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Regional Governance

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OG Dayaratna-Banda
John Whalley

Working Paper No. 22
April 2007

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* We are grateful to Agata Antkiewicz and Weimen Zhou for helpful discussions.

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Thank you for your interest,

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OG Dayaratna-Banda holds a PhD from the National University of Singapore, in addition to a BA (Honors) and an MPhil from University of Peradeniya, Sri Lanka. He is currently senior lecturer at the University of Peradeniya. His research interests include empirical topics in economic growth and convergence, trade openness, free trade agreements, microfinance, institutions and growth, and informal sector. OG is the author of several articles published in a number of journals, including *Sri Lanka Economic Journal* and *Social Science Review*. He joined CIGI as a Visiting Research Fellow in July 2006 under a joint arrangement with the University of Waterloo. Currently, he is involved with the BRICSAM project, one of the CIGI's main research initiatives.

John Whalley, FRSC, is one of Canada's most pre-eminent experts in the field of global economics. Currently, he holds a number of academic positions, including William G. Davies Professor of International Trade and Co-Director of the Centre for the Study of International Economic Relations, Department of Economics, University of Western Ontario. He is also a Distinguished Fellow at CIGI, Research Associate at the National Bureau of Economic Research in Cambridge, MA, Coordinator, Global Economy Group, CESifo, University of Munich, and a former Visiting Fellow at the Peter G. Peterson Institute for International Economics in Washington, DC.

Dr Whalley has written and co-authored dozens of scholarly articles on a variety of subjects, including international trade and development, public finance, general equilibrium theory and computation, soviet and transition economies, environmental issues and the economy, and Canadian trade policy. He holds a BA in Economics from Essex University (1968), an MA from the University of Essex (1969), and an MA (1970), M.Phil (1971), and a PhD (1973) from Yale University.

## Abstract

East Asia is witnessing the emergence of an informal monetary system which focuses on self-insurance through own reserve accumulation and co-insurance through swaps. The former is concentrated in a small number of large countries (China, Japan, and Korea), while the latter involves informal monetary cooperation among monetary authorities in a large number of countries. The origins of this system lie in the Asian financial crises, and reflect concerns both to avoid repetition of similar events and any spread of further crises through contagion effects. This paper first characterizes and documents this emerging system describing how it works and what its objectives are, and then discusses its performance, its incompleteness, and assesses the system's ability to move towards deeper integration without adopting a single monetary authority as well as the impediments it faces. What is clear is that this type of system among individual countries is incomplete and falls well short of complete monetary integration, but at present it performs well even if it experiences a number of deficiencies. Most countries seem better off with partial reserve pooling, while incremental gains from higher degrees of pooling in the region tend to be small.

## 1. Introduction

Asia today, and especially East Asia, is witnessing the emergence of a system of informal monetary cooperation involving monetary authorities in a large number of countries. Centrally involved are the large economies of China, Japan, and Korea who all have large reserves that are rapidly growing. Equally involved are the mid-sized Association of Southeast Asian Nations (ASEAN) economies; Thailand, Malaysia, Philippines, and Indonesia who were central players in the 1997-98 financial crises. India also has rapidly growing reserves (from a small base), but for now is not a major participant in these efforts.

The origins of this system lie in the financial crises of the late-1990s, and reflect concerns both to avoid repetition of similar events and any further spread of crises through contagion effects from one economy's financial markets to another's. These same concerns remain, but new considerations have also come to the fore. The rapid growth of inter-Asian trade compared to the 1990s has placed a premium on exchange rate stability in the region to allow gains from trade to be fully harnessed. Also, a considerable amount of foreign direct investment (FDI) flowing into Asian recipient countries (and especially China) originates from elsewhere in Asia and stability with an absence of controls is again seen as a premium to facilitate these flows. The demands for monetary stability vary from country to country, but reflect the desire for exchange rate stability to underpin growing regional trade and investment flows as well as the insurance demands related to country specific risks and joint risks from outside the region.

What is notable about this emerging system for now is its ability to function without a formal transitional monetary authority. Decision-making is consensual but opaque, and seemingly bilateral

rather than plurilateral. While times are good in Asia with strong growth and buttressed by a benign environment outside the region, the demands on this system are modest. Reserves in the large countries have grown rapidly and also providing large degrees of self-insurance of exchange rate regimes in these countries. The system is also founded on continuing doubts over the ability of multilateral institutions, primarily the International Monetary Fund (IMF), to provide the outcomes that the Asian economies seek in the financial sphere.

What we do in this paper is to first characterize and document this emerging system, describing how it works and what its objectives are. We note its sharp differences relative to integration schema proposed by Balassa (1961) which saw monetary integration as occurring only after trade liberalization was complete, and involving a common currency and single monetary authority. We then discuss the incompleteness of this system across individual countries, attempting to assess how far it falls short of complete integration. We then assess system performance, and ask whether the system can evolve to deeper integration without a single overarching monetary authority. We conclude with a discussion of the problems involved in moving to a single monetary authority.

Existing literature in this area discusses individual parts of this emerging structure, but there is no discussion as its de facto emerging. Rana (2002), Eichengreen (2003), and Park and Wang (2005) discuss the Chiang Mai Initiative and the system of bilateral swaps. Chow and Kim (2003), Wyplozs (2001), and McKinnon and Schnabl (2004) discuss the exchange rate arrangements in East Asia. Bird and Rajan (2003), Aisenman and Marion (2003), Park (2005), and Aisenman and Lee (2006) document the accumulation of reserves. Ogawa (2001) discusses the weaknesses of the IMF structure from an East Asian point of view. Bergsten

and Park (2002) present proposals as to how a regional monetary arrangement in East Asia might function, but there is discussion of the system as it is emerging.

## 2. The Emerging Monetary System in East Asia

Monetary cooperation among East Asian countries stems from the 1997-98 Asian crises and has largely occurred within the ASEAN+3 (China, Korea, Japan) and in the absence of prior regional trade integration. It excludes outside interests from the negotiations. The system rests heavily on growing reserves in large countries in the region. The resulting process which has followed has seen a series of initiatives on monetary cooperation which cover several broad areas including; growing sharing of reserves using bilateral swaps; improved functioning of country capital markets; and, an institutional structure of cross-country information sharing. Through these initiatives, the East Asian countries have effectively jointly taken over some of the functions of the existing multilateral international financial institution (the IMF), but these are not functional transfers designed to achieve monetary integration in the region. This structure first began to emerge at an Asia-Pacific Finance Ministers post-crisis meeting in Manila on Asian monetary cooperation, which later formed the ASEAN+3.

### Self-insurance through Reserve Accumulation

A central element in the emerging system we discuss is the accumulation of international reserves which is seen as self defence or self-insurance to prevent financial instability. This precautionary motive for asset holding (Flood and Marion, 2002; Lee, 2004) mirrors Feldstein's (1998) suggestion that crisis-hit countries in East Asia should accumulate reserves to guard against future financial crises as a defence strategy. To some degree large reserve

Table 1: International Reserve Accumulation in East Asia, 1977-2005 (US$ billion)

| Country | 1977 | 1990 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|
| Japan | 28.56 | 83.56 | 313.05 | 470.25 | 507.24 | 507.24 | 667.04 | 831.97 | 871.88 |
| Hong Kong | - | - | 96.30 | 107.30 | 111.20 | 111.90 | 118.40 | 123.40 | 122.40 |
| Korea | 3.65 | 15.52 | 80.42 | 121.97 | 133.15 | 133.15 | 155.88 | 191.14 | 219.50 |
| Singapore | 4.74 | 4.74 | 83.50 | 89.48 | 89.98 | 89.98 | 96.10 | 107.79 | 120.83 |
| Taiwan | - | - | 106.20 | 106.70 | 122.20 | 161.20 | 206.60 | 242.80 | 253.20 |
| Indonesia | 3.09 | 7.98 | 28.90 | 32.50 | 34.14 | 34.14 | 35.25 | 33.73 | 34.59 |
| Malaysia | 3.51 | 10.35 | 33.30 | 36.23 | 37.60 | 36.66 | 44.05 | 63.33 | 72.96 |
| Philippines | 1.87 | 1.12 | 14.70 | 16.37 | 14.61 | 1.55 | 14.13 | 12.97 | 16.88 |
| Thailand | 2.35 | 14.08 | 37.15 | 38.53 | 41.87 | 41.87 | 41.36 | 46.88 | 53.04 |
| China | 3.55 | 31.68 | 172.06 | 256.72 | 320.39 | 320.39 | 410.67 | 591.16 | 858.28 |
| India | 6.37 | 2.15 | 36.10 | 55.04 | 74.83 | 74.84 | 99.91 | 122.18 | 8138.27 |
| ***Total*** | **-** | **-** | **1001.69** | **1331.10** | **1487.22** | **1512.92** | **1889.40** | **2367.35** | **2761.83** |
| | | | | Comparators | | | | | |
| EU Zone | - | - | 312.8 | 228 | 218.6 | 208 | 32.8 | 179 | 173.2 |
| US | - | - | 30.9 | 32.2 | 31.2 | 294 | 39.2 | 42.4 | 38.7 |
| UK | - | - | 28.8 | 39.3 | 39.3 | 32.8 | 35.1 | 39.5 | 38.6 |

Data Source: International Financial Statistics, International Monetary Fund.

accumulation is a by product of large trade surpluses and (in the Chinese case) FDI inflows, but it also is policy driven through the choice of exchange rate policy. Uncertainty stemming from possible future speculative attacks on currencies and uncertainty over whether countries could secure liquidity from either markets or official sources have also triggered reserve accumulation.

The stock of worldwide international reserves increased from US$2.1 trillion in 2001 to about US$4.3 trillion in 2006; a large increase in insurance and East Asian countries account for nearly

70 per cent of this increase (see Table 1). Most countries in the region have accumulated large reserves only over the last decade; by the end of 2005 Japan, China, and Korea respectively held US$871 billion, US$858 billion, and US$219 billion of foreign reserves. China and Japan alone account for around 40 per cent of worldwide reserves. The stocks of international reserves of both China and Japan exceed the total capital of the IMF. The reserves of China, Japan, Korea, and Taiwan greatly exceed those of the United States and United Kingdom (see Table 2). East Asia's aggregate reserves are nearly sixteen times that of European Union (EU) indicating that East Asia holds large excess reserves. The reserves of most East Asian countries have grown significantly over the period 1977-2005 as Table 2 indicates but growth has been especially marked in large post crisis accumulations.

