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# MONETARY AND FINANCIAL COOPERATION AMONG CENTRAL BANKS IN EAST ASIA AND THE PACIFIC

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## Abstract

In this paper we show that monetary policy frameworks in the East Asia and Pacific region are heterogeneous, with exchange rate policies being subordinate to domestic price stability objectives in most regional economies. We then argue that in this environment it is undesirable to focus regional cooperation on exchange rate policies because of the risk of creating conflicts with domestic objectives that would lead to loss of central bank credibility and possibly speculative attacks. We also argue that the case for coordinated exchange rate policies is in fact weak, even after taking into account the region's traditional emphasis on export performance and increasing regional trade integration. Rather than focusing cooperation on the setting of policy instruments, we suggest an alternative that centres on developing more liquid financial markets in the region in the foreseeable future, and on harmonising the objectives of monetary policy and designing institutions that could form the basis of deeper forms of cooperation in the longer-term future.

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[1] An earlier version of this paper was presented at the Claremont-Bologna-SCAPE Policy Forum on Capital Flows, Financial Markets and Economic Integration in Asia held at the National University of Singapore during 30-31 July 2007.

*Executive Summary:*

- *In the past decade there has been important progress in regional financial cooperation in Asia. Concrete examples of cooperative arrangements include the Chiang Mai Initiative on bilateral credit lines with subsequent extensions towards limited reserve pooling and the Asian Bond Fund Initiatives aiming to expand the market for local currency bonds.*

- *In parallel, there have also been discussions about the need to coordinate exchange rate policies in the region. It has been argued that the regional central banks should coordinate exchange rate policies in order to prevent intra-regional misalignments in the process of adjustment of global imbalances and capital flows, and as a strategy to create deeper monetary integration.*

- *We document in this paper that monetary policy frameworks in the East Asia and Pacific region are heterogeneous, with exchange rate policies being subordinate to domestic price stability objectives in most of the regional central banks. We then argue that in this environment it is undesirable to focus regional cooperation on exchange rate policies because of the risk of creating conflicts with domestic objectives that would lead to loss of central bank credibility and possibly speculative attacks.*

- *We show that exchange rate stability vis-à-vis other regional currencies is not a necessary condition for facilitating intra-regional trade, and we argue that monetary policy can best promote export-led growth by providing a stable domestic macroeconomic environment. Nevertheless, it is important that the private sector be given the possibility to learn how to live with and protect itself against variable and unpredictable exchange rate fluctuations. Thus, developing more sophisticated financial products for risk management and more liquid and integrated regional financial markets should facilitate meeting price stability targets by central banks.*

- *Rather than focusing cooperation on the setting of policy instruments, we suggest an alternative that centres on developing more liquid financial markets in the region in the foreseeable future. In the longer term, with a high level of both trade and financial integration, business cycles in the region will be more synchronised; in such a scenario, consultation and coordination in defining policy goals and institution building can be beneficial.*

- *If exchange rate coordination or complete monetary unification is desired by some subset of central banks, they can formally agree to centralise monetary policy decisions in a common central bank or they can decide to delegate it to an existing central bank. Adopting a common exchange rate policy or a single currency by all economies in the region is not required. The benefits from financial integration and monetary stability will be forthcoming anyway even without a common exchange rate policy or a single currency.*

- *The advantages of this approach to monetary integration are that it is compatible with increasing integration of financial markets, it naturally evolves from a system where central banks pursue similar objectives in their own self interest which makes it incentive compatible, and it allows for a 'variable geometry' of the final area that adopts a common currency.*

# I.  INTRODUCTION

In the past decade the issue of monetary and financial cooperation in Asia has been the subject of many research studies, academic conferences, and meetings of officials.[2]  One motivation behind these initiatives is the belief that closer regional cooperation may help reduce the probability of another crisis like the one that shook the region ten years ago and make the economies better able to react to external shocks.  Concrete examples of cooperative arrangements are the Chiang Mai Initiative on bilateral credit lines with subsequent extensions towards limited reserve pooling and the Asian Bond Fund Initiatives aiming to expand the market for local currency bonds.  A number of proposals have also been made, mainly but not exclusively from academic circles, regarding cooperation on exchange rate policy.[3]  No agreements have been reached in this area however.

In parallel with discussions about monetary and financial cooperation there have been developments in the conduct of monetary policy by regional central banks that point towards more emphasis on domestic objectives, rather than international coordination.  Following a trend that has influenced many central banks worldwide, several regional central banks have adopted domestic inflation control as their overriding policy objective and exchange rates have consequently become more flexible.

Against this background this paper analyses what scope, if any, there is for extending regional cooperation particularly in the areas of monetary and exchange rate policy and financial market development.

We start by documenting that most regional central banks have adopted policy strategies in which domestic price stability is the principal objective of monetary policy while monetary policy instruments remain rather heterogeneous.  We then argue that in this environment it is undesirable to focus regional cooperation on exchange rate policies because of the risk of creating conflicts with domestic objectives that would lead to loss of central bank credibility and possibly speculative attacks.  We also show that the case for a coordinated exchange rate policies is in fact weak, even after taking into account the region's traditional emphasis on export performance and the emergence of a regional supply chain with Mainland China in the centre of such a network.

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[2]  Kenen and Meade (2007) provides a comprehensive survey of the subject.
[3]  See, for example, Ogawa and Ito (2002).

Rather than focusing cooperation on the setting of policy instruments, we suggest an alternative that centres on developing more liquid financial markets in the region in the foreseeable future, and on harmonising the objectives of monetary policy and designing institutions that could form the basis of deeper forms of cooperation in the longer-term future.

