Asian monetary union – where do we go from here?

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I. INTRODUCTION

Purpose and outline

Asian monetary union (AMU) is a subject that has received increasing attention in recent years, notably since the successful launch of the euro, but there has been little substantive progress in the direction of such a union.

This paper reviews and discusses a range of issues relating to the question of whether some group of Asian economies should move towards monetary union and a common currency. It aims, in particular, to identify key areas where further study could now usefully be undertaken, in order to extricate the issue from the rut in which it appears currently to be stuck.

The paper is organised as follows. After the introductory section, which sets out the background to the study, section II provides a short account of the case for and against monetary union, in mainly theoretical terms. Section III discusses the background to and implementation of the euro. Section IV examines in the Asian context the various economic issues that might be relevant to any decision on monetary union. Section V considers the political and institutional aspects. Section VI embarks on a discussion of how Asia might in practice proceed in addressing the issue, and Section VII goes on to propose concrete preparatory work under three particular headings. Section VIII refers briefly to questions of pre-conditions and continuing obligations, which would need to be addressed at some stage. Section IX draws together some conclusions.

History, meaning and coverage

In macroeconomic terms a common currency regime may in many respects resemble the situation where economies maintain fixed rates of exchange, via the gold standard, a currency board or discretionary intervention. The crucial differences, however, are that the common currency does not permit any autonomy at all in monetary policy, as would be possible under a fixed exchange rate regime with the assistance of some form of exchange controls; and that, even though it might in principle be possible to unscramble the arrangements and revert to a separate currency, it is generally regarded as an irrevocable choice.

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2 Various sources provide reviews of the subject, to varying degrees of detail, and some rather dated by now. See, for example, Fabella (2000), Kawai and Takagi (2000) and Wyplosz (2001),
For the purposes of this paper, AMU is taken to mean, in its ultimate manifestation, a unified currency for a group of Asian economies, to replace their separate national currencies. It would constitute the final step along any path of monetary cooperation in Asia, but it should be noted that such cooperation is often discussed without the wish or presumption that it would necessarily proceed so far as a common currency.

Different observers may have different ideas as to the exact geographic coverage of the proposal, but it is generally taken to embrace, at most, economies in south-east and east Asia, but not south Asia or Australasia, even though Australia and New Zealand are in many respects quite closely linked to the region. For the purposes of this paper it is therefore assumed that the maximum extent of AMU would be the members of the Association of Southeast Asian Nations (Asean), plus those with observer status there (East Timor and Papua New Guinea), plus greater China, Japan and South Korea. Thus the full list is: Brunei, Cambodia, China, East Timor, Hong Kong, Indonesia, Japan, Laos, Macau, Malaysia, Myanmar, Papua New Guinea, Philippines, Singapore, South Korea, Taiwan, Thailand, Vietnam. In practical terms it would be immaterial if some of the smaller economies on the list were in or out, or if any other small peripheral economies were included. On the other hand, the omission of either of the two largest economies, China or Japan, might have major repercussions for the design or viability of the arrangement.

Current arrangements

Brunei and Macau, although they possess formally independent currencies, each operates a currency board based on another currency within the group – Brunei on the Singapore dollar and Macau on the Hong Kong dollar. Hong Kong has a currency board based on an outside currency, the US dollar. East Timor does not have a currency of its own but uses the US dollar; this does not necessarily exclude the possibility of it altering its arrangements in the future. China and Malaysia operate de facto pegs to the US dollar. Japan, Papua New Guinea, Philippines and South Korea have “independently floating” currencies. The remainder practise “managed floating with no pre-announced path”.

It should be noted that all of the economies with the exception of Hong Kong and Japan practise capital controls, albeit to widely varying degrees of intensity.

The region has long had a US dollar focus. Table 1 shows a measure of the variability of regional currencies against the dollar and against the yen over the last ten years. Over the full period, the majority of currencies recorded greater variability against the dollar than against the yen, but this was largely because of big adjustments against the dollar during the 1997 Asian financial crisis, which broke a number of de facto dollar pegs. However, since then (taking September 1998 as the new starting point), there has been notably less variation against the dollar, with some currencies continuing to shadow the dollar either formally or informally. In this period only Indonesia and South Korea have shown more stability against the yen than against the dollar.

Meanwhile, the region’s economies account for over half of the world’s official holdings of foreign exchange reserves (table 2), and continue to amass them, mainly, it

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3 Via common membership of APEC and EMEAP, for instance. India has also been mentioned as a possible member of any union in the longer term; see Kuroda (2004).
4 ie China, Hong Kong, Taiwan and implicitly, though it is seldom mentioned, Macau.
5 These classifications for each country are taken from the IMF’s Annual Report 2004, except for Taiwan which is not covered there but is observed to follow a managed float. Cambodia, Laos and Myanmar each operate more than one exchange rate system; the reference here is to the major market.
seems, in US dollars. According to IMF figures, some two thirds of global foreign exchange reserves at end-2003 were held in dollars. During 2002 and 2003 over 80% of the new accumulations of reserves comprised dollars, and, despite anecdotal evidence of increased diversification since then, the proportion being accumulated in dollars is still likely to be quite high. The valuation effect of the dollar’s depreciation may, however, cause the overall dollar proportion to stabilise, or even decline. Meanwhile the proportion held in yen remains at around 5%. The euro proportion has been the principal beneficiary of any active diversification away from the dollar and of valuation effects.

Official efforts towards closer ties

Over the years, in accordance with its desire to “internationalise” the yen, Japan has attempted to persuade others in the region to peg their currencies to the yen or at least afford the yen a sizeable weight in any basket which guides exchange rate policy. It has tried to make yen instruments, or procedures for the trading thereof, more attractive to foreigners; and it has sketched a blueprint plan of actions for internationalisation of the yen. But none of these moves has been particularly successful. The monetary authorities in the rest of the region persist with a much stronger focus on the dollar than anything else.

This dollar focus may at least partly be motivated by trade considerations – the fact, or belief, that a stable or relatively stable rate against the world’s main trading currency best suits those involved in international trade. This would imply a belief also that, to the extent that the nominal exchange rate is anchored, any necessary adjustments to the real exchange rate could be satisfactorily achieved by variations in domestic cost and price levels. If that is the case, there may be little incentive to vary existing exchange rate regimes. It is possible, however, that, for some at least, the target has increasingly become stability against the renminbi, but that this motivation is obscured because of the stability of the dollar/renminbi rate for the past ten years. In such cases, by implication, some move towards a broader or more formal AMU may be attractive. If or when China adjusts the renminbi against the dollar, the reaction of others in the region will provide useful insights into attitudes on this issue.

In 1997 Japan floated the idea of an Asian Monetary Fund, but this came to nought because of political opposition elsewhere. Next, Asean leaders, meeting in Hanoi in December 1998, endorsed a project to study the feasibility of a common currency, but little progress has been recorded there. The subject was more recently boosted by being debated in the margins of the annual general meeting of the Asian Development Bank in May 2004, although no consensus seemed to emerge.

Most recently, the chief executive of the Hong Kong Monetary Authority noted the possible advantages of Asian monetary union in terms of fostering financial stability, but raised a number of questions which would need to be answered before the economic justification for such a union could be decided. He confessed that, to his knowledge, no formal or serious discussion among Asian authorities had yet taken place.

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6 IMF Annual Report 2004
8 However, as shown in the first column of table 3, for some of the economies China is still only a rather modest trading partner.
9 As recorded by Yam (2004).
10 See, for example, Chino (2004) and Rowley (2004).
11 Yam (2004).
Thus, in contrast to the considerable discussion of the prospects for AMU that has taken place in some academic circles, on the official side there has been little practical progress in deliberations, still less with actions. The only areas where concrete steps have been taken which may be deemed in any sense relevant are swap networks and bond markets. A set of bilateral swap agreements among EMEAP\textsuperscript{12} members was established in 1995, albeit only providing US dollar liquidity against US treasury securities. Then, since 2000 a series of bilateral swaps between US dollars and domestic currencies among Asean+3 countries\textsuperscript{13} has been developed under the Chiang-mai initiative.\textsuperscript{14} Meanwhile, a number of initiatives have been launched through EMEAP, Asean+3 and APEC (Asia-Pacific Economic Cooperation) to develop regional bond markets, but in terms of currency focus none has yet yielded any significant diversion of attention away from the US dollar.

II. MONETARY UNION

General considerations

In assessing the merits of monetary union at the economic level, there must first be agreement as to the purpose of monetary policy itself. Current conventional wisdom is that the purpose is to maintain a stable monetary environment, in which economic welfare objectives – such as low inflation and growth, including the ability to absorb or adjust to external shocks with the minimum of losses – can be best satisfied, but where monetary policy supplies the facilitative environment and, although possibly serving as a short-term instrument of demand management, is not regarded as a means for directly influencing the economy’s underlying productive potential. However, the nature of the objectives which may be agreed is less important that the fact of agreement itself, since, if central banks are not in agreement on basic objectives, whatever they may be, there is absolutely no point in seeking to unify the monetary systems.

In practice, the operation of a monetary union would require not just consensus on those general objectives, but also more specific agreement on details of the unified policy focus, and the development of a single decision-making and operational framework.