This reserve accumulation is taking place despite the costs involved since those reserves generate low returns compared to other assets. The average rate of return on foreign reserves is less than 5 per cent, while the average rate of return on investment in education and infrastructure is substantially more than that in most countries (Dieter, 2006). Across all developing countries, reserves today stand at around 30 per cent of gross domestic product (GDP) in comparison to 5 per cent of GDP for industrial countries - the later figure has been roughly constant since 1950s (see Pineau, et al., 2006). International reserves as a percentage of GDP are about 42 per cent on average in East Asian countries which is well above those of both advanced and developing countries. For instance, reserves as a percentage of GDP in 2005 were 109.14 per cent in Singapore, 64.91 per cent in Malaysia, 34.41 per cent in Korea, 58.87 per cent in Hong Kong, and 45.54 per cent in China. While the rationale of accumulating those low yield assets is debated, the size of these reserves is rationalized as providing protection against future financial crises.

Table 2: Growth of Reserves in East Asian Countries, 1977-2005

**Period-to-period Growth of Reserves (%)**

| Country | 1999-2000 | 2000-2001 | 2001-2002 | 2002-2003 | 2003-2004 | 2004-2005 |
|---|---|---|---|---|---|---|
| Japan | 50.22 | 7.86 | 0.00 | 31.50 | 24.73 | 4.80 |
| Hong Kong | 11.42 | 3.63 | 0.63 | 5.81 | 4.22 | -0.81 |
| Korea | 51.66 | 9.16 | 0.00 | 17.08 | 22.61 | 14.84 |
| Singapore | 7.16 | 0.56 | 0.00 | 6.80 | 12.16 | 12.11 |
| Taiwan | 0.47 | 14.53 | 31.91 | 28.16 | 17.52 | 4.28 |
| Indonesia | 12.45 | 5.04 | 0.00 | 3.27 | -4.32 | 2.54 |
| Malaysia | 8.79 | 3.80 | -2.51 | 20.14 | 43.79 | 15.20 |
| Philippines | 11.36 | -10.77 | -89.38 | 811.25 | -8.25 | 30.16 |
| Thailand | 3.72 | 8.68 | 0.00 | -1.21 | 13.33 | 13.14 |
| China | 49.20 | 24.80 | 0.00 | 28.18 | 43.95 | 45.19 |
| India | 52.47 | 35.97 | 0.00 | 33.50 | 22.29 | 13.17 |
| ***Total*** | **32.88** | **11.73** | **1.73** | **24.88** | **25.30** | **16.66** |

**Reserves as a percentage of GDP**

| | 1977 | 1990 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|
| Japan | 1.16 | 2.02 | 6.75 | 9.91 | 10.67 | 10.70 | 13.89 | 16.87 | 17.21 |
| Hong Kong | - | - | 62.89 | 63.58 | 65.48 | 64.70 | 66.34 | 63.66 | 58.87 |
| Korea | 3.42 | 5.47 | 17.05 | 23.84 | 25.06 | 23.43 | 26.60 | 31.15 | 34.41 |
| Singapore | 28.62 | 10.74 | 100.44 | 97.82 | 100.66 | 96.75 | 100.39 | 103.57 | 109.14 |
| Indonesia | 6.68 | 7.31 | 18.37 | 19.69 | 19.93 | 19.09 | 18.82 | 17.15 | 16.65 |
| Malaysia | 17.29 | 22.77 | 40.14 | 40.11 | 41.50 | 38.77 | 44.20 | 59.30 | 64.91 |
| Philippines | 4.62 | 2.01 | 20.66 | 21.71 | 19.04 | 1.93 | 16.87 | 14.61 | 18.08 |
| Thailand | 7.71 | 17.74 | 31.71 | 31.40 | 33.39 | 31.71 | 29.26 | 31.24 | 33.84 |
| China | 2.51 | 7.13 | 15.56 | 21.42 | 24.68 | 22.63 | 26.36 | 34.47 | 45.54 |
| India | 4.43 | 0.80 | 8.14 | 11.93 | 15.41 | 14.87 | 18.33 | 20.66 | 21.54 |

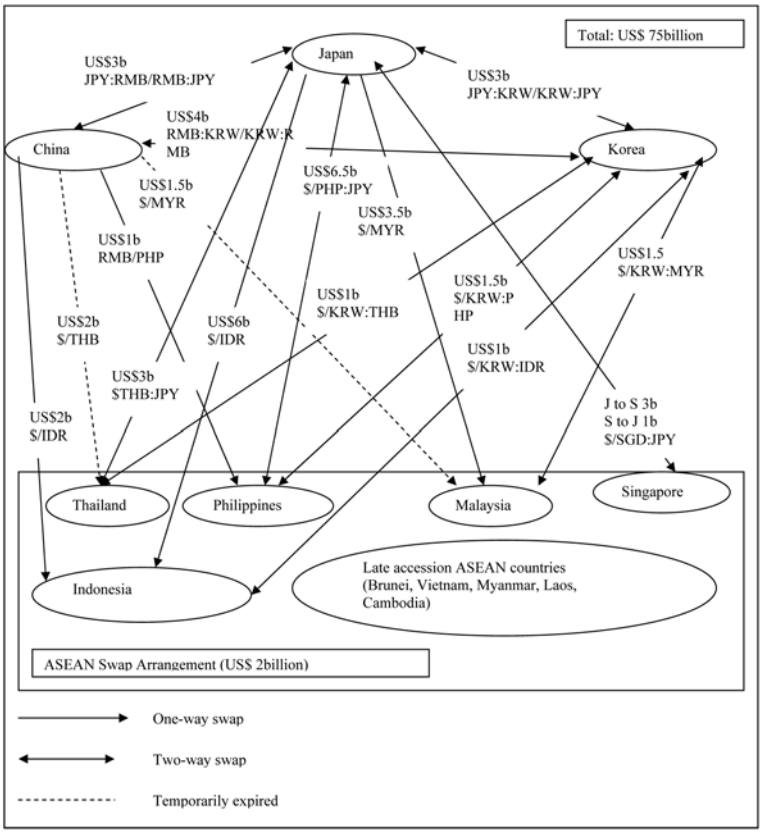
Source: Authors' calculations using data from International Financial Statistics, International Monetary Fund.

## Two-tier Co-insurance through Partial Pooling of Reserves

A second element in the emerging East Asian monetary system is a swap and co-insurance system which has evolved in the aftermath of the Asian crisis of 1997-98. The East Asian countries

have entered into a series of bilateral swaps without first agreeing on which currency to use, although Japan has unilaterally provided unidirectional reserve support under a separate initiative in October 1998. This has been labelled as the New Miyagawa Initiative (NMI) after the Japanese Finance Minister Miyagawa. The plan called for between US$30 billion - US$15 billion in short term financing

Figure 1: The Network of Bilateral Swaps in the ASEAN+3 (as of May 2006)




Source: Website of the Ministry of Finance, Japan: <http://www.mof.go.jp/english/index.htm>.

for other Asian countries with no special conditions attached to them, but the Japanese government required that the funds be dispersed in line with then IMF policies (Numata, 1998). The actual disbursement of funds has been less than half of what was pledged.

The bilateral swap arrangements which the ASEAN+3 countries have used thus far to stabilize currencies are set out in Figure 1. These follow the Chiang Mai Initiative (CMI) of November 2000 which allowed countries to swap their local currencies for major international currencies for up to six months and for up to twice their committed amounts. Under the CMI, East Asian countries created a new Asian Bilateral Swap Arrangement (ABSA) reviving a then existing bilateral swap arrangement among the original five members of the ASEAN which was created in the late-1970s. There are two tiers in this: swaps among the plus three countries and swaps between the plus three countries and the rest of the ASEAN countries. By this arrangement, China, Japan, and Korea help to stabilize currencies in the rest of East Asia in order to prevent contagion effects of possible future crises

The first 10 per cent of the drawing available under the ABSA are unconditional. For the remainder, under an expanded ABSA, an Agent Bank appointed on a rotating basis among the members has to confirm a request for liquidity, assess it, and process it in consultation with other member banks. Member banks are allowed to swap their own currencies for major international currencies for a period of up to six months and for a total up to twice the amount committed by the member under ABSA. The idea is that a country under speculative attack can borrow foreign currency from another country and use the funds to buy its own currency in order to stabilize the exchange rate, and the ABSA aim is to address credit risk. The general terms of borrowing are a maturity of 90 days, with the swaps renewable up to a maximum of seven

times. The interest to be paid at a rate based on the London Inter-Bank Offered Rate (LIBOR) and a spread. Additional assistance can be provided to members requesting it under an IMF programme or an activated Contingent Credit Line, though the maximum amount of the automatic disbursement is currently limited to 10 per cent. At present, the US dollar is the dominant currency used in the ABSA with the exception of the China-Japan and the China-Korea bilateral arrangements which are denominated in local currencies.

As Figure 1 indicates, there has been substantial activity under the ABSA. As of May 2006, 16 bilateral swaps had been concluded under the auspices of the CMI. The total size of the whole ABSA as of May 2006 was about US$77 billion and the average size per transaction was about US$3.2 billion.[1] Late accession countries to ASEAN - Brunei, Cambodia, Lao DPR, Myanmar, and Vietnam- had not entered into any bilateral swaps as of May 2006. These are either smaller countries or the poorest countries in the grouping.

The challenge now seen for the ABSA is that a regional mechanism for managing this network of bilateral swaps needs to be established. One issue has been how to transform this facility into a multilateral swap arrangement among all East Asian countries. One idea is to establish a system in which a country in financial stress would only need to ask one country within ASEAN+3 for support, which would in turn act as a coordinator, to collectively activate several bilateral currency swap deals. The debate on this proposal is still ongoing.

[1] Statistics from the Ministry of Finance, Japan. Available online: <http://www.mof.go.jp/english/index.htm>.

**Monitoring Mechanisms, Early Warning Systems, and Regional Surveillance Mechanisms**

A further element in the East Asian monetary system is improved information flows between countries on capital flows. The intent is to provide early warnings for future financial crises and to monitor the performance of countries. Monitoring of capital flows is currently undertaken by the IMF under its stabilization exercises. Given the perceived failure of the IMF to anticipate the financial crises of the 1990s, the East Asian countries aim to reduce their dependence on the IMF in this area by establishing their own regional monitoring system. ASEAN+3 experts meet regularly to exchange views on capital flow monitoring mechanisms and have discussed approaches towards the establishment of a regional monitoring framework in East Asia.

An early warning system for future financial crises parallel to the monitoring mechanism was established by the ASEAN+3 in December 2002. With the Asian Development Bank's support, the system helps member countries aiming to establish independent mechanisms. These are then linked in a regional system. The mechanism that has been put in place thus far is subject to the same deficiencies experienced with the monitoring mechanism. There is no effective regional mechanism to coordinate each country's early warning systems.

