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May 2007

Paper No. 03-2007

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Abstract

As the countries in East Asia embark on financial liberalization, a key issue that confronts policymakers is the greater complexity of risks that is injected into the financial system. In particular, capital account liberalization may potentially increase the vulnerability of individual countries to external financial shocks. This paper advocates the optimally cascading of financial liberalization that is consistent across three dimensions: extent of domestic financial liberalization; the degree of exchange rate flexibility; and the scope of capital account liberalization. Unless the process of liberalization is properly managed, it could provoke destabilizing capital flows and lead to volatile exchange rates. Smooth responses to fluctuating capital flows require accelerated institutional reforms in individual countries and an upgraded regional financial infrastructure. We argue that informal monetary arrangements, sequenced from simple to more intensive commitments, can go a long way in improving sovereign and regional institutions both to handle ongoing financial liberalization and to promote intra-regional currency stability.

JEL Classification: E58, F31, F33

Key Words: Financial Liberalization; Exchange Rate Flexibility, Currency Stability; Monetary Policy Cooperation

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¹ The content of this paper is partly drawn from a research consultancy report “Regional Coordination of Policy Measures Forward: Financial Market Liberalization and Capital Market Development,” by the same authors and commissioned in 2006 by the ASEAN+3 Secretariat.

1. Introduction

It is well recognized that strong domestic financial markets can play a key role in economic growth and development. Sound financial institutions and well-functioning markets facilitate the mobilization and efficient allocation of savings, thereby improving productivity and contributing to growth (Levine 2004). This is particularly important for East Asia in view of the high saving rates of the regional countries. The limited development of local financial markets and their small fragmented nature have also led to a large part of Asian savings being intermediated outside the region. Surplus savings have mostly been channeled to the US and the funds return to Asia through US direct and portfolio investment. Fostering domestic financial markets and regional financial integration is important because it not only facilitates the intermediation of Asian savings within the region, but also attracts foreign investment in instruments denominated in the domestic currency. Such alternative sources of funding would reduce East Asia's reliance on foreign currency borrowing and concomitantly, the risk exposure of the region to maturity and currency mismatches.

However, as the countries in East Asia deregulate their financial sectors and develop their capital markets, a key issue that confronts policymakers is the greater complexity of risks that is injected into the financial system. In particular, capital account liberalization heightens the speed and magnitude of international spillovers and may potentially increase the vulnerability of individual countries to external financial shocks. Many studies have found empirical evidence that financial development and in particular, financial openness can increase a country's vulnerability to crisis (see *inter alia* Rajan 2005 and Kaminsky and Reinhart 2003). In fact, considerable blame for the past financial cum currency crises has been placed on improper sequencing of liberalization.

Over the past quarter century, the combination of a fixed exchange rate with an open capital account, has proven lethal in small open economies, particularly in emerging markets with weak financial systems and regulatory institutions. Indeed, for some countries, repeated crises have institutionalized such a lack of credibility as to taint them with what Eichengreen and Hausmann (1999) have termed "original sin." The fault seems to point to policies that opened the capital account prematurely while keeping the exchange rate rigid. Such a combination has often led to massive capital inflows that have overwhelmed nascent financial systems, prompting consumption and asset boom-bust cycles. When we further combine a fixed exchange rate and premature opening of the capital account with a weakly structured and regulated domestic financial sector, currency crisis quickly turn into financial crisis and perhaps to full-blown economic and political crisis. Such a

scenario plagued Latin America throughout the 1980s and 1990s. It took the crisis of 1997-98 to demonstrate that Asia was also not immune to these same policy inconsistencies.

Sufficiently liberalized and developed domestic financial sectors are necessary to absorb and allocate capital inflows to their most efficient uses. Flexible exchange rates allow necessary international relative price adjustments and help allow asset markets to clear (Obstfeld 2004). Without exchange rate flexibility, economic adjustments will take place in terms of the price level, output or employment, or asset market volatility (Frankel and Rose 1995). Unless domestic financial sectors are sufficiently developed and exchange rates sufficiently flexible, capital account liberalization is premature and effectively neutralizes the stability benefits of fixed exchange rates. That this does so at a time when the domestic financial infrastructure can ill-afford massive surges and reversals in liquidity and financing, has prompted a number of economists to remind policymakers and professional economists alike of the dangers of the open-economy trilemma.² Fully-open capital accounts require both domestic financial liberalization and exchange rate flexibility. This paper advocates the optimally cascading of financial liberalization that is consistent across three dimensions: extent of domestic financial liberalization; the degree of exchange rate flexibility; and the scope of capital account liberalization.

Unless the process of liberalization is properly managed, it could provoke destabilizing capital flows and lead to volatile exchange rates. This highlights the need for regional cooperation of policy measures during the liberalization process, even though it is the domestic authorities and institutions that are ultimately responsible for a country's financial development and stability.³ Indeed, the fall out from the Asian crisis made it clear that monetary policy cooperation does have an important role to play in avoiding future crises and in promoting further integration and regionalism in East Asia. The primary challenge appears to be how monetary policy cooperation can promote a reasonable degree of currency flexibility while minimizing the adverse effects of capital account liberalization on intra-regional currency stability. We argue for the sequencing of informal monetary arrangements from simple to more intensive commitments. Only when the East Asian countries could

² The "Open-Economy Trilemma" refers to the idea that monetary policy can only achieve fully two of the following three dimensions: monetary policy independence, fixed exchange rates, and open capital accounts. See Obstfeld, Shambaugh, & Taylor (2004) for a treatise on the open economy trilemma.