But, while a viable framework for a common monetary policy is a necessary requirement of a monetary union, it is not a sufficient reason for adopting one. Currency union should not be an end in itself but only a means towards better economic performance. The challenge for each prospective member of the union is to determine whether or not it would actually be better off for having surrendered monetary autonomy.

There is also a question of whether such a union, however desirable in economic terms, would be politically achievable. It necessarily involves surrender of sovereignty and, in substitution, an agreement on common goals. In Europe, monetary union was driven, to a large extent, by political considerations and would almost certainly not have materialised, had it not been for the powerful political momentum behind it.

\textsuperscript{12} The Executives’ Meeting of East Asia Pacific Central Banks, established in 1991.

\textsuperscript{13} The Asean members together with China, Japan and South Korea.

\textsuperscript{14} These are mostly conditional on compliance with IMF programmes – which is somewhat ironic in view of the disdain sometimes shown in the region for the IMF
The broad economic case

Mundell has come to be regarded as the father of the modern academic debate on the optimum currency area (OCA), while, a little later and in a separate context, Werner was perhaps the first to deliver some practical and political impetus to the subject.\textsuperscript{15}

The OCA literature has focused on articulating the economic conditions for successful currency union, identifying what is the best set of criteria by which to judge whether two or more economies would be better served by having a single currency, and carrying out associated empirical investigations.

The arguments in favour of a unified currency may be summarised as follows:

- savings from not having to hedge currency exposures;
- savings on the shoe-leather costs of shopping around to find the best exchange deals;
- no longer being deterred from a transaction altogether merely because of risk aversion to exchange rate uncertainty;
- improved cross-border price transparency, leading to more intense competition;
- avoidance of the damage inflicted by exchange rate misalignment,\textsuperscript{16} such as mistaken investment appraisals or hysteresis effects;
- benefits which may arise from coordination of policies designed to achieve a common goal of monetary stability;
- reduced need to maintain national foreign exchange reserves.

Through these various channels welfare may be enhanced, most visibly, perhaps, if trade expands. There is a body of empirical work attesting to the trade benefits of a stable exchange rate or \textit{a fortiori} a common currency.\textsuperscript{17}

Against these arguments must be put the costs of losing monetary autonomy and the costs of adjusting to country-specific shocks when monetary policy is no longer an available instrument.

III. THE EUROPEAN EXPERIENCE

History

For many years the OCA debate was largely confined to examining hypothetical situations, since there was no sufficiently recent case of deliberate election for currency union among economies with previously separate currencies that could serve as a relevant empirical test-bed. That has now changed with the adoption in 1999 of the euro by eleven European countries (joined by a twelfth, Greece, in 2001). The following paragraphs review

\textsuperscript{15} Mundell (1961). The Werner report (1970) was the first substantive step on the road to monetary union in Europe. Kenen (2002) reminds us that Mundell was dealing only with the macroeconomic aspects, and was writing in an era of mainly low capital and labour mobility between countries.

\textsuperscript{16} Misalignment in the sense of movement that is not based on economic fundamentals; Bui\textsuperscript{17} ter and Grafe (2003), for example, point out that the existence of technically efficient foreign exchange markets, supported by high capital mobility, does not necessarily imply that those markets are informationally and allocatively efficient.

\textsuperscript{17} Most famously by Rose (2000) from his ‘gravity’ model research, from which he concluded that membership of a currency union might account for a tripling or more of trade between members. Although others have challenged the findings, for instance by pointing to endogeneities in the process, some of which points Rose has conceded, the general conclusion, that there is a significant positive impact on trade, appears indestructible. See, for example, Melitz (2001).
the path to European monetary union (EMU), with a view to informing the discussion of AMU.

In Europe the road to the euro was long. Visionary statements about possible monetary union had been made as early as the 1950s. The first moves of any substance came following the Werner Report of 1970, with the instigation in 1972 of the “snake in the tunnel” – an arrangement aimed at limiting fluctuations in exchange rates between members. Although its success was shortlived, it laid the foundation for a more concerted effort to contain fluctuations in exchange rates with the inception of the European Monetary System (EMS) in 1979.

There were three elements to the EMS: a new unit of account, the European Currency Unit (ecu) based on a basket of member currencies; a European Monetary Cooperation Fund (EMCF) to provide balance-of-payments assistance; and the Exchange Rate Mechanism (ERM) under which national currencies set central rates against the ecu and maintained their rates within standard margins of 2.25% on either side of the central rates (though 6% for some).

The ecu became the unit of account for the European Union, being used formally in budgetary calculations etc, and there was a pool of “official” ecu created by central banks swapping part of their foreign exchange reserves and gold. These official ecu could be transferred between central banks only. But a private ecu market also developed, with bond issuance and exchange market activity taking place – initially on only a modest scale, but growing as the ecu became accepted and as it was eventually earmarked for transition into the euro.

Despite various realignments of central rates subsequently, and despite the fact that, for a while around the time of the 1992-93 crisis when the bands were widened to 15%, the system resembled more a floating regime, the ERM provided the framework within which the convergence process operated for the currencies which were in due course to merge into the euro.

The starting point of the final push towards the euro was the establishment of the Delors committee in 1989. This led to the Maastricht treaty of 1991; completion of the internal market programme – with free trade, substantial dismantlement of non-tariff barriers and full liberalisation of capital flows – under the Single European Act of 1992; the establishment of the European Monetary Institute (EMI) in 1994, which transformed into the European Central Bank (ECB) in 1998; and the launch of the euro at the start of 1999. Throughout this history there was a strong underlying political determination among the core eurozone countries to reach the eventual goal.

Six years on since its inception, it is clear that the fusion of currencies into the euro has been successful as a technical and operational exercise. The evidence of economic performance is arguably more mixed, with some countries such as Ireland, Greece and Spain appearing to flourish, while others such as Germany and Italy have languished somewhat. No firm conclusions have been reached as to how much these developments may be attributable to monetary union itself, but there is a suspicion that the laggards have been suffering because of inflexibility in their internal economic structures and labour markets, which have come under the spotlight partly because the instrument of unilateral monetary policy is no longer available.

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18 Recounted in, inter alia, Portes (2001) and Chiu, Morris and Pineau (2002).
The passage of time also allows for an appraisal of the convergence programme, both as to how it was observed, what it may have contributed to the overall success, and how, in retrospect, it might have been better or differently designed.

The convergence process in Europe

Under the Maastricht treaty, candidate countries had to fulfil a number of conditions, mostly related to achieving convergence with one another. Each currency had to have been fully convertible for at least two years and the exchange rate must have been functioning satisfactorily in the exchange rate mechanism within margins of 2.5% and without any devaluation against other members; the rate of inflation must have converged to close to the area’s average; long-term interest rates must also have converged to close to the average; the fiscal deficit must have been at or below 3% of GDP; and the outstanding amount of government debt no more than 60% of GDP – or moving towards that figure at a satisfactory pace. In the event, all the criteria were judged to have been satisfied by all the eleven candidates.\(^{19}\)

Inflation

For inflation, the criterion was set at achieving a rate of increase in consumer prices (on the harmonised EU measure) no more than 1.5% above the average of the three lowest inflation countries. While it was clearly desirable – albeit, arguably, not essential – that inflation should be under control before the euro was launched, and to be in line with prevailing economic wisdom around the world this would have meant a rate of no more than 2-3% across the EU, it seems with hindsight that a 1.5% range between highest and lowest may have been unnecessarily tight, leaving insufficient room for the differentials which one might expect, and indeed require, to accommodate structural adjustments. It is noteworthy that by 2003 there were five eurozone countries which would have been in breach of this criterion if it had been kept as a continuing obligation.

One of the reasons why overall inflation in the eurozone remained above the ECB’s target ceiling of 2% in the early years of the euro was the fact that inflation was obstinate and would not, largely because of structural rigidities in the labour market, go below zero in any participating state. There is debate as to whether the current dispersion of inflation rates is merely a reflection of the necessary adjustment of competitiveness in consequence of structural differences, or a more sinister sign of strain within the euro system.\(^{20}\) Given that, ahead of the euro’s launch, all were satisfying the criterion of exchange rate stability, it was perhaps unnecessary to impose quite such a rigid view of inflation convergence.

An OECD study\(^{21}\) found that, historically, internal migration has played a more significant role in equilibrating regional imbalances in the United States than it has in Europe, leading to the conclusion that relative wages (and hence prices of certain output) would need to adjust more in Europe. It cites research on the US indicating that a spread of 3-4% between the highest and lowest inflation rates among the states was needed, implying that at least as large a spread might be needed across the eurozone. The ECB, if one assumes that it does not expect actual deflation to occur in any member country, implicitly sees 2% as sufficient. This may only be consistent with macroeconomic equilibrium within and between members, if migration accelerates.

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\(^{19}\) See the 1998 *Convergence Report* for the final appraisal of adherence to the criteria by the initial eleven currencies.


\(^{21}\) OECD (2002).
Fiscal policy

The fiscal criteria have created the biggest problems for the euro zone, not only regarding initial compliance but also because they were subsequently consolidated into the Stability and Growth Pact (SGP) as a continuing obligation. All eleven founder members were judged in 1998 to have satisfied the criteria, although a few only after applying permitted flexibility in terms of making satisfactory progress towards the 60% debt ratio. But, because some countries only just managed to meet the pre-entry criteria in fairly benign economic circumstances, it was scarcely surprising that budget deficits came to overshoot the 3% ceiling during a subsequent economic downturn. This highlights flaws in the design of the SGP rather than necessarily calling into question the philosophy on which it is based.  