The 1997 Manila Framework Agreement also included an ASEAN surveillance scheme (ASS), aiming to complement the global surveillance mechanism in the IMF. The ASEAN finance ministers ratified the agreement in 1998 and undertook to implement it with the assistance of the Asian Development Bank. The broad objectives of the ASS are; (a) to assist ASEAN members in identifying potential crises and responding accordingly; (b) to

assess the vulnerability of ASEAN members to financial disruptions and crisis; (c) to improve the coordination of ASEAN members' policies through the dissemination of sound practices that meet international standards; and (c) to promote a 'peer monitoring' scheme among ASEAN members through a review of potentially vulnerable sectors (Chang and Rajan, 1999).

A regional surveillance mechanism reflecting these objectives was subsequently to be established, but as yet, no clear surveillance mechanism has emerged. While this could have an impact on regional monetary stability if the ASEAN+3 countries were able to further support it with a regional stabilization fund, without adequate resources, only limited assistance for future stabilization efforts in the region seems the likely outcome.

**Economic Review and Policy Dialogue, Technical Assistance, and Research Groups**

In 2001, the ASEAN+3 countries also committed themselves to strengthening the effectiveness of economic review and policy dialogue in the region. To this end, a voluntary monthly exchange of data among ASEAN+3 countries on short-term capital flows was established to facilitate effective policy dialogue. Regular exchanges of data take place among the following pairs of countries: Korea-Japan, Thailand-Philippines, Japan-Indonesia, Japan-Thailand, Japan-Vietnam, Japan-Philippines, and Japan-Brunei.

The ASEAN+3 have also recognized the importance of capacity building efforts for further development of the technical assistance initially provided by the Japan-ASEAN Financial Technical Assistance Fund (JAFTA) established in September 2001 to assist participating members. In 2001, ASEAN+3 countries established the Financial Technical Assistance Fund (FTAF). The FTAF has

supported a number of projects and research activities in the region including "Monitoring of Short Term Capital Flows" and "Promoting Research on an Appropriate Financial Support Mechanism". JAFTA has also provided assistance by strengthening participating members' monitoring systems and capacity in generating and compiling more accurate and timely data to enhance the effectiveness of the economic review and policy dialogue process. China has also provided training courses and seminars on the regional economic and financial cooperation.

These mechanisms are aimed at enabling countries in the region to make and amend policies based on relatively accurate information. But, though there are cooperative activities involving ASEAN+3 nations on technical assistance related to monetary matters, the grouping has yet to create a coherent regional mechanism of financing to support individual countries. In 2003, ASEAN+3 established a Voluntary Research Group (VRG) that commissions research institutes in the region to produce reports for discussion. Thus far, two reports, "Towards a Regional Financial Architecture in East Asia" and "An Exchange Rate Arrangement for East Asia" have been issued. These were to be discussed by the member countries of the ASEAN+3, but such discussions have yet to occur.

**Finance Cooperation Fund and Capital Market Development**

A further element in monetary cooperation is the emergence of common funds to finance various initiatives. One such initiative sets up the ASEAN+3 "Finance Cooperation Fund" to support ongoing economic review and policy dialogue. The fund complements efforts to enhance the effectiveness of economic surveillance and is administered by the ASEAN secretariat. Finance ministers have also agreed to use some of the funds for a peer review process

by implementing the recommendations made by the ASEAN+3 "Study Group to Examine Ways of Enhancing the Effectiveness of Economic Reviews and Policy Dialogues".

Another initiative involves an Asian Bond Fund. In 2003, the first stage of an Asian Bond Fund initiative was launched by the Executive Meeting of the East Asian Pacific (EMEAP) Central Banks. Currently, this is investing US$1 billion in US dollar dominated bonds issued by sovereign and quasi-sovereign borrowers in eight EMEAP economies. In 2004, EMEAP announced the launching of second stage of the Asian Bond Fund initiative (ABF2), including a framework for investing approximately US$2 billion in domestic currency bonds issued by sovereign and quasi-sovereign actors in eight EMEAP economies in early-2005.

ASEAN+3 has also established six working groups and an overarching focal group to coordinate various activities related to capital markets. They include changes in tax treatment for bonds in some member economies; issuance of local currency-denominated bonds in China and Thailand by the Asian Development Bank (ADB), International Finance Cooperation (IFC), and the Japan Bank for International Cooperation (JBIC); the issuance of JBIC-guaranteed Korean won-denominated collateral-backed obligations (CBO); cooperation with the Association of Credit Rating Agencies in Asia to strengthen local credit rating agencies; the launch of an Asian Bond Website via ADB to disseminate information on bond markets in the region; technical assistance on bond market development via the Japan-ASEAN Technical Assistance Fund as well as bilaterally in the region.

## 3. Objectives of the Emerging Monetary System in East Asia

The objectives of the emerging monetary system in East Asia are multiple. The system aims to provide insurance against country

specific and region contaminating financial crises. The Asian financial crisis of 1997-98 highlighted the problem of contagion under crises in an increasingly globalized world. The crisis first surfaced with speculative attacks on the Thai baht and transmitted swiftly to other East Asian economies affecting Malaysia, the Philippines, Korea, and others. Since financial contagion tends to be largely regional, it requires a regional solution and now takes the form of regional monetary cooperation arrangements.

The system also aims to allow for a degree of choice (within constraints) of exchange rate policies by individual countries which are both stable and sustainable under crises and contagion. The system aims to prevent speculative attacks on currencies by supporting the exchange rate systems in ways that do not provide one-way bets on the external value of a currency and eliminate the rationale for speculative attacks. This system also increases the ability of countries to pursue domestic objectives while encouraging intra-regional capital flows. Exchange rate volatility as a result of flexible rates is seen as increasing uncertainty, hampering trade, and complicating investment decisions.

The emerging system in East Asia also aims to allow for region-wide financial stability even in the presence of global financial instability. The Asian crises revealed major weaknesses in the capital markets in the region. Banking institutions had high volumes of non-performing loans and experienced capital inadequacy, and borrowed heavily from international banks on a short term basis. Asian markets were affected by the non-performing loan problem of financial institutions, and regulatory and supervisory frameworks in capital markets were weak. Governance of banks and markets was also a problem. Arbitrary management within corporate groups often distorted the provision of loans by banks to those groups. Banks were also requested explicitly or implicitly by governments to implement specific policies, and were effectively forced to conduct

Table 3: Intra-Asian Trade, 1985-2004

| Country | Export to Asia (In percentage of total) | | | Import from Asia (In percentage of total) | | | Export to Asia (In percentage of total) | | | Import from Asia (In percentage of total) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 85-91 | 92-98 | 99-04 | 85-91 | 92-98 | 99-04 | 85-91 | 92-98 | 99-04 | 85-91 | 92-98 | 99-04 |
| Advanced Asia (AA) | | | | | | | | | | | | |
| Japan | 32.0 | 41.9 | 45.1 | 26.2 | 30.7 | 38.3 | 3.2 | 3.8 | 4.8 | 2.6 | 2.8 | 4.1 |
| Australia | 60.3 | 68.8 | 65.2 | 42.5 | 45.9 | 51.0 | 7.6 | 9.8 | 9.8 | 6.0 | 7.4 | 9.3 |
| New Zealand | 51.8 | 59.9 | 57.9 | 48.7 | 53.0 | 61.9 | 11.3 | 13.4 | 13.2 | 10.6 | 11.8 | 14.1 |
| Newly Industrialized Economies (NIEs) | | | | | | | | | | | | |
| Korea | 18.0 | 36.9 | 41.5 | 17.5 | 24.6 | 30.3 | 5.1 | 9.9 | 13.6 | 5.0 | 6.5 | 9.9 |
| Hong Kong | 47.0 | 53.0 | 57.5 | 75.1 | 83.4 | 84.4 | 47.2 | 59.4 | 73.5 | 75.3 | 93.4 | 107.2 |
| Singapore | 53.8 | 58.8 | 63.8 | 63.2 | 62.3 | 55.9 | 75.3 | 78.4 | 95.3 | 88.5 | 82.9 | 83.2 |
| Taiwan | 35.3 | 50.3 | 56.7 | 34.8 | 47.0 | 53.8 | 16.0 | 19.6 | 26.2 | 15.8 | 18.3 | 24.8 |
| Other Emerging Asia (OEA) | | | | | | | | | | | | |
| China | 64.8 | 59.2 | 50.1 | 61.4 | 54.0 | 52.4 | 8.4 | 11.0 | 11.5 | 7.6 | 10.0 | 12.2 |
| India | 24.7 | 28.9 | 28.7 | 32.4 | 27.2 | 33.2 | 4.2 | 2.3 | 2.8 | 1.5 | 2.2 | 3.3 |
| Indonesia | 67.5 | 62.9 | 64.4 | 40.4 | 42.9 | 33.2 | 12.9 | 15.4 | 19.9 | 7.8 | 10.1 | 10.2 |
| Malaysia | 44.7 | 48.0 | 50.4 | 33.4 | 39.0 | 40.7 | 26.7 | 38.3 | 52.2 | 20.1 | 31.0 | 42.1 |
| Philippines | 23.2 | 27.1 | 43.0 | 49.0 | 55.6 | 45.7 | 4.1 | 7.3 | 20.0 | 8.6 | 14.2 | 21.3 |
| Thailand | 43.3 | 50.4 | 54.3 | 72.6 | 68.6 | 56.3 | 10.6 | 17.8 | 30.0 | 18.1 | 23.5 | 31.1 |
| Average | 43.6 | 49.7 | 52.2 | 45.9 | 48.8 | 49.0 | 17.7 | 22.0 | 28.7 | 20.6 | 24.2 | 28.7 |

Source: Cowen et al (2006).

quasi-fiscal operations. These factors prevented the development of capability for risk management and assessment in the financial sector. Lack of transparency in the management of large corporate groups in the financial sector was also a problem and local bond markets in East Asian economies were at underdeveloped stage. The emerging system in East Asia aims to address these problems through these various cooperation initiatives.

Finally, the emerging system seeks to underpin growing regional trade and investment flows with stable and open exchange regimes. Intra-regional trade flows in East Asia have grown substantially

in the recent past (See Table 3). Intra-regional exports as a share of total exports have increased from an average across countries of 44 per cent during 1985-1999 to 52 per cent during 1999-2004. This overall rise has been especially pronounced for Korea, Taiwan, Japan, Singapore, and the Philippines. Intra-regional imports have also increased from 46 per cent during 1985-1999 to 49 per cent during 1999-2004. A notable feature is that both the share of exports and imports of China in the region fell, even though there has been rapid export growth in China for the past two decades. China's exports have been driven more by processing trade with the Organisation of Economic Co-operation and Development (OECD) than its trade of other East Asian economies. It is unclear whether monetary cooperation has been a factor in this trade growth, or whether it is that monetary cooperation seeks to underpin it.

