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**Monetary and Financial Cooperation
in Asia:
Emerging Trends and Prospects**

Ramkishan S. Rajan

RIS-DP # 107



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Monetary and Financial Cooperation in Asia: Emerging Trends and Prospects

Ramkishen S. Rajan*

Abstract: Ever since the currency crisis of 1997-98 there has been a great deal of interest in enhancing regional economic cooperation in Asia. It is important to keep in mind that economic regionalism is multidimensional nature. The focus of this paper is on policy initiatives underway in Asia to enhance monetary and financial regionalism and the analytical bases for these initiatives, rather than on examining the *de facto* level of financial and monetary links that already exists (which may or may not have been facilitated via regional policy mechanisms). There are many gradations of monetary and financial regional cooperation, ranging from the weak form involving regional policy dialogue and surveillance, on the one hand, to exchange rate and monetary coordination, on the other. To maintain focus, this paper concentrates more narrowly on “medium forms” of monetary and financial regionalism, broadly defined as the development of regional liquidity arrangements and regional financial markets.

Keywords: Asia, Asian Bond Fund (ABF), Asian Currency Unit (ACU), Capital account crisis, Liquidity, Regionalism, Swaps

1. Introduction

Ever since the currency crisis of 1997-98 there has been a great deal of interest in enhancing regional economic cooperation in Asia. It is important to keep in mind that economic regionalism is multidimensional nature. As noted by Kuroda (2005), economic regionalism can be broadly divided into four categories, viz. trade and investment; monetary and financial;¹

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infrastructure development and related software; and cross-border public goods (cooperation with regard to contagious diseases such as avian flu and SARS as well cross-border pollution such as the haze fires in Indonesia which affected many of its Southeast Asian neighbors). This paper concentrates on the issue of *de jure* (as opposed to *de facto*) monetary and financial regionalism in Asia. In other words, the focus here is on policy initiatives underway in Asia to enhance monetary and financial regionalism and the analytical bases for these initiatives, rather than on examining the actual level of financial and monetary links that already exists (which may or may not have been facilitated via regional policy mechanisms).

There are a number of factors that have motivated monetary and financial regionalism in Asia. First has been the financial crisis of 1997-98 and perceived inadequate response to it from extra regional players. Second are the ongoing concerns about under-representation of Asia in IMF quota distribution and Asia's apparent lack of voice in international monetary affairs, along with the belief that Asia has ample resources for regional self-help.² Third have been external developments in regionalism, particularly the deepening and broadening of the European Union (EU). To be sure, while many economists may have remained circumspect about the potential benefits of deeper monetary integration in Asia (do the microeconomic benefits outweigh the macroeconomic costs arising from loss of monetary policy sovereignty?), and there are signs of emerging tensions within the EU regarding the net benefits of a single currency, there is no doubting the inspiration that many Asian policy makers have drawn from the deepening and broadening of European regionalism, especially in the monetary and financial areas. Fourth has been the growing *de facto* economic interdependence (so-called "market driven regionalism") as well as the regional nature of spillovers ("contagion").³

There are many gradations of monetary and financial regionalism, ranging from the weak form involving regional policy dialogue and surveillance, on the one hand, to exchange rate and monetary coordination, on the other. To maintain focus, this paper concentrates more narrowly on some "medium forms" of monetary and financial regionalism, broadly defined as the development of regional liquidity arrangements and regional financial markets. The

specific rationale for such "medium form" of monetary and financial regionalism arise directly from the "capital account nature" of crises. As will be discussed, beyond "sound" macro policies, these new-style crises have in turn made apparent the need to (a) ensure availability of sufficient liquidity in the event of a bust; (b) diversify sources of funding/ channels of intermediation to minimize intensity of busts; and (c) minimize balance sheet mismatches (both maturity as well as currency) (Rajan, 2003).