The paper is organised as follows: section II describes the revealed preferences for monetary policy frameworks among the EMEAP central banks.[4] Section III discusses the pitfalls with exchange rate coordination and Section IV analyses the implications of export-led growth strategies for monetary and exchange rate policies. Section V concludes the paper by sketching an approach to regional monetary and financial cooperation that is consistent with monetary policy frameworks with a focus on domestic objectives.

## II. REVEALED PREFERENCES FOR MONETARY POLICY OBJECTIVES

In this section we will argue that the primary objectives of monetary policy by EMEAP central banks, with the exception of the Hong Kong Monetary Authority and Bank Negara Malaysia, are defined in terms of domestic variables rather than in terms of the level of the exchange rate. For some central banks this represents an important change from the situation prevailing before the financial crisis that hit the region in 1997-98. We document the current focus of monetary policy in three different ways; by statements of the central banks themselves, by characterizing movements in nominal exchange rates, and by investigating the nature of central bank policy reaction functions.

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[4] EMEAP stands for the Executives' Meeting of East Asia-Pacific Central Banks. Founded in 1991, EMEAP is a cooperative organisation of central banks and monetary authorities in the East Asia and Pacific region. Its primary objective is to strengthen the cooperative relationship among its members. It comprises the central banks and monetary authorities of the following eleven economies: Australia, Mainland China, Hong Kong SAR, Indonesia, Japan, Korea, Malaysia, New Zealand, Philippines, Singapore, and Thailand.

## II.1.    Central bank statements

Each central bank in the group maintains a web site which contains information on its monetary policy.   Some web sites are more transparent than others in revealing the objective of monetary policy, but after some search it is possible to find explicit statements.   Table 1 contains relevant quotes.

It is noteworthy that in seven of the eleven economies price stability is the principal policy objective, and out of the remaining four the somewhat ambiguous notion of stability of the value of the currency is mentioned by three central banks, the People's Bank of China, Bank Indonesia, and Bank Negara Malaysia.   The value of the currency can of course mean either domestic price stability or exchange rate stability.   Only one central bank, the Hong Kong Monetary Authority, has exchange rate stability as the overriding objective.

Probing further reveals that Bank Indonesia has a numerical target for the domestic inflation rate which suggests that it too is focusing importantly on an internal target for its monetary policy.   Likewise for the Reserve Bank of Australia, the Bank of Korea, the Reserve Bank of New Zealand, the Bangko Sentral Ng Pilipinas, and the Bank of Thailand all of which refer to their monetary policy strategies as 'Inflation Targeting'.   Concerning the Peoples Bank of China, it is widely believed, although not stated explicitly that an inflation rate of less than three percent per annum is an important objective of central bank policy.

From this brief review we may conclude that, judged by their own words, nine or the eleven EMEAP central banks have domestic price stability as their main policy objective, the two exceptions being Bank Negara Malaysia and the Hong Kong Monetary Authority.   This is an important conclusion because, as we shall argue below, it restricts the scope of cooperation between central banks to areas that will not come in conflict with the domestic objectives they have chosen.   In particular, it is likely to make joint exchange rate commitments incredible in the eyes of private sector market participants.

**Table 1:    Central bank statements about their policy objectives**

| Jurisdiction | Central Bank | Policy objective | |
| --- | --- | --- | --- |
| Australia | Reserve Bank Of Australia | Price stability | ….to focus on price (currency) stability while taking account of the implications of monetary policy for activity and, therefore, employment in the short term |
| China, Mainland | The People's Bank Of China | Value of the currency | The objective of the monetary policy is to maintain the stability of the value of the currency and thereby promote economic growth. |
| Hong Kong SAR | Hong Kong Monetary Authority | Exchange rate stability | The primary monetary policy objective of the Hong Kong Monetary Authority (HKMA) is to maintain exchange rate stability |
| Indonesia | Bank Indonesia | Price stability and exchange rate stability | In its capacity as central bank, Bank Indonesia has one single objective of achieving and maintaining stability of the Rupiah value. The stability of the value of the Rupiah comprises two aspects, one is stability of Rupiah value against goods and services and the other is the stability of the exchange rate of the Rupiah against other currencies. |
| Japan | Bank Of Japan | Price stability | The Bank of Japan Law states that the Bank's monetary policy should be "aimed at, through the pursuit of price stability, contributing to the sound development of the national economy." |
| South Korea | The Bank Of Korea | Price stability | Like other central banks, the Bank of Korea takes price stability as the most important objective of its monetary policy. The Bank of Korea Act, which came into effect in April 1998 following its revision at the end of 1997, stipulates price stability as the purpose of the Bank of Korea. |
| Malaysia | Bank Negara Malaysia | Price stability and exchange rate stability | To issue currency and keep reserves safeguarding the value of the currency; To promote monetary stability and a sound financial structure; To influence the credit situation to the advantage of the country. |
| New Zealand | Reserve Bank Of New Zealand | Price stability | The Reserve Bank of New Zealand Act 1989 specifies that the primary function of the Reserve Bank shall be to deliver "stability in the general level of prices." |
| Philippines | Bangko Sentral Ng Pilipinas | Price stability | The primary objective of BSP's monetary policy is to promote a low and stable inflation conducive to a balanced and sustainable economic growth. |
| Singapore | The Monetary Authority Of Singapore | Price stability | The primary objective of monetary policy in Singapore is to promote price stability as a sound basis for sustainable economic growth. |
| Thailand | Bank Of Thailand | Price stability | Setting the monetary policy direction which is consistent with the nation's economic conditions, with the ultimate objective of maintaining price stability and sustainable economic growth |