Intra-regional capital flows also have increased in the recent past, especially from Japan. Non-Asia has been the source for about

Table 4: Net Overseas Portfolio Investment in ASEAN+3

| Host Country | 1998 | | | 2002 | | | 2003 | | |
|---|---|---|---|---|---|---|---|---|---|
| | US$ billion | As % of total | As % of GDP | US$ billion | As % of total | As % of GDP | US$ billion | As % of total | As % of GDP |
| China | 9.9 | 9.40 | 96 | 85.5 | 31.11 | 6.04 | 105.7 | 24.07 | 6.79 |
| Indonesia | 4 | 3.79 | 2.56 | 2.8 | 1.01 | 1.57 | 1.4 | 0.31 | 0.75 |
| Korea | 32.2 | 30.57 | 7.47 | 11.9 | 4.33 | 2.09 | 15.5 | 3.52 | 2.65 |
| Malaysia | 10 | 9.49 | 12.79 | 5.1 | 1.85 | 5.39 | 9.2 | 2.09 | 9.23 |
| Philippines | 2.8 | 2.65 | 4.07 | -2.3 | -0.83 | -2.87 | 0.8 | 0.18 | 0.96 |
| Singapore | 12.4 | 11.77 | 15.99 | 13.9 | 5.05 | 14.95 | 17.7 | 4.03 | 18.49 |
| Thailand | 1 | 0.94 | 0.89 | 5.8 | 2.11 | 4.39 | 0.7 | 0.15 | 0.50 |
| Japan | 33 | 31.33 | 0.71 | 152.1 | 55.34 | 3.21 | 288.1 | 65.61 | 6.00 |
| ***Total*** | **105.3** | **100** | - | **274.8** | **100** | - | **439.1** | **100** | - |

Source: International Financial Statistics, International Monetary Fund.

three-fourths of ASEAN+3's foreign portfolio investment. Most ASEAN+3 countries have been recipients of portfolio investment for the past three decades (See Table 4). Japan, China, Singapore, Korea, and Malaysia are leading beneficiaries of portfolio capital inflows, but FDI inflows have been even more important, especially for China. The monetary system also aims to underpin these flows with a stable and open regime.

Asian financial markets have grown considerably in the recent past and monetary cooperation and stability also aims to underpin this growth. Table 5 reports the size of the Asian country bond markets. While they are still small compared to the EU and North America, there has been a rapid growth of the corporate bond market in Asia. Malaysia and Korea report large corporate bond markets; Japan and Thailand also have growing corporate bond

Table 5: The Size of the Asian Bond Markets, 2005

| Country | Size of the Corporate Bond Markets (% of GDP) | Issuer of Bonds in Asian Markets | | | Purchaser of Asian Bonds | | |
|---|---|---|---|---|---|---|---|
| | | Number (US $ billion) | As % of total | As % of GDP | Number (US $ billion) | As % of total | As % of GDP |
| Korea | 23.4 | 24.6 | 13 | 3.86 | 1.1 | 0.57 | 0.17 |
| China | 0.7 | 4.1 | 2 | 0.22 | - | - | 0.00 |
| Japan | 16.9 | 107.5 | 56 | 2.12 | 10.8 | 6.0 | 0.21 |
| Plus 3 | - | 136.2 | 71 | - | 11.9 | 6.57 | - |
| Indonesia | 1.5 | 4.2 | 2 | 2.02 | 0.2 | 0.01 | 0.10 |
| Malaysia | 38.1 | 14.4 | 8 | 12.81 | 0.1 | 0 | 0.09 |
| Philippines | 0.1 | 11.7 | 6 | 12.53 | 0.2 | 0.01 | 0.21 |
| Singapore | 5.1 | 11.5 | 6 | 10.39 | 9.9 | 5 | 8.94 |
| Thailand | 11.7 | 3.1 | 2 | 1.98 | 0.1 | 0 | 0.06 |
| ASEAN-5 | 56.5 | 44.9 | 24 | - | 10.5 | 5.2 | - |
| Rest of world | 2.5 | 9.05 | 5 | - | 167.75 | 88.23 | - |
| Total | 100.0 | 190.15 | 100.0 | | 190.15 | 100.0 | |

Source: Authors' calculations from the data of International Financial Statistics, International Monetary Fund (various years).

markets while the corporate bond markets in China, Indonesia, and Philippines remain at an underdeveloped stage. The worldwide corporate bond market amounted to about US$9 trillion in 2003. Asian corporate bonds stood at US$190 billion representing only 2 per cent of the global bond market. Japan has been the largest bond issuer among the ASEAN+3 nations and Japan also is the largest purchaser of corporate bonds in the region among the ASEAN+3 countries. Except for Singapore, ASEAN countries invest little in corporate bonds. Asian bond markets are still at an early stage, but with progress in the Asian Bond Fund initiative, there is the potential to develop the Asian bond markets further and monetary cooperation also aims to assist in this.

ASEAN+3 countries have also relied historically on FDI to support their rapid economic growth and the monetary system also aims to underpin this. Table 6 reports inward and outward FDI in selected East Asian countries both by host country and by country of origin. East Asia has received a large volume of FDI for several decades. During 1995-2003 period, the inflow of FDI into ASEAN+3 averaged US$196 billion. Among the East Asian economies in 2005, China received US$72 billion of inward FDI, followed by Singapore US$20 billion, Korea US$7 billion, and India US$6 billion. In terms of FDI as a share of GDP, Singapore has been the leading recipient of FDI with 158.6 per cent. Intra-regional FDI flows among the ASEAN+3 represented about 17.41 per cent of total FDI inflows into the region. China, Korea and Japan contribute about 15.73 per cent of total FDI. Intra-regional FDI flows grew little during 1995-2003, while the FDI inflows from outside of Asia increased from 58.98 per cent in 1995 to 72.4 per cent in 2003 and ASEAN+3 thus attracts more FDI even in the post-crisis period than earlier.

Table 6: FDI Flows into ASEAN+3 Countries

FDI Inflows to ASEAN+3 by Host Country*

| Host Country | FDI Stock, US$ Billion | | | | FDI Flows as a percentage of GDP | | | |
|---|---|---|---|---|---|---|---|---|
| | Inward flows | | Outward flows | | Inward flows | | Outward flows | |
| | 2003 | 2005 | 2003 | 2005 | 2000 | 2005 | 2000 | 2005 |
| Brunei | 3.375 | 0.275 | 0.076 | - | 89.6 | 145.2 | 10.3 | 8.7 |
| Cambodia | 0.084 | 0.381 | 0.01 | - | 43.8 | 45.6 | 5.4 | 8.7 |
| China | 53.505 | 72.406 | -0.152 | 11.306 | 17.9 | 14.3 | 2.6 | 4.8 |
| India | 4.585 | 6.598 | 1.325 | 1.364 | 3.8 | 5.8 | 0.4 | 1.2 |
| Indonesia | -0.597 | 5.26 | 0.015 | 3.065 | 16.5 | 7.7 | 4.6 | 5.0 |
| Japan | 6.324 | 2.775 | 28.8 | 45.781 | 1.1 | 2.2 | 5.9 | 8.5 |
| Korea | 3.892 | 7.198 | 3.426 | 4.312 | 7.3 | 8.0 | 5.2 | 4.6 |
| Lao | 0.019 | 0.028 | - | - | 32.1 | 24.5 | 1.6 | 1.0 |
| Malaysia | 2.473 | 3.967 | 1.37 | 2.971 | 58.4 | 36.5 | 25.3 | 34.0 |
| Myanmar | 0.291 | 0.3 | - | - | 54.8 | 43.6 | - | - |
| Philippines | 0.491 | 1.132 | 0.303 | 0.162 | 16.9 | 14.4 | 2.1 | 2.1 |
| Singapore | 10.376 | 20.083 | 3.143 | 5.519 | 121.7 | 158.6 | 61.3 | 94.1 |
| Thailand | 1.952 | 3.687 | 0.486 | 0.246 | 24.4 | 33.5 | 1.8 | 2.3 |
| Vietnam | 1.45 | 2.02 | - | - | 66.1 | 61.2 | - | - |

FDI Inflows to ASEAN+3 Countries by source country**

| | 1995 | | | 2000 | | | 2003 | | |
|---|---|---|---|---|---|---|---|---|---|
| Country/region of origin of FDI | US$ Billion | As % of Total | As % GDP | US$ Billion | As % of Total | As % GDP | US$ Billion | As % of Total | As % GDP |
| Korea | 0.42 | 1.619 | 0.10 | -0.12 | -0.55 | -0.02 | 0.10 | 0.68 | 0.02 |
| China | 0.13 | 0.47 | 0.02 | 0.01 | 0.06 | 0.00 | 0.01 | 0.05 | 0.00 |
| Japan | 5.51 | 21.09 | 0.12 | 0.78 | 3.68 | 0.02 | 1.73 | 11.53 | 0.04 |
| Brunei | 0.09 | 0.32 | - | 0.03 | 0.15 | - | -0.01 | -0.06 | - |
| Cambodia | 0.00 | 0.00 | 0.07 | 0.00 | 0.01 | 0.07 | 0.01 | 0.03 | 0.12 |
| Indonesia | 0.04 | 0.14 | 0.02 | 0.11 | 0.51 | 0.07 | 0.24 | 1.57 | 0.13 |
| Lao | 0.00 | 0.00 | 0.00 | 0.01 | 0.04 | 0.57 | 0.00 | 0.00 | 0.00 |
| Malaysia | 0.77 | 2.94 | 1.08 | 0.09 | 0.41 | 0.10 | 0.59 | 3.90 | 0.59 |
| Myanmar | 0.00 | 0.01 | - | 0.01 | 0.02 | - | 0.01 | 0.04 | - |
| Philippines | 0.09 | 0.34 | 0.14 | 0.09 | 0.43 | 0.12 | 0.00 | -0.03 | -0.01 |
| Singapore | 2.98 | 11.42 | 4.43 | 0.06 | 0.30 | 0.07 | 1.32 | 8.78 | 1.38 |
| Thailand | 0.18 | 0.69 | 0.15 | -0.22 | -1.06 | -0.18 | 0.16 | 1.03 | 0.11 |
| Vietnam | 0.00 | 0.002 | 0.00 | 0.01 | 0.02 | 0.02 | 0.01 | 0.03 | 0.01 |
| ASEAN+3 | 10.71 | 41.01 | | 1.44 | 6.79 | | 4.15 | 27.59 | - |
| Rest of world | 15.40 | 58.98 | | 19.75 | 93.20 | | 10.88 | 72.40 | - |
| ***Total*** | **32.16** | **100** | | **21.87** | **100** | | **16.87** | **100** | - |

Source: * UNCTAD (2006). ** 2005 ASEAN Statistical Yearbook: <http://www.aseansec.org>.