The remainder of this paper is organized as follows. Section 2 takes stock of the recent ongoings in monetary regionalism in Asia, paying specific attention to the Chiang Mai (CMI) initiative. Section 3 discusses recent ongoings in the area of financial regionalism in Asia, focussing specifically on bond market integration in the form of the Asian Bond Fund (ABF). The final section discusses next steps that might be taken to enhance monetary and financial regionalism in Asia, including issues surrounding the Asian Currency Unit (ACU) which is a policy initiative that has been actively promoted by the Asian Development Bank (ADB) (Nishikawa, 2005).⁴

2. Monetary Regionalism in Asia: Chiang-Mai Initiative (CMI)

The CMI is a network of swap arrangements which was agreed among Asian plus Three (APT) countries in May 2000.⁵ It is important to keep in mind that the CMI was not envisaged to be either a mechanism for inappropriate currency pegging in the region or a mechanism for managing a crisis after it erupts. Rather, it is primarily aimed at preventing a crisis from erupting in the first instance. But what is the analytical basis for pursuing such a regional liquidity arrangement? Stylized preventive steps in the event of crisis of confidence include: (a) some combination of raising interest rates to reduce capital outflows and a "calibrated" currency depreciation;⁶ (b) talking up the market to try and instil confidence; and (c) ensuring availability of sufficient liquidity. The latter involves ensuring the availability of sufficient own resources (i.e. reserves) as well as organizing external liquidity arrangements that are automatically accessible when needed.

2.1 Importance of Liquidity

It has long been recognized that inadequate liquidity can threaten the stability of international financial regimes (Bird and Rajan, 2002). Illiquidity can

create crises even when economic fundamentals are sound, or it can make a bad situation worse when the fundamentals are weak. Moreover, once it becomes a problem, illiquidity further undermines the confidence of international capital markets. Capital outflows increase, thereby reducing liquidity still further. The speed and intensity of economic adjustment following a crisis is largely dictated by the scarcity of liquidity; it is the extreme shortage of liquidity that called for rapid adjustment in East Asia in 1998. For instance, Eichengreen and Rose (2001) stress that the East Asian process of “V-shaped” adjustment was not very different from the stylized patterns of previous currency crisis episodes in developing countries. However the degree of initial contraction and subsequent recovery was far greater in East Asia, attributable to the severe liquidity crisis that was triggered by investors’ panic (Rajan and Siregar, 2001).

Having appreciated the importance of ensuring adequate liquidity as a safeguard against future financial crises, many Asian countries consciously attempted to build up reserves immediately after the crisis partly as a precautionary motive (Aizenman and Marion, 2003; also see Rajan and Siregar, 2004 and Rajan *et al.*, 2005). Nonetheless, it is recognized that reserve accumulation (so-called “floating with a life-jacket) is costly on many fronts (as the country effectively swaps high yielding domestic assets for lower yielding foreign ones). In addition, there is the question of what the appropriate size of reserve holdings is; against what yardstick should reserve adequacy be measured (Bird and Rajan, 2003 and Kim *et al.*, 2005)? Since international reserve holdings have been found to be a theoretically and statistically significant determinant of creditworthiness (Bussiere and Mulder, 1999, Disyatat, 2001 and Haque *et al.*, 1996), depleting them as a way of cushioning the effect of capital outflows on the exchange rate may make matters worse by inducing further capital outflows.

In view of this, it is recognized that countries need to buttress their own reserve holdings with external liquidity arrangements. The need to provide adequate liquidity to help forestall a crisis in a distressed economy and prevent its spread to other countries took centre stage in the reform of the financial architecture immediately after the crisis. The International Monetary Fund’s (IMF’s) response was to create the Contingent Credit

Line (CCL). “The CCL was conceived as a precautionary line of defence to help protect countries pursuing strong policies in the event of a balance of payments need arising from the spread of financial crises” (IMF, 2001, p.37). The idea here was to establish a precautionary line of credit for countries with “sound” policies that might be affected by contagion from a crisis and to finance this from outside the Fund’s quota-based resources by new arrangements to borrow (NAB). The negotiation of conditionality with potential users of the CCL would therefore take place before the country needed to draw on liquidity from the Fund. But no country negotiated a CCL. Consequently the facility underwent a major review and partial overhaul and was eventually shut down. The CCL has not been replaced by another similar liquidity facility and the international financial architecture has made limited progress in the area of liquidity enhancement as a financial safeguard.

Against this background, and in recognition that financial stability has the characteristics of a regional public good, it is understandable that Asian countries have been eager to promote regional monetary cooperation. The CMI has taken centre stage in this regard.

