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ASEAN Monetary Cooperation: Issues and Prospects

Arief Ramayandi

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Arief Ramayandi
Australian National University
and
Padjadjaran University

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ASEAN Monetary Cooperation: Issues and Prospects

Among other things, the 1997–98 East Asian financial crisis has led to questioning within the Association of Southeast Asian Nations (ASEAN) about whether the region needs a common currency. This paper aims to discuss the underlying economic issues and prospects, from both a theoretical and a practical point view. The analysis focuses only on the five largest ASEAN nations. Standard criteria suggested by the theory of Optimal Currency Areas are reviewed and applied to the region. The paper then provides a discussion on possible steps that can be pursued to realise currency union.

Introduction

The issue of financial integration in East Asia has received growing attention in recent decades. Since the beginning of the 1990s some authors started to look at issues related to monetary integration in East Asia, for example Frankel (1991, 1993), Frankel and Wei (1994), Goto and Hamada (1994), Bayoumi and Eichengreen (1994). However, in the case of ASEAN nations, the issue of monetary integration was almost unimaginable, at least until the 1997–98 financial crisis hit most of its member countries. The crisis persuaded the ASEAN nations to think of themselves more in terms of a region, and musings about the idea of having a common currency for ASEAN surfaced.

In responding to the crisis, ASEAN heads of governments in December 1997 set out their ASEAN 'Vision 2020' statement.[1] The vision contains a message in favour of moving towards closer regional cohesion and economic integration. It was soon followed by an action plan concluded in the following year at the ASEAN summit in Hanoi. The action plan, among other things, calls for a strengthening of the financial system in the region to maintain regional macroeconomic and financial stability, and to intensify cooperation on money, tax and other financial related matters.[2]

To reinforce the Hanoi action plan in order to achieve this goal, ASEAN nations have also moved forward by looking at a wider region in terms of economic and financial cooperation. The so-called ASEAN+3 (ASEAN member countries plus China, Japan and the Republic of Korea) met in Chiang Mai in 2000 and agreed to establish a regional financing arrangement called the Chiang Mai Initiative.

This initiative provides an expanded ASEAN Swap Arrangement and a network of bilateral swap agreements among the ASEAN+3 nations.

One of the possible interpretations of the ASEAN 'Vision 2020' is for ASEAN to implement more intensive monetary cooperation among its members, particularly in terms of a possible ASEAN exchange rate system. This could include the possibility of creating an ASEAN Currency Unit (ACU), as mentioned in the ASEAN Secretariat report 'Recent Developments in ASEAN Economic Integration'.[3] When considering the feasibility of an ACU, one will have to contemplate the question of whether or not this region satisfies the requirements put forward by the theory of optimum currency area (OCA). According to this theory, countries that seek a common monetary arrangement should meet some necessary level of political preconditions as well as standard economic criteria. The necessary political preconditions relate to the readiness to establish a trans-national institution capable of lending credibility to the commitment of jointly defending the currency pegs of the participating countries. The general standard economic criteria for an OCA refer to the closeness of participating economies, which includes the degree of intra-regional trade, symmetry in the nature of economic/structural shocks and similarities in terms of past macroeconomic policies, stage of development and financial systems.

The aim of this paper is to focus attention on the underlying economic issues for forming an ACU and the feasible steps that can be taken to foster monetary cooperation in the region. This paper limits its discussion only to the five largest ASEAN economies, Indonesia, Malaysia, the Philippines, Singapore and Thailand. The rest of the paper is structured in the following manner: Section 2 reviews the general standard economic criteria for an OCA as applied to ASEAN by going through some empirical data on recent developments in ASEAN;. Section 3 discusses some of the potential impediments for moving forward with the idea as well as necessary intermediate steps to be pursued to realise a monetary regionalism; Section 4 concludes.

Some general standard economic criteria for an OCA: The case of ASEAN

To provide an assessment of ASEAN's readiness to form a common currency area, recent developments in the economic environment among ASEAN countries must be gauged against the general standard economic criteria in the OCA literature. This section looks in particular at the development of ASEAN intra-regional trade, structural shocks faced by those economies, and some measures of dispersion of real economic growth.

Trade integration

After the launch of the ASEAN Free Trade Area (AFTA) in 1992, the volumes of trade in the region increased dramatically. Exports between ASEAN members increased at the average rate of around 28.3 per cent a year from 1993 to 1996. Intra-regional trade as a proportion of ASEAN's total trade also increased from 20 per cent to 25 per cent during the same period (Bunyaratavej and Hahn, 2003, p. 50). There was a hiccup during the East Asia financial crisis in 1997 and 1998, but by 2000, intra regional trade as a share of the total trade improved and reached a level of about 23 per cent.