## 4. Incompleteness of the ASEAN+3 Monetary System

An obvious way in which this system remains incomplete is that only partial bilateral reserve pooling has taken place thus far under the monetary cooperation system in East Asia. It is thus important to evaluate this system relative to the potential insurance benefits that would accrue from total Asian (region-wide) pooling under a single authority. In order to evaluate the potential gains from varying degrees of reserve pooling - partial (bilateral) or fully (region-wide) - we use a relatively simple methodology due to Dodsworth (1992)[2] and Williams et al (2001) which focuses on the coverage of the variability of reserves which can be achieved through various pooling arrangements.

To do this, we use data from 1977 to 2005 from the International Financial Statistics of the IMF. The first step is to compute the mean,

Table 7: Reserve Variability by Country, 1977-2005 and 1995-2005

| Country | 1977-2005 | | | 1995-2005 | | |
|---|---|---|---|---|---|---|
| | Mean Reserves, US$ Billions | Standard Deviation, US$ Billion | Coefficient of variation of reserves | Mean Reserves US$ Billion | Standard Deviation, US$ Billion | Coefficient of variation of reserves |
| China | 130.79 | 201.65 | 1.54 | 312.26 | 234.87 | 0.75 |
| India | 29.02 | 37.31 | 1.28 | 63.54 | 41.98 | 0.66 |
| Indonesia | 14.97 | 11.64 | 0.77 | 28.09 | 7.79 | 0.28 |
| Japan | 213.12 | 246.47 | 1.15 | 459.40 | 246.39 | 0.54 |
| Korea | 46.50 | 63.11 | 1.35 | 107.36 | 67.00 | 0.62 |
| Malaysia | 20.70 | 18.23 | 0.88 | 38.78 | 15.98 | 0.41 |
| Philippines | 5.90 | 5.418 | 0.91 | 11.53 | 4.67 | 0.41 |
| Singapore | 47.27 | 36.94 | 0.78 | 89.50 | 14.60 | 0.16 |
| Thailand | 20.52 | 17.33 | 0.84 | 39.63 | 6.76 | 0.17 |

Source: Authors' calculations.

[2] This methodology was initially developed by Dodsworth (1992).

standard deviation, and coefficient of variation of the reserves for each East Asian country and we compute these for 1977-2005 and for 1995-2005 sub-period. Results are reported in Table 7. A coefficient of variation of reserves greater than one indicates that reserves have grown exponentially in this period. Over the entire period 1977-2005, the international reserves in all these economies show considerable variability. The reserves of China, Korea, Japan, and India have been growing but have also been volatile during this period. If reserves of economies grow rapidly countries will show high volatility. When one computes these statistics for 1995-2005, the variability of reserves in all countries is less than unity and small in many countries indicating low degrees of volatility. The volatility of reserves is still higher in China, Korea, India, and Japan compared to others in the sample during this period due to reserve accumulation.

Pooling of reserves gives two sources of gain to participants according to this approach. One is access to increased reserves and the other is a reduction in reserve variability. Dodsworth (1992) uses the notion of coverage in a way which incorporates these two sources of gain. Coverage will increase if there is an increase in access to reserves or a decrease in variability. The coverage ratio $C_i$ in country $i$ is defined as;

$$C_i = \frac{PR_i}{Var(PR_i)} \qquad (1)$$

where $PR_i$ is the average level of reserves during the time period in country $i$, and $Var(PR_i)$ is their variability during the same time period. Coverage under reserve pooling is higher than that which occurs in the independent state if the variability of the pool is lower than that of each country's individual reserves, or if the increased access to reserves outweighs the higher variability of the pool. Taking into consideration that pooling of reserves provide two

sources of gain, namely increased access to reserves and decreased variability of reserves due to the access to others' reserves, under partial pooling, the coverage ratio can be computed as follows;

$$C_i = \frac{R_i + \sum_{j \neq i} pR_j}{Var(R_i + \sum_{j \neq i} pR_j)} \qquad (2)$$

where $p$, $0 \leq p \leq 1$, is the degree of pooling and $R_i$ are the total reserves of country $i$. According to this, any given contributing country in the pool has access to the pool (partially or totally pooled), including his own contribution. The coverage ratio is also computed with regard to two time periods; 1977-2005 and 1995-2005.

The results of partial pooling at similar rates across countries are given in Table 8 for both 1977-2005 and the 1995-2005 sub-period. The striking result is that there is no significant difference of the coverage ratios between no pooling, partial pooling and total (regional) pooling indicating that incremental insurance gains from total pooling of reserves without a single monetary authority in the region is small. This reflects large own reserve accumulation. This is especially so for India, Japan, and Korea. In the 1977-2005 period, most countries in the sample are better off with reserve pooling, but China and Malaysia are better off with no pooling or a low degree of pooling. Coverage ratios under the current swap arrangement, in which $0 < p < 0.1$ for all countries, indicate that China, Malaysia and the Philippines become worse off with a greater degree of pooling compared to the current arrangement, while all other countries are better off with more pooling. Incremental insurance gains attributable to swaps can even be lower than the transaction costs incurring for managing swaps producing a net loss from co-insurance.

Table 8: Coverage Ratios under Potential Pooling, 1977-2005 and 1995-2005

1977-2005

| Country | P=0.0 | P=0.1 | P=0.2 | P=0.3 | P=0.4 | P=0.5 | P=0.6 | P=0.7 | P=0.8 | P=0.9 | P=1 | Under present swaps |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | 4.26 | 4.16 | 4.09 | 4.03 | 3.98 | 3.94 | 3.91 | 3.89 | 3.86 | 3.84 | 3.83 | 4.32 |
| India | 3.71 | 3.79 | 3.81 | 3.82 | 3.82 | 3.82 | 3.82 | 3.82 | 3.83 | 3.83 | 3.83 | - |
| Indonesia | 2.97 | 3.74 | 3.79 | 3.80 | 3.81 | 3.82 | 3.82 | 3.82 | 3.82 | 3.83 | 3.83 | 3.54 |
| Japan | 3.54 | 3.60 | 3.65 | 3.69 | 3.72 | 3.75 | 3.77 | 3.79 | 3.80 | 3.81 | 3.83 | 3.47 |
| Korea | 3.48 | 3.67 | 3.73 | 3.77 | 3.78 | 3.80 | 3.81 | 3.81 | 3.82 | 3.82 | 3.83 | 3.38 |
| Malaysia | 4.00 | 3.89 | 3.86 | 3.85 | 3.84 | 3.84 | 3.83 | 3.83 | 3.83 | 3.83 | 3.83 | 4.33 |
| Philippines | 3.12 | 3.82 | 3.83 | 3.83 | 3.83 | 3.83 | 3.83 | 3.83 | 3.83 | 3.83 | 3.83 | 4.29 |
| Singapore | 3.27 | 3.72 | 3.78 | 3.80 | 3.81 | 3.82 | 3.82 | 3.82 | 3.82 | 3.83 | 3.83 | 3.27 |
| Thailand | 3.06 | 3.76 | 3.80 | 3.81 | 3.82 | 3.82 | 3.82 | 3.82 | 3.82 | 3.83 | 3.83 | 3.3 |

1995-2005

| Country | P=0.0 | P=0.1 | P=0.2 | P=0.3 | P=0.4 | P=0.5 | P=0.6 | P=0.7 | P=0.8 | P=0.9 | P=1 | Under present swaps |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China | 3.65 | 3.70 | 3.73 | 3.75 | 3.77 | 3.78 | 3.79 | 3.80 | 3.80 | 3.81 | 3.81 | 3.65 |
| India | 3.29 | 3.62 | 3.71 | 3.74 | 3.77 | 3.78 | 3.79 | 3.80 | 3.80 | 3.81 | 3.81 | - |
| Indonesia | 4.44 | 3.95 | 3.88 | 3.85 | 3.84 | 3.83 | 3.82 | 3.82 | 3.82 | 3.81 | 3.81 | 4.43 |
| Japan | 3.54 | 3.60 | 3.65 | 3.69 | 3.72 | 3.74 | 3.76 | 3.78 | 3.79 | 3.80 | 3.81 | 3.53 |
| Korea | 3.28 | 3.57 | 3.67 | 3.72 | 3.75 | 3.77 | 3.78 | 3.79 | 3.80 | 3.81 | 3.81 | 3.27 |
| Malaysia | 4.57 | 3.97 | 3.89 | 3.86 | 3.84 | 3.83 | 3.82 | 3.82 | 3.82 | 3.81 | 3.81 | 4.56 |
| Philippines | 3.62 | 3.93 | 3.86 | 3.84 | 3.83 | 3.82 | 3.82 | 3.82 | 3.81 | 3.81 | 3.81 | 3.61 |
| Singapore | 8.27 | 4.60 | 4.20 | 4.04 | 3.96 | 3.91 | 3.88 | 3.86 | 3.84 | 3.82 | 3.81 | 8.27 |
| Thailand | 7.85 | 4.21 | 4.00 | 3.92 | 3.88 | 3.86 | 3.84 | 3.83 | 3.82 | 3.82 | 3.81 | 7.85 |

Source: Authors' calculations.

In the 1995-2005 period, a different picture emerges. Indonesia, Malaysia, Singapore and Thailand are worse off with pooling while others gain. This may seem unrealistic given the current stock of reserves in China, Japan, and Korea, but historical volatility reflects accumulation, and the high degree of volatility of reserves indicates that pooling tends to be beneficial. Moreover, results for the 1995-2005 sub-period show that reserve pooling is beneficial

for the region, but net gains from either total or partial pooling are small. This is especially so for India, Japan, and Korea. Coverage ratios under current swaps arrangements indicate that Indonesia, Malaysia, Singapore and Thailand are worse off with a greater degree of pooling compared to current arrangements while all other countries are better off. Generally, the picture that emerges is that own reserve accumulation is now providing most of the coverage rather than swaps.

One can also use the same approach to compute the level of reserves that each country would have had to hold independently to enjoy the same level of coverage afforded by various degrees of pooling. From equation 1, the hypothetical level of reserves (HR) that a country must hold to achieve to get a coverage ratio $C_i^*$, given its own historical reserve variability $R_i$ is;

$$HR = C_i^*.Var(R_i) \qquad (3)$$

where HR is the level of hypothetical reserves, $C_i$ refers to the level of coverage, and $Var(PR_i)$ is historical reserve variability. Results are reported in Table 9 for the coverage ratios under pooling reported in Table 7. Hypothetical reserves are thus the own reserves needed to yield the same coverage as that achieved under pooling. These results suggest that given large simultaneous reserve accumulation in a number of Asian countries own insurance is less effective than reserve pooling across all countries, with large hypothetical reserves compared to current reserves in most countries. India, Korea, Indonesia, Malaysia, Philippines, Singapore and Thailand would all have to increase their reserves by large amounts in order to obtain the same coverage benefits on a stand-alone basis as those delivered by pooling. If countries choose to pool reserves under a single monetary authority, there would thus be significant insurance gains.