³ Of the policy implications arising from the Asian crisis, a significant number focused on the need for institutional reforms and changes in policy regimes at the sovereign level. Chow, et al. (2005) argues that the path towards greater intra-regional integration and stability must start with primarily with domestic-level reforms.

credibly commit to a path of future monetary union, then should formal monetary arrangements be considered to advance regional stability.

The rest of this paper is organized as follows. The next section discusses the optimal cascading of financial liberalization while section 3 examines the risks arising from financial liberalization. Guidelines for monetary policy coordination and alternative regional monetary arrangements are proposed in sections 4 and 5 respectively. Section 6 concludes.

2 Towards Optimal Cascading of Liberalization

The Asian crisis of 1997-98 highlighted the dangers of poorly sequenced liberalization programs and the importance of minimizing the risks endemic to the open economy trilemma. A gradual approach to financial sector liberalization based on sequencing and preconditions is thus necessary to safeguard financial stability.⁴ The optimal sequencing literature pioneered by McKinnon (1973, 1993) among others suggests a simple sequential structure to financial liberalization: first, liberalize the domestic financial sector; second, allow for exchange rate flexibility; third and only then, liberalize the capital account (see Falvey & Kim 1992 for a survey). While this simple set of guidelines governing liberalization has become *de facto* policy of the IMF and elsewhere, it is empirically unsupportable and potentially misleading to policymakers.

Optimal sequencing presupposes a linear path towards full liberalization and suggests that once the domestic financial sector is completely liberalized and the exchange rate is fully flexible, then and only then, should steps be taken to liberalize the capital account. This implicitly removes all benefits of capital account liberalization in the early stages of financial sector development. Optimal sequencing also suggests that exchange rate flexibility should take place after domestic financial liberalization. This implies that domestic financial liberalization can fully mature without the benefits of the broader risk management skills and increased financial product innovation that would accompany exchange rate flexibility.⁵ Moreover, optimal sequencing appears to discount how even a small degree of exchange rate flexibility might alleviate the real adjustment costs associated with real and financial shocks.⁶

⁴ We note that various countries in East Asia including Japan, Hong Kong and Singapore among others are already relative advanced in their reform program.

⁵ Prasad, et al (2005) argues that increasing the flexibility of the yuan while China continues with its domestic financial reforms are in China's best interest.

⁶ In comparing the experiences of Singapore and Hong Kong during the Asian Financial Crisis, Yip (2005) argues that Singapore's exchange rate flexibility enabled it to handle the crisis without the steep output losses experienced by Hong Kong.

Instead of optimal sequencing, we propose the cascading of financial liberalization whereby all three dimensions of a liberalization program are implemented simultaneously. Under optimal cascading, selected lifting of capital controls and a limited degree of exchange rate flexibility can take place while the domestic financial sector is developing. As the domestic financial sector deepens, increased exchange rate flexibility and an increasingly liberalized capital account will not only be possible but optimal.

2.1 Optimal Sequencing

Under optimal sequencing, liberalization occurs sequentially. Let $A_i \in [A_1, \dots, A_n]$ represent the i^{th} of n different stages of domestic financial sector liberalization. Let $B_i \in [B_1, \dots, B_n]$ represent the i^{th} of n different degrees of exchange rate flexibility. Here, one can think of B_1 as a pegged bilateral exchange rate and B_n as a fully floating exchange rate. Finally, let $C_i \in [C_1, \dots, C_n]$ represent the i^{th} of n different stages of capital account liberalization. A strict interpretation of optimal sequencing suggests the following conceptual framework:

$$(A_1, A_2, \dots, A_n) \rightarrow (B_1, B_2, \dots, B_n) \rightarrow (C_1, C_2, \dots, C_n)$$

That is to say, first, a domestic financial sector liberalization program must be developed and implemented, i.e. all n phases of A are completed. Once domestic financial sector liberalization is fully completed, only then should the degree of exchange rate flexibility (given by the vector of B 's) be increased. Since it is generally recommended that smaller degrees of flexibility should precede full floats, the exchange rate flexibility dimension of financial liberalization is complete when all n degrees of B are permitted. Finally, once the domestic financial sector is liberalized (i.e., A has gone from A_1 to A_n) and the exchange rate is fully flexible (i.e., B has gone from B_1 to B_n) then and only then, should steps be taken to liberalize the capital account, C . As with domestic financial sector liberalization, capital account liberalization has its baby steps (something closer to C_1) like FDI or long-term investments for infrastructural purposes, its more advanced like the full liberalization of short-term portfolio flows to its most fully liberalized and controversial phases, the allowance of short-term speculative flows, such as those from hedge funds (something closer to C_n).

In practice, sequencing is subject to considerable leakage. As markets grow and domestic financial sectors develop, there will be some degree of capital flow across borders even with the best of capital controls. But at the same time, the costs of capital controls enable disparities in productivity and competitiveness between global and insular markets to persist. Global markets are fiercely

competitive and offer the truest test of productivity. It is highly unlikely that domestic financial sectors might develop the same quality and character of global financial markets on their own.

