

ON REGIONAL MONETARY ARRANGEMENTS FOR ASEAN¹

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I. INTRODUCTION

This paper, like the conference for which it was prepared, is a sequel to an earlier effort dating from 1996. In that previous paper (Bayoumi and Eichengreen 1999), two of us evaluated regional monetary arrangements for Asia, ranging from a common basket peg to a single currency. We sought to make three points. First, Asia comes about as close as Europe to satisfying the standard economic criteria for an optimum currency area. Second (not to be misled by the first point), the essential preconditions for a durable regional arrangement are political rather than economic, and by almost any measure Asia comes less close than Europe to meeting those political criteria. Third, any monetary arrangement that seeks to stabilize exchange rates in the absence of the necessary political preconditions will be fragile and crisis prone. That paper can thus be read as a warning of the dangers of the type of currency pegs operated by Asian countries in the first half of the 1990s, and as a critique of proposals for moving to deeper monetary integration in the absence of the requisite political commitment.

It will not surprise our audience that nothing that has happened in the interim leads us to recant. The Asian crisis has demonstrated in graphic terms the dangers of attempting to peg exchange rates in the presence of open international capital markets but absent the requisite political commitment. At the country level, the requisite political commitment means a willingness to subordinate domestic macroeconomic policies to the goal of exchange rate stability. At the regional level, it presupposes a readiness to build institutions of transnational governance capable of lending credibility to the commitment to jointly defend the currency pegs of the participating countries. In Asia, with a few notable exceptions (e.g., Hong Kong), the requisite domestic commitment appears to remain absent. Regionally, it is similarly true that there does not yet seem to be tangible evidence of a commitment to building such institutions. The implication is that the dominant currency arrangement in Asia, for the foreseeable future, will likely continue to be one of exchange rate flexibility.

To be sure, some authors continue to insist that the Asian crisis was caused by attempts to defend “bad pegs”—that is, currency pegs not accompanied by the right domestic policies, or pegs not placing the right weights on the dollar, the yen and the euro. “Good pegs,” they suggest, would have fared very differently.² In this view, the Asian crisis is not an indictment of sensible approaches to currency pegging but rather evidence that Asia’s approach was not sensible.

We agree that Asia’s pegs may have involved flaws in their design or management. However, we argue that these pegs would have collapsed even in the absence of these flaws. In fact, Asia’s monetary trials and tribulations reflect the exceptionally demanding prerequisites for operating currency pegs in a world of high capital mobility.

² See, for example, McKinnon (1999).

We make these points by reviewing both the economic and political evidence. We focus on the members of ASEAN, although our conclusions are more general.³ On the economic front, we update our earlier evidence on the pattern of shocks, the direction of trade, and the extent of factor mobility, again using Europe as our benchmark. Next we present new evidence, again stimulated by the literature on European monetary unification, on asymmetries in the monetary transmission mechanism that can create tensions within a regional monetary arrangement. On the political front, we analyze the prerequisites for monetary integration in light of 50 years of European experience. And, finally, addressing the concerns of those who would continue to insist on the need for a process designed to set the stage for deeper monetary integration, we consider strategies to speed the transition.

The importance of the issue is clear. Advice (mainly from outside the region) that Asian countries let their currency pegs go once the crisis struck did not obviously ameliorate financial problems. To the contrary, exchange rates became locked in a death spiral, with weaker rates precipitating more bankruptcies, thereby further weakening rates, until nose-bleed-level interest rates were adopted to stabilize the situation. Asia's experience in 1997-98 thus soured many observers on the merits of floating rates. Nor has subsequent experience with currency flexibility been a happy one. In some countries, the recovery of output has been slowed as currencies have strengthened in advance of restructuring. In others, questions about the government's commitment to reform has caused the currency to weaken, discouraging inward foreign investment and making life more difficult for the reformers. Repeated swings of the yen/dollar rate have undermined stability region wide. All this has led ASEAN finance ministers to again contemplate regional currency arrangements.

Thus, what might have seemed to be of purely academic interest three years ago is now of immediate policy concern.

II. BACKGROUND

The launch of the euro is one of three factors heightening interest in monetary integration in Asia. Historically, most monetary unions have been formed in the context of political unification, which is not something that most members of ASEAN would be prepared to contemplate. In contrast, the euro creates a zone of monetary stability encompassing 11 independent states that retain considerable political control of their internal affairs, including some control of their fiscal policies.⁴ As such, it offers a more

³ASEAN consists of ten countries, Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.

⁴Some authors regard fiscal policy as the keystone of national sovereignty, on the grounds that the government's control of the fisc is essential to the national defense. Thus, the argument goes, EMU has not entailed fundamental compromises of sovereignty because control of fiscal policy has not been transferred to the level of the monetary union. This statement minimizes, of course, the importance of the constraints of the Growth and Stability Pact, although the Pact says nothing about the composition of government

relevant precedent for a potential Asian monetary union than earlier historical experiences.⁵

In addition, the shift from quasi-fixed to floating exchange rates following the Asian crisis increased interest in arrangements which hold out the promise of stabilizing intra-Asian exchange rates, thereby allowing governments to again foster trade and capital movements within the region. The Asian crisis forced the general abandonment of de facto currency pegs against the dollar (Figure 1). These pegs had worked to stabilize intra-Asian bilateral exchange rates, since a consequence of two countries allowing their exchange rates to closely follow the dollar is that they also limit fluctuations in their own bilateral rate. A regional currency arrangement could conceivably reconstitute such an environment while at the same time providing the members with flexibility vis-a-vis the dollar, the euro, and the yen. This is particularly attractive for ASEAN, whose trade is highly diversified and whose members therefore have no obvious single currency against which to peg.⁶

Finally, the macroeconomic stability that had prevailed in the period preceding the crisis created a generally favorable backdrop against which to contemplate monetary integration. The major ASEAN economies had accumulated policy credibility as a result of their achievement of low inflation, small fiscal deficits, and modest government debt to GDP ratios. This rendered a number of ASEAN members attractive potential partners in a regional monetary arrangement.

III. ECONOMIC CRITERIA

The economic criteria pointed to by the theory of optimum currency areas (OCA) are the standard point of departure for assessing the costs and benefits of monetary integration. This theory suggests that the importance and composition of intra-regional

expenditure. But the point here is that it is clear that the pact would not bind in a national emergency.

⁵The other main examples of common currencies across a number of countries are the CFA franc zone, the East Caribbean monetary union, and the rand zone. However, in all of these cases, the common currency is closely linked to that of a major regional currency (the franc, dollar, and rand), so that these unions act as a fixed exchange rate regime. The process by which EMU came about, and its status as an independent currency, both seem more relevant for the case of ASEAN.

⁶Indeed, the loss in competitiveness experienced by many Asian economies as the yen depreciated against the dollar after 1995 and the de facto dollar-pegged regional currencies have been cited by commentators as one of the strains which helped precipitate the Asian financial crisis (see e.g. Goldstein 1998). This situation contrasts with some countries in the Americas (for example) whose trade is dominated by the United States and for whom adopting the dollar through a currency board or dollarization might be a more attractive choice.

trade provide information about the likely benefits of a monetary union. Second, the nature of shocks and the flexibility of factor markets speak to the potential costs from losing an independent monetary policy (the focus of much of the existing empirical work). Third, the similarity of economies in terms of their past macroeconomic policies, stage of economic development, and similarity of financial systems may provide information on potential difficulties of introducing a common currency.

The greater is intra-regional trade, the larger are the benefits that a common currency is likely to achieve. These benefits come through lowering transaction costs and avoiding disruptions of trade related to fluctuations in the bilateral exchange rates between potential common currency participants that may not be warranted by fundamentals. The composition of trade may also affect these benefits. The higher the share of trade in manufactures and similar goods in which prices are largely determined by the producer, as opposed to commodities whose prices are set in international markets, the greater the appeal of a common currency.⁷ This is because fluctuations in bilateral exchange rates typically have a more significant impact on intra-industry trade in differentiated but substitutable products than on trade in homogeneous products with a well integrated world market.⁸

The costs of adopting a common currency are higher the larger and more dissimilar the shocks that countries experience, as this increases the attraction of retaining an independent monetary policy and exchange rate.⁹ Similarly, the lower the flexibility of factor markets, the more difficult is the adjustment to shocks, and hence the greater is attraction of an independent monetary policy.

Macroeconomic stability will also increase the attractiveness of a monetary union. The more flexible and sustainable fiscal policy, the less the need for countries to rely on monetary policy to respond to shocks, and the lower inflationary pressures. While countries with a history of high inflation may have a greater yearning for macroeconomic stability and therefore be more willing to sacrifice their monetary sovereignty in return for greater credibility of policies, their history of monetary instability may render them less appealing to other potential members.

