial Countries																		
U.S. dollar	45.7	43.8	49.0	50.5	51.2	52.2	57.2	58.8	67.3	73.0	72.3	72.2	68.2	69.8	70.9	73.0	71.3	69.4
Euro	--	--	--	--	--	--	--	--	--	16.5	17.4	18.4	23.0	22.6	21.4	19.6	21.0	23.1
Pound sterling	1.7	1.8	2.3	2.2	2.3	2.1	2.1	2.0	2.1	2.2	2.1	2.0	2.2	1.6	2.0	2.2	2.6	2.8
Japanese yen	8.8	9.7	7.6	7.9	8.3	6.6	5.7	5.8	6.8	6.6	6.3	5.5	4.3	3.8	3.5	3.4	3.5	3.1
Swiss franc	0.9	0.8	0.4	0.3	0.2	0.2	0.1	0.2	0.2	0.1	0.3	0.3	0.6	0.2	0.1	0.1	0.2	0.2
Deutsche mark	19.8	18.3	15.0	16.4	16.4	16.7	16.1	16.5	13.7	--	--	--	--	--	--	--	--	--
French franc	2.3	3.0	2.7	2.5	2.1	2.4	1.7	0.9	1.2	--	--	--	--	--	--	--	--	--
Netherlands guilder	1.1	1.1	0.4	0.4	0.2	0.2	0.2	0.2	0.2	--	--	--	--	--	--	--	--	--
ECU[(b)]	13.8	15.8	16.5	14.7	14.1	13.5	12.2	11.1	2.3	--	--	--	--	--	--	--	--	--
Other currencies	5.8	5.7	6.1	5.2	5.3	1.0	2.2	2.1	1.2	0.7	0.4	0.1	0.3	0.2	0.2	0.3	0.3	0.3
Developing Countries																		
U.S. dollar	60.6	63.3	64.6	63.8	61.8	70.7	68.8	72.8	71.5	68.8	69.9	70.8	65.9	62.0	61.1	61.8	61.2	60.7
Euro	--	--	--	--	--	--	--	--	--	19.4	19.3	20.0	24.6	27.8	28.2	27.8	28.1	28.4
Pound sterling	6.6	6.2	4.6	4.4	4.9	2.1	3.5	3.3	3.2	3.6	3.5	3.4	3.5	4.0	4.8	4.8	5.7	5.8
Japanese yen	6.9	7.0	8.3	8.1	8.2	7.0	8.2	5.7	5.6	6.1	5.8	4.6	4.4	4.1	4.1	3.7	2.8	2.8
Swiss franc	2.1	2.1	2.2	2.4	2.0	0.6	0.5	0.6	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1
Deutsche mark	11.9	11.0	11.2	11.1	11.8	14.2	12.7	12.1	13.9	--	--	--	--	--	--	--	--	--
French franc	2.3	2.3	1.9	1.8	2.1	2.4	2.0	2.1	2.1	--	--	--	--	--	--	--	--	--
Netherlands guilder	0.9	1.0	1.0	1.0	0.9	0.5	0.3	0.5	0.3	--	--	--	--	--	--	--	--	--
ECU[(b)]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	--	--	--	--	--	--	--	--	--
Other currencies	8.8	7.1	6.3	7.6	8.3	2.6	3.9	2.9	2.6	1.7	1.3	1.0	1.3	2.0	1.6	1.8	2.1	2.2
Momorandum Items: Unallocated Reserves[(c)]																		
All countries						25.6	21.8	21.3	22.0	22.6	21.6	23.4	25.4	26.5	29.2	31.9	34.2	36.4
Industrial countries						1.0	2.2	2.1	1.2	0.7	0.4	0.1	0.3	0.2	0.2	0.3	0.3	0.3
Developing countries						47.8	38.8	36.3	36.6	37.8	36.1	38.1	40.7	42.1	45.0	46.2	47.3	47.4

Note :

(a) Components may not sum to total because of rounding. Country coverage changes margillay every year, but the changes were larger than usual in 1996 (broader coverage) and in 2000 (narrower coverage). The currency shares are calculated for the reserves of memeber countries that report the currency composition of their foreign exchange reserves.

(b) In the calculation of currency shartes, the ECU is treated as a separate currency. On 31 December 1998, the official ECUs were unwound into gold and U.S. dollars and, as a result, the share of ECUs at the end of 1998 was sharply lower than a year earlier.