2.2 Optimal Cascading

In contrast to optimal sequencing, the conceptual framework of optimal cascading requires decisions regarding the extent of domestic financial liberalization, the degree of exchange rate flexibility and the extent of capital account liberalization are taken simultaneously. Let the *i*th phase of a liberalization program be given by (A_i, B_i, C_i) , then the design of an optimal cascading program can be represented by the following rubric:

$$(A_1, B_1, C_1) \rightarrow (A_2, B_2, C_2) \rightarrow \dots \rightarrow (A_n, B_n, C_n)$$

During nascent stages of domestic financial development, rigid exchange rates and heavy capital controls are essential and will minimize the odds of boom-bust cycles and financial crisis. However, as the domestic financial sector matures, countries should make attempts to increase exchange rate flexibility and allow for longer term and stable capital inflows that serve to increase productivity, technology transfer and competitiveness.⁷

Empirical studies, such as Chinn and Ito (2002), show that the positive growth effects of financial market development and capital account liberalization tended to be larger for countries with higher level of institutional development. This suggests that the establishment of robust institutions supporting the financial markets—such as prudential regulation and supervision framework, and corporate governance structure—is a pre-requisite to successful liberalization. Nonetheless, as pointed out by Kaminsky and Schmukler (2003), institutional reforms are most likely to occur after rather than before financial liberalization. This is partly because established firms tend to oppose institutional changes for fear of increased competition and in order to safeguard their interest. Hence, partial liberalization is often needed to act as a trigger and add to the urgency of institutional reforms

In latter stages, domestic financial sector liberalization will need both increased exchange rate flexibility, to help with risk management and price stability, as well as later-stage capital account liberalization, such as capital outflows for the purpose of portfolio diversification and the establishment of foreign banking branches and non-bank financial institutions. The

⁷ See Williamson and Mahar (1998) for a breakdown of different capital flows and their roles in the liberalization programs.

internationalization of financial services which opens the domestic sector to foreign financial institutions frequently results in capacity building. Importantly, the commercial presence of foreign service providers normally increases the pressure to strengthen supervisory and regulatory framework. This can occur through many channels such as providing a model of best practices, reducing information gaps and improving transparency, and skill and technology transfer (Kono and Schuknecht 1998).

Once such a liberalization program is fully mature, the degree of exchange rate flexibility can be increased further. Mature domestic financial systems will be able to utilize exchange rate volatility to help adjust to shocks, smooth consumption, and help maintain price stability. At the same time, it is unrealistic to expect that domestic financial liberalization can ever fully mature without exposure to global financial markets and capital flows, particularly in countries without a long history of private financial banking and established access to offshore banking. In addition, deeper capital account liberalization will require increased exchange rate flexibility and liberalized domestic financial markets.

China's liberalization program represents the classic case of optimal cascading. From 1994 until late 2005, the yuan was pegged to the US Dollar at a fixed rate of 8.28RMB to US\$1. Citing underdeveloped domestic financial markets and legal institutions, the Chinese central bank argued unambiguously that its banking system was not ready to handle a flexible yuan. While the yuan remained fixed to the US dollar, China did not completely restrict capital flows. China has been the recipient of considerable FDI capital flows and other types of capital flows that have leaked in through the considerable presence of foreign branch operations and outsourcing operations. Most recently, the Chinese central bank has allowed the yuan to float within a tight band while at the same time domestic financial sector reforms and a measured relaxation of capital controls continues (Eichengreen 2005). These simultaneous and holistic policy choices characterize the measured and gradual face of optimal cascading. While it is too early to tell if the specific types of capital account liberalization enacted by China are wise given the stage of domestic sector development and limited degree of exchange rate flexibility, it is clear that China had adopted the prudent and realistic strategy of optimal cascading.⁸

⁸ Eichengreen (2005) expresses worry that China's efforts to dismantle capital controls may occurring prematurely while efforts to increase flexibility are being implemented too slowly. More generally, the cascading approach is difficult to operationalize in practice.

3. Risks of Liberalization on Intra-Regional Currency Stability

The lifting of capital controls, even under optimal cascading of financial liberalization, will expose the East Asian countries to swings in global capital flows. Nevertheless, it is crucial to make the important distinction between currency stability and currency flexibility when examining risks of liberalization. On one hand, currency instability reflects the inability of monetary instruments to impact the trend or direction of currency movements, and fundamentally, deep institutional problems and liberalization programs that are inconsistent with the choice of monetary regime. These can result in dramatic movements of the currency irrespective of underlying fundamentals. Emerging market crises which featured dramatically tragic collapses in exchange rates and subsequent loss of institutional credibility are clear examples of currency instability. As demonstrated by the European Exchange Rate Mechanism (ERM) crisis of 1992-93, the specter of currency instability is not limited to emerging markets.

On the other hand, currency flexibility reflects day-to-day adjustments, secular trends, and the establishment of normal market equilibrium which should not be economically, institutionally or politically destabilizing in the sense of generating panic, causing regime change, or leading to the absence of markets. The sharp fall of the yen in 1998, while clearly volatile from a statistical perspective, was not unstable in a deeper sense. The ability to differentiate these two forms of currency movements is absolutely critical. The prevention of currency flexibility via a fixed exchange rate has led to periods of devastating currency instability. Whereas, periods of large currency fluctuations have not necessarily had any impact on currency instability and in a real sense have led to the broadening and deepening of financial markets. We argue that more often than not, exchange rate flexibility is an integral component of exchange rate stability.

Strictly speaking, there is nothing inherent to capital account liberalization that suggests intra-regional currency instability. Properly cascaded liberalization need not have any destabilizing effects on the matrix of currency prices in the region. Some countries, for instance Singapore, have successfully cascaded their liberalization using an appropriate monetary policy regime which if anything served to strengthen the stability of the currency. Of course, one would expect that liberalization will generate winners and losers domestically and regionally such that the nature of currency fluctuations will be affected. Often times, such increases in the volatility of currency fluctuations will not only reflect healthy and stable policy regimes, but can serve to reduce welfare-losses from real and monetary shocks.