Bayoumi, et al (1999) compare the regional trade patterns in ASEAN to those of the other trading regions based on 1995 data. In terms of its share of the regional GDP, the pattern in ASEAN is similar to that of the Euro area and higher than that of other countries participating in Mercosur or NAFTA. In terms of intra-regional trade relative to total trade, however, the figures are comparatively lower than other regions.

Although useful for describing the regional trade patterns, studying intra-regional trade shares can be misleading. The number of countries participating in a specific trade bloc dramatically influences the outcome of this sort of analysis (Anderson and Norheim, 1993). One possible way to overcome this problem is to adjust the traditional regional trade shares using a parameter that shows the relevance of the region in world trade. This parameter is calculated by simply dividing the intra-regional trade share by the region's share of the world trade generating the so-called trade intensity index (I_{ij}). If trade is not geographically biased – which means the trade share among the countries exactly match the share of the bloc in world trade – the ratio will be equal to 1, and the larger the ratio the larger will be the trade intensity.

In the following, we will investigate the intensity of the intra-regional trade within the five ASEAN countries under consideration. The trade intensity index can be decomposed into two different components; i.e. trade complementarity index (C_{ij}) and trade bias index (B_{ij}). C_{ij} measures the degree of 'matching' in commodity compositions between any two countries i and j. When the export composition of one country (say, country i) is very similar to the import composition of the other (say, country j), then trade between the two countries will be more intense. B_{ij} ($=I_{ij}/C_{ij}$) acted as a residual component of I_{ij}, in which it explained the I_{ij} component that cannot be captured by the C_{ij}. In other words, B_{ij} results from differences in transaction costs between partners. This effect depends on various things like transport costs and the existence of discriminatory trade policies. By looking at both components of the I_{ij}, one will be able to analyse the factors behind the intensity of trade between countries. All the figures are summarised in Table 1.

Table 1   Trade indices for ASEAN countries

		Indonesia			Malaysia			Partner (j) Philippines			Singapore			Thailand	
		B_{ij}	C_{ij}	I_{ij}	B_{ij}	C_{ij}	I_{ij}	B_{ij}	C_{ij}	I_{ij}	B_{ij}	C_{ij}	I_{ij}	B_{ij}	C_{ij}	I_{ij}
Reporter (i)YEAR																
Indonesia	1996	–	–	–	2.94	0.51	1.50	2.41	0.85	2.05	4.53	0.78	3.53	2.73	0.52	1.43
	1997	–	–	–	3.01	0.60	1.81	3.02	0.70	2.11	5.70	0.73	4.14	2.05	0.68	1.40
	1998	–	–	–	3.90	0.68	2.65	3.68	0.68	2.52	8.40	0.72	6.00	3.16	0.79	2.51
	1999	–	–	–	3.61	0.65	2.36	3.26	0.69	2.26	6.97	0.71	4.95	2.40	0.79	1.89
	2000	–	–	–	3.57	0.70	2.51	2.69	0.94	2.52	6.43	0.76	4.90	2.18	0.79	1.73
	2001				3.72	0.72	2.68	2.95	0.96	2.84	6.64	0.74	4.93	1.98	0.88	1.75
Malaysia	1996	2.63	0.70	1.85	–	–	–	1.32	1.33	1.76	4.70	1.69	7.96	3.08	1.14	3.52
	1997	2.95	0.69	2.05	–	–	–	1.42	1.48	2.10	4.83	1.71	8.25	2.77	1.13	3.13
	1998	4.55	0.60	2.71	–	–	–	1.57	1.73	2.70	4.91	1.84	9.01	3.22	1.26	4.05
	1999	6.62	0.51	3.39	–	–	–	1.27	1.89	2.40	4.50	1.85	8.35	3.05	1.20	3.64
	2000	6.12	0.54	3.30	–	–	–	2.21	1.50	3.32	4.97	1.76	8.73	3.11	1.22	3.78
	2001	5.93	0.59	3.48	–	–	–	1.78	1.58	2.83	5.07	1.75	8.89	3.07	1.23	3.77
Philippines	1996	1.66	0.51	0.84	1.27	1.80	2.28	–	–	–	1.37	1.72	2.36	3.08	1.08	3.33
	1997	2.22	0.51	1.12	0.92	1.98	1.82	–	–	–	1.41	1.91	2.69	2.58	1.17	3.01
	1998	1.88	0.40	0.75	1.27	2.89	3.68	–	–	–	1.43	2.34	3.34	1.74	1.60	2.78
	1999	1.37	0.26	0.35	1.61	2.43	3.89	–	–	–	1.84	2.20	4.04	1.90	1.31	2.49
	2000	2.70	0.34	0.93	1.11	2.62	2.90	–	–	–	1.68	2.34	3.94	2.23	1.51	3.35
	2001	2.20	0.37	0.81	1.15	2.55	2.93	–	–	–	1.68	2.26	3.79	2.98	1.41	4.21
Singapore	1996	n.a	n.a	n.a	7.03	1.69	11.88	2.01	1.32	2.65	–	–	–	3.62	1.33	4.83
	1997	n.a	n.a	n.a	7.08	1.72	12.15	2.18	1.51	3.28	–	–	–	3.27	1.21	3.96
	1998	n.a	n.a	n.a	7.05	2.03	14.32	2.03	1.88	3.80	–	–	–	3.73	1.32	4.91
	1999	n.a	n.a	n.a	7.05	2.03	14.30	1.86	2.04	3.80	–	–	–	3.83	1.27	4.88
	2000	n.a	n.a	n.a	6.61	2.16	14.25	2.73	1.67	4.55	–	–	–	3.17	1.39	4.42
	2001	n.a	n.a	n.a	6.95	2.08	14.44	2.84	1.71	4.84	–	–	–	3.29	1.30	4.29
Thailand	1996	2.20	1.09	2.40	2.78	1.15	3.20	1.59	1.13	1.79	3.94	1.31	5.16	–	–	–
	1997	3.50	0.81	2.82	2.63	1.17	3.07	1.56	1.09	1.70	3.72	1.21	4.51	–	–	–
	1998	2.56	1.47	3.77	2.56	1.23	3.15	1.56	1.57	2.44	3.87	1.22	4.72	–	–	–
	1999	1.88	2.06	3.88	2.63	1.21	3.19	2.14	1.16	2.49	3.63	1.21	4.40	–	–	–
	2000	3.76	0.99	3.71	2.55	1.28	3.26	2.70	1.10	2.97	3.40	1.23	4.17	–	–	–
	2001	4.93	0.83	4.11	2.85	1.24	3.52	2.92	1.18	3.45	3.63	1.18	4.27	–	–	–