It may also be easier to integrate countries which have a similar level of economic development. The process of forming a monetary union in Europe was associated with a significant degree of convergence in output per capita. In part this was a natural consequence of catch-up and convergence. In addition, convergence was

⁷However, it is possible that some of the commodities that are being manufactured—for example computer chips—are taking on some of the characteristics of commodity markets, in terms of having a world price rather than the degree of product differentiation and price stickiness generally associated with manufactured goods.

⁸See Eichengreen and Masson et al. (1998), p. 37.

⁹This is particularly true, of course, if the shocks are real rather than monetary.

fostered by the growth of intra-European trade and investment, and by grants to the poorer members of the EU (in particular, Greece, Ireland and Portugal).¹⁰

Finally, the conduct of a common monetary policy in the euro area is rendered easier by the fact that its financial systems work in a similar manner. For example, if interest rates on most loans were indexed to short-term interest rates in one country, but not in another, the impact of changes in the monetary stance would be more rapid in the first country than in the second. In the euro area, changes in the stance of monetary policy do not seem to have radically different implications (in terms of amplitude and timing) on output across countries.

How does ASEAN look in comparison? Levels of economic development differ more than within Europe. Even the contrast between Greece and Germany pales in comparison with that between Vietnam and Singapore. While Singapore is a world leader in a number of high-tech industries, Vietnam exports relatively low-tech manufactures. Singapore has one of the most advanced financial markets in the world and is one of the leading foreign-exchange trading centers, but Vietnam is still in the early stages of developing and opening its financial markets. Such stark differences in economic and financial development would complicate efforts to encourage economic and financial integration, which is a necessary concomitant of successful monetary integration.

In Europe, in contrast, the similarity of the major economies in terms of their levels of economic development and monetary systems facilitated the adoption of policies to support economic and monetary integration. Examples include the integration of capital and labor markets (which is necessary to obtain the full benefits of a monetary union) and transfers to the EU's poorer members. Migration from low- to high-wage countries within the EU, and any ensuing social strains, have been relatively limited. Moreover, transfers to the poorer members—a policy that mitigates pressure for migration—have been sizable in per capita terms from the point of view of the recipient countries, but fairly low in absolute terms because the EU's poorer members have relatively small populations. Integrating countries with very different levels of development and diverse economic structures may be more complicated, as can be seen in the process that may eventually bring eastern European nations into the EU and, eventually, EMU.

Intra-regional trade as a share of regional GDP is similar to that of the euro area and higher than that of the countries participating in Mercosur and NAFTA (Table 1). This reflects the high degree of openness (defined as the share of trade in GDP) of the ASEAN countries, which is counterbalanced to an extent by ASEAN's relatively low share of intra-regional trade in total trade. ASEAN's ratio of intra-regional trade to regional GDP has risen considerably in recent years, mirroring both a rising proportion of

¹⁰These issues will be considered more fully in the sections on preconditions and implications of a common currency.

intra-regional trade in total trade—itsself partly a function of rapid regional growth—and a marked increase in the openness of ASEAN’s economies (Figure 2).

The composition of ASEAN’s trade is also relatively favorable. Reflecting the rapid shift toward exports manufactures that has occurred over the past two decades (Figure 3), ASEAN’s trade is heavily weighted toward manufactures, which account for four-fifths of total exports, a value which is only slightly lower than the corresponding import ratio. By contrast, in the case of Mercosur, manufactured goods currently comprise only about half of total exports, compared to four-fifths of total imports.

The geographical diversification of ASEAN’s trade also favors a single currency over options like unilateral dollarization. All three major currency areas (the United States, the euro area, and Japan) are important trading partners for most ASEAN countries (Table 1). This implies that the ASEAN countries’ exposure to dollar-euro and dollar-yen fluctuations is relatively high and that none of the major currency areas is, by itself, an obvious candidate for a common peg. In this respect, the case of ASEAN is less straightforward than that of the central and eastern European countries that aspire to EU and euro membership, reflecting that the share of their trade with the EU averages about half of the national total, or of several countries in the Western Hemisphere, for which a peg to the U.S. dollar might seem more natural. Indeed, when the ASEAN countries de facto pegged to the dollar before the Asian financial crisis, fluctuations in the exchange rate between the dollar and the Japanese yen resulted in significant movements in the ASEAN countries’ real effective exchange rate (Figure 1). Should ASEAN countries decide to fix their bilateral rates, the geographic composition of their trade would militate against fixing to any one of the major external currencies and in favor of a common currency with an independently floating rate.

Evidence on macroeconomic disturbances does not obviously indicate that ASEAN is further than Europe from satisfying the symmetrical-disturbances criterion. We have updated our earlier results on the correlation, size and speed of adjustment to underlying disturbances for Asia, and compare these to the results reported for Europe in earlier work in Tables 2 and 3.¹¹ Correlations of underlying (aggregate supply) disturbances are reported in Table 2 (significantly positive values are shaded), while Table 3 reports the size and speed of adjustment to shocks. As discussed earlier, countries are better candidates for a currency arrangement if their disturbances are correlated and small, and if adjustment to them takes place rapidly.

Disturbances are relatively highly correlated across certain ASEAN countries. In particular, there is a reasonable correlation between the aggregate supply disturbances

¹¹See Bayoumi and Eichengreen (1994). The paper uses structural vector autoregressions (VARs) to derive underlying domestic aggregate supply and aggregate demand disturbances, while the associated impulse response functions are used to measure the size of the underlying shocks and the speed of adjustment to disturbances. The updated Asian results use data from 1968 to 1998, compared to a sample period of 1969 to 1989 used in the European results reported in the original paper.

affecting Indonesia, Malaysia, and Singapore, while the Philippines and Thailand experience more idiosyncratic shocks.¹² Again, there are parallels with Europe, where the shocks experienced by France and Germany appear to have been relatively highly correlated, while those affecting Italy and Spain were more idiosyncratic.

In contrast, the size of disturbances is larger in Asia. This result is as striking as shown in Table 3 because of the inclusion of 1997 and 1998, but it survives when the period is shortened to exclude the crisis. On the other hand, the speed of adjustment is much faster in Asia (and in ASEAN in particular), presumably reflecting the region's more flexible labor markets.

In an effort to combine the various criteria for a monetary union, two of us (Eichengreen and Bayoumi, 1997) developed an "OCA index" which predicts the expected level of exchange rate variability for various Asian countries. The index is derived from the results of a cross-sectional regression covering advanced and east Asian economies that relates observed exchange rate variability to four optimum currency indicators. The independent variables are: (i) the standard deviation of the difference in growth rates across the two economies; (ii) the dissimilarity of the composition of trade; (iii) the level of bilateral trade; and (iv) the size of the two economies. The first two indicators are proxies for the costs associated with asymmetric shocks, the second two for the benefits from stabilizing exchange rates with close trading partners and across larger groupings. A lower expected level of bilateral exchange rate variability (a lower OCA index) implies greater ability to forego the advantages of a flexible rate.

Using Asian data for 1995, the predicted level of exchange rate variability (defined as the variance of the annual real bilateral exchange rate) associated with fundamentals across the largest ASEAN economies (Indonesia, Malaysia, the Philippines, and Thailand) is uniformly in the 8–11 percent range (Table 4). This is not much higher than the 6–9 percent range for intra-EU exchange rates calculated using 1987 data and a similar methodology.¹³ From this point of view, the Asian economies are not very far from the level of preparedness for monetary union of continental Europe in 1987 (only a few years before the Maastricht Treaty was signed and almost a decade after the Exchange Rate Mechanism had been introduced to limit intra-regional exchange rate variability and increase monetary cooperation).

To be sure, economic measures of the suitability of a group of countries for monetary integration are likely to be endogenous, at least in part. Our calculations show that the OCA indices of the major European countries fell rapidly between 1987 and 1995, indicating that they became better candidates for EMU. This is consistent with the view (advanced by Frankel and Rose, 1998) that the optimum currency area criteria are

¹²Aggregate supply disturbances are generally more relevant than aggregate demand disturbances (which are also calculated by the methodology), because aggregate supply disturbances are more related to private sector behavior rather than the impact of macroeconomic policies.

¹³ See Bayoumi and Eichengreen (1997).

themselves related to decisions on economic integration, so that the desirability of a monetary union becomes itself partly a function of the underlying political choices, which helps to explain why monetary unions generally correspond to national borders. This implies that the political commitment to further economic integration may well be an important criterion for a monetary union, as we explain below.

The similarity of the major members of EMU in terms of their economic development and monetary systems may well have facilitated the adoption of policies to support economic integration, as discussed earlier. Examples include the integration of capital and labor markets (which are necessary to obtain the full benefits of a monetary union) and transfers to the EU's poorer members. Given that ASEAN has a significantly more diverse set of countries in terms of development and much more populous poor members, the process of engaging in economic integration would therefore need to be carefully considered, with the particular characteristics and needs of ASEAN countries taken into account.