However, poorly planned liberalization programs in one or more countries, particularly in the larger and more regionally-integrated states, can not only lead to currency instability in the region, but lead to a region-wide financial crisis. As mentioned earlier, the Tequila crisis of 1994-95 and the Asian crisis of 1997-98 were perfect examples of the failure to reconcile open capital accounts with the exchange rate regime and institutional development of domestic financial sector. Interestingly enough, in a number of currency crises, currency instability was preceded by long periods of limited currency fluctuations. This seeming contradiction underscores the importance of differentiating currency flexibility from currency instability.

For East Asia, we identify the risks associated with financial liberalization in China as representing the greatest challenge to intra-regional currency stability. Ironically, it is a testimony to the growing importance of China as a global economic force that her policy actions represent both the key to future regional economic prosperity and the biggest threat of destabilization. Owing to her size and growing exports from the region, it is abundantly clear that failed liberalization in China would create considerable turmoil in goods, credit, and currency markets. Opening up the capital account too quickly may lead to massive capital flight as Chinese investors seeking portfolio diversification would have additional reason to remove capital. Improper cascading risks financial panic by exposing underperforming banks and implicitly increasing government liabilities due to moral hazard concerns. China's rapidly expanding regional imports, her dominance of FDI in emerging Asia, and the growth of her domestic financial sector suggests that failed liberalization and attending problems associated with institutional credibility would have both direct and indirect effects on regional currency stability. The former include impacts on real growth rates, while the latter include the redirection of real and financial investments to other markets.

To minimize such risks, China must cascade its financial liberalization very carefully. Her approach should emphasize domestic financial reforms, market-based basis for the level of the exchange rate, increased exchange rate flexibility, and a gradual removal of capital controls, especially those that will improve economic efficiency, risk management, productivity and competitiveness. China should also ensure that price stability prevails and fiscal dominance is avoided. Doing so will give China a better opportunity to carry out its liberalization program.

However, what makes China unique in this discussion is that intra-regional currency instability may arise even if its financial liberalization is cascaded optimally. Successful financial liberalization in China will generate massive capital flows within the region. If domestic financial

institutions in the region have not been sufficiently reformed, the risks to those countries with open capital accounts and fairly rigid exchange rates may overtime generate conditions similar to the Asian crisis. In a sense, capital account liberalization in China represents an exogenous force on regional institutional reform efforts. Failure to fully endogenize this force may pose more of a threat to domestic financial stability than domestic factors. Therefore, not only is successfully cascaded liberalization in China essential for regional stability, but the very prospect of financial liberalization in China necessitates that other Asian countries accelerate their own institutional reforms in advance.

4. The Potential of Monetary Policy Coordination

Given the risks of liberalization, we assess the potential of regional monetary policy coordination that promotes intra-regional currency stability at a time of lifting capital controls. To this end, we highlight seven guiding principles of monetary policy coordination as well as characterize the relevant economic realities of East Asia. These guidelines extend beyond the technical criteria for determining an Optimal Currency Area (OCA) commonly seen in discussions on monetary union.⁹ We include other factors like similarity of institutional development, degree of corporate transparency and extent of political commitment which are also crucial for the ultimate success of monetary unification. The list, albeit not exhaustive, serves as a set of ideal benchmarks for countries contemplating participation in a regional monetary arrangement. Should these ideals fail to be met, participating countries must find some form of accommodation. This can take the form of flexibility in the timelines to which countries take part in the regional monetary arrangement. Accommodation can also mean postponing the tightly coordinated policy actions of formal policy coordination in favor of vigorous implementation of the “loose” form of informal cooperation. The guiding principles are as follows.

First, participating countries should possess a similar degree of institutional development, particularly with the deepening of respective domestic financial sectors. According to Eichengreen et al. (1999), the core institutional infrastructure required for well-functioning of the financial markets include adequate and well-enforced contracts, insolvency procedures, adequate accounting rules, consistent auditing and disclosure practices, and efficient payment system. Currently, the wide range of institutional development in East Asia is far in excess of that in Europe before the ERM. Such disparity requires that any regional monetary arrangement should ensure that resulting exchange rate

⁹As outlined in Baldwin and Wyplosz (2004), pp 335-340, these are (i) labor mobility, (ii) Production diversification, (iii) openness, (iv) fiscal transfers, (v) homogenous preferences, and finally, (vi) regionalism vs. nationalism.

flexibility or interest rate movements do not pose risks to financial stability across participating countries.

Second, participating countries should possess sufficient fiscal sophistication to use taxes and transfers to alleviate requisite adjustments and be free from fiscal dominance. Until the Asian crisis, most regional governments ran modest fiscal surpluses. While private savings rates continue to run high, the exceptional fiscal restraint over the years has given way to moderate to large fiscal deficits in nearly all East Asian countries post crisis (ADB 2005). Singapore is the clear exception, running fiscal surpluses that averaged above 4% of GDP from 2001-2005. The largest fiscal deficits have been run in Japan, Laos, the Philippines and Vietnam each averaging at least 4% of GDP since 2000. While fiscal dominance in most countries is not presently worrisome, fiscal management may become a topic of concern in the not-too-distant future. Participation in coordinated monetary arrangements demands that countries use fiscal policy to address issues regarding distribution.

Third, participating countries should offer partner countries a large degree of policy and corporate transparency. Monetary policy must be adequately prepared for the potential of moral hazard fallout from financial and corporate balance sheets. One of the lessons of the Asian crisis was the need to improve transparency in domestic banking systems and with local corporations. While significant reforms have been instituted, full disclosure to private financial markets and to government regulators remains a work in progress. Moreover, the degree of transparency in the region is quite varied. The lack of transparency clouds understanding of monetary transmission and adds considerable uncertainty into the expected dynamics that would arise from regional monetary arrangements. There is also a need to harmonize reporting and accounting standards in the region.