## II.2    Characterisation of exchange rate movements

The behaviour of exchange rates of EMEAP currencies is consistent with the view that domestic variables, rather than exchange rate levels, are predominant objectives of monetary policies.   Before the 1997/98 crisis there was a relatively widespread tendency among central banks in the region to stabilise the values of their currencies with respect to the US dollar.   Seven of the eleven central banks allowed only limited movements of their US dollar exchange rates in the years immediately prior to the financial turmoil unleashed by the attack on the baht in July 1997.[5]   This gave rise to the notion that the region was on a dollar standard, a belief that has continued even though recent evidence shows that US dollar exchange rates now are significantly more flexible than before.[6]

Ho, Ma, and McCauley (2005) argue that movements in Asian currencies are increasingly related to those of a wider group of trading partners than just the US dollar.   They illustrate this point in two ways, by calculating the ratio of US dollar exchange rate volatility to effective exchange rate volatility, and by regressing, following Frankel and Wei (1994), movements of individual dollar exchange rates on dollar exchange rates of major local trading partners/competitors.

If Asia were on a dollar standard the volatility of US dollar exchange rates should be very small relative to the  volatility to effective exchange rates.  Conversely, for a country that stabilises the effective exchange rate the ratio would be large.   Ho, Ma, and McCauley show that - with the notable exception of Hong Kong, Mainland China, and Malaysia - the volatility ratio is far from zero and has typically increased over time.   In other words, currencies are increasingly priced relative to all their trading partners rather than only the United States.

Ho, Ma, and McCauley (and Genberg (2006) for a longer sample and using weekly rather than daily data) present additional evidence counter to the dollar standard hypothesis by estimating regressions of the form

$$\Delta S_{i,t} = \alpha_0 + \sum_j \alpha_j \Delta S_{j,t} + u_{i,t} \qquad\qquad j \neq i \qquad\qquad\qquad (1)$$

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[5]   China, Hong Kong, Indonesia, Malaysia, Philippines, South Korea, and Thailand.
[6]   The following discussion refers to EMEAP economies other than Mainland China, Hong Kong and Malaysia.

where $S_k$ represents the US dollar exchange rate of currency k.   If results show that coefficient $a_j$ is equal to unity and $u_{i,t}$ is 'small' for all t then currency i is pegged to currency j.   On the other hand, if all a:s are zero and the $u_i$:s are small, then the currency is pegged to the US dollar.   When some a:s are non-zero, then currency i is systematically related to the currencies corresponding to the non-zero coefficients.   Such relationship could come about either because the central bank is actively managing the currency or simply because the behaviour of currency traders/investors in the market generates a correlation between particular currencies.[7]

From his results Genberg (2006) concludes that the evolution of the Singapore dollar and the Thai baht depend quite strongly on movements in the euro, the Japanese yen, and the South Korean won.   The won reacts systematically to the yen, and changes in the yen correlate positively with those of the euro.   Movements in the Indonesian rupiah and the Philippines peso on the other hand are quite idiosyncratic.[8]   In addition, comparison of the regression coefficients across different sample periods reveals instability over time suggesting that central banks (with the possible exception of the MAS) do not systematically target the exchange rate.   Finally, it is noteworthy that there are considerable differences across countries in the way their currencies relate to movements in the euro, the yen, and the won.   Different trade patterns or differences in economic structure which translate into differences in the reaction to common shocks are potential explanations.

## II.3    Evidence from policy reaction functions

Direct estimates of policy reaction functions give a third piece of evidence that domestic objectives are predominant for regional central banks. When the policy instrument of a central bank reacts systematically to deviations of the domestic inflation rate from a target level or the output gap, this almost certainly indicates that the central bank is attempting to use monetary policy to control domestic inflation.   It may also indicate that it is trying to limit deviations of output from its full-employment level.   If the central bank also reacts systematically to the exchange rate or to external interest rates it may be tempting to conclude that it is targeting these variables as well.   This does not necessarily

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[7]   An example might be the relationship between the Swiss Frank and the Euro. In a regression of movements of the former on the latter is likely to show a dependence of the CHF/USD rate on the EUR/USD rate even though the Swiss National Bank does not engage in systematic exchange rate management.

[8]   Pegging to the US dollar can be ruled out by inspection.

follow, however, since such variables may well be included in the policy reaction function simply because they carry information about the future rate of inflation in the economy, and it is therefore appropriate to react to them. For example, a depreciation of the domestic currency may elicit a contractionary monetary policy not because the central bank targets a particular level of the exchange rate, but simply because currency depreciation may lead to domestic inflation. Similarly, if an increase in the US policy interest rate reflects a reaction to rapid demand growth in the United States, it may elicit an analogous defensive interest rate increase in a country that has a similar cyclical pattern as the US. This would again be appropriate even if the interest rate differential did not itself constitute a policy goal of the domestic policy maker. However, if a central bank reacted only to the exchange rate or to foreign interest rates, there would be a prima facie case that the central bank actually has an exchange rate target.

What is known about policy reaction functions of EMEAP central banks? We concentrate our discussion on central banks whose monetary policy strategies may not be generally understood. We take these to be the People's Bank of China, Bank Indonesia, the Bank of Korea, Bangko Sentral Ng Pilipinas, the Monetary Authority of Singapore, and the Bank of Thailand.[9] The recently published proceedings of the BIS/HKIMR conference on "Monetary policy in Asia: approaches and implementation" contains papers that present estimates of policy reaction functions for Singapore, South Korea, and Thailand.[10] The conclusions from these studies can be summarised as follows:

- The MAS implements its monetary policy by means of steering a nominal effective exchange rate (with undisclosed weights). Gerlach and Gerlach-Kirsten find that the rate of change in their measure of the NEER responds significantly to both inflation and the output gap in Singapore, consistent with the stated objective to maintain price stability.