(c) "Unallocated reserves" are reserves for which currency compositions are not reported are shown in percent of total foreign exchange reserves held by each group of countries.

Source : IMF Statistics Department, Currency Compostion of Official Foreign Exchange Researves (COFER) database and*International Financial Statistics*

Table 3. The Estimated Shares of Currency Areas for the Major Currencies, 1970-2007

	US Dollar Area			Euro Area			Yen Area			UK Pound Area			Unallocated	Total
	USA	Other	Total	Euro Zone	Other	Total	Japan	Other	Total	UK	Other	Total		Billion US$
Measured by Gross Domestic Product (GDP) in Current U.S. Dollars														
1970-1974			53.0	--	--	22.0			11.0			7.6		
1975-1979			49.4	--	--	26.0			12.6			7.3		
1980-1984			51.4	--	--	22.2			12.3			7.5		
1985-1989			50.2	--	--	23.6			16.8			6.1		
1990-1994	27.4	18.5	45.9	--	--	26.3	16.7	0.6	17.2	4.5	4.4	8.9	1.6	23,219
1995-1999	27.7	22.9	50.7	--	--	26.1	15.0	1.8	16.7	4.5	0.9	5.4	1.0	29,956
2000-2004	30.5	17.2	47.7	21.5	8.4	29.9	12.4	2.9	15.3	5.0	1.1	6.1	1.1	34,776
2005-2007	26.8	17.9	44.7	22.3	13.7	36.0	9.1	1.7	10.8	5.1	2.4	7.6	1.0	48,994
Measured by Total Trade (Exports plus Imports) in Current U.S. Dollars														
1970-1974			33.8	--	--	36.3			10.0			10.2		
1975-1979			36.8	--	--	39.2			9.3			9.4		
1980-1984			38.9	--	--	35.0			9.9			9.2		
1985-1989			39.6	--	--	37.7			10.5			7.9		
1990-1994	13.7	27.6	41.3	--	--	37.9	7.8	0.9	8.7	5.5	4.7	10.2	2.0	7,465
1995-1999	14.2	28.8	43.0	--	--	38.2	6.8	3.0	9.8	5.2	2.5	7.6	1.4	10,923
2000-2004	14.4	26.7	41.1	30.0	11.4	41.4	6.0	4.2	10.2	4.7	1.3	6.0	1.4	14,157
2005-2007	12.2	26.8	39.0	28.7	17.1	45.8	5.1	2.1	7.2	4.0	2.5	6.5	1.6	23,937

Note : Data for 1970-1989 are from Kawai and Akiyama (1998).
Source : Computed by the author

Table 4. Currency Invoicing of Japanese Trade, 2000-2008 (%)

Export	World				USA				EU				Asia			
	Yen	USD	Euro	Other	Yen	USD	Euro	Other	Yen	USD	Euro	Other	Yen	USD	Euro	Other
2000H2	36.1	52.4	6.1	5.4	13.2	86.7	0.1	0.0	33.5	13.0	36.2	17.3	50.0	48.2	--	0.8
2001H1	34.2	53.0	7.5	5.3	12.5	87.4	0.0	0.1	30.4	12.8	42.6	14.2	49.0	48.9	--	2.1
2001H2	35.6	52.6	7.4	4.4	12.2	87.7	0.1	0.0	31.3	12.8	45.0	10.9	50.1	47.9	0.3	1.7
2002H1	34.9	52.7	8.5	3.9	11.8	88.0	0.1	0.1	28.4	11.7	52.2	7.7	49.4	48.6	0.4	1.6
2002H2	36.7	50.7	8.6	4.0	12.0	87.9	0.1	0.0	28.5	10.4	53.5	7.6	51.3	46.6	0.5	1.6
2003H1	38.4	48.0	9.6	4.0	13.4	86.4	0.1	0.1	27.4	11.2	54.4	7.0	53.3	44.7	0.5	1.5
2003H2	39.3	48.0	8.9	3.8	12.5	87.3	0.1	0.1	27.3	11.4	54.1	7.2	53.0	44.9	0.4	1.7
2004H1	40.1	46.8	9.4	3.7	13.3	86.5	0.1	0.1	27.5	11.0	54.8	6.7	53.4	44.6	0.4	1.6
2004H2	40.1	47.5	8.9	3.5	12.9	86.9	0.1	0.1	29.3	10.3	53.9	6.5	52.8	45.5	0.4	1.3
2005H1	39.3	48.2	8.7	3.8	13.0	86.9	0.1	0.0	29.3	10.2	53.6	6.9	51.6	46.6	0.2	1.6
2005H2	38.4	50.1	8.0	3.5	12.3	87.6	0.1	0.0	29.3	11.9	52.2	6.6	49.5	48.8	--	1.7
2006H1	38.5	49.8	8.2	3.5	11.9	88.0	0.1	0.0	28.5	13.8	51.5	6.2	50.7	47.5	--	1.8
2006H2	37.1	51.3	8.3	3.3	10.8	89.1	0.1	0.0	26.6	13.4	54.0	6.0	48.8	49.5	--	1.7
2007H1	37.9	49.9	8.7	3.5	11.5	88.3	0.2	0.0	26.4	12.9	54.6	6.1	48.4	49.9	--	1.7
2007H2	38.7	49.3	8.4	3.6	11.5	88.3	0.2	0.0	27.4	12.4	54.5	5.7	48.6	49.6	--	1.8
2008H1	40.3	47.8	8.5	3.4	12.2	87.6	0.2	0.0	27.8	13.3	53.6	5.3	50.0	48.3	--	1.7