The differences across countries in the degree of financial development are also more pronounced within ASEAN than within the euro area, consistent with ASEAN's greater diversity of economic development. Should a given change in interest rates have very different implications for different countries in the region, this would complicate the task of a potential common central bank in conducting monetary policy for ASEAN as a whole.

At the same time, the differences in financial structure may not be as large as one might expect at first, if only the relatively advanced economies within ASEAN are considered. BIS (1998) shows that the financial systems of Singapore, the Philippines, Thailand, Malaysia, and possibly Indonesia are not exceedingly different in a number of respects, including the maturity structure of loans, the share of loans with adjustable interest rates, the degree of competition in the banking system, and the relative importance of banking in financing the private sector.

An alternative approach to assessing whether the transmission mechanism of monetary policy is sufficiently homogeneous within ASEAN relies on econometric estimates and, once again, a comparison between ASEAN and the euro area. Specifically, we ran a vector autoregression on quarterly data on industrial production, prices, and interest rates and the impulse response of industrial production to an interest rate shock is examined for each country in ASEAN and in the euro area.¹⁴

The results provide a mixed picture. On the one hand, the differences in the impulse response graphs seem more pronounced among ASEAN countries than among euro area countries. In the case of the euro area countries, the full impact of a one

¹⁴ The methodology follows that of Ramaswamy and Sloek (1997), who have applied it to the case of the euro area. However, we use industrial production, rather than GDP, is used for both ASEAN and euro area countries, owing to data limitations in the case of the ASEAN countries.

standard deviation interest rate hike takes 4-6 quarters to materialize, and amounts to ½-1 percentage point of industrial production growth, a relatively limited range. In the case of ASEAN, the full impact takes 3-7 quarters to materialize, and amounts to ½-3 percentage points. On the other hand, the standard error bands around the impulse response graphs are wider in the case of ASEAN, reflecting the greater difficulty in estimating a relationship among output, prices, and interest rates in the ASEAN countries. Figure 4 reports the results of a VAR where industrial production and prices are in log-differences.¹⁵

This broad message remains valid using a number of specifications, such as running the VAR on industrial production and prices in levels, including a trend and seasonal dummies, and so on. At the same time, the results for individual countries are rather sensitive to specification changes and, especially, changes in the sample period, including in the case of the euro area countries. The fragility of the individual country results to changes in specification and sample period constitutes an important caveat to the reliability of this methodology.

Nevertheless, our overall impression is that a common monetary policy might, at least in its initial stages, have a different impact on the various countries within ASEAN, in terms of both the amplitude and the duration of its effects on output. Once again, we cannot conclude without noticing that the economic considerations on whether ASEAN constitutes an optimal currency area are partly endogenous to the choice of whether to move toward a common currency. Regarding the transmission mechanism of monetary policy, it is to be expected that the introduction of a common currency would facilitate harmonization of the financial systems of the various countries in ASEAN, which in turn would make the transmission mechanisms more similar across ASEAN countries.

IV. POLITICAL CRITERIA

The experience of EMU appears to provide interesting lessons for the possibility of a common currency in ASEAN. EMU was the culmination of a process of strengthening regional economic, monetary, and political ties over a period of nearly 50 years. Its immediate origins go back to the Treaty of Rome in 1956, which established the European Economic Community and identified the exchange rates of member countries as a matter of common concern. A plan for monetary union was drawn up in

¹⁵ A more formal approach relies on testing the null hypothesis that all slope coefficients are the same in (a) the five countries within ASEAN for which data are available and (b) in any randomly selected group of five countries within the euro area, and comparing the degree of significance of the rejection in cases (a) and (b). The significance level of the rejection is typically above the customary 5 percent level in both cases. This is consistent with, on the one hand, greater similarity of the impulse responses in the euro area, and, on the other hand, less precision in estimating the relationships in the case of ASEAN, whether the strength of the rejection is higher in ASEAN or the euro area depends on the equation specification selected.

1962 by the Commission of the European Communities. In 1970 the Werner Committee recommended completing that transition within a decade (although this timetable was disrupted by the collapse of the Bretton Woods System and the generalized financial turbulence of the 1970s). Subsequently, from the initiation of the “snake-in-the-tunnel” in 1972 to the adoption of the Maastricht Treaty in 1991, monetary and economic integration was pursued mainly through mechanisms for limiting exchange rate variability.

In an important sense, however, the origins of European monetary integration go back even further than this. As two of us have emphasized (in Bayoumi and Eichengreen, 1999), there is a long-lived strand of integrationist thought in Europe that has led politicians and their public to adopt a more ambivalent and nuanced approach to the issue of national sovereignty than their counterparts in other parts of the world. The Pan-European Union, founded in 1923, lobbied for a European federation, attracting the support of, among others, Konrad Adenauer and Georges Pompidou. Even earlier, in the mid-19th century, European intellectuals like Victor Hugo were advancing the case for a United States of Europe. Before him, William Penn proposed a European parliament, Jeremy Bentham a European assembly, Jean-Jacques Rousseau a European federation, Henri Saint-Simon a European monarchy. We could go on, but this is enough repetition to drive home the point. Already many generations before the signing of the Maastricht Treaty and the advent of the euro, there existed a powerful strand of integrationist European thought, although of course Europe’s history is honeycombed with wars.

After World War II, the lesson drawn was that nationalism and the struggle for industrial resources had been the cause of the three bloody wars in less than a century. It was this geopolitical logic, advanced not only within Western Europe itself but powerfully argued (and financed) by the continent’s Cold War ally, the United States, that lent momentum to the establishment of the European Payments Union, the European Coal and Steel Community, the Organization for European Economic Cooperation and Development, and ultimately the European Economic Community (leading to the creation of the European Commission, the European Court of Justice, and the European Parliament). None of these entities have meaningful counterparts in Asia, past or present. ASEAN is a loose agglomeration of governments seeking to promote economic, technical, scientific and political cooperation. The Manila Declaration, intended to encourage intra-ASEAN cooperation, focused mainly on industrial joint ventures and the establishment of producer and commodity exchanges, not fundamental, European-style integration. In other words, there is little sign, comparable to the evidence which has existed in Europe for nearly 50 years, of a willingness to subordinate national prerogatives to some larger regional entity. There is no wider web of interlocking arrangements, as in the EU, which would be put at risk by a failure to follow through on promises of monetary and financial cooperation.

The implication is that a political commitment to establish and support a regional system of single-currency or basket pegs would seem to be less credible than it was in Europe in the 1980s and early 1990s. By comparison with Europe, there does not appear to be as strong a commitment to move ahead with significantly deeper economic and

political cooperation. There does not seem to be a commitment on the part of strong-currency countries to support their weak-currency counterparts, even if doing so forced them to follow policies that they would not regard as appropriate and desirable on domestic grounds. There does not exist a Europe-style Monetary Committee or Council of Ministers, much less the carrot of Europe-style Structural Funds, to effectively pressure weak-currency countries to eliminate the fiscal excesses that place the burden of support on their strong-currency counterparts.

For all these reasons, an EMS-style arrangement involving a currency grid of central parities surrounded by 15 per cent bands (much less 2 ¼ per cent bands like those which prevailed in Europe before 1993) would likely be less credible and more fragile in Asia than Europe. Add to this the greatly increased difficulty of limiting capital flows due to the revolution in information and communications technologies in the 1990s and the prospects look dimmer still.

To be sure, Asian countries have put in place a variety of intergovernmental mechanisms designed to provide multilateral support for exchange rate stability. Already in 1966 ten South East Asian countries established SEACEN, which organizes training programs and hosts an annual meeting of central bank governors. In 1991, 11 Asian central banks established EMEAP, which organizes high level meetings and hosts working groups on financial markets, central bank operations, and prudential supervision. In 1995 the Hong Kong Monetary Authority and the central banks of Malaysia, Indonesia and Thailand announced repurchase agreements designed to provide mutual exchange rate support. Singapore, the Philippines and Japan joined this network subsequently. But talking shops, technical assistance and even repurchase do not mean that strong currency countries will provide the extensive support needed to prop up the weak currencies of neighboring countries if doing so places domestic price and financial stability at risk. Recall that even the relatively favorable circumstances that prevailed in Europe in the early 1990s were not sufficient to avert a currency crisis precipitated by the reluctance of weak currency countries to adjust and Germany's simultaneous reluctance to extend the "unlimited support" that it was technically obligated to provide under the terms of the EMS Articles of Agreement (Eichengreen and Wyplosz 1993).