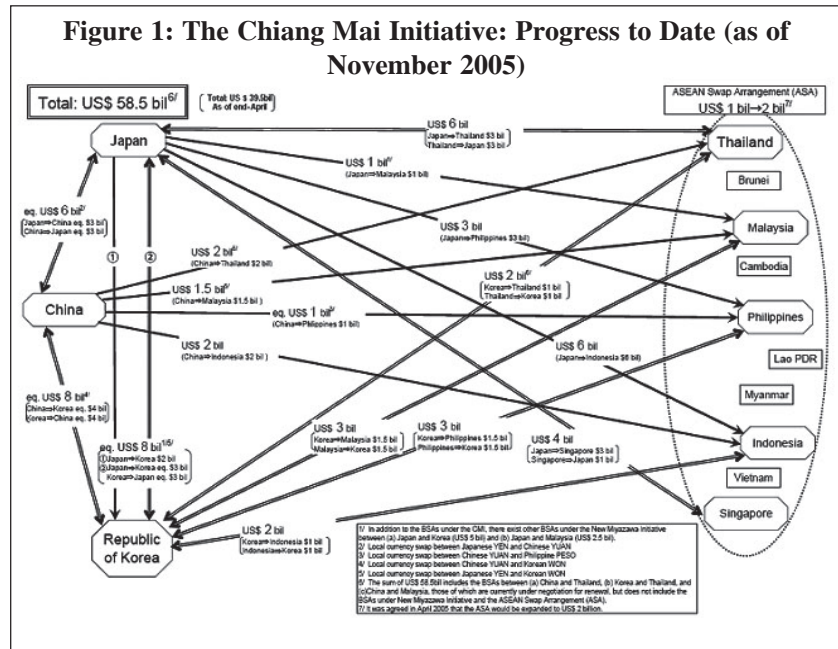
2.2 Evaluating the CMI

The CMI has two components, viz. (a) ASEAN swap arrangement (ASA) which was expanded from 5 to 10 countries, and from US\$ 200 million to US\$ 1 billion;⁷ and (b) networks of bilateral Swap arrangements (BSAs) among the three North Asian countries (Japan, China, Korea) and one of the three and one of the ASEAN countries (Figure 1).⁸

The expanded ASA is to be made available for two years and is renewable upon mutual agreement of the members. Each member is allowed to draw a maximum of twice its commitment from the facility for a period of up to six months with the possibility of a further extension of six more months at most. The basic characteristics of the BSAs are as follows: 20 percent of the liquidity can be drawn automatically without conditionality for 630 days (90 days, renewable 7 times). Interest paid is LIBOR +1.5 percent for first 180 days, rising by 50 basis points for each renewal to a maximum of LIBOR +3 percent. Importantly the swap providing countries form their own individual opinions on the potential swap recipient. Drawing of more

than 20 percent regional liquidity requires the country to come under IMF conditionality.

While the CMI is an important step in Asian monetary regionalism as it is the first time regional countries have pre-committed resources as a means of regional financial safeguard, it clearly remains a work in progress. A number of important details remain to be worked out if the CMI is to be an effective liquidity enhancing measure. First is the inadequate size of the arrangement, especially its liquidity component. For instance, the current aggregate size of \$52.5 billion among all 13 APT countries (Figure 1) pales in comparison to the crisis packages offered to Korea, Indonesia and Thailand in 1997-98. Second is the issue of how coordination between potential creditor countries is to be done. For instance, is the bilateral arrangement subject to regional approval? How is borrowing/lending to be distributed? Both these questions lead on to the key issue of how to regionalize (though more commonly referred to as “multilateralize”) the CMI, which



Source: Ministry of Finance, Japan Website.

is a series of bilateral and rather uncoordinated swaps. In fact in the Joint Ministerial Statement of 8th APT’s Finance Ministers’ Meeting in Istanbul in May 2005 there was an agreement to re-evaluate the process/possibility of regionalizing the arrangements.⁹ As part of this there was an agreement to look into developing a collective mechanism to activate the swaps. There was also a recognition of the need to improve on and link surveillance more closely and effectively to the CMI. Overall, it would be fair to say that until these issues are sorted out, the best thing that has happened to the CMI is that the region has not been faced by a crisis to test its effectiveness.