Source: STARS, International Economic Data Bank

The trade intensity index between the five ASEAN economies in Table 1 shows that each country (except for the Philippines and Indonesia) has been intensively trading with the others. In most cases, the trade intensity index figures also show an increasing trend and the highest value of the index is found in the case of trading with Singapore. Those trends indicate the tendency that recently the five ASEAN economies are trading more intensively among themselves.

Over the period 1996–2001, Indonesia experienced an increase in the trade intensity index with its four neighbouring trade partners. The most dramatic trade intensity increase occurred in the case of trade with Malaysia (about 79 per cent increase), while the lowest increase occurred in the case of trade with Thailand (about 22 per cent). In most cases, the trade intensity improvement peaked in 1998 and slows down a bit in the following years. Malaysia's case is similar to that of Indonesia. Here, the most dramatic increase in trade intensity occurred in the case of trade with Indonesia (about 88 per cent), while the lowest occurred in the case with Thailand (about 7 per cent). Singapore and Thailand share similar patterns in terms of trends of their trade intensity with the neighbouring economies. Both experienced the most dramatic increase in trade intensity index with the Philippines (about 83 per cent for Singapore and about 93 per cent for Thailand), while both also experienced a slow-down in trade intensity between each other (about -11 per cent for Singapore and -17 per cent for Thailand). It is noteworthy, however, that both Singapore and Thailand have been trading very intensively with each other throughout the period under consideration.[4] Philippines, on the other hand, shows a slightly different pattern from its neighbours. Although it reciprocates the trade intensity with Singapore (the index increased by about 60 per cent over the period), it does not do so in the case of Indonesia. The trade intensity index for the Philippines with Indonesia decreases by about 3.5 per cent over the period, and its magnitude also suggests that Philippines is not intensively trading with Indonesia at this time.

Table 1 also shows that trade complementarity acts as a relatively strong driver behind this more intensified trade in the region. All the economies in the region show a magnitude of trade complementarity index that is above one. This suggests that those economies are relatively 'matched' in terms of trade commodity compositions. An exception, however, is evident in the case of Indonesia. The magnitude of this index almost always lies below one in all cases. Therefore, in this instance, the increasing intensity of trade between Indonesia and its neighbouring economies is not being driven by the matching of trade commodity composition, but rather by something else.

As also evident from Table 1, the biggest contributor for the highly intensified trade in all cases comes from the trade bias effect. In all cases, the bias component plays a large role in increasing the trade intensity within the region (all figures for this index are larger than one). As mentioned earlier, this effect depends on various items like transport costs and the existence of discriminatory trade policies. It seems

that the signing of AFTA and the 1997–98 financial crisis are among the driving factors behind this trade bias effect. This bias effect in trade may be of particular importance in explaining the increasing intensity of trade between Indonesia and its neighbouring trade partners.

In summary, in addition to any economic causes, the increasing trade intensity in ASEAN also seems to be supported by some institutionalised agenda to move towards a more integrated region. Therefore, if the picture from the recent development in the trade patterns in ASEAN continues, then the region may be able to capture the extra benefit of reduction in transaction costs and improvement in price transparency by forming a currency union.