- Kim and Park find that the Bank of Korea adjusts its policy interest rate in response to both inflation and the output gap. The size of the response to inflation implies that the real short-term interest rate increases when inflation

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[9] Of the remaining central banks we take it as resolved that the Bank of Japan and the Reserve Banks of Australia and New Zealand set their policy instruments to control domestic inflation with little, if any, concern for the level of the exchange rate. For the Hong Kong Monetary Authority the notion of a policy reaction function is not applicable since it is operating an automatic exchange rate target zone. We are not aware of studies that have tried to estimate monetary policy reaction functions for the Bank Negara Malaysia.

[10] See respectively the papers by Gerlach and Gerlach-Kirsten, Kim and Park, and McCauley in BIS (2006).

is above target, a condition that is necessary for the policy to be stabilising.

- McCauley estimates a policy reaction function of the Bank of Thailand and concludes: "First, no specification found a response of the policy rate to the exchange rate. This does not necessarily imply that the authorities are unconcerned with the exchange rate; it could imply that another instrument is assigned to it. Second, the estimates suggest that the policy rate is responding to forward-looking measures of inflation." (p. 182)

Available studies for Mainland China, Indonesia and the Philippines reach broadly similar conclusions. He and Pauwels (2007) show that the People's Bank of China reacted systematically to domestic output and price developments in the past ten years. Affandi (2004) presents evidence consistent with the hypothesis that Bank Indonesia has reacted in a stabilising manner to domestic inflation since (but not before) the financial crisis. For the Philippines Salas (2004) finds that the central bank has reacted strongly and significantly to deviations of inflation from a target but neither to the output gap nor to a real effective exchange rate index. This is the case in particular for the period 2000:01 to 2003:09 which, he argues, corresponds to the period of implicit (during 2000 and 2001) and explicit (since January 2002) inflation targeting.

We conclude from the evidence in this section that all EMEAP central banks, with the exception of the Hong Kong Monetary Authority and Bank Negara Malaysia, now have demonstrated strong commitments to domestic inflation as their principal monetary policy objective. Bank Negara may also have domestic price stability as an important goal, but it is more difficult to prove this using the measures that we have utilised.

While we are suggesting that domestic objectives dominate for these central banks, we are not arguing that it is the only objective. As McCauley (op.cit.) notes for the case of the Bank of Thailand, even if empirical evidence fails to detect any effect of the exchange rate on the policy interest rate, it is possible that other instruments, e.g. foreign exchange market intervention, are used to influence it. If capital controls are in place and/or if domestic and foreign assets are sufficiently weak substitutes, it may be possible for a central bank to exercise some independent control over both the short-term interest rate and the exchange rate. As we argue in the next section, however, this does not eliminate the danger associated with exchange rate coordination between central banks.

### III.    PITFALLS WITH EXCHANGE RATE COORDINATION

When monetary policy coordination is brought up in the East Asian context, it often focuses on intra-regional exchange rates. It is frequently argued, at least outside central banks, that East Asian central banks should coordinate exchange-rate policies in order to prevent intra-regional misalignments in the process of adjustment of global imbalances and capital flows, and as a strategy to create deeper monetary integration. With respect to the former it is argued that exchange rate stability vis-à-vis the renminbi has become an important policy concern, given the increasing degree of vertical integration of regional trade and the central role that China plays in this process. It is further asserted that sufficient exchange rate adjustments are not forthcoming because of a type of co-ordination failure; no central bank will allow its currency to adjust lest the economy will lose competitiveness if other central banks do not follow suit.

In this section we argue that proposals for exchange rate coordination pay insufficient attention to two related issues; the source of the nominal anchor in a system based on exchange rate coordination, and the credibility of exchange rate commitments in the East Asian context and the risk of currency crises. We therefore conclude that it would be counter-productive to build monetary and financial cooperation in the region on some exchange rate coordination scheme.

### III.1.  What is the nominal anchor in a system based on coordinated exchange rate policies?

Consider first a group of economies between which capital mobility is high enough that interest parity holds. In this case there can be only one interest rate among the countries that maintain mutually fixed exchange rates. Which central bank will determine that rate? If the currency basket which forms the basis of the coordination contains currencies external to the region, the US dollar and the euro say, then the common interest rate in the region will be determined by the monetary policies of the US Federal Reserve and the European Central Bank. In other words, the countries that coordinate their exchange rate policies will loose control of their own monetary conditions.

If, on the other hand, the currency basket that forms the basis of the common exchange rate policy is exclusively made up of currencies of the coordinating group, then the well known n-1 problem implies that some mechanism must be found to determine the monetary policy for the group as a whole. For example, when Europe created the ERM, the German Bundesbank provided the de facto anchor for the participating economies. It is difficult to imagine that a similar arrangement could emerge for the entire EMEAP group, although some subset of countries may decide that a solution of this kind is worth considering in the future.

What if capital is not sufficiently mobile for the interest parity relationship to tie down interest rates? In this case it is in principle possible for a central bank to influence both the domestic interest rate and the exchange rate, as the two would no longer be rigidly linked. Traditional open market operation could be used to focus on domestic interest rates, and interventions in the foreign exchange market could be targeted on the exchange rate. In other words, the central bank would have two instruments with which it could pursue two targets, for example, and domestic inflation rate and the level of the exchange rate. In this context the issue of coordination of exchange rate policies would be relevant, as it would be important for central banks not to intervene at cross purposes.