3. Financial Regionalism in Asia: Asia Bond Fund (ABF)

While the regional economies are taking noteworthy steps to strengthen, upgrade and integrate their financial systems, the contagious nature of the 1997-98 crisis has led many observers and policy makers to the view that there are positive externalities from cooperating to strengthen their individual financial sectors, to develop regional financial markets, and to diversify their financial structures away from bank-based systems to bond markets. What is wrong with Asia’s continued heavy dependence on bank lending as a source of private market financing? Bond financing is considered a relatively more stable source of debt financing as bank loans are primarily illiquid, fixed-price assets in the sense that the interest rate - which is the price of the loan - does not vary much on the basis of changing market circumstances. Thus, almost all the adjustment has to take place via rises and falls in the quantity of bank lending, which in turn leads to sharp booms and busts in bank flows.¹⁰ These sudden reversals in bank flows had calamitous and long-lasting effects on the domestic financial systems in the East Asian economies in 1997-98. The World Bank (2004) has also acknowledged the importance of bond markets compared to bank lending, noting:

(c)ompared to the bank market, bond markets offers some advantages in terms of longer maturities, tradability, and back-weighted repayment structures that help support equity returns (p.157).¹¹

In this regard there have been two main initiatives underway in East Asia. One is the Asian Bond Fund (ABF) established by the eleven members

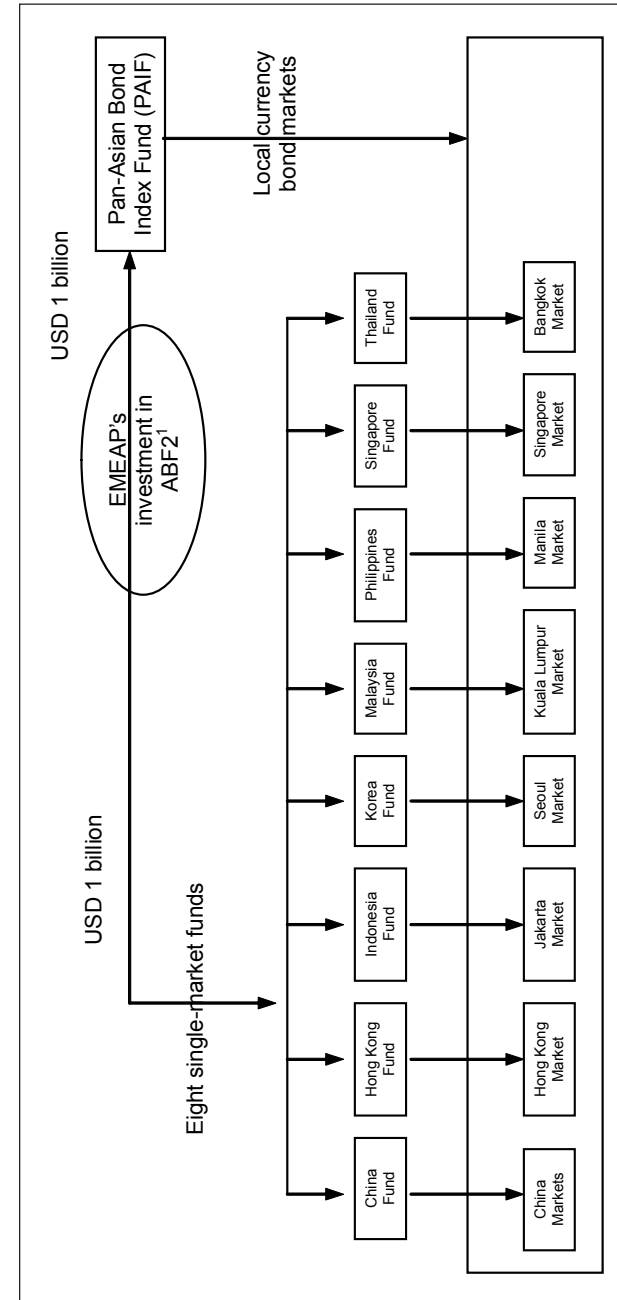
of the Executives' Meeting of East Asia-Pacific Central Bank (EMEAP)¹², and the other is the Asian Bond Market Initiative (ABMI) by Asian Plus Three (APT) economies.¹³ The latter which was endorsed at the ASEAN+3 Finance Ministers Meeting (AFMM) in Manila on August 2003, focuses primarily on developing efficient bond markets in Asia to enable the private and public sectors to raise and invest long-term capital. The activities of the ABMI are primarily concentrated on facilitating access to the market through a wider variety of issuers and enhancing market infrastructure to foster bond markets in Asia.