Two logical responses to this dilemma (aside from the region-wide reimposition of capital controls, which we regard as exceedingly unlikely) are to go backward to greater exchange rate flexibility or to push forward toward monetary unification. In the next section we discuss further how that forward march might be organized. Here, we wish to emphasize that there are formidable political preconditions for getting it underway. A single-currency peg to either the dollar or the yen is unattractive, as we have seen, owing to the geographical diversification of trade. For the region as a whole, a currency board (or, going one step further, dollarization or "yenization") is therefore not viable. Only entities like Hong Kong, with the strongest imaginable reasons to want to put monetary policy on autopilot, would be prepared to contemplate the economic sacrifices needed to make it work. A common currency-board peg to a basket would probably lack transparency and therefore credibility; in addition, it would impose

differential costs on different countries, which compete to a different extent in the Japanese and U.S. markets. For both reasons it would be unappealing.

This leaves the creation of an independently floating single currency and an ASEAN central bank. Creating a true international institution with exclusive responsibility for monetary policy in the region would involve a significant compromise of national sovereignty. Specifically, it would mean forsaking the printing press, national governments' revenue source of last resort in a political or security crisis.

V. TRANSITIONAL DYNAMICS

If and when the commitment to deeper monetary integration develops in Asia (a big if), it will then be necessary to put in place a mechanism for managing the transition. This section reviews Europe's experience with this problem. As already noted, the European case is especially apposite insofar as it is the one major example to date of monetary unification without political unification.

The Maastricht Treaty laid out a detailed timetable for the transition to EMU. Countries had to fulfill a comprehensive set of macroeconomic criteria setting numerical targets for interest rates, inflation rate, exchange rates, and general government debts and deficits. For example, countries were required to hold their exchange rates within the narrow bands of the Exchange Rate Mechanism of the European Monetary System without any unilateral changes in the central parity for at least two years prior to participation in the common currency. In addition, they had to satisfy various institutional requirements involving central bank independence and greater factor mobility. Monetary financing of budgetary deficits by individual-country central banks and privileged access of the public sector to financial institutions were prohibited as of January 1994. This laid the basis for the current legal framework, which prohibits the European System of Central Banks (comprising the European Central Bank and the central banks of member countries) from financing governments or EU institutions and from assuming their commitments. Meanwhile, capital controls were progressively lifted, and labor markets were opened to citizens of other member states. Finally, the integration process was assisted by a Europe-wide competition policy, which forced countries to comply with EU directives in areas such as national subsidies, openness of product markets, and entry of EU firms into other member's markets.¹⁶

Requiring that inflation rates and interest rates converge in the run up to EMU was designed to prevent large real exchange rate changes once nominal rates were locked. These constraints made it necessary for central banks to adopt different monetary stances than they would have chosen on the basis of purely domestic considerations. They thus helped ready governments and their constituents for the new environment in which they must live with a one-size-fits-all monetary policy.

¹⁶On the other hand, they were not required to fully harmonize their fiscal or financial systems, as these were felt to be national concerns peripheral to the process of monetary unification.

The deficit and debt criteria, for their part, were designed to ensure that the public finances of the participating countries were brought onto a sustainable path. General government deficits were to be limited to 3 percent of GDP or less, and general government debts were to be below 60 percent of GDP or falling toward that figure at a satisfactory pace. The aim was to avoid debt runs that might threaten the stability of European financial markets and pressure for debt bailouts, as well as negative spillovers from the fiscal imbalances of individual member countries to other members through pressures for an undue relaxation of monetary policy.

The preconditions can be seen as a screening device aimed at weeding out candidates that might fail to maintain prudent macroeconomic policies and impose costs on the other members. More broadly, they were intended to help foster a culture of price stability and to gradually shift the focus of macroeconomic policies from domestic to union-wide considerations.

As the debate surrounding the Maastricht Treaty has underscored, there is less than complete agreement that this is a sensible way of organizing the transition. Our own reading of the debate is that there is now broad agreement that the transition should center on five objectives.

Strengthening central bank independence. Monetary policy that is not delegated to independent central bankers who attach priority to price stability may exhibit an inflationary bias, reflecting time-inconsistency problems, or instability, reflecting pressure to respond to the electoral cycle. Hence, the Maastricht Treaty not only entailed the creation of an independent European Central Bank at the inauguration of the monetary union but required countries to buttress the independence of their national central banks during the lead-up as a way of demonstrating that the polity was prepared to live with the consequences of an independent central bank.

Enhancing wage and price flexibility. This was the major omission of the Maastricht Treaty, which is preoccupied by “nominal” as opposed to “real” convergence.¹⁷ Once the exchange rate is removed as a mechanism for internal relative price adjustment, other variables must take up the slack. The obvious candidates are greater domestic wage and price flexibility—wage flexibility in particular. Unfortunately, evaluating it is problematic, although perhaps one way to measure it indirectly is via the unemployment rate.

Strengthening the financial sector. The Maastricht Treaty addressed this problem indirectly, constructing debt and deficit ceilings under which qualifying countries had to squeeze, and an Excessive Deficit Procedure to limit deficit spending after the inauguration of the monetary union.¹⁸ The justification for such restraints is as protection

¹⁷See, for example, DeGrauwe (1997).

¹⁸The availability of various loopholes and exceptions greatly complicated interpretation and application of these criteria.

for the central bank from pressure to extend an inflationary debt bailout. If a government experiences a debt run and its banking system and financial markets, or those of neighboring countries, experience negative repercussions, the central bank may feel compelled to buy up the bonds of the government in distress, with inflationary consequences monetary-union wide. Moreover, the knowledge that some of those inflationary consequences will be borne by the partner countries will create moral hazard for each set of national fiscal authorities. One drawback of these debt and deficit ceilings is that they may lead to procyclical fiscal policy. A preferable option is: (i) to reform the institutions and procedures by which fiscal policy is made so as to eliminate any bias toward excessive deficits; and (ii) to strengthen banks and other financial institutions so that they are better able to withstand problems and hence are less likely to come for help to the common central bank.¹⁹

Harmonizing Monetary Policies over the Transition. A fourth issue for the transition is how the overall stance of monetary policy will be determined. In Europe, the solution was for other central banks to follow the Bundesbank's lead, reflecting both the economic importance of the German economy within Europe and the superior track-record of the Bundesbank in delivering low inflation. Other members accepted this arrangement because it allowed them to successfully reduce their inflation rates.²⁰ Only with the advent of Stage III of the EMU process (when the European Central Bank came into operation) was Europe's monetary policy made on a symmetric, Europe-wide basis. ASEAN would have to develop cooperative procedures earlier, since it lacks the natural focal point like that provided by Germany. This is likely to be a mixed blessing. While the absence of a focal point such as Germany may make it somewhat more difficult to solve coordination problems, it also avoids any strains that might result from large idiosyncratic shocks to the country serving as a focal point.

Creating Barriers to Exit. A monetary union is no guarantee of exchange rate stability if the participating countries can leave on a whim. Exit is the alternative to voice (where voice in the present instance means lobbying for a different common monetary policy). A country which is dissatisfied with the common monetary policy either because it is too inflationary or because it is not inflationary enough may be tempted to resurrect its own national currency and its own national monetary policy. This is easy technically; doing so requires only restarting the monetary printing press.²¹ And if the markets begin to doubt governments' allegiance, they can force the issue, destabilizing the single

¹⁹This is the critique of the Excessive Deficit Procedure and the Stability Pact in Eichengreen and Wyplosz (1998).

²⁰However, they were less well served by the arrangement in the wake of German unification, when Germany's macroeconomic needs diverged from those of other European countries. The resulting strains on intra-European macroeconomic policies may have contributed to bringing about the ERM crises of 1992 and 1993.

currency.²² In the European case, however, monetary union is one of an interlocking web of economic and political agreements, all of which could be jeopardized if a country abandoned the single currency. These are provided by the three pillars of the integration process: a common economic policy, a common social policy, and a common security policy. The European Union has embarked on a wide variety of integration initiatives. Admittedly, these extensive commitments do not prevent European governments dissatisfied with various aspects of the European project from discussing exit as a hypothetical option from time to time. But the fact that this entire network of interlocking bargains could be jeopardized by a country's decision to abandon one of them, namely monetary union, is a formidable barrier to exit, which in turn serves to reassure and stabilize the markets. This last point is simply another way of arguing that monetary union makes sense as a solution to Asia's exchange rate problem only if it is part of a wider integration project. And an integration project, with political as well as economic components, would presumably require political commitment and a readiness to compromise national sovereignty.