Table 9: Hypothetical Reserves, 1977-2005 and 1995-2005 (US$ billion)

1977-2005

| Country | P=0.0 | P=0.1 | P=0.2 | P=0.3 | P=0.4 | P=0.5 | P=0.6 | P=0.7 | P=0.8 | P=0.9 | P=1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| China | 858 | 1018 | 1170 | 1323 | 1476 | 1629 | 1781 | 1934 | 2087 | 2240 | 2393 |
| India | 138 | 366 | 591 | 817 | 1042 | 1267 | 1492 | 1718 | 1943 | 2168 | 2393 |
| Indonesia | 34 | 270 | 506 | 742 | 978 | 1214 | 1449 | 1685 | 1921 | 2157 | 2393 |
| Japan | 871 | 1026 | 1178 | 1330 | 1482 | 1634 | 1786 | 1938 | 2089 | 2241 | 2393 |
| Korea | 219 | 436 | 654 | 871 | 1088 | 1306 | 1523 | 1741 | 1958 | 2176 | 2393 |
| Malaysia | 72 | 304 | 536 | 768 | 1000 | 1232 | 1465 | 1697 | 1929 | 2161 | 2393 |
| Philippines | 16 | 254 | 492 | 729 | 967 | 1205 | 1442 | 1680 | 1918 | 2156 | 2393 |
| Singapore | 120 | 343 | 571 | 799 | 1026 | 1254 | 1482 | 1710 | 1938 | 2165 | 2393 |
| Thailand | 53 | 283 | 518 | 752 | 987 | 1221 | 1455 | 1690 | 1924 | 2159 | 2393 |

1995-2005

| Country | P=0.0 | P=0.1 | P=0.2 | P=0.3 | P=0.4 | P=0.5 | P=0.6 | P=0.7 | P=0.8 | P=0.9 | P=1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| China | 858 | 1011 | 1190 | 1369 | 1549 | 1729 | 1910 | 2091 | 2271 | 2452 | 2633 |
| India | 138 | 387 | 636 | 885 | 1135 | 1385 | 1634 | 1884 | 2134 | 2384 | 2633 |
| Indonesia | 34 | 313 | 570 | 828 | 1086 | 1344 | 1602 | 1859 | 2117 | 2375 | 2633 |
| Japan | 871 | 1135 | 1302 | 1469 | 1636 | 1802 | 1969 | 2135 | 2301 | 2467 | 2633 |
| Korea | 219 | 467 | 707 | 948 | 1189 | 1430 | 1670 | 1911 | 2152 | 2393 | 2633 |
| Malaysia | 72 | 344 | 598 | 852 | 1107 | 1361 | 1616 | 1870 | 2124 | 2379 | 2633 |
| Philippines | 16 | 285 | 546 | 807 | 1068 | 1329 | 1590 | 1851 | 2111 | 2372 | 2633 |
| Singapore | 120 | 463 | 695 | 935 | 1176 | 1418 | 1661 | 1904 | 2147 | 2390 | 2633 |
| Thailand | 53 | 346 | 598 | 852 | 1106 | 1361 | 1615 | 1870 | 2124 | 2379 | 2633 |

Source: Authors' calculations.

Given that countries such as China, Japan, and Korea have fluctuating reserves, it is also important to look at the correlation of reserves between countries to assess the incentive compatibility of common pooling rates. Correlation coefficients for reserves for 1977-2005 are reported in Table 10. Pair-wise coefficients show that reserves of all countries are highly correlated and the correlation coefficient is greater than 0.75 for all pairs of countries. The correlation coefficient is greater than 0.80 for: China-India, China-Indonesia, China-Japan, China-Korea, China-Malaysia, and China-Singapore. This suggests incentive compatibility for countries to pool reserves.

A further problem with pooling without a single monetary authority is that individual countries will have limited prior knowledge of actual drawdowns from their reserves and under current arrangements countries cannot conduct domestic policy with certainty. The ABSA are not an arrangement with agreed lines of credit, and ultimate lines of credit are unknown or unclear. The first 10 per cent of the drawing available under the ABSA are unconditional and additional assistance can be provided to members requesting it under an IMF programme or an activated Contingent Credit Line. Credits are available on request and member banks are allowed to swap their own currencies for major international currencies for a period of up to six months and for a total up to twice the amount committed by the member under ABSA.

Partial pooling will also only be effective if all countries in the region do not experience simultaneous shocks. If they do experience simultaneous shocks, swaps used simultaneously may make the arrangement ineffective. In the case of the financial crises of the late-1990s, shocks were country specific and swaps were effective. If global macro shocks were to affect the East Asian region, it

Table 10: Correlation of International Reserves, 1977-2005

| | China | India | Indonesia | Japan | Korea | Malaysia | Philippines | Singapore | Thailand |
|---|---|---|---|---|---|---|---|---|---|
| China | 1.00 | | | | | | | | |
| India | 0.98 | 1.00 | | | | | | | |
| Indonesia | 0.84 | 0.88 | 1.00 | | | | | | |
| Japan | 0.97 | 0.99 | 0.92 | 1.00 | | | | | |
| Korea | 0.96 | 0.98 | 0.93 | 0.99 | 1.00 | | | | |
| Malaysia | 0.93 | 0.93 | 0.91 | 0.95 | 0.94 | 1.00 | | | |
| Philippines | 0.76 | 0.76 | 0.86 | 0.80 | 0.80 | 0.85 | 1.00 | | |
| Singapore | 0.83 | 0.83 | 0.95 | 0.89 | 0.87 | 0.94 | 0.87 | 1.00 | |
| Thailand | 0.79 | 0.80 | 0.92 | 0.85 | 0.84 | 0.93 | 0.85 | 0.99 | 1.00 |

Source: Authors' calculations.

would thus be nations' own insurance derived from their own reserves, more so than co-insurance from pooling, that would be critical.

A second element of incompleteness of monetary integration arrangement in East Asia is the absence of formal cooperation or coordination of exchange rate policies in the region (see Table 11). The diverse exchange rate systems used in the region reflect the fact that there is neither exchange rate cooperation nor coordination. Unilateralism seems to dominate, with a tendency for moving towards either managed floating or independent floating exchange rate arrangements rather than a cooperative arrangement. Exchange rate policies in individual countries can be inconsistent with budgetary policy and domestic monetary policy, and swaps can be called on to support such regimes with no test applied to the chosen regime as to its sustainability. Unlike a commitment to a fixed exchange rate, a managed floating as practiced by many countries in the region at present may not be operational in the longer term. One popular strategy is to commit to price stability, although East Asia has several countries with monetary frameworks that favour exchange rate targeting. These have been moving closer to those that focus on price stability. Several countries in the region - Korea, Thailand, Indonesia, and Philippines - now practice inflation targeting. Other countries - Malaysia, China, and Japan - have price stability as a key goal of monetary policy, while Singapore practices exchange rate targeting.

A final element of incompleteness of monetary cooperation reflects various remaining technical impediments related to monitoring and information. There is no consensus as to what should be monitored, including micro- or macro-economic indicators. There is also inadequate capacity to undertake monitoring for all countries. Most countries in the region are unable to commit

Table 11: Official Exchange Rate Regimes in East Asia

| Country | 2001 | 2005 |
|---|---|---|
| Brunei | Currency board arrangement (strictly pegged to S$) | Currency board arrangement (strictly pegged to S$) |
| Cambodia | Managed floating | Managed floating |
| China | Pegged (to US$) | Pegged (to US$) |
| Indonesia | Independent floating | Managed floating |
| Korea | Independent floating | Independent floating |
| Japan | Independent floating | Independent floating |
| Laos | Managed floating | Managed floating |
| Malaysia | Pegged (to US$) | Pegged (to US$) |
| Myanmar | Pegged (to US$) | Pegged (to US$) |
| Philippines | Independent floating | Independent floating |
| Singapore | Managed floating | Managed floating |
| Thailand | Independent floating | Managed floating |
| Vietnam | Pegged (to US$) | Pegged (to US$) |
| India | Managed floating | Managed floating |

Source: IMF Annual Report on Exchange Rate Arrangements and Exchange Rate Restrictions.

to monitoring agreed macro and micro indicators. In part, this reflects a lack of technical expertise and an inability to deal with an increasingly complex globalized financial system, but even if there is technical expertise to undertake monitoring, there is no institutional mechanism responsible to the ASEAN+3 countries as a single entity. Information also plays a significant role in monitoring, and most countries in the region do not have access to the information necessary to make monitoring mechanisms work effectively. There is a culture of secrecy related to data in the East Asian region and a lack of reliable information is also a major impediment to any effective monitoring mechanism emerging. These technical impediments hinder the functioning of swap arrangements to the extent that the size and form of swaps needed to maintain system stability is uncertain.

## 5. System Performance

The monetary system in East Asia we discuss above seems for now to be functioning well but at the same time it remains largely untested due to a benign environment. ASEAN+3 have made considerable progress in developing regional cooperative arrangements through bilateral swaps and the development of regional bond markets. Concurrently, they have been accumulating own reserves which can be used as a buffer against future financial crises. Three issues are considered here; the stability of the system over the past ten years, the contribution of the system to regional development as against simply providing insurance, and the incremental gains from pooling compared to own-reserve accumulation.

How effective has the system been as insurance? One of the main objectives of regional financial and monetary cooperation is to underpin regional stability both in exchange markets and under Asian financial markets. Both co-insurance and own-insurance are part of this and the monetary performance in East Asia has been relatively good for the last ten years. The East Asian countries have experienced neither major new financial crises nor contagion effects since the financial crisis of 1997-98. Containment of the Thai baht episode in the late-2006 and early-2007 is illustrative of this. Thailand's currency and bonds slumped after the military seized control of Bangkok in late-2006 and government offices, banks and the stock market were shut temporarily. The baht had a large daily loss and the stock market fell 15 per cent, and the resulting concerns over political instability might have been expected to trigger wider financial and monetary instability, and exchange rate instability. There has also been no spread of the Baht volatility to other regional currencies as happened during the 1997-98 crisis. The Philippine peso, the Indonesian rupiah, and the

Malaysian ringgit fell slightly, while the Japanese yen appreciated. Since the military abruptly intervened in government activity shutting down the stock market, banks, and other financial institutions, this episode cannot easily be attributed to the failure of the East Asian monetary system in not stabilizing currency. But, the absence of new crises in the region may well be attributable to other factors besides the monetary system and the relative tranquility that normally prevails in the aftermath of major crises of 1997-98.