3.1 Evaluating the ABF Schemes

The focus of the remainder of this paper is specifically on the Asian Bond Fund (ABF) which was established in on June 2, 2003. The first stage of the ABF essentially involved the regional governments voluntarily contributing about 1 per cent each of their reserves to a fund dedicated to purchasing regional sovereign and semi-sovereign bonds denominated in US dollars. The initial size of the ABF was about US\$ 1 billion and has been passively managed by the investment management unit of the Swiss-based BIS. The mandate is to invest in bonds in eight of the eleven member countries of EMEAP, the developed countries of Australia, New Zealand and Japan solely being lenders to the ABF. In a noteworthy next step, the ABF 2 (second stage of the ABF) was established in December 2004. The quantum of funds involved was doubled in magnitude (US\$ 2 billion), and its mandate is to invest in selected domestic currency sovereign and quasi-sovereign bonds in the eight countries.

More specifically, the ABF 2 comprises two components (US\$ 1 billion each): (a) a Pan-Asian Bond Index Fund (PAIF) and (b) a Fund of Bond Funds (FoBF). The PAIF is a single bond fund, while the FoBF is a two-layered structure with a parent fund investing in eight single market sub-funds (Figure 2). The International Index Company (IIC), a joint venture between ABN Amro, JP Morgan and Morgan Stanley (iBoxx ABF), has created the benchmark indices for all nine funds. The funds will be passively managed to match the benchmark index. The seed money for the single bond funds has been divided on pre-determined criteria and local fund managers have been appointed to manage the respective funds.

Figure 2: Structure of Asian Bond Fund (ABF2)



Source: Ma, and Remolona (2005), p.86.

The specific criteria for market weights in each sub-fund (and distribution within PAIF) are based on: (a) the size of the local market; (b) the turnover ratio in that market; (c) the sovereign credit rating; and (d) a market openness factor. The market weights will be reviewed annually, with market openness being a particularly important factor in the allocation of weights. (Ma and Remolona, 2005). The parent fund is limited to investments by EMEAP member central banks only. While the initial phase of PAIF was confined to investments by EMEAP central banks only (US\$ 1 billion), it was opened up to investments by other retail investors in Phase 2.

In broad terms, the objectives of the ABF are four-fold. First, to diversify debt financing from bank lending to bond financing by developing regional financial/capital markets by reducing supply side constraints and introducing low cost products and by raising investor awareness and broaden investor base on the demand side. Second, to encourage a convergence in financial and capital market policies and accelerate improvements in financial market infrastructures. Third, to recycle regional funds intraregionally and also reduce the region's vulnerability to "fickle" international investors. Fourth, to lessen the extent of currency and maturity mismatches (i.e. "double mismatches"). Since we have already discussed the first two objectives (also see Ma and Remolona, 2005 and Hamada *et al.*, 2004) we elaborate on the latter two objectives below.

As is commonly noted, Asia as a whole holds the bulk of the world's savings. The excess of national savings over domestic investment along with quasi-managed exchange rates has given rise to large current account and overall balance of payments surpluses. Historically, the lack of sufficiently liquid financial instruments has led to much of Asia's savings being rechannelled outside the region, especially to the US. In relation to this, it is often noted that one of the reasons for the intensification of the regional financial crisis of 1997-98 was the fickleness of international investors, many of whom were extra-regional ones who did not have much knowledge about regional economies or differences in economic fundamentals between the economies. There was significant "panic herding" or "bandwagon" effects during that period as international creditors and investors chose to reduce exposures to all regional economies *en masse* once they were spooked by the crisis in Thailand and Indonesia, leading to

a massive international bank run. Insofar as the ABF proposal promotes greater intraregional financing, this might make the region somewhat less susceptible to extra-regional "investor ignorance" which is said to have led to an indiscriminate and disorderly withdrawal of funds from regional markets in 1997-98.