Fourth, participating countries should possess similar trade and capital flow patterns, with expectations that these patterns will persist into the foreseeable future. Ideally, regional monetary policy arrangements, such as formal exchange rate arrangements, will operate more smoothly when operated for countries with similar trade and capital flows. For countries undergoing dramatic structural change, formal monetary policy coordination may offer formidable challenges to the management of those changes. At the same time, such dynamism from a participating country, particularly if influential, presents a separate set of challenges to the monetary arrangement itself. Possible impacts include imprecise forecasting, instrument errors, measurement error and the need to update data collection and weighting more frequently.

In contrast to European trade prior to the ERM, international trade of East Asian countries is well-diversified. Exports to the US and the EU combined represent roughly 30-35% of East Asian trade (ADB 2005). Such large shares seem to argue against monetary arrangements that seek to harmonize regional currency movements at the expense of increased volatility with US Dollar and the Euro. If the currencies movements are to be limited, the data suggests inclusion of the US Dollar and the Euro in any such arrangement. The practicing of dollar-invoicing (McKinnon and Schnabl 2004) adds to this suggestion. However, trade flows are only one consideration for policymakers. Capital flows are another. With the size of the foreign exchange markets dwarfing good markets, it is important to note that the stabilization benefits of monetary independence lies more with asset market equilibrium than with effective expenditure switching in goods markets (Obstfeld 2004). The flow of capital in and around Asia is largely in terms of the US Dollar. Optimal risk management then dictates that stabilization of the US dollar rate is given more weight in central bank loss functions. Certainly, the return to de facto USD pegs (termed “Bretton Woods II” by Dooley et al., 2004) implies that Asian central banks place great importance on US dollar stabilization in a manner disproportionate to trade flows.

Fifth, participating countries should face similar shocks and have similar enough industrial structures, elasticities, and agent behavior such that they respond to these shocks in a similar fashion. Countries which have vastly different monetary policy transmission channels will likely require different monetary policy responses and even different monetary policy regimes. The economic structure of a country will have an impact both on the preferred exchange rate trends and on equilibrium responses to real and monetary shocks. Moreover, structural changes would reinforce these differentials. For instance, countries with large pools of unskilled labor and primary goods will benefit from export-friendly exchange rates. However, as countries move “up the value chain” and add more value-added and use imported intermediate goods, stronger exchange rates are beneficial to both price stability and growth. Given the large range of economic diversity and dynamism in East Asia, regional monetary arrangements will require flexibility and frequent adjustments.

With respect to macroeconomic shocks hitting the individual countries, these are typically identified using long run restrictions in vector autoregressive models. Many studies compare the symmetry of these shocks as well as the similarity of the macroeconomic response they generate, in East Asia to those of Europe in the pre-euro period (see Watanabe and Ogura 2006 for a survey). Although the criteria for optimal currency area appear to be met by some subsets of Asian countries, the overall empirical evidence on the suitability of the East Asia region as an optimum currency area

is mixed. For instance, Zhang et al. (2004) find supply shocks as having positive correlations in 22% of all bilateral relationships among the 10 Asian countries, while the corresponding figure for the 14 European countries is 27%.¹⁰ As for macroeconomic response, the authors find the size of GDP increases in response to 1% of supply shocks over 5 years to be in the range of 0.009 to 0.03% for Asia, vis-à-vis the range of 0.008 to 0.019% for Europe. Apparently, East Asia is comparable to Europe in meeting these two OCA criteria. In contrast, Chow and Kim (2003) found the region to be dominated by domestic rather than common regional shocks, thereby concluding that formal monetary policy coordination is costly for East Asia.

Sixth, participating countries must be willing to credibly commit to the success of the monetary arrangement and its dominance over purely sovereign objectives. By definition, monetary arrangements require commitment to regional policy making. The primary motivation for these arrangements is to develop the experience, technical skills and regionalism that can lead to successful monetary union. Provided institutional reforms have been successfully and commitment to monetary policy coordination is credible, adoption of formal monetary arrangements offers participating countries the potential of improving upon the results from purely sovereign policy. Therefore, success of the regional arrangement must trump sovereign concerns even if for a given shock, the sovereign policy response is welfare dominant.

Seven, participating countries must be willing to achieve political consensus over policy prescriptions and must be willing to institute political and economic reforms to ensure continued stability of the monetary arrangement. The potential benefit of regional arrangements can only be realized if there is multilateral cooperation and consensus. Furthermore, as regional economic integration continues, regional monetary arrangements will require that policymakers implement economic and institutional reforms that might otherwise be unnecessary under sovereign monetary policy.¹¹ Eichengreen and Bayoumi (1996) argued that the region was not ready for monetary union in view of political considerations.

10 Quarterly data over the sample period of 1980-2000 are used for Asia and Europe respectively. The 10 Asian countries include Japan, China, the NIES and ASEAN4 countries, while the 14 European countries are Denmark, Norway, Sweden, Switzerland, the UK, and the Euroarea countries excluding Greece, Ireland, and Luxemburg.

¹¹ For some countries, participation in a formal monetary arrangement offers the change to break domestic political strangleholds on monetary policy. These countries are willing to join a formal monetary arrangement just order to “borrow” institutional discipline and credibility by having it imposed by regional agreement.