Note that we have not included in this list a number of conditions that featured in the Maastricht Treaty. Thus, it is not clear, for example, that the aspiring members of an ASEAN monetary union should make the convergence of interest rates to low levels a condition for entry. The level of interest rates is an endogenous variable that responds quickly to politicians' statements and intentions regarding the composition of the monetary union; witness the rapid decline of Italian and Iberian interest rates as it became clear that European politicians preferred a wide monetary union. We do not think that candidate countries should be required to peg their exchange rates for a certain number of years. Not only is the value of the exchange rate another endogenous variable, but

²¹And there are enough examples of monetary unions that have dissolved—that of the Austro-Hungarian Empire, that of the Soviet Union, that of the former Czechoslovakia—that we can dismiss the technical obstacles with confidence.

²²Imagine that Germany is contemplating leaving Stage IIIA of EMU out of dissatisfaction with inflationary policies followed by the ECB in response to problems in the French financial system. Imagine further that investors expect all deutsche marks still circulating to become liabilities of a newly reconstituted Bundesbank and that the deutsche mark will appreciate against the EMU currencies once Germany exits. Investors then have an incentive to hold deutsche marks rather than, say, French francs. Normally, as investors sell francs for marks, the ECB will instruct the Bundesbank, its German operating arm, to sell marks for francs at par. The Bundesbank would then request settlement in francs from the Banque de France. The Banque de France's balance sheet would shrink, while the Bundesbank's would expand. If Germany is contemplating whether to leave the monetary union, the Bundesbank might be reluctant to accept franc-denominated assets on which it stands to suffer a capital loss. If it hesitates to exchange francs for marks at par, a premium on the latter could arise. That premium could convince the markets that breakup is imminent, accelerating the movement into marks. This would increase the difficulties of the French financial system, heighten the pressure for the ECB to inflate, and reinforce Germany's incentive to exit.

attempting to peg it in a world of high capital mobility (short of adopting a currency board) is a dangerous strategy.²³ Bringing inflation down to specified levels is not an essential criterion, because there is no necessary reason to believe that such a reduction in inflation will be permanent. The more appropriate way of addressing inflationary fears is by reforming the institutions by which monetary policy is made so as to remove any inflationary bias—that is, by making the central bank independent. Neither are measures to promote immigration or fiscal transfers within the monetary union essential for its smooth operation. It is unfortunate that the debate over Maastricht was diverted from the importance of wage and price flexibility and into discussions of the need for labor mobility among the participating countries and some form of intra-union fiscal transfers. Immigration and fiscal federalism are less direct, more politically-demanding substitutes for wage and price flexibility. Neither is needed, if domestic labor and product market flexibility is enhanced. The key, everyone agrees, is wage flexibility, which is essential to a smoothly-functioning monetary union.²⁴

In this context it should also be reiterated that high levels of economic integration can be achieved without a common currency or even a common peg (basket or single currency). An alternative way of achieving somewhat closer integration without such a high degree of policy coordination would be to follow the example of Canada with respect to the United States or Switzerland with regard to Germany. In both cases, high levels of economic integration were achieved, without the loss of monetary sovereignty, by continuing to allow the currency to float while using intervention to limit short-term volatility (“leaning against the wind”). In our view, this option is likely to retain considerable appeal in Asia for the foreseeable future.

VI. CONCLUSIONS AND IMPLICATIONS

What then are the prospects for monetary integration in Asia and in ASEAN in particular? In terms of the economic prerequisites for monetary integration, ASEAN is not in a significantly worse position than the EU was a few years prior to its signing the Maastricht Treaty. But at the heart of the EMU project was a political commitment to accept a loss of sovereignty in order to deepen economic integration. The importance of this observation is evident in the very reluctance of certain eligible members to join. Monetary policy independence was gradually lost as countries were forced to take more and more account of the constraints of the ERM. Fiscal policy was constrained first by the convergence criteria and then by the Growth and Stability Pact. Countries agreed to open their capital and labor markets to other members, without which the full benefits of their monetary union could not have been realized. Finally, the European Commission

²³This was Europe’s own experience: a series of speculative attacks in 1992-3 forced officials to widen the fluctuation bands for their currencies from 4 ½ per cent to 30 per cent, rendering the exchange-rate criterion largely irrelevant.

²⁴Thus, the approach recommended here is rather different from that of Lavagna and Giambiagi (1998), whose suggest that governments should target inflation rates, budget deficits, and current account deficits.

was given the task of harmonizing a wide range of commercial standards and of ensuring that capital and labor markets were opened to other members of the Union.

A firm political commitment would therefore be key to ensuring that an attempt to form a regional monetary arrangement is not viewed as simply another fixed exchange rate system open to speculative attack. That political commitment would have to be strong enough to survive for an extended period and to support difficult policy decisions like rendering the central bank independent, adhering to fiscal and exchange rate arrangements even if the policy stance conflicts with that which would be adopted on the basis of purely domestic considerations, and accepting supranational directives. These are very considerable prerequisites for success.

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Table 1. Regional Trade Patterns, 1995

| | In percent of total regional GDP | | In percent of total trade | |
|---------------------------------|----------------------------------|---------|---------------------------|---------|
| | Exports | Imports | Exports | Imports |
| ASEAN¹ | | | | |
| Within ASEAN | 10.6 | 8.8 | 24.6 | 18.0 |
| With Japan | 6.2 | 11.7 | 14.2 | 23.8 |
| With the US | 8.1 | 6.8 | 18.6 | 13.8 |
| With Euro Area | 4.7 | 5.5 | 10.8 | 11.1 |
| With Other Industrial Countries | 3.0 | 4.0 | 6.9 | 8.1 |
| With Other Developing Countries | 10.5 | 11.9 | 24.3 | 24.3 |
| Euro Area² | | | | |
| Within Euro Area | 12.4 | 11.4 | 51.2 | 50.7 |
| With Japan | 0.5 | 0.9 | 2.0 | 3.8 |
| With the US | 1.4 | 1.5 | 5.9 | 6.8 |
| With Other Industrial Countries | 4.4 | 3.8 | 18.3 | 16.8 |
| With Other Developing Countries | 5.2 | 4.7 | 21.3 | 21.0 |
| Mercosur³ | | | | |
| Within Mercosur | 1.8 | 1.8 | 22.6 | 20.2 |
| With US | 1.2 | 1.8 | 15.0 | 20.6 |
| With Euro Area | 1.7 | 2.0 | 21.3 | 22.3 |
| With Other Industrial Countries | 1.2 | 1.2 | 14.3 | 13.7 |
| With Other Developing Countries | 2.1 | 2.0 | 26.0 | 22.1 |
| NAFTA⁴ | | | | |
| Within NAFTA | 4.8 | 4.9 | 46.2 | 38.4 |
| With Japan | 0.9 | 1.7 | 8.6 | 13.7 |
| With Euro Area | 1.2 | 1.5 | 11.7 | 11.6 |
| With Other Industrial Countries | 0.8 | 0.8 | 7.2 | 6.2 |
| With Other Developing Countries | 2.7 | 3.8 | 26.1 | 29.8 |

Source: International Monetary Fund, Direction of Trade Statistics. World Economic Outlook.

¹ ASEAN: Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam (Brunei data are not available).

² Euro Area: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal and Spain.

³ Mercosur: Argentina, Brazil, Paraguay, Uruguay, and associate members Bolivia and Chile.

⁴ NAFTA: Canada, Mexico and the United States.

Table 2. Correlations of Aggregate Supply Shocks

**East Asia
(1968-96)**

| | Malaysia | Indonesia | Singapore | Philippines | Thailand | Hong Kong SAR | Japan | Taiwan | Korea | Australia | New Zealand |
|--------------------|-------------|-------------|-------------|-------------|-------------|---------------|-------------|--------|-------|-----------|-------------|
| Malaysia | 1.00 | | | | | | | | | | |
| Indonesia | 0.49 | 1.00 | | | | | | | | | |
| Singapore | 0.40 | 0.32 | 1.00 | | | | | | | | |
| Philippines | 0.05 | 0.16 | 0.01 | 1.00 | | | | | | | |
| Thailand | 0.02 | 0.16 | 0.33 | 0.14 | 1.00 | | | | | | |
| Hong Kong SAR | 0.12 | 0.40 | 0.42 | 0.00 | 0.33 | 1.00 | | | | | |
| Japan | -0.02 | 0.03 | 0.02 | 0.03 | 0.32 | -0.23 | 1.00 | | | | |
| Taiwan | 0.00 | 0.32 | 0.42 | 0.15 | 0.54 | 0.40 | 0.23 | 1.00 | | | |
| Korea | 0.17 | 0.11 | 0.21 | 0.07 | 0.21 | 0.18 | 0.17 | 0.01 | 1.00 | | |
| Australia | 0.00 | 0.14 | 0.08 | -0.16 | 0.25 | 0.13 | 0.36 | 0.27 | 0.04 | 1.00 | |
| New Zealand | 0.04 | 0.22 | 0.19 | -0.01 | 0.21 | 0.00 | 0.22 | 0.07 | 0.01 | 0.07 | 1.00 |