Structural shock similarities

Aggregate supply shocks

Several economists have sought to assess the suitability for forming a currency bloc in East Asia. The most common approach utilised to address this issue follows the seminal paper by Bayoumi and Eichengreen (1994), who apply the Blanchard and Quah (1989) long-run identifying restriction to a bivariate vector auto-regression (VAR) system to reveal the structural shocks for a number of countries in the Americas, Western Europe and East Asia. This approach has been utilised by some other authors to investigate symmetry in structural shocks specifically for the ASEAN economies (for example, Bayoumi and Mauro, 1999).

Using series of data from 1969–1989, Bayoumi and Eichengreen (1994) conclude that based on the structural shock similarities, there is a case for an OCA in the Southeast Asia region. The candidate participants include Indonesia, Malaysia, Singapore and Hong Kong plus the possibility of Thailand. By extending the data series to cover 1968–1998, Bayoumi and Mauro conclude that the same group of the candidate countries exists

This sub-section examines a more recent picture of those aggregate structural shock relationships for the five ASEAN countries by including a longer time period (1960–2002). By doing so, the estimation would also cover the post-crisis years. The aggregate structural estimates are obtained by using the bi-variate SVAR(1) for each country.[5]

An examination of the correlation coefficients for the aggregate supply shocks in ASEAN during 1960–1996 (just a year before the crisis started) suggests that the aggregate supply shocks across the five ASEAN nations are mostly not significantly correlated. Significant correlation is found for the cases of Indonesia and Malaysia, Malaysia and Singapore, and Singapore and Thailand (see Table 2). The

Table 2   Correlation of aggregate supply shocks across the ASEAN nations

	Indonesia	Malaysia	Singapore	Thailand	Philippines
Aggregate supply shocks (1960–1996)					
Indonesia	1.00	–	–	–	–
Malaysia	0.38	1.00	–	–	–
Singapore	0.16	0.36	1.00	–	–
Thailand	0.25	0.28	0.38	1.00	–
Philippines	–0.08	–0.02	–0.05	0.08	1.00
Aggregate supply shocks (1960–2002)					
Indonesia	1.00	–	–	–	–
Malaysia	0.78	1.00	–	.	–
Singapore	0.40	0.56	1.00	.	–
Thailand	0.46	0.63	0.45	1.00	–
Philippines	0.20	0.25	0.17	0.32	1.00

Note: Grey cells indicate significance at 5% level.

correlation between Malaysia and Thailand appears to be marginally significant.[6] Although there are some significant correlations, the magnitude of the correlation coefficients itself are not particularly high. Those magnitudes are relatively low compared to the one for Western Europe for the period of 1969–1989 (see Table 3 in Bayoumi and Mauro, 1999, p.18).

However, when the period of observation is extended to 2002 (covering the post-crisis period), the aggregate supply shocks for the five economies are significantly correlated with magnitudes larger than those in Western Europe as reported by Bayoumi and Mauro. This result is similar to the findings of Zhang et al (2003) who estimate a tri-variate SVAR system using quarterly data in pinning down the structural shocks for the economies.

Although some caveats need to be acknowledged in interpreting these results[7], some possible justification can be attempted to explain such changes in the relationships. One of the possible explanations is in line with the capital overflow and overinvestment argument behind the high growth performance of the East Asian countries (for example, Krugman, 2001). Massive capital inflows play a role as one of the main contributors to the differences in growth patterns of East Asian countries. After the financial crisis, capital flows out of the region have reduced the effects they had in producing

differing patterns of growth. This situation then leaves the economies with more similarities than before. If this argument is admissible, then it can explain partly the change in correlations observed.

Regardless of the explanation behind such changes, the figures from Table 2 suggest that the region is now moving towards having more synchronised aggregate supply shock elements. As suggested by the theory of OCA, similarities in supply shocks plays a more important role in analysing the economic disturbances. This then suggests that, based on this particular criterion, the five ASEAN economies (with some qualifications in the case of the Philippines)[8] are now in a position to consider the possibility of introducing a more integrated monetary system.

Aggregate demand shocks

Although its relative importance in analysing the symmetry of the economic disturbances is not as great as aggregate supply shocks,[9] correlation in aggregate demand shocks still provides relevant historical information on the similar behaviour on the demand side of the of the group of economies under consideration. This historical behaviour provides, among other things, some insight on how macroeconomic policy used to be conducted during the observed period. Table 3 illustrates the magnitude of the correlation coefficients for the aggregate demand shocks in the five ASEAN economies.