The above considerations suggest that the adoption of formally-coordinated regional policies, if desired, should proceed gradually. However, there is theoretical evidence that suggests that economic structure itself is endogenous to the choice of monetary policy regime (Corsetti and Pesenti 2005). This literature suggests that provided there is credible and firm commitment, the construction of an Asian monetary system or monetary union may itself generate the regionalism necessary for its maintenance. Yet even this perspective requires that at a minimum, Asian political leaders must begin to define economic successes along regional lines. The uncertainty regarding regionalism in Asian policy circles supports arguments in favor a gradualist approach to regionalism, such as “learning to coordinate” or “learning to regionalize.” This approach will leave room for independence toward sovereign objectives until sufficient consensus and commitment towards regionalism warrants formal coordination.¹²

5. Alternative Regional Monetary Arrangements

While formal monetary policy coordination refers to a structured and contractual regional monetary arrangement, the constraints of informal monetary policy cooperation are soft with obligations that are neither contractual nor binding. In this section, we consider three different forms of informal monetary arrangements using: (a) status quo regimes; (b) common objective variables; and (c) common regimes. We propose that the region approach the notion of monetary policy cooperation as a series of nested sequencing problems, from status quo sovereign regimes through increasingly intensive informal modes of monetary policy cooperation. Informal monetary policy cooperation offers the majority of benefits suggested by formal monetary arrangements. Informal cooperation also places greater emphasis on greater intimacy with one’s own sovereign monetary policy and with efforts to create a common knowledge base and research infrastructure. Improved sovereign stabilization policies and closer informal cooperation suggest that formal monetary arrangements are not necessary to achieve intra-regional currency stability.

5.1 Informal Cooperation Using Status Quo Regimes

The simplest mode of monetary policy cooperation would be for East Asian countries to use their existing policy regimes while pursuing non-monetary policy cooperation. This includes informal modes of financial cooperation like technical assistance and training programs that develop human capital and increase availability of financial information. Such cooperation is necessary in order to

¹² An example of “loose” coordination would be the ERM after the 1992-93 crisis in which exchange rate bands were widened to +/- 15%. While one can argue that at such tolerances, the economic rationale behind the EMS no longer applied, the mere existence of the ERM permitted the regional monetary policy dialogue to continue.

strengthen risk management and prudential supervision as more risks are injected in the financial system. Further, financial institutional reforms that reduce costs of and impediments to cross-border transactions as well as the harmonization of regional standards and regulations are needed to promote capital market integration within East Asia. While central banks in East Asia optimize the current sovereign monetary policy regime, intensive non-monetary cooperation will offer countries a great opportunity to learn about the subtleties of monetary policy cooperation.

An integral component of informal monetary policy cooperation is the implementation of sovereign institutional reforms and the creation of new regional institutions. Informal monetary policy cooperation and intensive non-monetary policy cooperation can together increase the ability of financial systems and private firms to absorb fluctuations in capital flows. These reforms alone will promote intra-regional currency stability. Additionally, emergency management procedures through an explicit regional institution will help slow the spread of any potential financial contagion that might arise. Even the simplest mode of informal monetary policy cooperation can help develop “financial circuit breakers” which can enable policymakers the time to locate the specific cause of a given crisis and the opportunity to find an appropriate resolution.

Formal arrangements are neither necessary nor sufficient conditions in the creation of an esprit de corps among regional policymakers. Informal yet vigorous cooperation can go a long way in improving sovereign and regional institutions both to handle ongoing financial liberalization and to promote intra-regional currency stability. An example of this are the lessons learned from Singapore’s management of the Asian crisis. Her use of exchange controls led to a number of countries to beef up their own exchange controls.

5.2 Informal Cooperation Using Common Policy Objectives

More explicitly, informal monetary policy cooperation could agree to a common set of objective variables. The vast monetary policy literature that has developed over the years points to three primary objectives of monetary policy. These targeting objectives come directly from a welfare-theoretic understanding of the social loss function. While ad hoc loss functions have been around for some time, it was the publication of Woodford (1999) that signaled a new approach. In a simple closed-economy, dynamic general-equilibrium New Keynesian model, Woodford used a linear approximation to the utility function of the representative agent to derive an exact representation of the social welfare loss function. This first welfare-theoretic loss function suggested that central banks should be concerned about stabilizing a weighted average of the variance of inflation around its target

and the variance of steady-state deviations of real marginal costs. Subsequent writings in Woodford (2003) extend the simple New Keynesian model to add the variance of the instrument itself for the purpose of financial market stabilization.

A review of central bank pronouncements also essentially suggests the adoption of the three primary objectives of monetary policy: price stability, output gap or unemployment stability, and financial stability. Theoretically, one can derive social welfare loss functions with far more economic variables, particularly in open economy models (Batini, et al. 2001). While more appealing theoretically, communicating complex targeting operations has implicit costs to central banks who seek to manage private sector expectations. The first objective and most often mandated in the charters of central banks, is the pursuit of price stability. In support of this perspective, most modern New Keynesian policy models feature an overwhelming weight on price stability in the social welfare loss function (Woodford 2003).

The second objective most commonly voiced involves stabilizing some measure of the real sector. This is often stated in terms of either the output gap or the deviation of employment from its natural rate. Theoretical models tend to give this second objective far less weight than price stability. In the open-economy model of Gali and Monacelli (2005), the weight on inflation stabilization is some forty-three times that of output gap stabilization! Nevertheless, real side objectives are important, economically as well as politically, particularly in countries where wage rigidities are prevalent. The third objective is less well understood theoretically but of great importance to many central bankers: financial stability. While curiously missing from many modern monetary models,¹³ explicit financial-stability objectives were at the heart of Alan Greenspan's risk management approach to monetary policy (Greenspan 2005). The risk management approach to monetary policy argues that monetary policy management should concern itself not just with average outcomes, but with low probability outcomes. Furthermore, where possible, the Federal Reserve should move to actively neutralize threats from low probability outcomes.