While imperfect capital mobility technically implies that central banks do have two policy instruments, there are several reasons why monetary authorities in the region may not want to exploit this additional degree of freedom. First there is the issue of the quantitative importance. This depends in part on the degree of substitutability between assets denominated in different currencies and in part on the de facto severity of capital controls. Empirical evidence on these issues is emerging. Ouyang et al (2007b) estimate offset coefficient for seven countries in emerging Asia and find that while de facto capital mobility declined substantially after the 1997-98 crisis, it has recently increased to pre-crisis levels which can be characterised as reflecting a high, although not perfect, degree of capital mobility.[11] Conducting a similar analysis for Mainland China Ouyang et al (2007a) finds a significantly lower degree of capital mobility in that economy. This is consistent with the results in Ma and McCauley (2007) who present evidence that capital controls in China do bind to a significant degree.

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[11] The countries covered in the study are Indonesia, Korea, Malaysia, Philippines, Singapore and Thailand. The econometric approach did not allow for differences between countries in the offset coefficients, so the estimated coefficient reflects an average across the countries.

Second, an important goal among EMEAP central banks is to further financial development and integration in the region. Therefore, even if capital mobility is not complete in some jurisdiction at present, it is likely to increase over time which implies that the ability to pursue both interest rate and exchange rate targets independently of each other will be significantly circumscribed as time passes.

Third, and most importantly, if we are right that the overriding objective of monetary policy is domestic price stability, then the simultaneous pursuit of both an exchange rate goal and an interest rate objective is not likely to be viewed as credible by the market, even if it is technically at least partially feasible. An imperfectly credible exchange rate commitment is an invitation to trouble as we argue in the following section.

## III.2. Will exchange rate coordination increase the risk of speculative attacks?

The answer to this question is, we believe, quite simply yes. Theoretical models of stress on fixed exchange rate systems as well as practical experience support this conclusion. It has long been known that an economy can not have two independent nominal anchors. If interest rate policy is used to target domestic price stability, it is potentially dangerous to use foreign exchange market intervention to target the exchange rate. The reason is, of course the possibility that the two policies are not consistent. This insight was used by the 'first generation' models of speculative attacks on currencies to show that a central bank may be forced to let go of either the domestic policy objective or the exchange rate objective. When international capital flows are possible, the resolution to inconsistencies between domestic monetary policy and exchange rate policy will be 'resolved' by a speculative attack on the currency.

Subsequent models of currency crises introduced the possibility of multiple equilibria and self-fulfilling speculative crises. The argument was based on the principle that a central bank weighs the benefits from honouring the exchange rate commitment against the costs of doing so, which are typically related to the departures from domestic policy objectives implied by defending the fixed exchange rate. In this environment it may happen that the mere expectations that the monetary authority may have to abandon the exchange rate target will bring about changes in macroeconomic conditions that will make this

decision optimal.    In other words, speculations of the demise of the central bank's exchange rate objective may be self-fulfilling.[12]

The implications of these arguments are that coordinated exchange rate policies are potentially destabilising, at least if they take the form of commitments regarding the level of the exchange rate.    The reason is that it is very difficult to design a cooperative common exchange rate arrangement that is consistent with the domestic monetary policy objectives of each member economy. Sooner or later an idiosyncratic shock would present a member of the group with a choice between the domestic policy objective and the international commitment. Our analysis in the previous section implies that maintaining the domestic objective would have higher priority and, knowing this, market participants would speculate on the demise of the exchange rate commitment.    In fact, such speculation could happen simply in the anticipation that such shocks would eventually materialise, and it would therefore be likely that the exchange rate system would be subject to sporadic bouts of instability.

## IV.    EXCHANGE RATE POLICY AND THE EXPORT SECTOR

One reaction to our argument so far might be that policy makers in the region need to retain some control over the exchange rate in order to support their export sectors.    One form of this reaction usually involves an assertion that Asian economies need to maintain undervalued exchange rates in order to support their export-led growth strategies.    It is sometimes accompanied with the suggestion that it would be better if the economies switched to a model based on domestic-demand led growth.    Another form of the reaction builds on the idea that increasing intra-regional trade requires that the rest of the EMEAP economies maintain a competitive exchange rate vis-à-vis the renminbi lest they lose market share to China.    A third reaction is that the export sector in the economies is politically powerful and will use its power to lobby the government for favours including a weak exchange rate.    We will argue that the first of these arguments is fundamentally flawed, and that the second is not well supported by the emerging structure of regional trade integration, and the third can be addressed at least partially by the development of means by which exchange rate risk can be hedged.

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[12]   The Linked Exchange Rate system of the Hong Kong dollar has been considered by market participants as credible because the Hong Kong Monetary Authority has stated consistently that maintaining the exchange rate peg with the US dollar is the *only* monetary policy objective in Hong Kong, and its deeds have matched its words.

## IV.1.    Exchange rate policy, openness, and economic growth[13]

The link between exchange rate policy on the one hand and export dependence, export-led versus domestic-demand led growth on the other is very weak.   Our assertion is that while the smaller Asian countries are highly dependent on exports in the sense that they are very open to international trade, the degree of openness is not out of line with small economies in other continents. Furthermore, the openness is beneficial for economic growth and does not require the need for undervalued exchange rates.   As a basis for an explanation or argument for exchange rate coordination the export dependence hypothesis is inadequate.

It is indeed true that Asian economies are very open to international trade, but this is not surprising as we would expect small economies to have large international exposure.   The degree of openness in Asia is also not out of line with that of small European economies (See Figure 1).