Another source of vulnerability made apparent by the 1997-98 financial debacle arose due to large-scale accumulation of uncovered external debt. To the extent that a relatively larger proportion of a country's liabilities is denominated in foreign currency vis-à-vis its assets (so-called "liability dollarization"), a currency devaluation could lead to sharp declines in the country's net worth, with calamitous effects on the financial and real sectors (so-called "balance sheet" effects).¹⁴ On the part of the developing Asia-Pacific economies, the ability to issue bonds in domestic currencies mitigates the concerns about currency mismatches (i.e. borrowing and interest payments in foreign currency but assets and revenue streams in local currency) which in turn could negatively impact the project's solvency in the event of a currency devaluation.¹⁵ Thus, while the ABF 1 was solely focused on foreign currency bonds, the ABF 2 is notable in that it involves transacting solely in local currency bonds.

While the ABF is a welcome move for regional financial cooperation, it is important not to oversell the initiative. Why? First and foremost is the quantum of funding available. The current US\$ 2 billion funding of ABF 2 is a drop in the bucket relative to the region's aggregate reserve holdings or infrastructural financing requirements. Second, if the supply of good quality sovereigns and quasi-sovereign paper is limited (which appears to be the case), it could merely crowd out private bond purchases, hence leading to no new net financing.¹⁶ This in turn implies the need to support "public providers of infrastructure services in achieving commercial standards of creditworthiness to access capital markets on a sustainable basis over the long term" (World Bank, 2004, p.161). Third, as noted, the ABF to date is only limited to eight countries in the region (as potential debtors). We return to this important issue of membership in the next section.

4. Conclusion: Asian Monetary and Financial Regionalism Going Forward

Moving forward the Asian countries need to persist with attempts to develop well-functioning financial markets and institutions. In particular, countries need to deepen and upgrade national and regional government and corporate bond markets as a means of reducing the region's heavy reliance on banks. Greater attention should be given to lowering transactions costs in regional financial markets. In this regard it is important to note that discussions have been underway in the region about the possible creation of regional financial infrastructure (clearing and settlements systems, credit agency) as well as harmonization of withholding tax policies and capital account policies. While the ABF initiatives are modest steps in the right direction, it is important that it be expanded in size and membership. With regard to the latter, not all the ASEAN countries nor India are part of EMEAP and therefore are not parts of the ABF. Expansion of financial (and monetary) regionalism in this manner is justified by the fact that the APT countries as well as India, Australia and New Zealand are founding members of the East Asian Summit (EAS).¹⁷

While the Asian Bond Fund initiatives are modest steps in the right direction, a recent suggestion has been floated for an Asia Basket Currency (ABC) Initiative. The basic idea is that while the ABF merely purchases and holds on to sovereign and quasi sovereign bonds, the ABC corporation would also create and issue basket currency bonds (weighted combination of regional currencies of the underlying national bonds) backed by regional sovereign bonds. If successful the ABC could provide a fillip for the eventual creation of an Asian Currency Unit (ACU).¹⁸

The issue of ACU warrants some discussion, particularly in view of the recent initiative by the Asian Development Bank (ADB) to launch such a virtual unit of account (Nishikawa, 2005). In a general sense the ACU is a weighted average of regional currencies *a la* the European Currency Unit (ECU).¹⁹ At the micro-level the rationale for an ACU is to afford the opportunity for regional economic agents to invoice regional financial and trade transactions in the ACU, hence reducing the region's dependence on the US dollar and other external currencies. If successful, intra-regional

intermediation of savings may be promoted, in process possibly reducing the region's exposure to external shocks as discussed previously. However, in reality, it is unlikely that the ACU may not be used on a widespread basis for some time to come in the early stages.

The experience of Europe is instructive in this regard. The initial creation of the ECU in 1974-5 did not lead to a widespread use of the unit. Even in the 1990s until the actual creation of the euro, the vast majority of intra-European financial and trade transactions were not in ECUs but in US dollars primarily and other sovereign national European currencies. So it is not just the creation that is important; there has to be a coordinated agreement by regional bodies to agree to start transacting in the new unit, failing which no one will want to take the first step.²⁰ The ACU has a better chance for success (in terms of becoming a significant regional vehicle currency) if a larger set of countries is included in the basket. In this regard it is imperative that the ACU be broadened from the proposed APT countries to also include India, Australia and New Zealand (the other members of the EAS), all of which have significant financial market depth.