Table 3   Correlation of aggregate demand shocks across the five ASEAN nations

	Indonesia	Malaysia	Singapore	Thailand	Philippines
Aggregate demand shocks (1960–1996)					
Indonesia	1.00	–	–	–	–
Malaysia	0.79	1.00	–	–	–
Singapore	0.60	0.59	1.00	–	–
Thailand	0.40	0.49	0.63	1.00	–
Philippines	0.42	0.47	0.44	0.17	1.00
Aggregate demand shocks (1960–2002)					
Indonesia	1.00	–	–	–	–
Malaysia	0.71	1.00	–	–	–
Singapore	0.59	0.52	1.00	–	–
Thailand	0.56	0.56	0.67	1.00	–
Philippines	0.28	0.32	0.45	0.16	1.00

Note: Grey cells indicate significance at 5 per cent level.

Except for the case of the Philippines, aggregate demand shocks in the five ASEAN countries look relatively synchronised, both before and after the post-crisis period. Those shocks were positively and significantly correlated within the region, with a relatively high magnitude. The pattern does not seem to change at all even after considering the post-crisis period. Although the correlation between aggregate demand shock in Indonesia and the Philippines ceases to be significant at the 5 per cent level under the sample for 1960–2002, it is still marginally significant at 10 per cent level. One interesting pattern that can be observed from Table 3, however, is that after expanding the series of observations, the magnitude of the Philippines aggregate demand correlation with the rest of the group tends to become lower. A possible explanation is that the impact of the 1997–98 crisis on the Philippines is somewhat different from the other countries considered.

The demand shocks essentially capture both the components of macro-policy shocks and the public preference shocks in private demand behaviour. Relatively high and significantly positive correlation in the aggregate demand for the five economies, then suggests that the demand side behaviour of those economies not only tends to be highly correlated but also evolved similarly over the observed period. In other words, the overall preferences on the demand side of those economies have already been closely and positively correlated during the period under consideration.

Economic convergence

Convergence in economic development in the ASEAN countries is frequently considered an obstacle to more integrated economic policies in the region. Bunyaratavej and Hahn (2003) specifically examine this issue in their paper. By applying the *s* and the *b* convergence model, they find that for the ASEAN region, there is evidence that points to the existence of economic divergence in terms of per capita income growth. They argue that the standard deviation of real GDP per capita in the ASEAN economies does not show any sign of falling over time, and therefore, does not give any indication of *s* convergence. The results of their examination on the *b* convergence also do not offer evidence that the poorer countries are growing faster than the richer ones. They therefore conclude that in this respect the region may not be suitable to having a common currency.

If one considers a simple standard deviation of aggregate economic growth of the five ASEAN countries under consideration, then a slow but obvious downward trend appears (see Figure 1). In particular, this trend is more pronounced when one ignores the crisis-affected measurements of 1997 and 1998. The observed trend shown in Figure 1 suggests that, in a way, the dispersion of growth among the five ASEAN nations is decreasing through time. If this trend continues, then it may show

Figure 1 Standard deviation of the GDP growth of the five ASEAN nations (1994–2002)
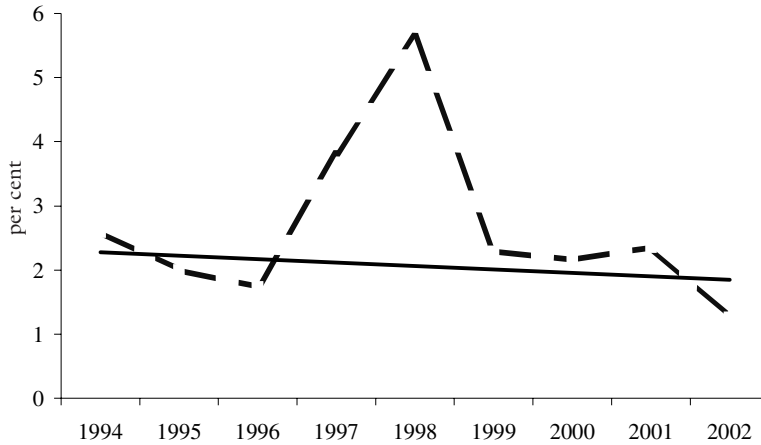
Source: Computed from CEIC database

that in terms of economic growth, those countries are slowly converging with each other. Of course, this observation does not necessarily mean that the level of development in the economies under consideration will then be converging as well. However, at the very least, this trend suggests that the preference of those countries in favour of their economic growth rate is becoming closer. This may imply that, having similarities in their economic structure, these countries would be less tempted to pursue a significantly different demand management strategy. This, in turn, provides some room for more synchronised policy regimes, which would be needed to maintain an arrangement such as a common currency regime.

To sum up, disparities in the level of economic development of the region appears to be an impediment for ASEAN in satisfying the standard economic criteria of an OCA. However, that does not necessarily mean that any steps taken towards forming a more integrated monetary regime should be stopped immediately. The trend of convergence in growth rates between the five ASEAN nations provides some room for a relatively more synchronised policy regime in the coming years.