Import	World				USA				EU				Asia			
	Yen	USD	Euro	Other	Yen	USD	Euro	Other	Yen	USD	Euro	Other	Yen	USD	Euro	Other
2000H2	23.5	70.7	1.2	4.6	20.8	78.7	0.1	0.4	49.7	17.5	8.6	24.2	24.8	74.0	--	1.2
2001H1	23.2	70.4	1.8	4.6	20.5	78.8	0.2	0.5	48.1	16.9	12.3	22.7	24.2	74.5	--	1.3
2001H2	23.6	69.6	2.5	4.3	19.0	80.3	0.2	0.5	49.7	14.8	16.9	18.6	24.2	74.5	--	1.3
2002H1	24.2	69.0	4.2	2.6	19.4	80.0	0.2	0.4	49.3	15.0	28.7	7.0	25.5	73.2	--	1.3
2002H2	25.5	67.6	4.6	2.3	19.8	79.7	0.2	0.3	50.5	13.4	31.0	5.1	27.5	71.2	--	1.3
2003H1	24.6	68.7	4.5	2.2	19.3	80.2	0.2	0.3	49.4	13.2	32.0	5.4	27.8	71.0	--	1.2
2003H2	25.3	67.8	4.7	2.2	19.1	79.9	0.8	0.2	50.9	12.0	32.3	4.8	28.1	70.6	0.2	1.1
2004H1	25.3	68.0	4.7	2.0	21.6	77.8	0.4	0.2	51.3	11.8	32.4	4.5	28.4	70.2	0.2	1.2
2004H2	23.8	69.5	4.6	2.1	20.7	78.5	0.6	0.2	49.5	11.7	34.1	4.7	27.2	71.4	0.3	1.1
2005H1	24.1	69.6	4.4	1.9	21.9	77.5	0.4	0.2	50.2	11.4	33.9	4.5	28.2	70.4	0.2	1.2
2005H2	22.1	72.1	4.0	1.8	22.8	76.6	0.4	0.2	50.7	12.4	32.4	4.5	26.7	71.9	0.2	1.2
2006H1	21.2	73.4	3.8	1.6	21.8	77.6	0.5	0.1	50.0	13.2	32.5	4.3	25.9	72.6	0.3	1.2
2006H2	21.3	73.0	3.9	1.8	23.6	75.6	0.7	0.1	49.0	12.5	34.0	4.5	26.0	72.4	0.3	1.3
2007H1	21.4	72.8	4.1	1.7	22.2	76.9	0.7	0.2	47.7	13.6	34.6	4.1	26.6	71.8	0.4	1.2
2007H2	20.9	73.5	4.0	1.6	20.2	78.9	0.6	0.3	47.7	13.2	35.1	4.0	26.2	72.2	0.4	1.2
2008H1	21.1	73.9	3.5	1.5	19.3	79.7	0.6	0.4	49.6	13.9	32.7	3.8	26.9	71.7	0.4	1.0

Source : Customs Bureau, Ministry of Finance, Japan

Table 5-1. Currency Invoicing of Korean Trade, 1980-2006 (% Share)