In East Asia, a major challenge for regional central banks is in trying to realize all three objectives of monetary policy simultaneously while managing financial liberalization and institutional reforms. Besides, the concern with avoiding financial crises is likely the force behind the dominant preoccupation with fluctuations in the exchange rate and the well-known "fear of floating". Informal

¹³ An explanation for this glaring omission resides with the fact that most modern models are developed with the US or Europe in mind, where financial market strength and depth are assumed.

monetary policy cooperation help address the challenges facing regional central banks by helping policymakers craft a region-wide mandate that central banks pursue the same three objectives. Such a mandate might also specify metrics, intermediate targets, and country-specific tolerances, particularly given the wide range of financial liberalization in the region. Additionally, ground rules on agreeing to what constitutes long-run levels of the exchange rate would build in elements of determinacy and secular trends.

This second mode of informal monetary policy cooperation should be sequenced following the basic form of informal monetary policy cooperation with status quo regimes. Going well beyond information sharing and non-monetary policy cooperation, it would require that regional central bankers to adopt a common conceptual framework. National central banks would still retain discretion over regime choice. However, central banks would agree to a shared interpretation on the concept and role of monetary policy. For a region which remains tied to the semantics of Bretton Woods, agreement to a common set of objective variables for monetary policy will require some effort. However, by adopting the same three target objectives, monetary policymakers can better promote intra-regional currency stability. Policy cooperation over the cascading of liberalization and the potential spillover effects would also be better managed with a common understanding over the objectives of monetary policy (Genberg 2006).

In addition, with common objectives and a single conceptual framework for monetary policy, East Asia will be able to accelerate the development of regional institutions, harmonization of standards, regional surveillance, adjustment mechanisms, and crisis management techniques. Each will provide added support to the relation to lifting capital controls. Finally, successful adoption of consistent set of policy objectives will prepare the region for deeper informal monetary policy cooperation.

5.3 Informal Cooperation Using Common Policy Regimes

Benigno and Benigno (2003) showed in a two-country model that the use of inflation targeting in both countries can achieve the same beneficial welfare effects as formal policy coordination. Their findings are consistent with a large literature that emphasizes the dominant benefits of stabilization policies over formal coordination. Such findings also suggest a third mode of informal monetary policy cooperation: the adoption of common policy regimes throughout the region. Agreeing to a common conceptual framework for and the primary policy objectives of monetary policy will in all likelihood prove far more challenging and time-consuming. Nonetheless, once East

Asia has reached the stage in which it is ready to adopt a common policy regime, the Basket-Band-Crawl (BBC) system with country-specific baskets would appear to have the most receptive audience for this purpose. Given the current prominence of exchange rate management among central banks in the region, it will be easier institutionally to adopt a common set of BBC regimes than say inflation targeting regimes.

While inflation targeting is the current trend for open economy monetary regimes, several authors are quick to point out that efficient and credible operation of inflation targeting requires that numerous conditions be met. These include, central bank independence, freedom from fiscal dominance, policy transparency, a research infrastructure that would enable policymakers to make precise forecasts, and sufficiently developed financial markets (Mishkin 2000). More Specifically, Bernanke (2004) argues that a sufficiently-sophisticated research staff, sufficiently-sophisticated models and forecasting techniques, and sufficiently-fine data are required to realize the potential stabilization benefits of inflation targeting. Clearly, the operation of economic policy will always benefit from the most advanced techniques, human capital and knowledge base. However, informal monetary policy cooperation using inflation targeting should not take place until a modern research infrastructure has been successfully established.

An alternative to inflation targeting would be informally coordinating through the common adoption of a BBC system with country-specific baskets (Williamson 1999). Quite literally, a BBC system has three primary components. The basket is the central parity around which exchange rate movements are compared. For country-specific baskets, each country's currency is related to its own weighted basket of currencies of its major trading partners. In comparison, a common basket refers to using the same weighted basket of currencies, i.e. identical weights and component currencies, for all countries in the region. Unless trade patterns are similar across the region, using country-specific baskets would be more suitable than a common currency basket for exchange rate management in countries (de Brouwer 2004). The band is the amount of tolerance around the basket, within which the domestic currency is allowed to float. The crawl refers to periodic adjustments in small steps in the central parity to keep in line with changes in productivity and long-term fundamentals over time. This circumvents the buildup of a situation where the domestic currency becomes significantly overvalued or undervalued. The BBC system can also be modified to suit the diversity of financial liberalization in East Asia. Changes in the band, crawl, and basket can each be shaped for a given country.

A review of the target zone literature as seen in Krugman (1991) and Svensson (1991), suggests that as with fixed exchange rates, there comes a time when a central bank must decide on whether or not to defend the band. Williamson (1998) makes a distinction between a crawling band whereby the central bank is obliged to carry out foreign exchange intervention whenever the bounds are breached, versus a monitoring band whereby the central bank is obliged to avoid intervening within the band except to smooth out exchange rate volatility. In any case, credible commitment to the regime is of utmost importance. Further, the structure of a BBC potentially invites the prospect of one-sided bets and speculative attacks. Targeting regimes and closely-related simple instrument rules can circumvent such attacks by giving little opportunity to speculate on fixed targets. Historically, BBC regimes have tended to be fairly explicit.¹⁴ Certainly, policymakers can built-in such features into a BBC, by blurring the edges of bands, not disclosing them at all or by using the crawl as a way around the hard constraint of the band.