Moving forward: Potential impediments and steps to be taken

Summary of the current situation

From the discussion in the previous section, the five largest ASEAN countries appear to meet some of the preconditions for forming a common currency area. Intra-regional trade in ASEAN seems to be relatively intense for the last couple of years. This situation is accompanied by evidence that it will become even more intensive in the coming years. An examination of various trade indices suggests that the relatively high intra-regional trade intensity is, in most cases, not only being driven by trade complementarity factors but also by the bias component in the direction of trade. From this point of view, those economies are likely to have met one of the preconditions for forming a currency area, and may be benefiting from lower transaction costs and greater price transparency in conducting trade among each other.

A relatively high and significantly positive correlation of aggregate supply shocks among the nations suggests that, after taking account of the crisis period, the five ASEAN countries now face more common structural shocks affecting their economies. Because of this similarity, the policy reactions required to deal with such shocks in the future will be, in some ways, similar. Therefore, the region will obtain benefits from a reduction in the operating costs of implementing policies if they integrate their monetary systems. Again, in this respect, Indonesia, Malaysia, Thailand, Singapore and probably the Philippines represent viable candidates for a monetary union.

As an aside, the correlation in the aggregate demand figures is surprisingly positive and very high as well. Although caution is required in interpreting this result, the figures suggest that the countries concerned share similar components of demand shocks. If macroeconomic policy is one of the main drivers for the shared similarities in demand shock components, then further harmonising macroeconomic policy by entering some sort of arrangement like a monetary union could be even smoother. This is particularly so when we consider the manner in which these countries have managed their exchange rates in the past. The following table shows correlation coefficients of the exchange rates among the five countries in the past few years, using monthly data between 1996 and 2003.

Table 4 highlights a very high, positive and statistically significant correlation between each country exchange rate with respect to the US dollar. Indeed, the crisis period is the main contributor for such a high correlation. However, even when one only considers the correlation of those countries exchange rates from the beginning of 2000, a highly positive correlation is still evident (as shown in Table 5).

Table 4   Correlation of exchange rates per US dollar for five ASEAN nations

	Indonesia	Malaysia	Singapore	Thailand	Philippines
Exchange Rate per US Dollar (1996:01–2003:11)					
Indonesia	1.00	–	–	–	–
Malaysia	0.91	1.00	–	–	–
Singapore	0.91	0.92	1.00	–	–
Thailand	0.88	0.93	0.93	1.00	–
Philippines	0.83	0.81	0.93	0.89	1.00

Note: Grey cells indicate significance at 5% level.

Table 5   Correlation of exchange rates to US dollar for five ASEAN nations[10]

	Indonesia	Malaysia	Singapore	Thailand	Philippines
Exchange Rate per US Dollar (2000:01–2003:11)					
Indonesia	1.00	–	–	–	–
Malaysia	n.a	n.a	–	–	–
Singapore	0.76	n.a	1.00	–	–
Thailand	0.81	n.a	0.77	1.00	–
Philippines	0.33	n.a	0.45	0.61	1.00

Note: Grey cells indicate significance at 5% level.

This suggests that during the period under consideration, ASEAN currencies move similarly with respect to the US Dollar. The patterns, again, leaves some room for the harmonisation of policies.

Potential impediments and steps to be taken

The above account provides some analytical support for the proposition that the five ASEAN economies can move forward in integrating their monetary systems. However, as mentioned in the previous section, the five countries are facing disparities in the level of economic development. This issue may act as a natural stumbling block for any monetary integration process. Together with the relatively weak performance in meeting the political preconditions for forming an OCA, relative economic divergence can become the main potential impediment in realising an ACU or any other kind of monetary arrangement in ASEAN. With such differences in the level of economic development, the participating countries may always be tempted to deviate from the aim of the agreed arrangement. This potential problem will be a lot more serious in the absence of strong political commitment in the background.

Increasing interest in closer monetary cooperation in ASEAN is mainly driven by the common perception of a need to stabilise the exchange rates within the region. The issue starts to emerge right after the enormous currency crisis in 1997 and has been present as a topic of lively discourse since then. On the practical side, however, the discourse is not yet making an impressive progress. Apart from the potential impediment in the form of relative economic divergence, this situation also resulted from the relatively low level of political drive to move forward in each of the member country.

To provide relatively stable exchange rates in the region, it is argued that in the short run, pegging to an (a basket of) external anchor(s) would work.[11] However, in a relatively highly integrated region, this anchor needs to be common in order to stabilise the intra-regional exchange rates. In this sense, the ASEAN five also face a coordination problem of choosing the right common anchor, which carries with it consequences of having to adopt the anchor(s) country's (or countries') corresponding monetary policy. In other words, even consideration of a common peg regime as an alternative to adopting a common currency would still entail some degree of monetary regionalism for the region. Therefore, consideration of the optimum currency area criterion should still be taken in to account.