It has also been suggested that the ACU could be used as a means of enhancing *internal* exchange rate stability if the regional central banks begin to stabilize their respective currencies to the regional unit (i.e. helping reduce the possibility of regional competitive devaluations). The notion of stabilization *vis-à-vis* an internal basket *a la* Europe's Exchange Rate Mechanism (ERM) is distinct from stabilization *vis-à-vis* an external unit which would require that the ACU in turn be pegged in some way to external currencies such as the US dollar or euro or some weighted average thereof. Of course, internal stability does not require the latter and in fact may exacerbate external currency stability insofar as regional countries substitute the use of external currencies for the ACU, hence being less concerned about fluctuations of their currencies relative to the external currencies. Conversely, effective external stability requires internal stability in the sense that if regional central banks do not explicitly or implicitly manage their currencies to the ACU, it is irrelevant whether the ACU *per se* is managed against the external currencies, as the ACU will remain purely a theoretical

unit. Indeed, the stated aim of the ADB at this stage is for the ACU to serve mainly as a means of benchmarking extent of currency movements/ deviations. As the ADB president, Haruhiko Kuroda, noted:

The ACU...could be used to monitor the stability of participating currencies and would tangibly demonstrate the need for greater exchange rate coordination. What Asia needs here is basically an exchange rate that is flexible toward the rest of the world but relatively stable within the region (Kuroda, 2005, p.5).

Focussing on the notion of stabilization vis-à-vis an internal basket (i.e. regional currencies benchmarking movements to the ACU), while the potential microeconomic benefits noted above does not require such internal stabilization, it could promote the more widespread use of the ACU. This is so as the regional central banks will automatically begin to use the ACU more extensively as a reserve and possibly even intervention currency, thus providing an additional inducement for private agents to also intensify use of the unit in invoicing and transactions. The long-term viability of internal stabilization in an era of open capital markets requires there to be an enhancement of regional surveillance, a degree of policy coordination, and an enhancement of regional liquidity arrangements.

Focussing on the more modest monetary arrangement currently in place in Asia, viz. the Chiang Mai Initiative (CMI), apart from issues relating to regionalizing of the CMI, raising the non IMF-linked share (what type of independent conditionality with teeth?) and making transparent and automatic the condition for withdrawal, there is a need for further augmentation of the CMI in terms of expanding the size of the CMI and enlarging it to include all founding members of the EAS. Over time, consideration should be given to transforming the CMI into a regional reserve pooling mechanism. As elaborated by Rajan and Siregar (2004), a regional reserve pool could involve three tiers of liquidity. The first tier is owned reserves which offers the highest degree of liquidity and have zero conditionality but are costly. The second tier is sub-divided into a country's own reserves placed with regional pool and other members' reserves with the pool. The third tier is conventional IMF lending. With such a structure the degree of liquidity

could be inversely related to the degree of conditionality. Overall though, it warrants repeating that effective deepening of regional monetary integration will not happen until there is a considerable strengthening of the regional surveillance mechanism with well worked out surveillance and policy conditionality.