**Western Europe
(1969-89)**

| | Germany | France | Netherlands | Belgium | Denmark | Austria | Switzerland | Italy | United Kingdom | Spain | Portugal | Ireland | Sweden | Norway | Finland |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|-------------|-------------|---------|--------|--------|---------|
| Germany | 1.00 | | | | | | | | | | | | | | |
| France | 0.52 | 1.00 | | | | | | | | | | | | | |
| Netherlands | 0.54 | 0.36 | 1.00 | | | | | | | | | | | | |
| Belgium | 0.62 | 0.40 | 0.56 | 1.00 | | | | | | | | | | | |
| Denmark | 0.68 | 0.54 | 0.56 | 0.37 | 1.00 | | | | | | | | | | |
| Austria | 0.41 | 0.28 | 0.38 | 0.47 | 0.49 | 1.00 | | | | | | | | | |
| Switzerland | 0.38 | 0.25 | 0.58 | 0.47 | 0.36 | 0.39 | 1.00 | | | | | | | | |
| Italy | 0.21 | 0.28 | 0.39 | 0.00 | 0.15 | 0.06 | -0.04 | 1.00 | | | | | | | |
| United Kingdom | 0.12 | 0.12 | 0.13 | 0.12 | -0.05 | -0.25 | 0.16 | 0.28 | 1.00 | | | | | | |
| Spain | 0.33 | 0.21 | 0.17 | 0.23 | 0.22 | 0.25 | 0.07 | 0.20 | 0.01 | 1.00 | | | | | |
| Portugal | 0.21 | 0.33 | 0.11 | 0.40 | -0.04 | -0.03 | 0.13 | 0.22 | 0.27 | 0.51 | 1.00 | | | | |
| Ireland | 0.00 | -0.21 | 0.11 | -0.02 | -0.32 | 0.08 | 0.08 | 0.14 | 0.05 | -0.15 | 0.01 | 1.00 | | | |
| Sweden | 0.31 | 0.30 | 0.43 | 0.06 | 0.35 | 0.01 | 0.44 | 0.46 | 0.41 | 0.20 | 0.39 | 0.10 | 1.00 | | |
| Norway | -0.27 | -0.11 | -0.39 | -0.26 | -0.37 | -0.21 | -0.18 | 0.01 | 0.27 | -0.09 | 0.26 | 0.08 | 0.10 | 1.00 | |
| Finland | 0.22 | 0.12 | -0.25 | 0.06 | 0.30 | 0.11 | 0.06 | -0.32 | -0.04 | 0.07 | -0.13 | -0.23 | -0.10 | -0.08 | 1.00 |

Sources: Authors' calculations; and Bayoumi and Eichengreen (1994).

Notes: ASEAN members are reported in bold.

Table 3. Size and Speed of Adjustment to Disturbances

| | <u>Aggregate Supply Disturbances</u> | | <u>Aggregate Demand Disturbances</u> | |
|--------------------------|--------------------------------------|---------------------|--------------------------------------|---------------------|
| | Size | Speed of Adjustment | Size | Speed of Adjustment |
| East Asia (1968–98) | | | | |
| Malaysia | 0.042 | 1.14 | 0.042 | 1.23 |
| Indonesia | 0.067 | 1.19 | 0.138 | 0.74 |
| Singapore | 0.057 | 0.75 | 0.077 | 1.37 |
| Philippines | 0.074 | 0.80 | 0.075 | 0.79 |
| Thailand | 0.304 | 0.14 | 0.063 | 1.08 |
| Hong Kong SAR | 0.046 | 0.90 | 0.054 | 1.08 |
| Japan | 0.116 | 0.18 | 0.019 | 0.54 |
| Taiwan | 0.034 | 1.09 | 0.056 | 0.94 |
| Korea | 0.077 | 0.16 | 0.030 | 0.41 |
| Australia | 0.022 | 0.43 | 0.047 | 0.43 |
| New Zealand | 0.044 | 0.60 | 0.073 | 0.51 |
| Western Europe (1969–89) | | | | |
| Austria | 0.018 | 1.00 | 0.017 | 0.42 |
| Belgium | 0.028 | 0.67 | 0.020 | 0.51 |
| Denmark | 0.022 | 1.10 | 0.017 | 0.14 |
| Finland | 0.018 | 0.88 | 0.027 | 0.68 |
| France | 0.034 | 0.24 | 0.014 | 0.10 |
| Germany | 0.022 | 1.19 | 0.015 | 0.66 |
| Ireland | 0.021 | 1.22 | 0.038 | 0.38 |
| Italy | 0.030 | 0.43 | 0.036 | 0.38 |
| Netherlands | 0.033 | 0.69 | 0.019 | 0.51 |
| Norway | 0.031 | 0.65 | 0.034 | 0.70 |
| Portugal | 0.061 | 0.43 | 0.026 | 0.37 |
| Spain | 0.057 | 0.08 | 0.015 | 0.12 |
| Sweden | 0.030 | 0.26 | 0.012 | 0.42 |
| Switzerland | 0.031 | 1.00 | 0.016 | 0.86 |
| United Kingdom | 0.018 | 0.43 | 0.019 | 0.02 |

Notes: Staff calculations and Bayoumi and Eichengreen (1994), cited in text. ASEAN members reported in bold.

Table 4. Bilateral Real Exchange Rate Variability Associated with Fundamentals
(In percent)

Selected ASEAN Countries, 1995

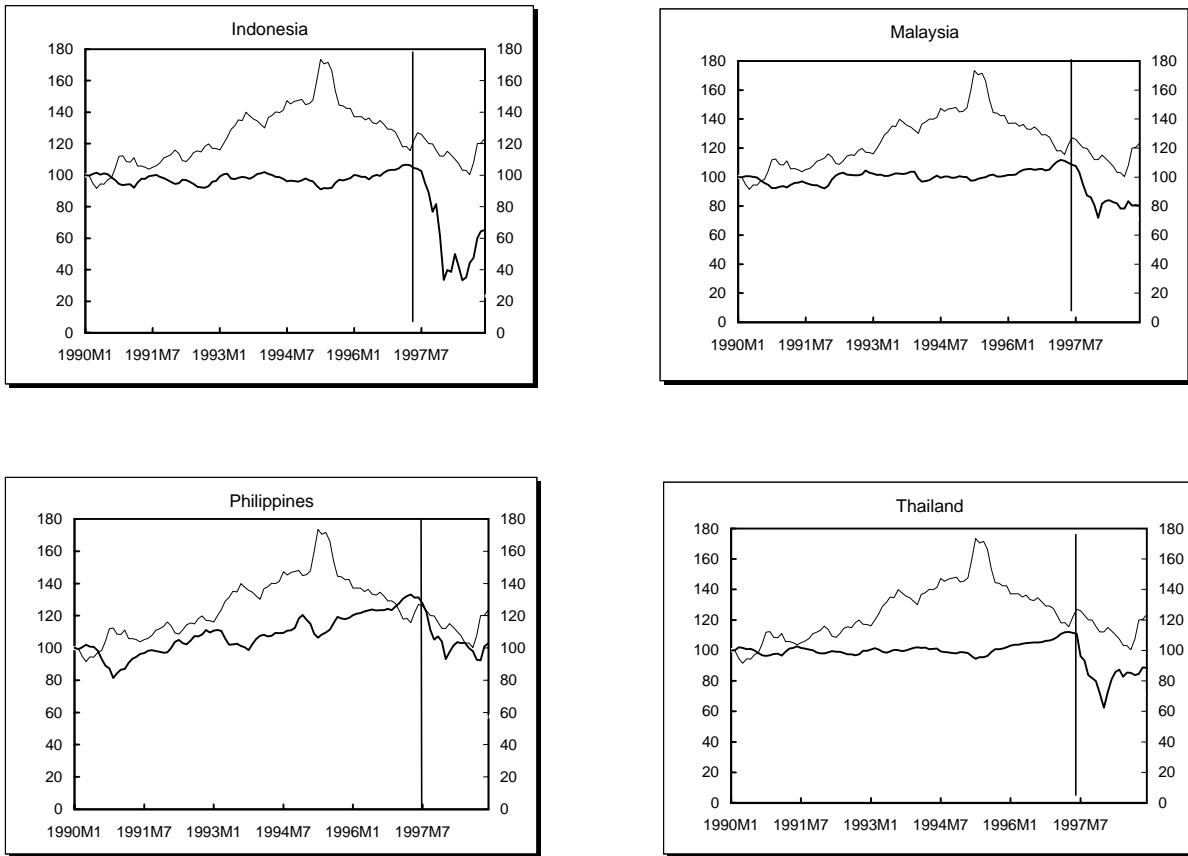
| | Indonesia | Malaysia | Philippines |
|-------------|-----------|----------|-------------|
| Malaysia | 11 | | |
| Philippines | 11 | 10 | |
| Thailand | 11 | 9 | 8 |

Selected European Countries, 1987

| | Germany | France | Italy |
|--------|---------|--------|-------|
| France | 7 | | |
| Italy | 7 | 6 | |
| Spain | 9 | 6 | n.a. |

Source: Bayoumi and Eichengreen (1997) and Eichengreen and Bayoumi (1998), cited in text.