**Figure 1**

**Share of exports in GDP in East Asian economies**
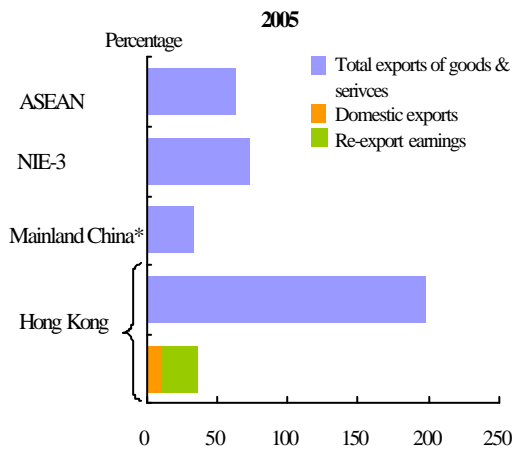
**Share of exports in GDP in small European economies**
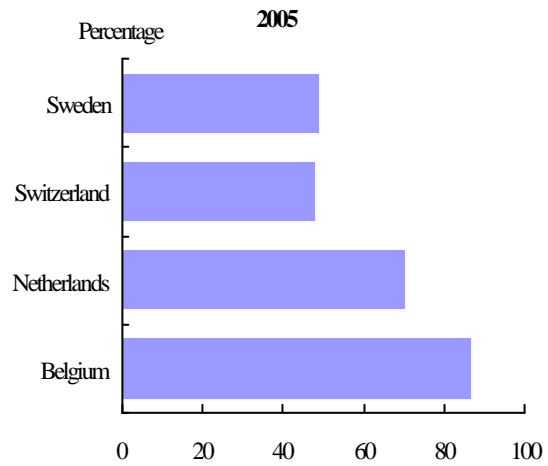


Data are based on merchandise exports only.

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[13]  This discussion draws on He, Cheung, and Chang (2007).

A large body of empirical evidence provides support for the view that a high degree of openness to imports and concentration in production on exports is entirely appropriate for small economies as this is associated with higher rates of economic growth than otherwise would be the case.   The reason is that openness to trade stimulates competition and technological progress which in turn boosts economic growth.   Note also that the stimulus to competition and technological progress can occur either through the export sector or the import-competing sector, so there is no case to be made for trying to achieve an under- or over-valued exchange rate on these grounds.   It bears emphasizing (if only because it seems to be misunderstood in the recent discussion of global imbalances) that it is of course the degree of <u>openness</u> and not trade surpluses and deficits that is related to economic growth, and outward orientation by itself implies neither a tendency towards current account surpluses or deficits. For example, economies in the region generally had balance of trade deficits in the years immediately before the financial crisis in 1997-98 and they were as 'export-dependent' then as they are now.

So why are East Asian economies being characterised as too dependent on exports for their growth and should rely on domestic demand? We believe it is due to mixing of two arguments.   One is the incorrect proposition according to which sustained economic growth can be influenced by aggregate demand, and that growth can therefore be driven by either domestic or external demand.   According to modern theories of economic growth, however, growth is instead determined by the accumulation of factors of production and technical progress, and this view has been backed up by a large body of empirical analysis. As already noted, according to this view openness is likely to foster technical progress and growth, and it should therefore be encouraged.

The second argument related to East-Asian export dependence is the correct statement that to reduce current account surpluses domestic absorption (demand) must increase relative to income.   But this refers only to a cyclical adjustment phase and has no implication for the medium- to long-term growth rates of those two variables.   Balanced growth requires that output, domestic demand, and external demand all grow at the same rate.   Indeed if domestic absorption systematically grew faster than domestic output, the economy would be on a path with increasing trade deficits over time, a clearly unsustainable situation.

In summary, these arguments imply that: (i) openness is beneficial for economic growth, (ii) current account surpluses are not the necessary consequence of openness and 'export dependence', (iii) correcting current account imbalances does not require reducing openness or switching to 'domestic demand-led growth', and (iv) reaping the benefits from trade and openness does not require keeping the exchange rate 'undervalued'.

## IV.2.  Implications of regional trade integration for exchange rate policy

Relating to the belief that a competitive exchange rate is important for export-led growth, it has also been argued that exchange rate stability vis-à-vis the renminbi has become an important policy concern, given the increasing degree of vertical integration of regional trade and the central role that China plays in this process.  However, this argument is based on the assumption that China is a major competitor of the rest of the EMEAP economies.  In fact, there is little evidence overall that increases in China's exports reduce exports of other emerging Asian economies.  Indeed, it appears that China's exports and exports of other economies are positively correlated, largely driven by common shocks such as trading partner income (Ahearne et al, 2003).  The trade structure among the EMEAP economies is diverse, including trade that is oriented for domestic use within the region, processing trade through China, as well as trade with economies outside the region.  Thus, appreciation and depreciation against the renminbi would have different consequences for these different forms of trade.

In any case, changes in the exchange rates have not been the primary determinant of export growth for the major Asian exporters; a more important determinant has been income growth in the major trading partners (Ahearne et al, 2003).  The "Great Moderation" observed in the last decade indicates that monetary policies that focus on stabilising inflation have also succeeded in bringing about a tangible reduction in output volatility, and therefore a stable income demand for exports.  For the growth of Asian economies such stability of external demand is likely to outweigh the effects of any increased fluctuations in export prices as a result of nominal exchange rate volatility.  This is borne out by the phenomenal growth in world trade despite the high volatility in the exchange rates of the major currencies.  Therefore, monetary policy can best promote export-led growth by providing a stable domestic macroeconomic environment. It is thus difficult to make a convincing case that exchange rate stability vis-à-vis the renminbi should be an important consideration for facilitating intra-regional trade.

## IV.3.  Political pressure and exchange rate policy

Even if the central bank considers domestic price stability rather than exchange rate stability as the principal objective of monetary policy, pressure may be brought to bear on the authorities to support politically powerful sectors of the economy by means of a targeted exchange rate policy.   This potential conflict between the objectives of the central banks and other policy authorities is likely to bring about greater instability in financial markets as investors assess the relative political strength of different policy institutions.   If monetary policy is to be successful in targeting internal price stability without undue constraints imposed by volatile foreign exchange markets, and if monetary policy is to avoid being "captured" by the vested interest of the export sector, it is important that the private sector be given the possibility to learn how to live with and protect itself against more variable and unpredictable exchange rate fluctuations. This involves developments of financial markets where exporters and importers can hedge currency exposures.   Thus, developing more sophisticated financial products for risk management and more liquid and integrated regional financial markets should facilitate meeting price stability targets by central banks. Regional cooperation in developing such markets could play a positive role in this process.