There is nevertheless scope to dispute that philosophy. It is based on the view that within a currency area a certain degree of collective fiscal discipline is required to safeguard the common monetary policy from being placed under undue pressure from irresponsible fiscal policy among a minority – the free-rider problem. The fear is not only that governments may crowd out other borrowers from financial markets, but also that the very existence of a sizeable borrowing requirement may engender fears of inflation – because of the lurking threat of monetary financing, even if formally proscribed – and so drive up interest rates zone-wide.

The alternative view is that, since the monetary rules prohibit central banks from directly financing government deficits, there is no more serious monetary impact from government running a deficit than from the corporate sector doing so, at least not when the economy is operating below productive potential, and that individual governments should therefore be left alone to use fiscal policy for counter-cyclical correction and to make the political/social choice as to the nature and scale of the public sector’s role in their respective economies. In support of this view it is noted that the deficit overruns to date do not appear to have had any significantly harmful effects on interest rates, nor hence on the conduct of monetary policy or the relationship of the euro to other currencies. The growing credibility of the ECB diminishes fears that fiscal profligacy might culminate in some sort of inflationary bail-out. Further support for this general point derives from the observation that US long-term rates have remained low in the face of large and growing budget deficits there.

In essence, therefore, the received wisdom that high fiscal deficits will necessarily involve high interest rates has been called into question in recent years as a result of the clear separation of monetary from fiscal responsibilities in most jurisdictions.

Central bank autonomy

In addition to these economic criteria, there was a requirement that national central banks and their governors, who would be their countries’ representatives on the ECB’s decision-making committee, should be adequately independent from finance ministries and parliaments.

22 See Allsopp and Artis (2003) for a useful survey of this field: they argue for a coherent set of fiscal rules, but with sufficient flexibility to accommodate the cycle and asymmetric shocks. See also Buiter (2003) for a critique of the fiscal rules of the Stability and Growth Pact and a suggested framework for any such rules.  

23 Eichengreen (2004), for example, is sceptical of arguments concerning free-riders and collective damage, noting that breaches of SGP have had no adverse consequences for monetary conditions in the eurozone.
IV. CONSIDERATIONS FOR ASIA

General

The broad consensus from the academic literature over a period of more than forty years is that economies are likely to be more suited to monetary union –

- the more open they are;
- the greater the diversity of their trade;
- the less likely they are to suffer idiosyncratic shocks; in other words, the more likely it is that shocks affect members symmetrically;
- the greater the flexibility of their individual labour markets, particular in respect of real wages.

The following paragraphs examine these and other factors drawn from the OCA literature, which may be considered relevant to determining the readiness of Asia for a common currency.

Openness and trade integration

The utility of an independent currency tends to be less, the more open is the economy, and the more dependent it is on any one dominant trading or financial partner. However, the case for some sort of fixed rate or currency union would always be dependent on the currency to which one is pegged, or the unified currency, itself being soundly managed and possessing other desirable attributes such as convertibility.

By way of illustration, the openness and trade-links arguments may be persuasive in suggesting that Hong Kong and Macau should adopt the currency of mainland China, but the renminbi lacks convertibility and Beijing has yet to establish any sort of track record in managing a convertible currency. Even if such conditions were satisfied, one could appeal to the examples of such countries as Canada, Mexico or Switzerland to show that a unified currency with a dominant neighbour is by no means a necessary condition for prosperity.

The degree of trade integration among the Asian economies is considerable and growing rapidly, although some will, of course, always be more dependent than others on neighbours in the region. Some past research suggested that integration fell short of that among the eurozone countries immediately prior to the launch of the euro, but that comparison may be changing with time. Table 3 shows that integration in 2003 ranged from 43% to 70% among a core group of the region’s economies.

Typically, trade integration would be seen as providing the basis for a successful monetary union. On the other hand, to the extent that trade has already flourished in the absence of currency union, the potential further benefits from such a union are diminished.

24 McKinnon (1963) was among the first to specifically suggest that it was inappropriate of a small open economy to maintain an independent currency.
25 Trade integration has been measured by a number of researchers, for example, Chui, Morris and Pineau (2002) and Xu (2003). Wyplosz (2001) already found stronger residual integration in Asia, compared to Europe, after allowing for gravity factors.
26 It should be borne in mind that linkages in the field of services are also very important, but there is no readily available bilateral data.
Mutual capital flows

Data is lacking in this area. Apart from one or two specific instances, most notably Hong Kong and China, intra-regional capital flows are probably rather modest, certainly in comparison to Europe, not least because of either deliberate controls or adverse risk assessments. But here, too, the scene is changing quite rapidly, notably in respect of direct investment.27

Disparities in living standards

Income disparities are substantially greater across the Asian region than Europe. For example, GDP per head in Japan is some 100 times larger, at market exchange rates, than in Laos and Cambodia, and some 40 times above Indonesia (table 4), whereas at the launch of the euro the maximum divergence between member countries was a factor of 4½, or only 2½ if Luxemburg, a very small but wealthy country, is excluded (table 5). This would ceteris paribus tend to make the region less suited to monetary union. However, the fact that some of the new EU members which are regarded as candidates to join the euro in the not-too-distant future are substantially poorer than existing members, suggests that such divergences may not be considered an absolute barrier to entry, although wider inflation differentials across members of the union, or greater internal structural flexibility, may be required to accommodate the greater income disparities. Even so, the largest divergence within the enlarged EU (table 6), at a multiple of 13 (or 9 if Luxemburg is excluded) is still very much smaller than that in Asia.

Exchange rate variability and focus

The historical variability of exchange rates has already been discussed. However, given economic and political change, this cannot be taken as much of a guide to future variability. It is widely presumed that, as with Europe, there would need to be a prior period of stability between the currencies in order to make a currency union credible, but there are examples of economies in the past succeeding in stabilising or fixing their exchange rates quite abruptly, without a track record of convergence – most notably the Hong Kong dollar in fixing to the US dollar in 1983. During much of the period when Europe was discussing and negotiating union, the member currencies were exhibiting considerable volatility. This did not prevent the eventual union. Existing variability should not, therefore, be taken as a signal that monetary union could not be achieved.

Inflation disparities

Disparities in inflation rates exist, but some are explained by currently differing monetary regimes. Inflation has subsided in recent years in the key Asian economies (table 7), with deflation emerging in some. There is no reason to believe that whatever degree of convergence was deemed necessary as a condition for AMU could not be achieved, although to the extent that divergences arise from structural diversity across Asia, quite wide disparities – wider, at any rate, than in Europe – may not be inconsistent with exchange rate stability.

Structural homogeneity

Structural differences, associated with factor or cultural endowments or with different stages of economic development, are likely to be greater across any prospective Asian group

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than they were in Europe.\textsuperscript{28} This suggests that, in order to accommodate the differential impact of shocks and the evolution of structural changes (such as the Balassa-Samuelson effect), considerable flexibility in real exchange rates may be needed. If nominal flexibility is ruled out by currency union, greater reliance would need to be placed on internal price level flexibility, with allowance for wider disparities in national rates of inflation.

Experience with shocks

Empirical research has produced mixed results.\textsuperscript{29} Taking the widest range of Asian countries, shocks may certainly be less homogeneous than across the eurozone, for reasons relating to economic structure, political eventualities and, to some extent, geography. But even in Europe there are one or two outliers such as Finland and Ireland. And, within certain subgroups of Asian economies, there is a high degree of uniformity. Anyway, the Asians tend to adjust to shocks more readily. And currency union might itself lessen some of the differences contributing to the variability of shocks. Thus, on this score the Asian economies may not necessarily be any less suited to currency union, compared with Europe.

It is presumed that Asian economies would be unlikely to operate, on a significant scale, any network of mutual fiscal support (such as the European Union’s centralised budget) that might compensate for the differential impact of shocks. Anyway, the scope for discretionary fiscal transfers to offset asymmetric shocks within the eurozone is less than is popularly presumed, and very much less than, for example, among regions of the United States.\textsuperscript{30}

Flexibility

It is widely acknowledged that the Asian economies possess much more flexibility in cost-price structures than is found in Europe. This stems essentially from labour markets, which are less rigid\textsuperscript{31} and subject to comparatively little minimum wage legislation. There are also instances of quite high mobility across frontiers in some parts of the region, although this tends to be on the basis of specified, officially regulated contracts rather than entire freedom of movement of labour.

Financial robustness

As noted already, the existence of capital controls of varying incidence is an absolute impediment to monetary union. These may disguise financial fragility, and those countries with fragile financial systems may not anyway be welcome into a monetary union, especially if this suggests that the central bank may be tempted to bail out banks. Moreover, weaknesses in financial systems may generate unhelpful attitudes towards inflation and monetary discipline more generally.