Figure 1. Selected ASEAN Countries: Real and Nominal Exchange Rates,
January 1990 - December 1998¹

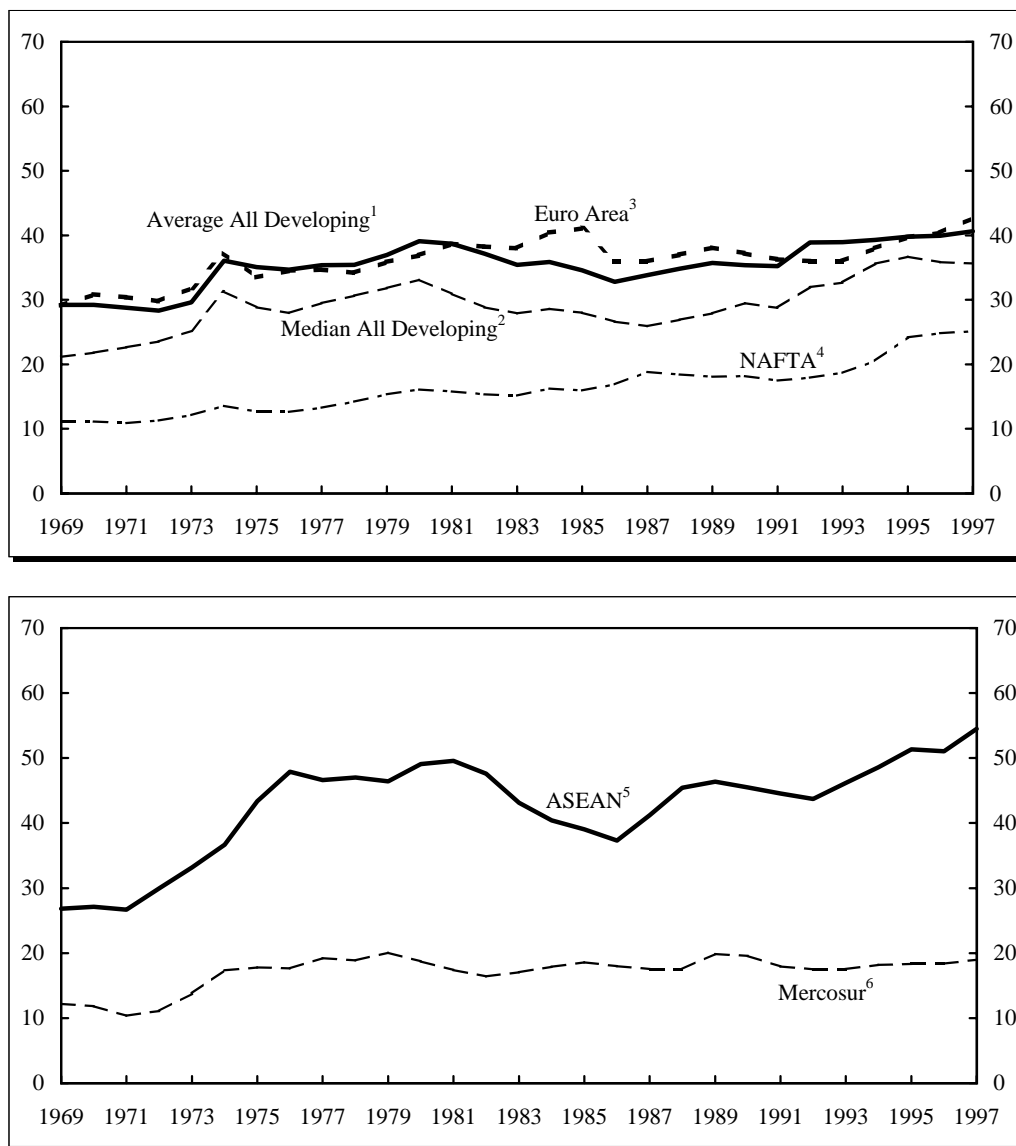


----- U.S. dollar per national currency unit
 ——— Real effective exchange rate
 ——— U.S. dollar per Japanese yen exchange rate

Sources: International Monetary Fund, Information Notice System.

¹ A fall in the series indicates a depreciation relative to the U.S. dollar while a rise in the series indicates an appreciation relative to the U.S. dollar.

Figure 2. Advanced and Developing Countries: Measures of Openness of Economies, 1969-1997



Source: International Monetary Fund, World Economic Outlook.

¹ The unweighted average across countries of exports and imports (divided by two) in percent of GDP.

² The median value of country's exports and imports (divided by two) in percent of GDP.

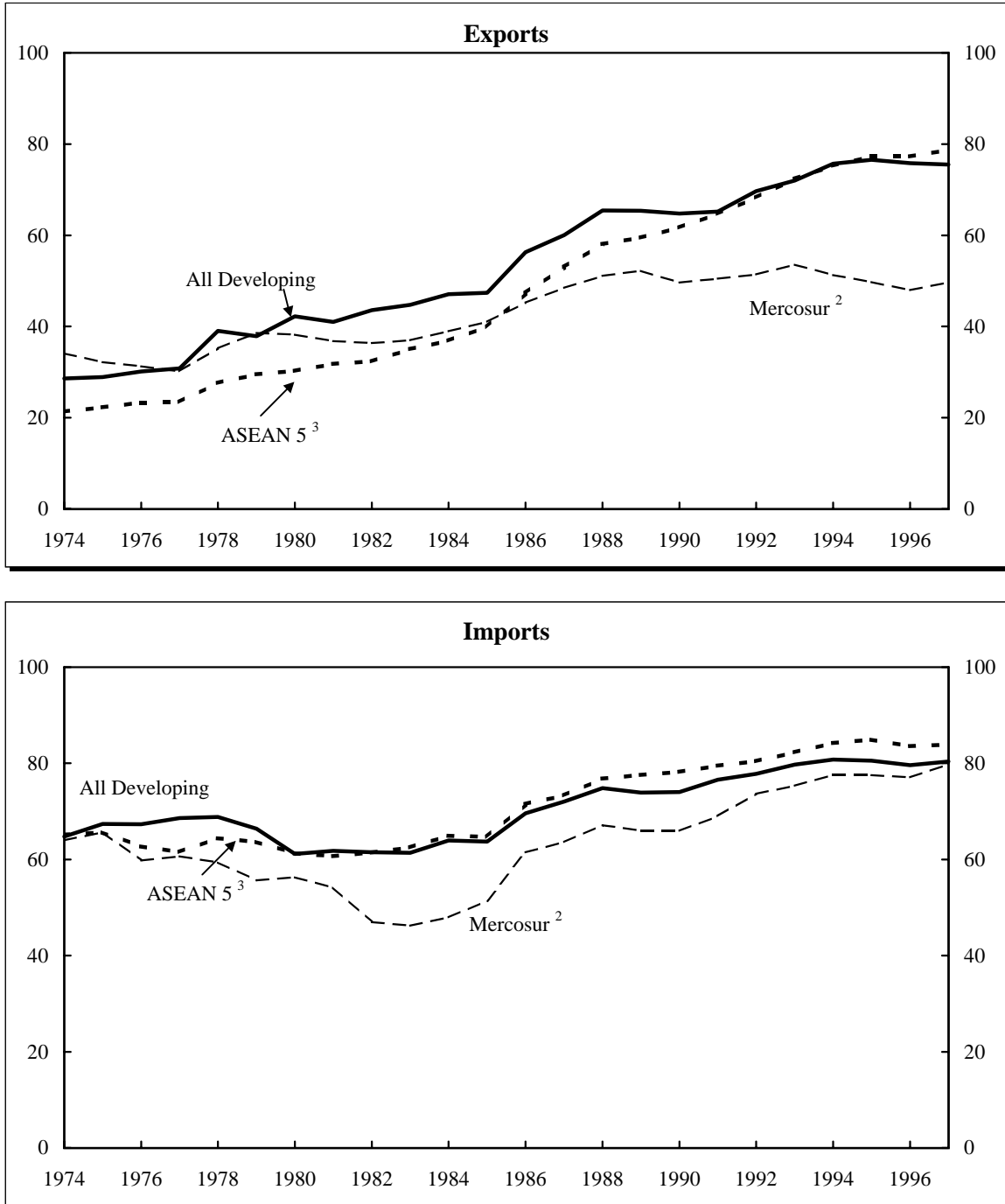
³ Euro Area: Austria, Belgium-Luxembourg, Finland, France, Germany, Ireland, Italy, Netherlands, Portugal and Spain.