	Total				Export				Import			
	USD	Yen	Euro	Other	USD	Yen	Euro	Other	USD	Yen	Euro	Other
1980	--	--	--	--	96.1	1.2	2.3	0.4	93.2	3.7	1.7	1.4
1990	--	--	--	--	88.0	7.8	2.6	1.6	79.2	12.7	4.8	3.3
1996	84.9	8.0	--	7.1	89.1	5.1	2.6	3.2	81.0	10.7	4.2	4.1
1998	--	--	--	--	88.5	5.0	3.1	3.4	82.4	10.6	3.5	3.5
2000	82.7	8.7	1.9	6.7	84.8	5.4	2.0	7.8	80.4	12.4	2.3	4.9
2001	--	--	--	--	87.4	5.4	1.6	5.6	82.2	11.5	1.5	4.8
2002	83.8	8.5	5.6	2.1	86.8	5.2	5.8	2.2	80.5	12.1	5.4	2.0
2003	--	--	--	--	84.6	5.3	7.6	2.5	78.6	14.0	6.1	1.3
2004	82.0	9.2	6.8	2.0	--	--	--	--	--	--	--	--
2005	82.1	8.2	7.5	2.2	--	--	--	--	--	--	--	--
2006	83.5	7.6	7.1	1.8	--	--	--	--	--	--	--	--

Note : The euro data for 1980-2001 in the export and import parts are the sum of the German mark and the French franc.
Source : Bank of Korea

Table 5-2. Currency Invoicing of Thai Trade, 1996-2007 (% Share)

	Export					Import				
	USD	Baht	Yen	Euro	Other	USD	Baht	Yen	Euro	Other
1996	92	1	5	0	3	80	1	10	0	10
1997	92	2	3	0	3	80	2	9	0	9
1998	91	3	4	0	3	81	2	10	0	8
1999	88	4	5	0	3	79	2	12	0	6
2000	87	4	6	1	3	79	2	12	1	6
2001	85	5	6	2	3	75	3	11	4	6
2002	84	5	6	3	2	75	4	11	6	4
2003	83	6	6	3	2	73	5	12	5	4
2004	82	6	7	3	2	76	5	12	5	3
2005	82	7	6	3	2	78	5	11	4	3
2006	82	7	6	3	3	79	5	10	3	3
2007	81	7	6	3	3	80	4	9	4	3

Source : Bank of Thailand

Table 9. Key Economic and Structural Indicators of East Asian Economies, 2006

	GDP/POP	Inv/GDP	Sav/GDP	CA/GDP	Industrial Structure				Exp/GDP	Imp/GDP	FDI/GDP	Governance Indicators			
	US$	%	%	%	Agr	Ind	[Man]	Serv	%	%	%	Gov.Eff.	Reg.Qual.	Rule.Law	Con.Corr
East Asia & India	*3,327*	*30.4*	*34.0*	*5.2*	*6.6*	*36.1*	*[24.8]*	*57.3*	*36.7*	*32.9*	*16.9*	*61.0*	*57.0*	*52.0*	*47.0*
Japan	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	84.5
Hong Kong	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	92.3
Korea, Rep.	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	68.1
Taipei,China	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	70.0
Singapore	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	96.1
Brunei Darussalam	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	63.8
Cambodia	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	8.2
Indonesia	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	27.1
Lao PDR	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	13.0
Malaysia	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	62.3
Myanmar	232	--	--	--	--	--	[--]	--	--	--	--	2.4	1.5	5.2	1.4
Philippines	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	22.2
Thailand	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	44.0
Vietnam	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	28.0
China	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	30.9
India	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	47.3

Note : (1) POP/GDP = Per capita GDP; Inv = Gross capital formation; Sav = Gross domestic savings; CA = Current account; FDI = Inward FDI stoc

(2) Japan's data for industrial structure, Exp/GDP and Imp/GDP are for 2005 and Hong Kong data for indistrial structure are for 2005.

(3) Gov.Eff. = Government effectiveness; Reg.Qual.= Regulatory quality; Rule.Law = Rule of law; and Con.Corr. = Control of corruption.

Source: Word Bank, *World Development Indicators Database,* 2008; *Worldwide Governance Indicators* , 2008; IMF, *Interantional Financial Statistics;* UNCTAD, *UNCTAD Database*