Monetary competence

The monetary union debate is usually conducted, out of respect for central bankers no doubt, on the presumption of optimising behaviour by the monetary authorities in all circumstances.\textsuperscript{32} If, however, there exist weak central banks – perhaps because they are subject to too much political influence – the case for surrendering monetary policy, to a

\textsuperscript{28} A point stressed by Grenville (2004).
\textsuperscript{29} See, for instance, Eichengreen and Bayoumi (1996), Chow and Kim (2000). But note that their empirical work excludes China because of data constraints.
\textsuperscript{30} See Allsopp and Artis (2003).
\textsuperscript{31} Eichengreen and Bayoumi (1999).
\textsuperscript{32} As noted by Melitz (2002).
presumably more disciplined regional central bank, is stronger. This may encourage the thought that some of the institutionally weaker countries would be ideal candidates for AMU, but in practice the others are likely to be deeply – and perhaps rightly – suspicious of admitting them to the club on such motives. Those who regard themselves as practising successful monetary policies may anyway not be particularly enthusiastic about AMU. All of this highlights the challenge to central banks in achieving sufficient consensus to proceed.

Fiscal discipline

It is popularly presumed that some evidence of fiscal prudence, if not actual convergence, would be a pre-requisite for proceeding very far down the AMU road, despite the queries raised above as to the necessity for such criteria. In fact the core candidate countries do already exercise a reasonable degree of discipline (tables 8 and 9).\(^{33}\) It does not look as if they would have any more of a struggle than did the euro candidates in meeting criteria of a similar nature to those used in Europe, if such were deemed appropriate.

Empirical findings

A number of studies have been performed to ascertain how well particular groups of Asian economies would be suited to monetary union, particularly by comparison to the European experience. A common but not universal finding in the past has been that the Asian countries are less inter-dependent in trade than were the members of the euro prior to its launch. But, even if such findings still held, their interpretation is ambiguous. It could either be taken to indicate that Asia would acclimatise less well to a single currency, or that the single currency should be encouraged because the potential trade gains are that much greater.

With regard to OCA criteria more generally, Eichengreen and Bayoumi concluded almost ten years ago that a group of east Asian economies satisfied the economic criteria for monetary union about as well as did countries scheduled to join the euro.\(^ {34}\) In another paper they found Asean less suited than was the eurozone before the Maastricht treaty, but that the differences were not large.\(^ {35}\)

Even if countries do not appear to satisfy OCA criteria \textit{ex ante}, membership of a currency union may itself induce changes which bring them into stronger conformity with the criteria.\(^ {36}\) In other words, the problems which may have been presumed to arise because of lack of close integration or homogeneity may dissipate over time. One may note, for example, that, within Europe, the United Kingdom, Ireland, Finland and Sweden were found to be relatively idiosyncratic in terms of the business cycle.\(^ {37}\) This may, in some eyes, have been reason enough not to join the euro. In the event, Ireland and Finland did join, and their economies appear to have done well, and may have become more synchronised with the rest of the eurozone. Sweden and the UK stayed out, but there is no evidence of either having suffered from its decision. For Asia, the flexibility factor could be sufficient to outweigh many of the factors indicative against monetary union.

All of those empirical findings should, however, be treated with some caution, for two reasons. First, the selection of Asian economies for inclusion varies and is to some extent

\(^{33}\) See also Chui, Morris and Pineau (2002).
\(^{34}\) Eichengreen and Bayoumi (1996).
\(^{35}\) Bayoumi, Eichengreen and Mauro (2000).
\(^{36}\) Frankel and Rose (1998) argue that OCA criteria are (at least partly) endogenous, citing trade expansion and increased business cycle synchronisation, in particular. Artis (2003) remarks that, because of endogeneities, it might be easier to satisfy OCA criteria after entry than before.
\(^{37}\) Artis (2003).
arbitrary – depending on such factors as data availability or the researcher’s political perspective. Second, much of the work is now rather dated. Asia is a fast changing environment, notably because of the rapid growth of China and its trading relationships; thus, conclusions reached on the basis of careful empirical work during the 1990s or even more recently may to varying degrees have been overtaken by events. If anything, recent events will have tended to strengthen the evidence in favour of AMU.

The economic case summarised

In the absence of any overriding political motivation, the economic case for AMU would itself need to be convincing. However, the most one can say is that the economic case is unproven. The textbook arguments for currency union have already been recited. The benefits which might most specifically be of appeal in Asia are:

- the trade effect, as predicted inter alia by Rose (2000), although it is not clear to what extent trade is actually impeded by existing currency arrangements;
- the benefit from more stable relative prices between countries, not arbitrarily driven by asset markets; the associated benefit, to smaller economies in particular, of being insulated from speculative attacks on the currency;
- benefits from developing a collective discipline towards monetary stability, open capital markets, fiscal prudence, etc;
- benefits from eliminating any scope for competitive depreciation within the region;
- benefits from an enlarged, unified financial market;
- contributing to a better global payments balance by eliminating or curtailing the mercantilist urge to accumulate foreign reserves which is at present prevalent in Asia.

The arguments against AMU are:

- loss of monetary autonomy and, in particular, of the exchange rate as a mechanism for adjusting to idiosyncratic shocks – arguably necessary given the diversity of economies in terms of stage of development, resource endowments, social policies etc;
- higher risk of contagion from financial fragility and associated crises within any prospective currency area;
- loss of autonomy to operate capital controls, which are nowadays not seen as so objectionable or inappropriate as in years past..

There will always be enormous scope for debate as to where the balance of argument rests. Even in Europe, six years on from the adoption of the euro, no conclusive empirical work has emerged concerning the costs or benefits, either relating to the performance of members or of those that opted out. For Asia, a fortiori, the question therefore remains open.

V. POLITICAL AND INSTITUTIONAL ASPECTS

European experience

Monetary union would require appropriate institutions both for the analysis and negotiation prior to any decision and for the implementation thereafter. It is here, perhaps, that the biggest distinction between Europe and Asia lies.

Europe had a strong institutional structure, dating from the founding of the European Economic Community by the Treaty of Rome in 1957, through to the formation of the
European Communities in 1967\textsuperscript{38} and ultimately the European Union in 1993\textsuperscript{39}, which followed on from the completion of the internal market in 1992. This progression was at each key stage backed by treaty, and was continuously, indeed fervently, supported by the Brussels bureaucracy and by most leading political figures. Within this framework there was no serious difficulty in developing the network of finance ministers and central bank governors, and others designated by them, to study the monetary union proposal and eventually establish the EMI as precursor to the ECB.

As well as possessing the institutional structure, Europe had a powerful political motivation for a single currency, as a symbol of a strong and united Europe. The economic case was almost secondary, but nevertheless appeared to be sufficiently convincing. A single currency was also regarded by many as the obvious and logical culmination to the vision of the single internal market. By contrast, Asia lacks any such collective will at present, either between the big two countries,\textsuperscript{40} or even among sub-groups which are superficially the most suited to closer monetary ties – such as greater China, or Japan and Korea, or Singapore and Malaysia.\textsuperscript{41}

Asian institutions

Thus, a forum would need to be established. Asean perhaps comes closest in structure – though still far away – to the institutions of the European Union as an inter-governmental forum. Some of its achievements, in terms of free trade for example, are similar to those of the EU. It also pursues various initiatives for financial cooperation and monetary and financial integration. But none of the largest three economies of the region – China, Japan or Korea – is a member, nor is Hong Kong or Taiwan. However, China, Japan and Korea do work alongside Asean in the so-called Asean-plus-three forum, which has established a continuing dialogue on economic issues of mutual concern.

Other regional forums include EMEAP and the Asian Consultative Council of the Bank for International Settlements, based on its regional office in Hong Kong – both being groupings of regional central bankers. These forums between them stage a proliferation of meetings, but little of substance on monetary matters seems to be delivered.\textsuperscript{42}

Thus, not only does Asia lack at present the necessary supranational institutional framework, but one also senses that, in stark contrast to the political agenda which drove EMU forward, there is as yet no force from on top to catalyse any discussion of the possible path to monetary union.

A certain degree of political consensus would clearly be a pre-condition for any steps towards AMU, and further down the road there would have to be homogeneity, or at least tolerated diversity, in such matters as the standing of national central banks and the nature of the appointment of national officials to serve on any prospective Asian Central Bank (ACB). Given the diverse political philosophies across the region, Asia might not expect to achieve such a high degree of concord in these matters as has been achieved in Europe (eg regarding

\textsuperscript{38} By formally merging the European Economic Community, the European Coal and Steel Community, and the European Atomic Energy Authority.

\textsuperscript{39} Resulting from the 1991 Treaty on European Union, commonly known as the Maastricht treaty.

\textsuperscript{40} Xu (2003) perceives, however, increased open-mindedness on China’s part towards matters of economic integration - albeit not specifically in monetary policy – and calls for political wisdom from Japan and China in order to move towards greater mutual understanding and trust.

\textsuperscript{41} As discussed by Tan (2003). Lin (2001) argues that greater China would be suited to a single currency and suggests that this could be a starting point for a broader union. Cheung and Yuen (2004) also present the case for a greater China zone.

\textsuperscript{42} A view echoed from Chui, Morris and Pineau (2002).
independence of the national central banks). It would be important for the architects of AMU to decide what would be the minimum acceptable level of political convergence necessary to make AMU feasible and credible.