As discussed previously, this particular consideration faces a relatively low level of political commitment problem as one of its potential stumbling blocks. Whatever the potential benefits, it is also widely recognised in the literature that any regional monetary cooperation would involve costs to the potential members. This may be one of the main reasons behind the relatively low level of political commitment to moving forward practically with a more integrated monetary system in ASEAN. This circumstance, of course, does not deny that the economies under consideration have (to some extent) started to put some elements of cooperative agreements in place. Significant progress in implementing

the AFTA agreement, evidenced by the trend of a more intensified trade within the region, is one of promising example. An introduction of a explicit bilateral stand-by agreement through the Chiang Mai initiative is a concrete example of establishing an instrument for monetary cooperation. However, this agreement is relatively limited in terms of the amount of funds that are covered, which makes it unlikely to impress financial markets.

Given the above obstacle, the most crucial thing to do is to work on the political commitment for further harmonisation of monetary policies within the region. Policy dialogues and surveillance are necessary conditions to begin enhancing such a commitment politically. To some extent, this step has already been pursued through existing coordination among monetary and financial authorities within the region, mostly through information sharing. The question, however, is how credibly has this process been conducted and how much effort has been put to achieve the acceptable political requirements to move forward in forming an integrated monetary system. The answer, for the time being, may not be very encouraging. As often mentioned in the coordination literature, without binding requirements in place behind the practice of information sharing, this process could potentially end up as a 'cheap talk' rather than a productive one. In order to avoid that outcome, efforts aimed at creating binding requirements such as common incentives for sharing credible information are particularly important. Even though the structural shocks for these economies are highly and positively correlated, individual economies could still enjoy some benefit from sending false signals to others when handling their own country shocks. One of the steps often suggested is to strengthen and deepen the coverage of regional financial markets and institutions. This could then generate a greater need to share credible information since each domestic financial system is interconnected within the region through the regional financial markets.

Once the monetary coordination process is being conducted effectively, then serious policy dialogues could be initiated on how far each of these economies is willing to relinquish its monetary sovereignty. In other words, the region can then move on to start considering formal monetary cooperation. If ever an agreement for this is achieved, then an agenda for necessary steps to be taken must also be agreed to. This is not at all an easy task. The process of harmonising monetary policies will involve tough policy decisions, such as adhering to fiscal and exchange rate agreements, especially in the presence of the existing dissimilarities in the level of economic development. The European experience may provide good guidance on this front.

The detail of any ASEAN movement towards full-fledged monetary integration, even if the political commitment is present, may still be harder to achieve than that observed in the EU. Establishing a trans-national institution that is capable of generating credibility would certainly be a

hard task. Unlike Europe, which has Germany to take the lead, addressing this question in the case of ASEAN would be rather tricky. Not only will it be necessary to define the appropriate anchor for the process, but participants will also need to agree on an appropriate set-up for the trans-national institution that will be in the vanguard of the process. This issue, again, requires a very strong political will on the part of the participating nations to find the best way through this problem.

If an agreement on monetary regionalism is achieved, the next question is whether the cooperation involved would be strong enough to last over the longer term. That is, would the cooperation be enforceable to keep participating countries on course over time? To answer this question will mean pinning down the available incentive structure needed to keep the cooperation in place overtime. Say, governments of the participating countries at some date agreed to pursue monetary cooperation. In order to ensure that the scheme could be implemented successfully, participants would need to guarantee that the agreement would be maintained even if there is a power shift in any of the participating countries. Therefore, the creation of a reliable institution that contains an incentive structure sufficient to keep all participating economies from 'cheating' would be crucial. In order to ensure this, ASEAN nations would need to identify the appropriate incentive structure. This is needed to see how far the current incentive structure differs from the one needed to maintain institutional cohesion.

The above discussion suggests that a proposal for integrating monetary systems in ASEAN, particularly within the five countries under consideration, is achievable. This is so because of the potentials for the region to enjoy considerable benefit from the process. The region has met some of the standard economic criteria provided by the theory of OCA. To move ahead, a strong and sustainable political commitment needs to be institutionalised. A gradual harmonisation of the region's monetary policy-making, while at the same time working towards less dispersion in the level of economic development, would be a good starting point. For that, doing things gradually, starting from coordinating macroeconomic policies that are moving consistently towards achieving the goal of a more integrated monetary system, would be the best idea. However, a binding institutional arrangement has to be established and agreed upon as early as possible to avoid participating countries from deviating from the agreement by capitalising gains at other countries' expense.

Conclusion

Indonesia, Malaysia, Singapore, Thailand and the Philippines appear to be relatively suitable to form a monetary union. This can be justified on least two grounds: the trade pattern among these economies,

and the relative symmetry in the nature of their economic shocks. These five countries will potentially reap sizable benefits from having a cooperative monetary policy, or even from a common currency. Similarities in the recent pattern of demand shock components and exchange rate variations among them also suggest that the harmonisation process in terms of macroeconomic policies may not be as hard as previously thought. Should these current trends continue into the future, practical steps toward full-fledged monetary cooperation may become likely.