Asian financial markets also continue to mature and deepen. Bond markets in Asia provide progressively more of the funding for Asian corporate activity. Stock markets, measured by capitalization/GDP, have grown significantly in size. The proportion of stock financing generated internally or through informal credit arrangements continues to be large, but at the same time fall in most countries. Relative financial maturation is evident in East Asia as an accompaniment to monetary cooperation.

One can argue, however, that East Asia's relative monetary stability for the past decade is not surprising because the wider global economic and monetary system has also been relatively stable during this period. The global economy expanded continuously with around 4 per cent annual output growth. Emerging Asia has been the leading contributor to this, and has recovered faster than many informed observers predicted during the Asian crisis of 1997-98. Growth has also been stronger than anticipated in Latin America, Europe, North America, West Asia, and Africa, and there have been no major global shocks during this period. Exchange rates have been relatively stable, and global inflation has been declining with most Asian economies experiencing single digit inflation. There are, however, indications of future potential instability; growing global imbalances, high savings in East Asia,

stalled multilateral trade negotiations, and high and rising oil prices. How East Asian monetary cooperation responds to future shocks can thus not be easily gauged from recent years' experience.

The contribution of the regional institutional mechanisms cooperation on early warning, monitoring, and surveillance to the relative financial stability experienced during the past decade is difficult to separate out. Many other groups have also observed and examined the performance of East Asian monetary and financial system, including multilateral institutions, independent academia, financial observers in government financial institutions in the region, and market-based observers, motivated by fending off the effects of the crisis in 1997-98. Independently of what has formally emerged on this front through formal monetary cooperation, financial authorities in countries in the region have had access to a much richer pool of information during this period compared to the Asian crisis of 1997-98. This might any way have significantly contributed to improving monitoring and surveillance, other than regional cooperative efforts. And, given the various technical deficiencies of the institutional mechanism created in the region (discussed above) monetary stability cannot so easily be attributed to the effectiveness these mechanisms, created through regional cooperation.

From the early discussion of pooling the relative contribution of own-insurance through reserve accumulation and co-insurance through swaps in stabilizing monetary system for now seem clearly tilted towards self-insurance. The larger countries in the region have been able to use international reserves as buffers against shocks and automatically stabilize currencies during this period. International reserves are now largely greater in Japan, China, Korea, Hong Kong, Taiwan, Singapore, Malaysia, Thailand, and India than those of the US, the EU, and UK during 1999-2006.

But, the East Asian countries are also the main source of large global savings reflected in reserve accumulation, which in turn creates global imbalances raising the possibility for future global financial and monetary instability (Bernanke, 2005).

Regional monetary cooperation is aimed not only at monetary and financial stability but also at achieving wider development and the fact is that the East Asian countries have performed well relative to the predictions of many during the post-crisis period, while the relative contribution of monetary arrangements is hard to ascertain. East Asia recorded strong economic growth recovering from the financial crisis of 1997-98, and most economies continue to record more than 5 per cent output growth. While growth of trade has also been high, intra-regional trade has also grown even more quickly during the past decade. East Asia has also seen portfolio inflows despite the fact that short term outflows were a contributor to the Asian crises of 1997-98. While intra-regional portfolio flows have not grown significantly during the period, there have been efforts to develop regional bond markets, even though more than 80 per cent of bond investment in East Asia remains from the rest of the world. East Asia has also received large amounts of FDI during the post-crisis period. Intra-regional FDI has not grown significantly, but China has continued to attract FDI both from the region as well as from the rest of the world.

It is difficult to precisely separate out the contribution of co-insurance and own insurance to the relative stability of the system for the last ten years, but quantitatively reserves exchanged under swaps have been small compared to own reserve accumulation in many countries. Most countries in the region stand to gain by pooling of reserves compared to reserve accumulation, but earlier results indicate the incremental gains may be small given large own reserves. Once one accounts for transaction costs involved in

managing the existing swap arrangements, there is seemingly a net loss compared to a common currency under a single stabilization fund. But, at the same time, the current system gives more autonomy on exchange rate regimes and allows individual countries more freedom in determining domestic policy.

There is also a self-correcting mechanism in the system in so far as if countries adopt unrealistic policies with resulting exchange rate pressures, withdrawal (non-renewal) of swaps serves as corrective discipline. Parties may not want to renew swaps if there is large self-insurance created through reserve accumulation. Several bilateral swaps under CMI have already expired and not been renewed. The current arrangement, therefore, is not a certain co-insurance arrangement, and the uncertainty of arrangements conditions pooling.

Reserve accumulation also provides countries opportunities to engage in more swaps. This is despite the feature that some countries have acquired greater degrees of insurance through reserve accumulation compared to the co-insurance afforded them by swaps. This is especially true for China and Japan. A small portion of the total reserves of China or Japan would alone suffice to finance all of the current monetary arrangements and assist countries in stabilizing currencies. But, higher degrees of reserve pooling in the region require further monetary cooperation which is seen as beneficial to the larger countries. Further swaps may only be possible if countries are convinced that co-insurance is needed beyond self-insurance in the longer term to offset contagion effects. Our discussion also suggests that most countries benefit from higher degrees of pooling, especially compared to non-pooling, but the benefits are small. Since net gains from reserve pooling appears to be small when one accounts for transaction costs, further swaps may be seen as a low priority for improved performance.

Despite the seemingly strong performance of the system, there are various issues with existing co-insurance arrangements. One is whether or not funds which have been made available through swaps will suffice to assist in stabilizing currencies for weaker currency countries if more severe shocks occur. There is also uncertainty about the ability of co-insurance arrangements alone as opposed to own insurance to offset future crises, and uncertainty about whether countries may honour swap contracts. Finally, it is uncertain whether co-insurance arrangements would have sufficed to stabilize exchange rates if there were no reserve growth during this period. In short, the system seems to have performed well, but it is untested.

## 6. Can the System Evolve to Deeper Integration Without a Single Monetary Authority?

We next assess whether the present system is self sustaining, or whether it will evolve towards deeper integration. The role of a monetary authority in such a structure is the key. Deeper monetary integration in the region first of all requires a regional stabilization fund. Formal commitments of funds to mutually administer a currency stabilization fund are needed and can be either as a percentage of total reserves of each country or as a dollar amount. The fund should be based on effective surveillance with robust terms and conditions. Decision-making within the fund requires an institutional mechanism. Regional monetary stabilization through such a fund would seemingly not be possible without a regional monetary authority.

Deeper monetary integration also involves cooperative exchange rate policies. East Asia for now has adopted a series of bilateral swaps leaving individual countries to decide their exchange rate policies. But, little has happened regarding currency

stabilization beyond rhetoric. Deeper monetary integration requires a common regional exchange rate policy again supported by a single monetary authority since exchange rate polices practiced by different countries in the region at present are often inconsistent.

In choosing among regional exchange rate arrangements, East Asian countries face a number of alternatives for joint action. First, East Asian countries could adopt a single currency with management under either a new authority or a single existing authority. Second, they could jointly abandon existing dollar pegs, say, for a common yen peg or a renminbi peg. Third, they could jointly agree or independently choose to peg their currencies to a 'basket' of other currencies that would include the dollar, the yen, and the renminbi. ASEAN+3 have thus far chosen to cooperate monetarily through bilateral swaps without agreeing on which currency to use. Two of these three mechanisms seemingly do not require a single monetary authority.

There has been active debate on a possible Asian common currency and various groups in East Asia have made proposals as to how a single currency could be established in the region without centrally addressing these issues of a single monetary authority. They include a Japanese and Thai proposal for a Framework for Regional Monetary Stabilization (Kwan 2000), a Korean Central Bank proposal for a regional monetary scheme (Moon, Rhee, and Yoon, 2000; Park and Wang, 2004), and an Asian Development Bank initiative which seeks to develop an Asian unit of account. Most proponents appear to favour a common currency basket peg arrangement for the ASEAN+3 countries, and there is much academic support for such an arrangement. Ogawa and Kawasaki (2006), for instance, investigate the possibilities for adopting a common currency basket peg arrangement in the ASEAN+3 using co-integration methods for ASEAN+3 currencies

taking a currency basket of the US dollar and the euro as the anchor currency. According to their results, while the Japanese yen should be included as an endogenous variable in the long-term relationship, they conclude that it is possible for the ASEAN+3 to successfully adopt a common currency basket arrangement using the US dollar, the euro, and the yen as anchoring currencies. While proposals for an Asian single currency have been debated in academic circles with most favouring some form of common currency, the ASEAN+3 have moved in the direction of an Asia Basket Currency (ABC) initiative as a stepping stone towards a common currency. The idea is that an ABC corporation would create and issue basket currency bonds, a weighted combination of regional currencies held in underlying national bonds, backed by regional sovereign bonds and that an ABC could provide a boost for an eventual common currency. An inaugural meeting was held in Kuala Lumpur, Malaysia in November 2005 for the creation of an Asian Currency Unit (ACU) as part of such an initiative taken by the Asian Development Bank (Reuters, 2005).

In the 8th ASEAN+3 Finance Ministerial Meeting in Istanbul in May 2005, a joint statement also made reference to Asian currency basket bonds: "We will continue and expedite our efforts in undertaking a wide variety of studies and implementing various effective measures under the ABMI working groups . . . [W]e will introduce a roadmap that proposes gathering and sharing information in an integrated manner on bond market development and on our related efforts with the regular self-assessment conducted by member countries. The possible issuance of Asian currency-basket bonds could be explored under the auspices of the roadmap. We also agreed to embark the study of Asian Bond Standards to explore the development of international bond markets in Asia through tailoring necessary infrastructure and setting the procedure entrusted by global issuers and investors"

(ASEAN, 2005). The proposed ACU uses a weighted average of regional currencies and its rationale is to allow regional economic agents to invoice regional financial and trade transactions in the ACU reducing the region's dependence on the US dollar and other external currencies. For now, the ACU is unlikely to be used extensively, but the ACU proposal also does not centrally deal with the issue of a single monetary authority.

## 7. Problems with Achieving Single Monetary Authority

The efforts which have been made to move towards more coherent regional monetary arrangements in East Asia, driven by the Asian crisis and perceived deficiencies of the global financial institutions, still face challenges if there is to be evolution to a single monetary authority. These include a lack of a regional leadership, lack of agreement on a common currency (as discussed earlier), and the exclusion of some key countries from the emerging arrangements.