Footnotes

- ¹ While steps towards trade/investment and monetary/financial regionalism have been taking place simultaneously in Asia, hence rendering the issue of sequencing somewhat less relevant from a policy perspective, there remain some important analytical issues surrounding the issue of sequencing of regionalism that are explored by Bird and Rajan (2005).
- ² As noted by Henning (2005):Dissatisfaction with the multilateral regime is not likely to be sufficient to produce substantial movement toward financial regionalism. Convergence of preferences with partners, the ability to come to agreement, the physical or financial capacity to launch common projects, and a degree of economic interdependence are also likely to bear on regionalism. Thus, regions are likely to respond in different ways to a common multilateral environment. Nonetheless, dissatisfaction with the systemic context is a necessary requirement for investment of energy and political resources in regional projects; if the multilateral regime satisfies governments, regional projects would be superfluous (p.5).
- ³ See Rajan (2003) for a discussion of the definitions, types and channels of contagion.
- ⁴ The acronym ACU is actually already used in Asia – the “Asian Clearing Union” has been in existence since December 1974 and is based in Tehran, Iran. This ACU was an initiative of the UNESCAP aimed at developing a region-wide system for clearing payments among members. The current members are Bangladesh, Bhutan, India, Iran, Nepal, Pakistan, Sri Lanka and Myanmar.
- ⁵ The ten ASEAN countries are Indonesia, Malaysia, Philippines, Singapore, Thailand and Brunei Darussalam, as well as the newer/transition members, viz. Cambodia, Laos, Myanmar, Vietnam, Timor-Leste (formerly East Timor).
- ⁶ There are a whole host of issues that go into determining the optimal combination of expenditure changing and expenditure switching policies. See Rajan (2005) and Rajan and Parulkar (2006).
- ⁷ There are also a series of repurchase agreements (repos) that allow ASEAN members with collateral such as US Treasury bills to swap them for hard currency (usually US dollars) and then repurchase them at a later date.
- ⁸ See Henning (2005) and Park (2004) for more details on the CMI and monetary regionalism in Asia more generally.
- ⁹ See “The Joint Ministerial Statement of the 8th ASEAN+3 Finance Ministers’ Meeting” (Istanbul, May 4, 2005) (<http://www.aseansec.org/17448.htm>).
- ¹⁰ For instance, see Ito and Park, eds. (2004) and Eichengreen and Luengnaruemitchai (2005). See Hamada *et al.* (2004) for an overview of Asian bond markets.
- ¹¹ Arteta (2005) finds that bank-based financial systems tend to be relatively more crisis-prone and financial systems that are more bond financed-based tend to be associated with higher growth whether or not there is a crisis.
- ¹² The EMEAP “is a cooperative organization of central banks and monetary authorities (hereinafter simply referred to as central banks) in the East Asia and Pacific region. Its

primary objective is to strengthen the cooperative relationship among its members. It comprises the central banks of eleven economies: Reserve Bank of Australia, People's Bank of China, Hong Kong Monetary Authority, Bank Indonesia, Bank of Japan, Bank of Korea, Bank Negara Malaysia, Reserve Bank of New Zealand, Bangko Sentral ng Pilipinas, Monetary Authority of Singapore, and Bank of Thailand". See <http://www.emeap.org/>.

¹³ More information on all these and other initiatives is available on the portal created and maintained by the Asian Development Bank (ADB) <http://asianbondsonline.adb.org/>.

¹⁴ The macroeconomic implications of these balance sheet effects have been explored by Bird and Rajan (2004) and Rajan and Parulkar (2006).

¹⁵ It is important to ask the question as to why some countries are not able to borrow overseas in domestic currencies (so called "Original Sin" hypothesis a la Hausmann, *et al.*, 2000). Logically, if there is a significant risk premium imposed on a certain currency and if interest rates are "sufficiently" high there will always be some potential borrowers. While this is true, the concern is that a potential solvency risk will merely be converted to a liquidity risk (to the extent that revenues in the event of a negative shock is not sufficiently high to meet the high interest payments) (see Jeanne, 2000).

¹⁶ For a more detailed and forceful critique of such regional bond initiatives see Eichengreen (2004) and Eichengreen and Luengnaruemitchai (2005).

¹⁷ See Kumar (2005) for a discussion of the East Asian Summit (EAS). The inaugural meeting was held in Kuala Lumpur, Malaysia in November 2005.

¹⁸ See Ito (2003). In the 8th APT Finance Ministerial Meeting in Istanbul in May 2005, the joint statement 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. See "The Joint Ministerial Statement of the 8th ASEAN+3 Finance Ministers' Meeting" (Istanbul, May 4, 2005) (<http://www.aseansec.org/17448.htm>).

¹⁹ It is expected that the weights will be determined on the basis of regional country GDP and trade shares, with China, Japan and Korea expected to dominate the weighting scheme. For an initial attempt at computing such a weighting scheme (which may not necessarily be the weights used by the ADB), see Ogawa and Shimuzu (2005).

²⁰ This inertial effect of existing currencies (i.e. advantage of incumbency) is based on the concept of "network externalities" or "lock in" effects, whereby there are limited incentives for economic agents to unilaterally take on a new currency (particularly for invoicing transactions. The network aspects of the internal currency status have been analyzed theoretically by Matsuyama *et al.* (1993).

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