VI. PROCEDURAL CONSIDERATIONS

Choice of forum

In Europe the euro was some 25 years in gestation. In Asia a lot could change over the next 25 years. What if people then decide that it would be desirable to be in a monetary union, but realise that no groundwork has been laid? They would have to wait, not necessarily a further 25 years but probably ten. There is little or nothing to lose by proceeding with some definite work now to explore and prepare for AMU, even if it is subsequently decided not to proceed.

Most of the groundwork would involve technical analysis of economic issues and central banking functions and operations. This would probably be best performed within the central banking fraternity, although to varying degrees individual central banks would doubtless feel obliged to involve their finance ministries. It should not be necessary to create a completely new institutional framework; it would be preferable to exploit existing ones. There are three choices.

The first would be Asean or, necessarily, the Asean-plus-three forum. But, if Asean took the lead, the exercise would immediately take on the mantle of a major political initiative. And the core Asean members might be reluctant to cede the necessary influence to the other three, dominant economies, which the latter’s position would effectively demand. It would anyway be better to proceed, at least initially, in a lower-profile environment, involving technical experts free, so far as possible, of political baggage.

The second possibility would be to proceed under the auspices of the BIS Asian Consultative Council of central bank governors. It may be recalled that much of the early discussion of EMU, and preparatory work for the EMI, took place among European central bankers meeting at the BIS in Basel. The drawback in the AMU context is that the BIS Asian office is ultimately answerable to Basel, where Asia does not have a particularly powerful voice; this would present an appearance of any discussion of AMU somehow being monitored or, worse still, guided by external forces.

The third candidate would be EMEAP, which already includes most of the central banks which would be key to any AMU exercise, namely those of China, Hong Kong, Indonesia, Japan, Korea, Malaysia, Philippines, Singapore and Thailand. The other two EMEAP members, Australia and New Zealand, could stand aside for this particular project; and hopefully Beijing would acquiesce to a place at the table for Taiwan, even if not admitted formally as a member of the EMEAP club. Although seemingly quite well suited to the task, EMEAP has a track record mainly as a collator and disseminator of information, and organiser of meetings, rather than in original analysis or policy implementation. However, given adequate leadership and imagination, and a collective will for the exercise to make progress, there is no obvious reason why it could not rise to the occasion.

On balance it would be preferable for AMU planning to be taken forward initially in EMEAP, by establishing one or more appropriate working groups. Although this forum would not include all the potential participants in AMU, all the key ones would be there.
Participation

A prior question is of course whether there would be a critical mass of economies wishing to pursue the AMU idea. The attitudes of China and Japan would be crucial. If one were to join, then the other, faced with a bloc that would inevitably be its major trading partner, might see a compelling economic argument for it to join too. Japan has been trying for the past decade or so to establish a fuller international and regional role for the yen, but without much success. It seems less likely that the smaller economies in the region would in 10-20 years from now see their currencies as linked to the yen than to the yuan. If the yuan looked set to emerge as the focal point, the Japanese authorities would more likely seek a major role on the inside than stay on the outside.

However, if China and Japan are satisfied with their own present monetary arrangements, there may be little attraction for either of them to surrender any autonomy. After all, in Europe it was the political vision which drew Germany into the eurozone, not the belief that it would enjoy a superior macro-monetary environment, even though it accepted that there were advantages in a single currency at the microeconomic level.

While acknowledging such qualifications, for the purposes of the discussion that follows it is assumed that both China and Japan would wish to be part of AMU.

Preparatory work

Some might argue that any designated working group should start by examining, in detail, trade and financial linkages, the nature and incidence of shocks, and so on, in an effort to ascertain whether the OCA criteria were satisfied in respect of different combinations of Asian economies. It is the contention of this paper that this would be a waste of time. One can be fairly sure that the results would not be conclusive either way. They would show certain benefits and certain risks. Moreover, the economic situation, and hence the force of different arguments, will continually evolve over the coming years. Individual central banks could, and no doubt should, carry out such examinations for their own economies so as to inform their eventual choices, but the central working group should concentrate on other things.

Among all official commentators, Kuroda (2004) has perhaps gone the furthest in elaborating a specific plan of action. He has suggested that five issues should be tackled:

- strengthening the 2000 Chiang Mai swap network;
- developing further the bond markets in the region;
- extending free trade agreements;
- cooperating in the pursuit of exchange rate stability;
- developing concrete convergence criteria for any eventual path to a single currency – a goal which would, in his view, necessarily depend on attaining a certain degree of integration of markets for goods, services, labour and capital.

While these may be desirable elements in any progression towards monetary union, it is important to identify where the priorities lie and what the key points are on the critical path. The first three may not be essential; the fourth and some aspects of the fifth may be, but they are not necessarily the only or the most important issues to address.43

Another Japanese proposal, from the Japan Center for International Finance, envisages pursuit of closer ties and policy coordination within subgroups of economies in the region, with the aim of achieving substantial currency convergence within each group before embarking on wider union.
VII. THREE POINTS TO ADDRESS

The approach

It is the view of the present paper that the work should proceed initially with a focus on just three issues. One is to examine what sort of monetary regime might prevail within an eventual monetary union; the second is to construct an operating framework for exchange rates which could be implemented at an earlier stage and would start the ball rolling in the right direction. The third is to consider preparations for the creation of a supranational monetary institution. All of this pre-supposes that there is a willingness among a core group of economies at the very least to discuss these issues.

1. Monetary policy

The task would be to explore the objectives of monetary policy in each economy and discuss how these might evolve and, necessarily, converge. AMU would require, ultimately, a common monetary policy and there would be no point in including in the dialogue those who may be determined to go it alone or press for unconventional policies which others are unlikely to agree upon. Points to cover would include:

- inflation targeting as a possible framework – if so, in what range, particularly to allow for structural differences and the Balassa-Samuelson effect etc, but allowing for the fact that AMU would not be realised for many years;
- possible alternative or addition of an exchange rate target or range vis-à-vis the rest of the world;
- strategies on reserve accumulation;
- consideration of the implications of the removal of capital controls, bearing in mind that all participants would need to operate the same monetary regime – assumed to be free of any such controls;
- absolute prohibition of monetary financing of fiscal deficits, and agreement that base money in the prospective monetary union may only be created by the union’s central bank – and not in any circumstances by national central banks;
- associated consideration of future lender-of-last-resort functions.

2. Asian monetary system

This task would be to establish a mechanism to bring about convergence of exchange rates, capable of evolving smoothly into a single currency regime. The aim would be to have what would initially be a fairly loose and flexible arrangement. Experience in participating in this mechanism would provide practical evidence as to whether a particular economy was suited to ever closer currency ties. This practical experience would probably be worth as much as, if not more than, any number of academic studies within the OCA nexus.

In its early stages the arrangements would need to allow sufficient flexibility for individual participants to be confident that –

- they were not compromising their own monetary stability;
- they were not surrendering monetary sovereignty prematurely or irrevocably;
- they were not exposed to whims or volatility from any less disciplined neighbouring currencies, as might arise, in particular, in the earlier stages of the arrangement.
The starting point for this arrangement would be the design of a benchmark with reference to which each central bank would target its exchange rate (within agreed bands). There are essentially two options here.

**Major currency basket**

One would be for each country to adopt a central rate and band with respect to a basket of the world’s three major currencies – dollar, euro and yen. Individual currencies would be allowed to crawl or adjust their central rates in defined circumstances. The advantages of this arrangement would be:

- relative simplicity;
- a degree of continuity, insofar as some countries already implicitly target some such basket, while others operate *de facto* fixed rates to the dollar which could, with a minimum of practical difficulty, be replaced with the basket, even in the case of a currency board;
- continuing autonomy for individual central banks, to a large extent, with no need for a collective monetary policy beyond the commitment of each to operate the target band system; even that commitment might be fairly loose, although there would be no point in instigating the system if it were too loose.

The disadvantages would be:

- no material progress towards establishing a common currency unit;
- the inclusion of one of the inside currencies, the yen, in the reference basket would mean that, in effect, the system was a bit of a hybrid; this problem could of course be avoided by using just the dollar and euro, or even the dollar alone, as the reference point, but too great a continuing allegiance to the dollar might make the new system look too much like the one it was replacing.

**Internal currency basket**

The alternative would be to create an Asian currency unit (acu) based on the inside currencies, similar to the ecu in Europe. Member currencies would then establish central rates against the acu and aim to keep their exchange rates within a band around the central rate, although there would be latitude to revalue or devalue, particularly in the early stages (appropriate rules would need to be agreed). This would mirror the arrangements followed in Europe under the EMS, where the ecu was established as the EU’s accounting unit, and as the numeraire for operating the exchange rate mechanism, and subsequently became the euro. The advantages would be:

- a positive step towards an eventual single currency;
- commitment, effectively, to hold exchange rates within bounds relative to others in the region, rather than relative to outside currencies.

The disadvantages, or, more correctly perhaps, the challenges, arise from:

- exchange rate against the rest of the world would be dictated by behaviour of the dominant regional economies (as with the deutschmark effect in Europe);
- consequential need for peer reviews of monetary policy, and to develop collective policies; in fact, although this may make the option more daunting in the short term, this

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44 As proposed by Williamson (2001). The weights could reflect trade patterns (on which basis Williamson suggested 35-40/30/30-35), or simply an arbitrary one third each.
should be seen as a positive factor towards the establishment of the necessary machinery for operating a single currency in the longer term.