## V.  IMPLICATIONS FOR COOPERATION

## V.1.  Setting of policy instruments need not be coordinated

In the foreseeable future it is likely that the majority of EMEAP central banks will continue to practice an approach to monetary policy that focuses on domestic macroeconomic stabilisation.   As we have seen, the specific goal is typically defined in terms of price stability with, in some cases, additional references to real economic growth and employment.   The pursuit of this type of monetary policy does not require explicit co-ordination between monetary authorities.   There are plenty of examples of central banks with a long history of following such a strategy without coordination with neighbours.   Examples that come to mind are the monetary authorities in countries such as Canada, Norway, Sweden, and Switzerland to mention just four.   All of these countries have small highly open economies, and the independent pursuit of domestic price stability together with a floating exchange rate has been very successful.   Although the

exchange rates have fluctuated relative to competitors, there have not been any calls for policy consultations as a result. Possibly a contributing factor to the lack of conflict is that the policy objectives have been expressed clearly and transparently, with little doubt that domestic price stability is the principal goal. Exchange rate fluctuations have been recognised as a by-product of a monetary policy focused on domestic price stability and not as a result of attempts to gain competitive advantages.

Critics of the unilateral pursuit of domestic policy objectives have expressed two types of concern that need to be addressed. One argument is that without explicit coordination of policies, exchange rates will be excessively volatile to the detriment of economic growth. There are several responses to this concern. First, judging by existing empirical evidence, there does not seem to be any clear evidence that greater exchange rate volatility is damaging for economic growth (Rogoff et. al. 2004). Second, there is nothing in principle that prevents a central bank targeting domestic price stability from intervening in the foreign exchange market to reduce excessive exchange rate volatility. Of course, it may be difficult to determine what constitutes 'excessive', but this is an issue that each central bank would have to grapple with on its own. Third, if volatility of bilateral exchange rates is the result of idiosyncratic shocks, then co-ordinated policies designed to limit such movements would shift the burden of adjustment onto domestic prices and income and hence conflict with the domestic objectives of monetary policy. The credibility of the central bank would hence be affected.

A second objection to uncoordinated monetary policy strategies is that they would make regional exchange rates relative to the US dollar too rigid thereby preventing international adjustment. This is the coordination failure argument mentioned before, and we would argue that it is fraught with two significant shortcomings. First, it is counterfactual in that it does not recognise that there have been significant inter- as well as intra-regional exchange rate adjustments in the recent past (Table 2). It is of course possible to argue that adjustments should have been even larger in view of the remaining global current account imbalances, but this presumes that nominal exchange rate adjustments is the most appropriate vehicle with which to deal with such imbalances. This presumption is the second shortcoming of the coordination failure argument. While real exchange rate adjustments typically accompany current account adjustments, it is generally believed that changes in nominal exchange rates can influence real exchange rates only temporarily.

**Table 2:   Exchange rate adjustments relative to the US dollar**
**(Percent change, Jan 2005-July 2007)**

| | |
|---|---|
| Japan | 17.22 |
| Hong Kong | 0.26 |
| Indonesia | - 1.54 |
| **Average** | **- 7.32** |
| Singapore | - 7.52 |
| Mainland China | - 8.61 |
| Malaysia | - 9.43 |
| New Zealand | -10.14 |
| Korea | -10.47 |
| Australia | -11.21 |
| Philippines | -16.90 |
| Thailand | -22.21 |

Source: Authors' own calculations.

## V.2.   Harmonisation of goals and consultation on institution building

Having argued that regional coordination of the setting of policy instruments is not required for central banks to be able to carry out a successful monetary policy, we now want to suggest that in the foreseeable future, the focus of regional cooperation should be on promoting further financial integration. In the longer term, with a high level of both trade and financial integration, business cycles in the region will be more synchronised; in such a scenario, consultation and coordination in defining policy goals and institution building can be beneficial.

We take it for granted that central banks in the region aim to create a fully integrated regional financial market as well as an environment of monetary stability in which trade and economic growth can thrive.   Any approach with these aims must be compatible with the constraint of the so-called impossible trinity, which in this case implies that participating central banks must choose between having an independent monetary policy or effectively outsourcing it to an external institution, be it another central bank or a separate regional monetary authority.   In view of central banks' current emphasis on the independent pursuit of domestic policy goals, these constraints imply that any acceptable approach to regional monetary cooperation must be evolutionary so that initially each central bank is able to implement its own monetary policy independently of external constraints.   In the longer term, there could be collaboration on agreeing on a

consistent objective to be pursued by all participants in the arrangement.[14]

To be compatible with liberalisation of international capital flows, there should be no commitment towards maintaining a particular exchange rate level. Of course, this does not mean that the exchange rate should be ignored in the implementation of the monetary policy strategy. Indeed there is a presumption that attention should be paid to the information contained in exchange rate movements when the inflation targeting strategy is implemented.[15]

As financial markets become fully integrated, and if inflation objectives of the regional central banks are sufficiently similar, interest rates are likely to become highly correlated across the economies. The reason is simply that with common objectives and similarity of cyclical developments, the interest rate decisions of each central bank will be substantially similar.[16]

How stable bilateral exchange rates will be depends on a number of factors. As already noted, in highly open economies a monetary policy strategy that targets inflation will pay attention to exchange rate movements. This will tend to dampen exchange rate fluctuations. However, even if objectives of central banks are similar, it is possible that financial markets will not evaluate economies identically, and therefore it is possible that exchange rates will show some fluctuations. The credibility of each central bank's commitment to the announced objective and its ability to implement the policy are important considerations in this regard. So is the consistency of other macroeconomic policies with the monetary policy objective. Taking these considerations into account one should expect exchange rates to be subjected to some short run fluctuations. For example, Switzerland is highly integrated with economies in the Euro area and the Swiss National Bank has much the same objectives as the European Central Bank, yet the exchange rate between the Swiss Frank and the Euro does display a nontrivial degree of volatility.