⁴ NAFTA: Canada, Mexico and the United States.

⁵ ASEAN: Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam. (Brunei data not available).

⁶ Mercosur: Argentina, Brazil, Paraguay and Uruguay, as well as associate members Bolivia and Chile.

Figure 3. Developing Countries: Share of the Manufacturing Sector in Total Trade¹, 1974-1997



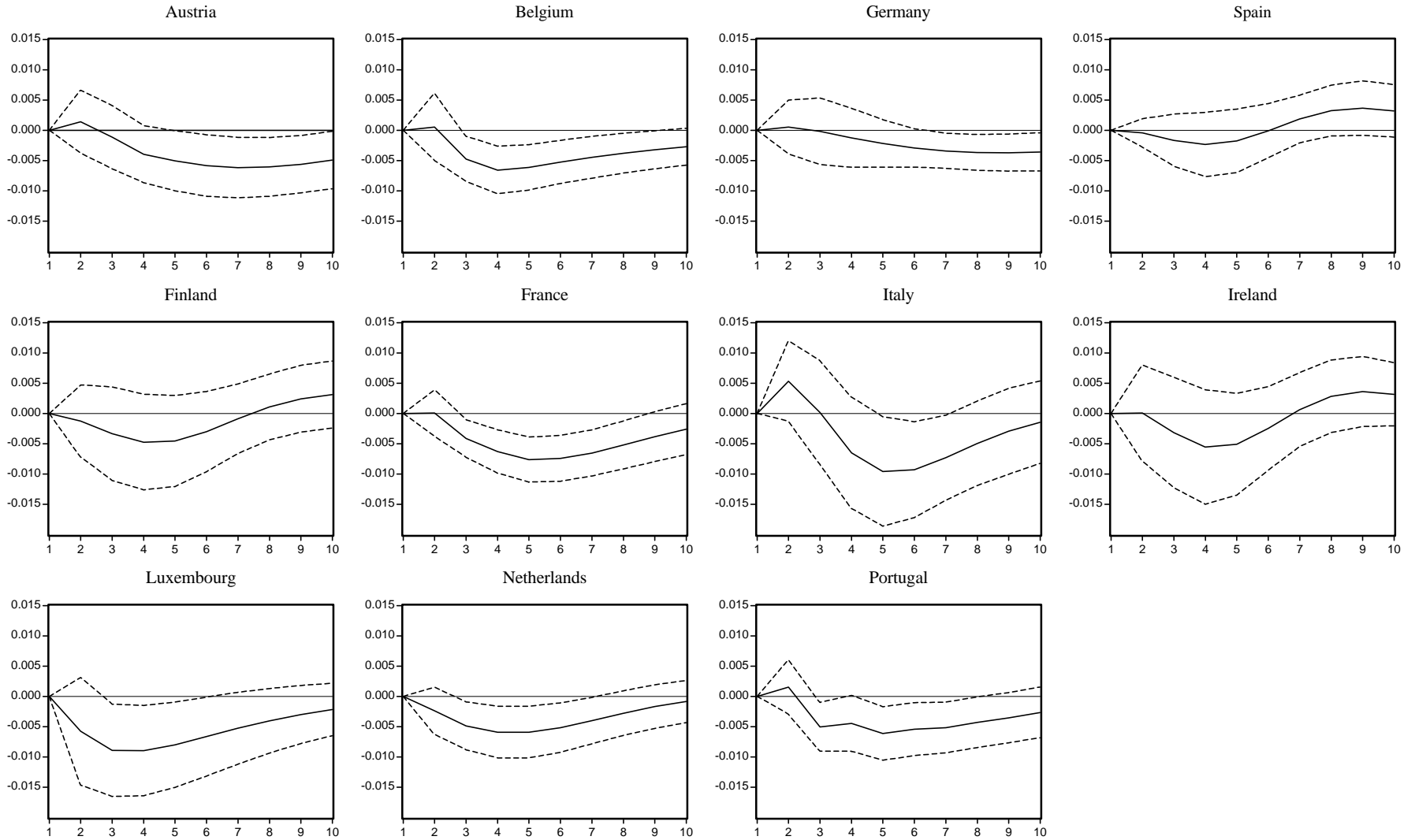
Source: United Nations, Trade Analysis and Reporting System.

¹ The sum of the following SITC categories: (5) chemicals, (6) basic manufactures, (7) machines and transport equipment, (8) miscellaneous manufactured goods, and (9) goods not classified by kind, in percent of total trade.

² Mercosur: Argentina, Brazil, Paraguay and Uruguay, as well as associate members Bolivia and Chile.

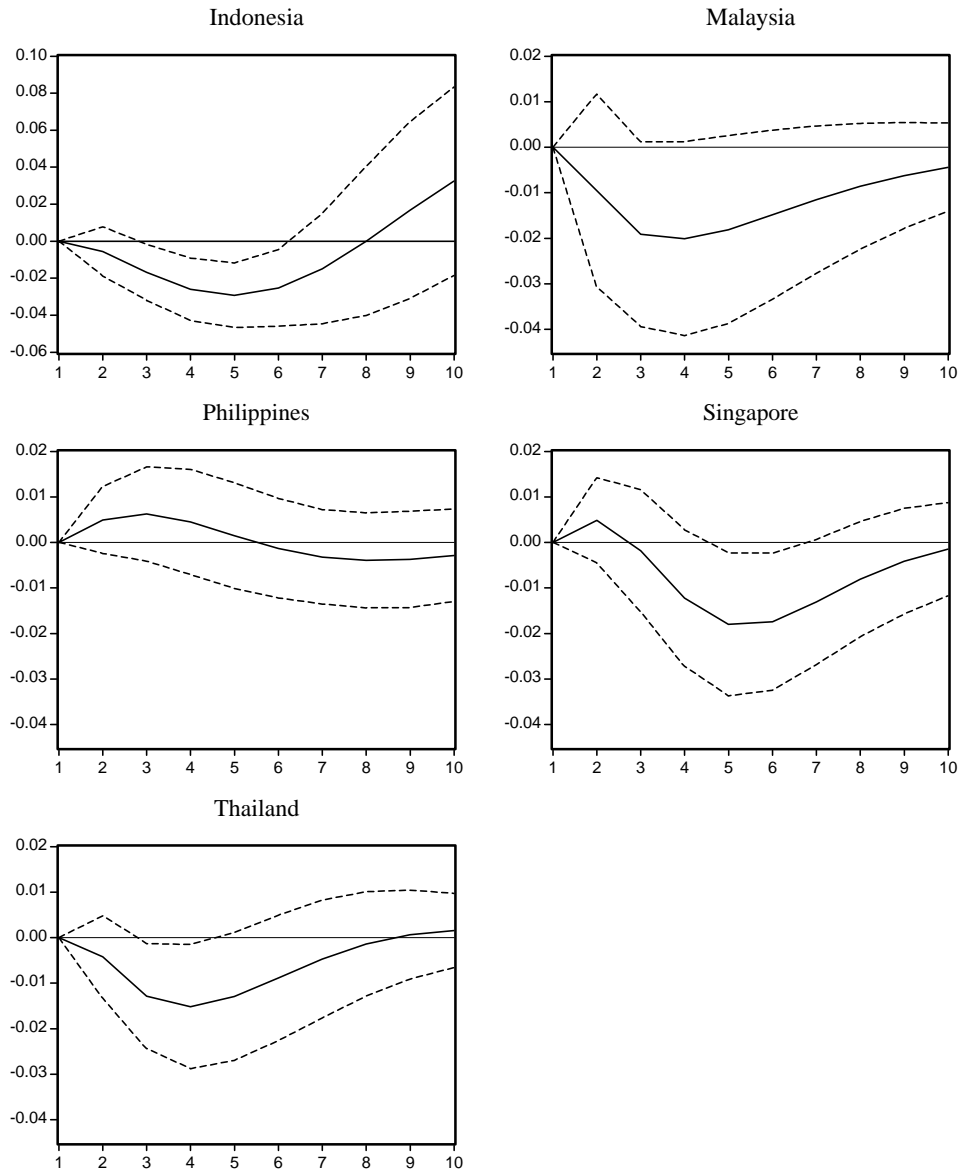
³ ASEAN 5: Indonesia, Malaysia, Philippines, Singapore and Thailand.

Figure 4a. Impulse Response of Industrial Production to an Interest Rate Shock: EMU countries, 1986Q1-1998Q4



Sources: International Financial Statistics and Eurostat

Figure 4b. Impulse Response of Industrial Production to an Interest Rate Shock: ASEAN countries, 1982Q1-1998Q4



Source: International Financial Statistics