Choice and subsequent design

Given that the underlying purpose of the entire exercise would be to explore the conditions pertaining to currency union and prepare for that as a possible ultimate goal, it seems clear that, of the two options, the second – the acu route – should be chosen.

As the acu would be the channel through which the region’s exchange rates with the outside world are determined, it might be argued that the weights should reflect each economy’s interaction with the rest of the world in terms of trade. However, the only available statistics on the required geographic basis related to trade in goods, whereas we live in a world where trade in services is also hugely important. So too are capital flows. Alternatively, the weights could be based on GDP, as possibly a more accurate measure of the relative monetary importance of each economy within the region. Or some hybrid formula could be used. This would be a technical matter on which the proposed working group would advise. The table shows the approximate percentage weights which would ensue from the GDP approach if all the Asian EMEAP economies, plus Taiwan, joined in, plus the units of currency which would combine to form the acu, on the assumption that, in the interests of political neutrality, the acu at day one is scaled to equal one SDR:

<table>
<thead>
<tr>
<th>Weight (%)</th>
<th>ACU composition (sum of these)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>38</td>
</tr>
<tr>
<td>Japan</td>
<td>29</td>
</tr>
<tr>
<td>Korea</td>
<td>8</td>
</tr>
<tr>
<td>Indonesia</td>
<td>7</td>
</tr>
<tr>
<td>Thailand</td>
<td>5</td>
</tr>
<tr>
<td>Philippines</td>
<td>4</td>
</tr>
<tr>
<td>Malaysia</td>
<td>3</td>
</tr>
<tr>
<td>Taiwan</td>
<td>3</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>2</td>
</tr>
<tr>
<td>Singapore</td>
<td>1</td>
</tr>
</tbody>
</table>

The acu would be defined as the combination in the right-hand column. As exchange rates between the currencies fluctuated, the actual weights would shift somewhat over time. As with the ecu, there would be provision for periodic review of the basket to reflect changing economic circumstances. If new countries joined the exchange rate arrangements, it would not be necessary on technical or, assuming they would be relatively small, economic grounds, for their currencies to be included in the ACU; nor, indeed, would it be essential for any of the lower weighted currencies to be included in the first place. However, in terms of politics it might be hard to exclude any. In Europe, new members in the ERM were factored into the ecu.

In Europe the weights in the ecu, before it finally transformed into the euro, ranged from 31.9% for the deutschemark to 0.44% for the Greek drachma. The range suggested for the ACU is not substantially different.

Alternatively, the basket could be designed to deliver a rather more arbitrary, broad-brush set of weights, such as 30% each for China and Japan, 8% each for Korea and Indonesia, and 4% each for the remainder.
Objectives

The initial aim of the AMS would be to stabilise what are already, for the most part, fairly stable cross-rates between the currencies of the region. Countries would be permitted to join if they had a commitment to that goal. As with Europe, there would need to be scope to adjust central rates in the event of fundamental misalignments or irresistible speculative pressures, although other policy responses, including intervention, would likely be employed against the latter. The existing central bank swap network could be used and extended to that end, but this would probably be more a symbol of solidarity than make a material contribution. Several of the economies anyway possess huge reserves, so would not need a swap network, while those with few reserves might not be able to muster resources from swaps on a sufficient scale if a severe speculative crisis hit them.

With regard to the bands within which the authorities would seek to hold the rates, it might be sensible to start with a quite wide range, such as 10% on either side of the central rates, with the prospect of narrowing them at some future date, rather than commence with something too ambitious – bearing in mind that Europe started with 2.25% but was forced to widen them at one stage when pressures became too great.

Inevitably, as was the case in Europe, tensions may develop if the acu moves significantly against the major outside currencies – the euro or dollar. If this reflects factors peculiar to the euro or dollar, it may not call for any action within the acu area, or it may warrant some general adjustment of monetary policy – if, for example, in the circumstance of a dollar depreciation there would otherwise be a danger of importing deflation. If, however, the move reflected singular developments in a leading member economy, such as the acu being forced up in the exchange market by the strength of Chinese exports, then consideration would need to be given to a realignment within the AMS.

Though by no means essential, governments or central banks might assist the development of the acu by issuing acu denominated bonds. These would help publicise the unit and help it gain wider acceptance. Such bonds might be regarded as a natural progression from the Asian bond fund which the central banks are currently developing; instead of pooling a series of bonds in the different currencies by different issuers, the issuers themselves would issue in the pooled denomination.

Finally, a programme for capital account liberalisation would need to be agreed and factored into the AMS timetable.

3. Institutional development

In the transitional phase, when national currencies continue in existence, the acu system could be monitored through the working group framework, since all actions would be largely voluntary for national administrations. However, the step from this system to a currency union involves not just the irrevocable fixing of exchange rates, but the surrender of sovereignty over monetary policy and therefore the establishment of an Asian central bank to take over the conduct of monetary and exchange rate policy for the entire region.45

In discussing the structure and functions of the ACB, the following points in particular would need to be considered:

45 The political challenge of getting governments to surrender monetary policy and building the appropriate transparent and accountable framework is discussed by Eichengreen (2004).
• legal construction, capitalisation and shareholdings, composition of board, composition of executive, voting arrangements, independence, etc; some lessons could no doubt be
drawn from the experience of the ECB;
• accountability – to whom? – bearing in mind that, except in the unlikely event of parallel
moves in the direction of political union, there would be no equivalent to the European
Council of Ministers, the European Parliament or the European Court of Justice;
• monetary policy mandate (as discussed above);
• monetary policy instruments and operations; some might see a mature debt market as a
precondition for monetary operations, but foreign exchange swaps may serve as an
effective substitute, at least in the early stages, especially in view of the likely scale of
foreign exchange resources and the existing experience of using that market;
• proscription of involvement in financing government budgets or bailing out banks;
• sharing arrangements for seigniorage on central bank money;
• pooling of some national foreign currency reserves to provide ACB with its own
reserves.

Although the actual creation of the ACB would be many years away, the preparatory
work could usefully commence sooner rather than later.

VIII. PRE-CONDITIONS AND CONTINUING OBLIGATIONS

As an adjunct to those suggested three areas of action, consideration would need to be
given to the mechanism of admission to the AMS and, ultimately, to the acu. Membership of
either would involve open commitment and implicit acknowledgement of the benefits. This
would of itself serve as a discipline. Some more specific evidence of suitability, at least in
the final stages, through conformity with convergence criteria of the sort employed in
Europe, might be required. This would be a matter for the working group to discuss. But it is
the view of this paper that in Europe the pre-conditions for the euro were unnecessarily
specific. Provided that the new central bank is adequately committed to monetary stability
and enjoys autonomy in pursuit of that, participants will be forced to an adequate measure of
convergence – or suffer accordingly. In other words, the system can, to a considerable
degree, be self-policing.

Even in the earlier stages, when currencies are set with central rates and bands around
the acu, the system will stand or fall depending on the commitment of individual countries.
In practical terms, because their weights in the acu will be by far the largest, the system will
depend on China and/or Japan pursuing monetary policies that are sufficiently stable to allow
others to live comfortably with broadly stable rates against the acu.

In similar vein, if and when the final stages of union are reached, it is for
consideration whether any separate, continuing, non-monetary disciplines would need to be
imposed – for example, to restrain fiscal policy along the lines of the eurozone’s SGP.

IX. CONCLUSIONS

The case for AMU probably receives more positive spin than it strictly deserves.
Academics find it fertile ground for research and conference agendas. Central bankers, eager
to play a role on the regional stage, are more than happy to keep the subject in play. There
may even be a tinge of euro envy at work. Most of all, few politicians or officials in the
region would have the courage to decry a vision associated with a stronger Asian identity, even if they privately felt that the particular idea was rubbish.

Even so, the proposal should not be dismissed out of hand. The challenge is to find some way of taking the debate forward.

The reality is that the economic debate on whether Asian countries would benefit from AMU is inconclusive, and likely to remain so for a long time. On the one hand, in addition to the microeconomic benefits of reducing transaction costs and improving price transparency, there would appear to be advantages in macroeconomic terms, especially to smaller economies, in arrangements which would enhance monetary stability in the region by reducing or eliminating the vulnerability of currencies to speculative attacks or which would impose some collective peer discipline on monetary policy. On the other hand, there may be compelling reasons for wishing to retain autonomy in monetary policy.

While Asian economies are probably more suited than European ones to achieving adjustments to their real exchange rates without necessarily adjusting nominal rates, there is no firm evidence that they would actually benefit from currency union. Asia appears to be performing well enough as it is.

As to whether a country would want to join such a union, one can do worse than refer to the UK finance minister’s approach to deciding whether sterling should give way to the euro. Although he has presented a famous list of five tests, there is one that overrides all the others – namely whether such a move would be good in the long term for growth, stability and jobs. Few would argue with that. In Asia it would be for individual governments to make that judgement.