### Problems of Regional Leadership

Success in moving towards monetary regionalism under a single monetary authority will depend on regional leadership and agreements. ASEAN+3 remains a fragmented informal grouping formed to advance negotiations both on regional trade and monetary arrangements rather than a cohesive authority. Progress or difficulties in one area can affect the progress or lack of progress in others. There is a large disparity between the countries in terms of both population and economic size, and large remaining differences in monetary structure in the countries in the region. Most countries in the ASEAN+3 still belong to the poorest category in terms of development. Few have large foreign reserves, while China and Japan have very large reserves. Only these two countries

seem capable of providing the necessary regional leadership on their own to move to a single monetary authority; but Japan and China are, at times, also the source of substantial mutual discord.

Japan, which seemingly aspires to provide leadership, is the largest economy in the region and is also the technology leader of the region. Japan has been responsible for most intra-regional direct foreign investment in recent decades. Japan has also shown its willingness to contribute to a regional stabilization fund. However, some have raised doubts about the ability of Japan to provide leadership in financial arrangements due to unwillingness to cooperate in other areas (Lincoln, 2004).

Japan has been unwilling to fully give up its protectionism hindering any perceived regional liberalization agenda (Lincoln 2004). According to various openness indicators Japan is far less open than China, India and many East Asian countries. Moreover, it has limited credibility to intervene in trade disputes involving countries in the region since Japan itself has been engaged in trade disputes, often adopting protectionist policies.

Japan also inherits a history of diplomatic animosity with other leading countries in the region. It shares diplomatic animosity with both China and South Korea. Japan appears to have been responsible for many of the disputes. The government of Japan has been accused of engaging in controversial political behaviour. Most disputes are related to Japan's alleged actions during the Second World War. In this regard, Japan has repeatedly been unwilling to cooperate with other countries.

Japan's unwillingness to sacrifice its close economic and military relations with the US also impedes its leadership role. Japan gave up supporting a proposal for an East Asian Economic

Community (EAEC) put forwarded by Malaysia in 1991 by agreeing to the Asian Pacific Economic Cooperation (APEC) and giving up its own Asian Monetary Fund (AMF) initiative. Some attribute this to its links to the US.

Japan has also had disputes with China on range of issues which has seemingly led China to counter initiatives originating from Japan as happened with an AMF proposal. China aligned itself with the US opposing the move seemingly because it originated from Japan. Currently China favours an Asian monetary arrangement but it has not yet shown willingness to accept Japanese leadership. Peer pressure from the members of ASEAN+3 has the potential to alter the Japanese approach, but this seems unlikely to occur in the near future.

China is the other available candidate for regional leadership on monetary cooperation. China is the largest country in the region (and in the world) in terms of population and has also been the most rapidly growing economy in the region. It has accumulated massive reserves for the past few decades enabling it to finance almost all the co-insurance arrangements arrived at in the ASEAN+3 at present. It has shown a remarkable ability to withstand crises and policy consistency is a plus factor. But, China also faces many challenges in playing a leadership role (Lincoln 2004). China's increasing economic size has caused anxiety in the region. China has been the major recipient regionally of inward FDI in the recent past although the recent China-ASEAN free trade agreement indicates that China now seeks growing intra-regional trade and investment with the rest of the countries of the region. ASEAN countries have preferred a policy of developing economic ties with China seeing challenges posed by China's economic strength as opportunities rather than as threats. But, China's incomplete political transformation also gives it less credibility in the region.

While most countries in the region have moved from authoritarian regimes to more democratic political systems together with freer market economies, China shows less signs of political reform as of yet. This creates institutional impediments in the process of developing regional institutional frameworks based on common values. If China were to play a leadership role in monetary regionalism, it may require modifying its existing dollar peg fully and making the renminbi convertible.

Ultimately, all this seems to require enhanced China-Japan cooperation in the three areas of trade, investment, and diplomacy for leadership on Asian monetary cooperation to emerge. ASEAN can be a bridge to alleviate the differences between these two main powers of the region and create the necessary environment for furthering regional cooperation, but the powers themselves need to cooperate for it to happen.

**Exclusion**

Current monetary cooperation initiatives involving ASEAN+3 have also excluded important regional partners of the East Asian economies and this poses further challenges. Some of ASEAN+3's current monetary arrangements are achieved in cooperation with the Pacific region (especially the US and Canada), and it is not clear whether the emerging East Asian monetary arrangements exclude the Pacific or are a part of it. There is a need for Asian-Pacific monetary cooperation. East Asia has strong trade and investment links with the Pacific region, especially with the US and Canada. Attempts to exclude Asia Pacific arrangements from any East Asian monetary union may be opposed by the Pacific. However, some cooperative arrangements between Asia and the Pacific are under implementation. They include the strengthening of existing regional financial institutions (i.e., ADB) in regional

cooperation, policy coordination of regional governments through regular meetings of finance ministers (the APEC Finance Ministers Meeting) and central bank governors (the SEACEN Governors' Conference), information exchange and surveillance (e.g. Manila Framework Group, ASEAN Surveillance Process). But, the relationship between ASEAN+3 monetary arrangements and the Pacific region remains unclear.

Another issue is where India, Australia, and New Zealand (the later two are in the Asia-Pacific grouping) stand in this. ASEAN has already entered into a framework agreement with India on a comprehensive economic partnership. China has entered into arrangements with India, New Zealand and Australia, and Japan also has regional arrangements with these countries. Some initial negotiations for a free trade area between ASEAN, Australia, and New Zealand have also begun. These three countries have increasingly more open economies, and their links with East Asia are likely to expand over time. These economies have been increasingly integrating with East Asia. Including them in East Asian regional forums and arrangements expands the set of developed and fast growing economies with well-functioning economic and financial systems and markets. Nonetheless, attempts are underway to include India, New Zealand and Australia in the ongoing East Asian policy dialogue on economic cooperation. In 2005, the ASEAN+3 countries agreed to pursue the evolution of the ASEAN+3 Summit into an East Asian Summit by the participation of ASEAN, Japan, China, Korea, India, Australia, and New Zealand. The possibility of ASEAN+6 monetary cooperation can thus not be ruled out.

The treatment of Taiwan and Hong Kong in ASEAN-plus monetary arrangements is also an issue. The ASEAN+3 has adopted a policy of ignoring these two economies, as they are not

considered to be sovereign countries and excluded Taiwan and Hong Kong from the policy dialogue reflecting China's diplomatic concerns. But, both Taiwan and Hong Kong have emerged as independent economies with distinct characteristics over the past few decades. Taiwan is the fourth largest economy in the region. Both economies have strong trade and investment links with the rest of the world. Both economies have well developed financial markets and institutions. Inclusion of Taiwan and Hong Kong in a possible East Asian currency arrangement depends to a large extent on China's position on the issue. If China is willing to proceed towards creating a greater China monetary arrangement by integrating with Taiwan and Hong Kong or agreeing to include these two economies in a regional monetary arrangement, the chances for incorporating these two economies into the ASEAN+3 grouping would improve and would facilitate advancement of monetary cooperation in the region. At present, China seems to strictly oppose any move towards getting these two economies involved in East Asian monetary cooperation due to political reasons.

What is the perceived relationship of ASEAN+3 with multilateral arrangements? Conflicting proposals for regional and multilateral monetary arrangements have emerged thus far reflecting two views on this issue. One idea is to develop a mechanism in the region in the form of an East Asian Monetary Fund to undertake monetary stabilization and financial development activities incorporating all the activities currently undertaken by the IMF. The initial Japanese proposal for an Asian Monetary Fund was in this spirit, but received opposition from both the US and the IMF. This idea, however, has emerged in different guises in different times. The other view is that East Asian monetary arrangements need to be consistent and complementary to those of the IMF. Co-insurance arrangements developed thus far under the ASEAN+3 are seen as complementary to multilateral

arrangements, but the position that ASEAN+3 adopts on this issue will also to some extent determine the success of future regional monetary cooperation.

## 8. Concluding Remarks

We discuss the emerging monetary system in East Asia which we see as characterized by self-insurance through own reserve accumulation and co-insurance through partial pooling of reserves. Monetary cooperation efforts in ASEAN+3 are centered on creating a system of co-insurance through bilateral swaps aimed at guarding against future financial crises as opposed to self-insurance created through own reserve accumulation. These cooperative initiatives are not motivated by the need to complete an integration process as occurred in the EU, and many of the preconditions in the region established in the literature for deeper monetary integration remain to be completed. Cooperative efforts involve a series of measures originating from the financial crises of the late-1990s, and reflect concerns both to avoid repetition of similar events and any spread of crises through contagion effects. On the other hand, East Asian countries have accumulated large reserves during the last decade strengthening their self-insurance capacity.

This system functions well at present. With a few exceptions, most countries in the region are better off with co-insurance compared to self-insurance through reserve accumulation indicating that risk pooling is a better option for most countries, if one disregards transaction costs. These small incremental gains are lower due to transactions costs involved in managing swaps between countries. And, the co-insurance capacity generated through partial reserve pooling is quantitatively quite small compared to the self-insurance capacity generated by reserve accumulation in the leading countries in the region. There are no

significant incremental insurance gains from total reserve pooling compared to partial pooling and with rapid growth of own reserves, the demand for reserve pooling will diminish in the region. The system at present is aimed at insurance rather than achieving wider monetary and financial development and the current system does not require a single regional monetary authority. If monetary cooperation in ASEAN+3 is to take on a wider form, a system of simultaneous monetary development involving a common exchange rate policy, a single monetary authority, and deeper financial market development are necessary foundations. Seemingly, a single monetary authority is needed to ultimately complete the monetary integration process in the region, but many problems confront the emergence of that authority.

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The Centre for International Governance Innovation
Centre pour l'innovation dans la gouvernance internationale

## About The Centre for International Governance Innovation

The Centre for International Governance Innovation (CIGI) is a Canadian-based, not-for-profit, non-partisan think tank that conducts research and advises on issues of international governance, focusing on international relations and economic policy research. CIGI was founded in 2002 by visionary Jim Balsillie, Co-CEO of RIM (Research In Motion) and collaborates with over 125 partners around the globe.

CIGI builds ideas for global change by studying, advising, and networking with academic researchers, practitioners, civil society organizations, the media, the private sector, students and governments on the character and desired reforms of the multilateral system, which has encountered mounting challenges

in the period since the end of the Cold War. To achieve this, CIGI helps shape dialogue in Canada and abroad, funds the research initiatives of recognized experts and promising young academics, and builds collaborative links among world class researchers.

The Centre's main research themes include the changing shape of international relations, international institutional reform, shifting global economic power, regional governance, fragile and weak states and global security issues. This research is spearheaded by CIGI's distinguished fellows who comprise leading economists and political scientists with rich international experience and policy expertise.

CIGI has also developed IGLOO™ (International Governance Leaders and Organizations Online). IGLOO is an online network that facilitates knowledge exchange between individuals and organizations studying, working or advising on global issues. Thousands of researchers, practitioners, educators and students use IGLOO to connect, share and exchange knowledge regardless of social, political and geographical boundaries.

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