To a large degree, the BBC system can be operated to achieve the same objectives as inflation targeting. For example, Singapore operates its monetary policy in a manner as sort of a hybrid between the two: using a BBC with an adjustable band to track the movement of its instrument, while setting its instrument in a way to hit intermediate targets as a means to control inflation and achieve non-inflationary growth (Khor et al. 2004). An advantage over the inflation target regime is the BBC which puts an explicit focus on currency movements is a far easier framework to communicate to the public, particularly in a region driven by exports. Private agents understand the exchange rate, widths of the band, the edges of bands, and shifts in the band. Those same agents are not as clear on the elements of inflation targeting such as the output gap, weighting matrices, the “natural” rate of unemployment (related to “potential” output), intermediate targets, and forecasts. A common BBC regime would also appear to be easier to coordinate owing to its tangibility, particularly on an informal basis.¹⁵

5.4 Pre-requisites for Formal Coordination

Once the benefits of informal monetary policy cooperation have been fully developed and the spirit of regionalism has been sufficiently cultivated, the question arises of whether to pursue formal monetary policy coordination. However, the lessons of modern monetary arrangements, from the

¹⁴ Examples are regimes used in Latin America in the 1980s and early 1990s.

¹⁵ Should the East Asia weans itself off of its reliance on export-driven growth, increases intra-Asian demand and investment, sufficiently develops its domestic financial sectors, and upgrades its research infrastructure, the region could then sequence to the common adoption of flexible inflation targeting with an explicit exchange rate directive for financial stability purposes.

operation of 19th century gold standard to the pathway leading to European monetary union, call into question whether formal monetary policy coordination can be held up as a terminal goal for any participating country. Rather, there should be credible commitment to future monetary union. Formal monetary policy coordination only makes sense if participating countries are credibly committed to both the success of the monetary arrangement and the regional ideals that are reflected by its structure. If formal monetary policy coordination is to succeed, regional policymakers must accelerate domestic financial and institutional reforms, deepen regionalism, and ensure fiscal discipline. If they do not, then formal monetary arrangements may not advance regional stability beyond informal cooperation. In fact, if no such commitments exist and no such reforms are instituted, particularly among key countries, then formal policy coordination would not only run the risk of reducing gains from informal monetary policy cooperation but would perhaps serve to increase intra-regional instability.

On this point, the European experience is instructive. Despite a remarkable shared cultural and political history and structurally homogenous economies, Europe struggled all along its fifty-year path toward monetary union. Had there been no firm commitment to the integrity of the European Monetary System (EMS) as a mechanism for intra-regional monetary policy coordination, then it is unlikely the EMS would have survived its largely unsuccessful initial phases from 1979-1985. Moreover, it is questionable whether participating countries would have been able to survive its experience with the EMS or even bothered to join without credible commitment to future monetary union. When a referendum is brought before an EU country on the future of Europe, there seem to be sharp reactions anecdotally in foreign exchange markets. Clearly, the ERM crisis was one such event, triggered by the 1992 rejection of the Maastricht Treaty by Denmark. Another was the rejection of the EU Constitution by both France and Holland in May and June 2004 respectively. In both cases, European currencies sold off on the added uncertainty over the future of Europe.

The challenges for formal monetary arrangements in East Asia promise to be considerably more challenging. The diversity of East Asia will literally require a set of new regional economic and political institutions. Indeed, Wyplosz (2001) identified the lack of regional institutions as a key factor pointing to the non-viability of a single currency area in East Asia in the near future. Should ultimate monetary unification be desired, it remains imperative that the region sequence formal monetary arrangements in a manner that accelerates the development of regional policy institutions. Doing so, offers the best chance for formal monetary arrangements to advance regional stability beyond informal cooperation.

6. Conclusion

We identify the risks associated with the liberalization attempts of China—being an economically large and influential country—as representing the greatest challenge to the region. Even with successful financial liberalization in China, the massive capital flows that will be generated can destabilize the region. It is thus important for countries in East Asia, including China, to optimally cascade financial liberalization by simultaneously determining the extent of domestic financial liberalization, the degree of exchange rate flexibility and the scope of capital account liberalization consistent with underlying domestic institutional infrastructures. In addition, financial stability can be promoted via regional policy coordination. We are of the view that this will be most effective when approached as a series of nested sequencing problems that would take East Asia through increasingly intensive informal modes of monetary policy cooperation: starting with weak forms of cooperation that emphasize non-monetary cooperation and sovereign institutional reforms to more intensive modes of informal cooperation that can accelerate the development of deeper regionalism and synchronization, such as the adoption of common policy objectives, and finally to the most intensive mode of informal cooperation, the adoption of common policy regimes.

Only when the East Asian countries could credibly commit to a path of future monetary union, then should formal monetary arrangements be considered to advance regional stability. Even if monetary union were deemed undesirable and formal monetary arrangements then unnecessary, informal monetary policy cooperation should greatly benefit East Asia. Through its sequencing, informal monetary policy cooperation can bring about a new era of understanding within the region of the interplay between policy regimes, agent behavior and spillover. Informal monetary policy cooperation is “informal” for good reason. While the political fallout from lack of good faith may be severe, there is no legal mechanism in place to compel central banks to comply. At the same, the lack of hard constraints avoids the problem of incessant realignments and one-sided bets that plagued EMS-1 from 1979-1995.¹⁶ Informal yet vigorous cooperation can go a long way in improving sovereign and regional institutions both to handle ongoing financial liberalization and to promote intra-regional currency stability.

¹⁶ During this period, the EMS realigned eighteen times involving fifty-two currencies. See Baldwin & Wyplosz (2004), p 315.

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