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[14] Note that unless such an agreement can be achieved, there is no point in trying to achieve monetary unification in the first place.

[15] It is also quite possible to use the exchange rate rather than some short-term interest rate as the operating target. This is indeed the approach of the Monetary Authority of Singapore.

[16] Some differences may still be observed if the monetary policy transmission mechanism is not exactly the same across countries, because in this case the timing of changes in policy interest rates may vary across jurisdictions. However, even in this case long-term interest rates should still evolve in a rather similar pattern.

If complete monetary unification is desired by some subset of central banks they can formally agree to centralise monetary policy decisions in a common central bank, which has been established in the intervening period, or they can decide to delegate it to an existing central bank.[17]  In the first case the delegation of monetary policy will be carried out simultaneously with the introduction of a new common currency, and in the second case with making the currency of the chosen central bank the common currency in the group. Of course, there is no requirement that the last step of the approach – that of adopting a common currency – be implemented by all countries in the region. The benefits from financial integration and monetary stability will be forthcoming anyway even if those of a common currency will not.

The advantages of the approach to monetary integration that we have sketched here are that it is compatible with increasing integration of financial markets, it naturally evolves from a system where central banks pursue similar objectives in their own self interest which makes it incentive compatible, and it allows for a 'variable geometry' of the final area that adopts a common currency.

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[17] Wyplosz (2004) emphasises the role of institution building in the process of monetary integration process in Europe.

**REFERENCES**

Affandi, Y. (2004), "Estimating Monetary Policy Rule in Post Crisis Indonesia." Mimeo. November.

Ahearne, Alan G., John G. Fernald, Prakash Loungani and John W. Schindler (2003), "China and Emerging Asia: Comrades or Competitors?" Federal Reserve Bank of Chicago, WP 2003-27.

BIS (2006), *Monetary Policy in Asia: Approaches and Implementation*. BIS Papers No. 31, December.

Frankel, J. A. and S. Wei (1994), "Yen Block or Dollar Bloc? Exchange Rate Policies of the East Asian Economies," in Ito, T. and A. Krueger (eds.), *Macroeconomic Linkage: Savings, Exchange Rates, and Capital Flows*. Chicago: University of Chicago Press, 295-333.

Genberg, H. (2006), "Exchange-Rate Arrangements and Financial Integration in East Asia: On a Collision Course?" *International Economics and Economic Policy*, Volume 3, Numbers 3-4 / December, 2006, pp. 359-377.

Gerlach, S. and P. Gerlach-Kirsten (2006), "Monetary Policy Regimes and Macroeconomic Outcomes: Hong Kong and Singapore." In BIS (2006).

He, Dong, Lillian Cheung, and Jian Chang (2007) "Sense And Nonsense On Asia's Export Dependency And The Decoupling Thesis." HKMA Working Paper 03/2007, April.

He, Dong and Laurent Pauwels (2007) "What Prompts the People's Bank of China to Change its Monetary Policy Stance—Evidence from a Discrete Choice Model." HKMA Working Paper (forthcoming).

Ho, C., G. Ma, and R. N. McCauley (2005), "Trading Asian currencies," *BIS Quarterly Review*, March, pp 49-58.

Kenen, Peter and Ellen E.Meade (2007), *Regional Monetary Integration.* Cambridge University Press.

Kim, S and Y.C. Park (2006), "Inflation Targeting in Korea: A Model of Success?". In BIS (2006).

Ma. G and R.N. McCauley (2007), "Do China's Capital Controls Still Bind? – Implications for monetary autonomy and capital liberalisation." Bank for International Settlements, Working Papers No. 233.

McCauley, R.N. (2006), "Understanding Monetary Policy in Malaysia and Thailand: Objectives, Instruments, and Independence." In BIS (2006).

Ogawa, Eiji and Takatoshi Ito (2002), "On the Desirability of a Regional Basket Currency Arrangement," *Journal of the Japanese and International Economies*, vol. 16, September 2002: 317-334.

Ouyang, A., R. Rajan, and T. Willett (2007a). "China as a Reserve Sink: the Evidence from Offset and Sterilization Coefficients." Hong Kong Institute for Monetary Research Working Paper No. 10/2007.

Ouyang, A., R. Rajan, and T. Willett (2007b), "Managing the Monetary Consequences of Reserve Accumulation in Emerging Asia." Mimeo, April.

Rogoff, Kenneth, Aasim M. Husain, Ashoka Mody, Robin Brooks, and Nienke Oomes, (2004), "Evolution and Performance of Exchange Rate Regimes," IMF Occasional Paper 229. Washington: International Monetary Fund.

Salas, J. M. I. (2004), "The Philippine Central Bank's Monetary Policy Reaction Function from 1992 to 2003." Master's paper, School of Economics, University of Philippines.

Wyplosz, C. (2004), "Regional exchange rate arrangements: Lessons from Europe for East Asia." In: Asian Development Bank (ed.) *Monetary and financial integration in East Asia, the way ahead*, vol 2. Palgrave Macmillan, pp. 241-84