Although the development of the euro provides invaluable experience on which Asia could draw, the procedures followed in Europe would need to be critically reviewed rather than too hastily replicated. For example, a qualification system which includes both exchange rate stability and tight convergence of inflation rates may be over-identified and hence, given the structural diversity across Asian economies, unattainable in practice. And, given that the European approach to fiscal convergence and continuing fiscal discipline plainly contained a number of weaknesses, it would be desirable to re-examine from first principles the case for fiscal rules, and their design. More generally, it should be remembered that, although the final steps towards the euro involved quite strict discipline in adhering to criteria, and eventual admission to membership appeared to be more a hard-earned privilege than an automatic right, in the earlier stages of the EMS, participation in the ERM was on a looser basis and the ERM itself adapted to circumstances – as with the widening of bands in 1992. Countries participated if they were genuinely interested in pursuing greater exchange rate stability and were prepared to suffer any necessary pain; there was little, if anything, by way of free-rider opportunities to exploit, so those who did join tended to be serious about the aims. In the same vein, Asia could start off with a not too rigid or ambitious AMS; only those with a commitment to making it a success would anyway choose to join.

Even on the most optimistic assumptions, however, a single Asian currency would be years away. Among the many preconditions would be further ideological convergence at the political-economic level, and, assuming that China would be integral to any single currency plan, a track record of a well-managed, fully convertible renminbi. And economies which already enjoy exchange rate stability, notably Hong Kong, would need to be convinced that a switch to what might in some ways be a slightly less stable exchange rate would indeed be in their best interests.
Overall, this paper is agnostic as to the likely balance between costs and benefits from monetary union in Asia, and sceptical as to whether the two largest economies in the region would see enough advantage in the idea to make it worth their while becoming involved. But it argues that there is no harm in launching some preparatory work. If it comes to nought, so be it. But, if the subject is to progress beyond the vapid statements that are all too often heard about, variously, the desirability, challenge or inevitability of AMU, there must be something more concrete for leading central bankers and government officials to chew upon.

It is proposed, therefore, that the discussion should move on from the inevitably inconclusive area of the OCA debate towards the formulation of some practical blueprints. It is suggested that work could be commissioned, prospectively, though not necessarily, through the EMEAP forum, under three main headings: the goals of a common monetary policy; establishment of an acu, and arrangements for central banks to operate central rates and bands relative to the acu; and the structure and functions of an Asian central bank.

There would be no presumption that these studies would necessarily lead to the introduction of a new currency scheme. But, unless purposeful work of this sort is undertaken, no-one in the region will ever be ready to move forward, even when the time may be obviously riper than it is now. Realistically, the conditions necessary for adopting central rates against the postulated acu are unlikely to obtain until at least five and more likely ten years from now, but the preparatory exercises mooted here could themselves take a few years to complete. It is not too silly to suggest that they should begin now.
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Table 1
Variability of Asian currencies against dollar and yen

Coefficient of variation (100*SD/mean), based on end-quarter exchange rates

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>relative to US dollar</td>
<td>relative to yen</td>
</tr>
<tr>
<td>Cambodia</td>
<td>18.2</td>
<td>15.6</td>
</tr>
<tr>
<td>China</td>
<td>1.2</td>
<td>11.8</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>0.4</td>
<td>11.1</td>
</tr>
<tr>
<td>Indonesia</td>
<td>52.5</td>
<td>48.2</td>
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<tr>
<td>Japan</td>
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<tr>
<td>Laos</td>
<td>73.4</td>
<td>73.4</td>
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<td>Myanmar</td>
<td>5.6</td>
<td>7.5</td>
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<tr>
<td>Philippines</td>
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<td>25.8</td>
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<tr>
<td>Singapore</td>
<td>9.0</td>
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</tr>
<tr>
<td>South Korea</td>
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<td>15.1</td>
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<tr>
<td>Taiwan</td>
<td>10.4</td>
<td>8.4</td>
</tr>
<tr>
<td>Thailand</td>
<td>21.9</td>
<td>17.7</td>
</tr>
<tr>
<td>Vietnam</td>
<td>13.4</td>
<td>12.8</td>
</tr>
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</table>

Table 2
Foreign exchange reserves

<table>
<thead>
<tr>
<th>Country</th>
<th>end-2003, US$ billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brunei</td>
<td>0.5</td>
</tr>
<tr>
<td>Cambodia</td>
<td>0.8</td>
</tr>
<tr>
<td>China</td>
<td>403.3</td>
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<tr>
<td>Hong Kong</td>
<td>118.4</td>
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<tr>
<td>Indonesia</td>
<td>34.7</td>
</tr>
<tr>
<td>Japan</td>
<td>652.8</td>
</tr>
<tr>
<td>Laos</td>
<td>0.2</td>
</tr>
<tr>
<td>Macau</td>
<td>4.3</td>
</tr>
<tr>
<td>Malaysia</td>
<td>43.5</td>
</tr>
<tr>
<td>Myanmar</td>
<td>0.6</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>0.5</td>
</tr>
<tr>
<td>Philippines</td>
<td>13.3</td>
</tr>
<tr>
<td>Singapore</td>
<td>95.0</td>
</tr>
<tr>
<td>South Korea</td>
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<td>Taiwan</td>
<td>206.6</td>
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<tr>
<td>Thailand</td>
<td>41.0</td>
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<td>Vietnam</td>
<td>6.2</td>
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<tr>
<td>Total of above</td>
<td>1776.2</td>
</tr>
<tr>
<td>Total as percentage of worldwide official foreign exchange reserves</td>
<td>53.7</td>
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Sources: For Brunei, IMF Public Information Notice (PIN) No. 04/107 September 23, 2004: “IMF Concludes 2004 Article IV Consultation with Brunei Darussalam”. For Taiwan, CEIC Asia Database. For others, IMF’s International Financial Statistics September 2004 (hereafter referred to as IFS).
Table 3

Trade with Asian economies as a percentage of total trade (imports + exports) in 2003

Each cell measures the percentage of A’s total trade that is represented by trade with B, as recorded by A*

<table>
<thead>
<tr>
<th></th>
<th>CHI</th>
<th>HK</th>
<th>IND</th>
<th>JAP</th>
<th>KOR</th>
<th>MAL</th>
<th>PHI</th>
<th>SING</th>
<th>THAI</th>
<th>TW</th>
<th>Total of group</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>China</td>
<td>10.3</td>
<td>1.2</td>
<td>15.7</td>
<td>7.4</td>
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<td>1.1</td>
<td>2.3</td>
<td>1.5</td>
<td>3.8</td>
<td>45.7</td>
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<td>3.5</td>
<td>1.7</td>
<td>1.3</td>
<td>3.6</td>
<td>1.4</td>
<td>6.6</td>
<td>70.5</td>
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<td>1.5</td>
<td>19.1</td>
<td>6.3</td>
<td>3.7</td>
<td>1.2</td>
<td>10.2</td>
<td>3.3</td>
<td>4.7</td>
<td>57.2</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
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<td>3.7</td>
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<td>6.2</td>
<td>2.8</td>
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<td>3.3</td>
<td>5.2</td>
<td>42.8</td>
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<td>2.3</td>
<td>14.4</td>
<td>2.2</td>
<td>1.3</td>
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<td>13.6</td>
<td>4.0</td>
<td>2.4</td>
<td>14.0</td>
<td>4.5</td>
<td>4.1</td>
<td>57.6</td>
<td></td>
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<td>6.4</td>
<td>1.5</td>
<td>18.2</td>
<td>6.7</td>
<td>3.5</td>
<td>7.3</td>
<td>59.1</td>
<td></td>
<td></td>
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<td>Singapore</td>
<td>7.8</td>
<td>6.4</td>
<td>3.5</td>
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<td>4.1</td>
<td>16.3</td>
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<td>4.3</td>
<td>3.3</td>
<td>57.1</td>
<td></td>
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<td>2.6</td>
<td>19.0</td>
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<td>3.1</td>
<td>51.8</td>
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<tr>
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<td>11.1</td>
<td>1.6</td>
<td>16.4</td>
<td>4.9</td>
<td>2.0</td>
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<td>1.8</td>
<td>55.0</td>
<td></td>
</tr>
</tbody>
</table>

*Except that Singapore data for its trade with Indonesia in 2003 is unavailable, so the figures reported by Indonesia are used.

Sources: IFS for all except Taiwan. CEIC Asia Database for Taiwan. Exports are on the FOB basis, imports CIF.

Note: The IMF cautions that China may classify as trade with Hong Kong some of its trade with other, particularly industrial countries, if it passes through Hong Kong ports.
<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>GDP, US$ billion</th>
<th>GDP per capita, US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brunei</td>
<td>2003</td>
<td>4.5</td>
<td>13,000</td>
</tr>
<tr>
<td>Cambodia</td>
<td>2002</td>
<td>4.0</td>
<td>303</td>
</tr>
<tr>
<td>China</td>
<td>2003</td>
<td>1409.9</td>
<td>1,068</td>
</tr>
<tr>
<td>East-Timor</td>
<td>2003</td>
<td>0.3</td>
<td>415</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>2003</td>
<td>156.6</td>
<td>22,286</td>
</tr>
<tr>
<td>Indonesia</td>
<td>2002</td>
<td>173.3</td>
<td>797</td>
</tr>
<tr>
<td>Japan</td>
<td>2002</td>
<td>3979.4</td>
<td>31,253</td>
</tr>
<tr>
<td>Laos</td>
<td>2003</td>
<td>1.9</td>
<td>340</td>
</tr>
<tr>
<td>Macau</td>
<td>2003</td>
<td>7.9</td>
<td>17,025</td>
</tr>
<tr>
<td>Malaysia</td>
<td>2003</td>
<td>103.2</td>
<td>4,204</td>
</tr>
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<td>Papua New Guinea</td>
<td>1999</td>
<td>3.5</td>
<td>664</td>
</tr>
<tr>
<td>Philippines</td>
<td>2003</td>
<td>79.3</td>
<td>983</td>
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<tr>
<td>Singapore</td>
<td>2002</td>
<td>87.0</td>
<td>20,928</td>
</tr>
<tr>
<td>South Korea</td>
<td>2003</td>
<td>605.6</td>
<td>12,611</td>
</tr>
<tr>
<td>Taiwan</td>
<td>2003</td>
<td>286.4</td>
<td>12,735</td>
</tr>
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<td>Thailand</td>
<td>2003</td>
<td>143.3</td>
<td>2,280</td>
</tr>
<tr>
<td>Vietnam</td>
<td>2003</td>
<td>39.0</td>
<td>480</td>
</tr>
</tbody>
</table>

Sources:
- **GDP**: IFS for Cambodia, China, Hong Kong, Indonesia, Japan, Laos, Macau, Malaysia, Myanmar, Papua New Guinea, Philippines, Singapore, South Korea, Thailand, and Vietnam. The figure for Brunei is derived from “International Monetary Fund (IMF) (2004), Public Information Notice (PIN) No. 04/107 September 23, 2004: IMF Concludes 2004 Article IV Consultation with Brunei Darussalam”. The figure for East Timor is from “International Monetary Fund (IMF) Public Information Notice (PIN) No. 04/118 October 12, 2004: IMF Concludes 2004 Article IV Consultation with the Democratic Republic of Timor-Leste”.
- **Population**: United Nations 2003 ESCAP Population Data Sheet for Brunei, China, East Timor, Hong Kong, Laos, Macau, Malaysia, Philippines, South Korea, Taiwan, Thailand, and Vietnam; Population and Development Indicators for Asia and the Pacific 2002 for Cambodia, Indonesia, Japan, and Singapore. IFS for Myanmar and Papua New Guinea.
### Table 5

**Eurozone, original eleven members: gross domestic product 1998 (ie prior to launch of euro)**

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP, US$ billion</th>
<th>GDP per capita, US $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>211.2</td>
<td>26,079</td>
</tr>
<tr>
<td>Belgium</td>
<td>250.5</td>
<td>24,538</td>
</tr>
<tr>
<td>Finland</td>
<td>129.0</td>
<td>25,032</td>
</tr>
<tr>
<td>France</td>
<td>1452.5</td>
<td>24,692</td>
</tr>
<tr>
<td>Germany</td>
<td>2142.4</td>
<td>26,076</td>
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<tr>
<td>Ireland</td>
<td>86.3</td>
<td>23,141</td>
</tr>
<tr>
<td>Italy</td>
<td>1196.5</td>
<td>20,807</td>
</tr>
<tr>
<td>Luxemburg</td>
<td>18.9</td>
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</tr>
<tr>
<td>Netherlands</td>
<td>391.3</td>
<td>24,877</td>
</tr>
<tr>
<td>Portugal</td>
<td>106.9</td>
<td>10,714</td>
</tr>
<tr>
<td>Spain</td>
<td>588.0</td>
<td>14,540</td>
</tr>
</tbody>
</table>

Source: IFS; GDP is converted to US$ at period-average exchange rates; year-end population figures for 1998 are used in the per capita calculation.

### Table 6

**Enlarged European Union, gross domestic product**

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP, US$ billion</th>
<th>GDP per capita, US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>253.5</td>
<td>31,248</td>
</tr>
<tr>
<td>Belgium</td>
<td>302.3</td>
<td>29,364</td>
</tr>
<tr>
<td>Cyprus</td>
<td>12.9</td>
<td>16,161</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>85.4</td>
<td>8,339</td>
</tr>
<tr>
<td>Denmark</td>
<td>212.3</td>
<td>39,665</td>
</tr>
<tr>
<td>Estonia</td>
<td>9.1</td>
<td>6,787</td>
</tr>
<tr>
<td>Finland</td>
<td>162.2</td>
<td>31,205</td>
</tr>
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<td>France</td>
<td>1762.4</td>
<td>29,447</td>
</tr>
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<td>Germany</td>
<td>2407.8</td>
<td>29,215</td>
</tr>
<tr>
<td>Greece</td>
<td>173.5</td>
<td>15,820</td>
</tr>
<tr>
<td>Hungary</td>
<td>82.8</td>
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</tr>
<tr>
<td>Malta</td>
<td>4.5</td>
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<td>152.4</td>
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<tr>
<td>Poland</td>
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<td>5,134</td>
</tr>
<tr>
<td>Portugal</td>
<td>147.5</td>
<td>14,680</td>
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<td>Slovakia</td>
<td>32.5</td>
<td>6,024</td>
</tr>
<tr>
<td>Slovenia</td>
<td>15.7</td>
<td>7,897</td>
</tr>
<tr>
<td>Spain</td>
<td>840.3</td>
<td>20,505</td>
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<tr>
<td>Sweden</td>
<td>301.6</td>
<td>34,013</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1795.8</td>
<td>30,403</td>
</tr>
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</table>

Source: IFS; GDP is for 2003 except for Poland, which is 2002; GDP is converted to US$ at period-average exchange rates; year-end population figures for 2002 are used in the per capita calculation.
Table 7
Selected Asian economies: consumer price inflation

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>0.5</td>
<td>-0.8</td>
<td>1.2</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>-1.6</td>
<td>-3.0</td>
<td>-2.6</td>
</tr>
<tr>
<td>Indonesia</td>
<td>12.5</td>
<td>10.0</td>
<td>2.4</td>
</tr>
<tr>
<td>Japan</td>
<td>-0.7</td>
<td>-0.9</td>
<td>-0.2</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1.4</td>
<td>1.8</td>
<td>1.1</td>
</tr>
<tr>
<td>Philippines</td>
<td>6.1</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Singapore</td>
<td>1.0</td>
<td>-0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>South Korea</td>
<td>4.1</td>
<td>2.7</td>
<td>3.6</td>
</tr>
<tr>
<td>Taiwan</td>
<td>0.0</td>
<td>-0.2</td>
<td>-0.3</td>
</tr>
<tr>
<td>Thailand</td>
<td>1.7</td>
<td>0.6</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Sources: CEIC Asia Database for Thailand and Taiwan; otherwise IFS.

Table 8
Fiscal balance as percentage of GDP (latest three years available)

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>-4.4</td>
<td>-3.0</td>
<td>-2.5</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>-3.0</td>
<td>-6.4</td>
<td>-4.5</td>
</tr>
<tr>
<td>Japan</td>
<td>0.8</td>
<td>0.4</td>
<td>0.7</td>
</tr>
<tr>
<td>Philippines</td>
<td>-4.1</td>
<td>-5.3</td>
<td>-4.6</td>
</tr>
<tr>
<td>Thailand</td>
<td>-2.4</td>
<td>-1.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Indonesia</td>
<td>-1.1</td>
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<td>11.5</td>
<td>-0.3</td>
<td>-1.7</td>
</tr>
<tr>
<td>South Korea</td>
<td>1.3</td>
<td>0.6</td>
<td>2.7</td>
</tr>
<tr>
<td>Taiwan</td>
<td>-2.1</td>
<td>-1.5</td>
<td>-2.5</td>
</tr>
<tr>
<td>Malaysia</td>
<td>-3.1</td>
<td>-5.8</td>
<td>-5.5</td>
</tr>
</tbody>
</table>

Sources: IFS for all except Korea, Indonesia, and Malaysia. For Korea, "Public Information Notice (PIN) No. 04/11 February 25, 2004: IMF Concludes 2003 Article IV Consultation with Korea". For Indonesia, "Public Information Notice (PIN) No. 04/51 May 9, 2004: IMF Concludes 2004 Article IV Consultation with Indonesia". For Malaysia, "Public Information Notice (PIN) No. 04/27 March 24, 2004: IMF Concludes 2003 Article IV Consultation with Malaysia".

Table 9
Government debt as percentage of GDP

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>2003-Dec</td>
<td>5.3</td>
<td></td>
</tr>
<tr>
<td>Hong Kong</td>
<td>2004-July</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>2003-Dec</td>
<td>66.5</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>2004-July</td>
<td>146.8</td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>2003-Dec</td>
<td>67.0</td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>2004-June</td>
<td>61.5</td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>2003-Dec</td>
<td>106.4</td>
<td></td>
</tr>
<tr>
<td>South Korea</td>
<td>2004-June</td>
<td>25.2</td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td>2002-Dec</td>
<td>20.0</td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>2004-Sept</td>
<td>27.9</td>
<td></td>
</tr>
</tbody>
</table>

Sources: For Indonesia and Malaysia, the ratios are from the IMF’s “Public Information Notice (PIN) No. 04/51 May 9, 2004: IMF Concludes 2004 Article IV Consultation with Indonesia" and "Public Information Notice (PIN) No. 04/27 March 24, 2004: IMF Concludes 2003 Article IV Consultation with Malaysia", respectively. For others, GDP data as for table 4; government debt figures from IFS for Singapore, and from CEIC Asia Database for the remainder.