Because of existing impediments, however, the process for integrating the monetary systems in the five ASEAN countries would neither be a smooth nor an easy process. However, the potential also exists for these countries to enjoy benefits from taking such an initiative. If any action is to be taken, attention needs to be carefully directed to the current dispersion in the level of economic development. This aspect alone is potentially harmful to any decision on integrating the monetary system. As has been acknowledged in the literature on monetary cooperation, in addition to the potential benefits, there will inevitably be costs associated with initiating such a process. These costs will not only be a direct cost from the process itself, but also the possibility of having a participant deviate from the agreed arrangement. As far as the level of economic development is concerned, a country may well be tempted to deviate from the agreement if it can capitalise on such non-cooperative action, given that the actions of every other participants would be known. The rest of the non-deviating participants would potentially bear the costs of such an action. This action could then jeopardise the process and threaten the sustainability of monetary integration at large.

To avoid such an eventuality, careful staging and strong institution for ensuring the smooth progress of integration needs to be designed. Careful study of the underlying incentive structure behind the process of integration for each potential participant needs to be carried out in order to identify the correct form of the institutional system.

In summary, monetary integration in ASEAN, although not impossible, will have to go through a relatively long process before it can be realised. The five largest ASEAN countries seem to be suitable candidates to begin with. Further study concerning the proper institutional set-up and the preferred arrangement will hopefully shed light on the challenges identified.

Notes

1   ASEAN Vision 2020, 1997, http://www.aseansec.org/1814.htm

2   Hanoi Plan of Action 1998, http://www.aseansec.org/687.htm

3   Recent Developments in ASEAN Economic Integration, ASEAN Secretariat, 1999, Jakarta http://www.aseansec.org/7661.htm

4   The trade intensity index between Singapore and Thailand varies around 4 to 5 for 1996–2001 compared to around 4.2 to 5.2 for the trade intensity index between Thailand and Singapore.

5   See appendix for description of the methodology.

6   The correlation is only significant at 10% level of significance.

7   Including the financial crisis and the post-crisis period in VAR estimation might invite structural breaks in the data, hence could potentially affect the estimation. Another possible explanation would be relative reliability in the proxies for the structural shocks.

8   This country only shows a relatively small positive and significant correlation with Thailand.

9   Due to the fact that demand shocks are comprised of macroeconomic policy as well as purely stochastic components.

10   A correlation coefficient for Malaysia does not exist since Malaysia fixed its exchange rate to the US dollar right after the crisis.

11   See, for example, Mundell (2003).

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Appendix

In order to construct the series of aggregate structural shocks, we employ the YP-model from Bayoumi and Eichengreen (1994). The data used are the annual GDP in local currency at constant price and GDP deflator (as a proxy of inflation) of the economies under consideration obtained from the 2003 World Development Indicators CD-ROM.

Following the YP-model, the specification of interest is set as follows:

$$\begin{bmatrix} \Delta y_t \\ \Delta p_t \end{bmatrix} = \begin{bmatrix} c_{y1}(L) & c_{y2}(L) \\ c_{p1}(L) & c_{p2}(L) \end{bmatrix} \begin{bmatrix} u_{dt} \\ u_{st} \end{bmatrix} \tag{1}$$

or, $\qquad X_t = C(L)u_t$

where, Δy_t is the first difference of the log of real gross domestic product (GDP) measure (hence measuring economic growth) and Δp_t is the difference of the log of the real GDP deflator (hence measuring inflation). $c_{ij}(L)$; $i=(y,p)$ and $j=(1=\text{demand shock},2=\text{supply shock})$. u_{dt} is the demand shock at time t and u_{st} is the supply shock at time t.

Since u_{dt} and u_{st} are unobservable, they are estimated by first estimating the following unrestricted VAR model:

$$X_t = A(L)X_{t-1} + e_t \tag{2}$$

Where, $X_t^{\mathrm{T}} = [\Delta y_t, \Delta p_t]$; $A(L)$ is the 2×2 matrix with elements equal to $a_{ik}(L)$; k represents column; and $e_t^{\mathrm{T}} = [e_{yt}, e_{pt}]$, the vector of error terms from the two equation in the bivariate system. The next step is to convert the VAR model in (2) into its vector moving average (VMA) representation as follows:

$$X_t = (I - A(L))^{-1} e_t \tag{3}$$

Except for being expressed in different variables, (1) and (3) are exactly the same. Therefore: $(I - A(L))^{-1} e_t = C(L)u_t$. By assuming that u_{dt} and u_{st} follow a white noise process and normalising their variance to be equal to 1, and by imposing the long run identifying restriction for the demand shock

effects on output $(\Sigma c_{y1}(L)=0)$, we have enough information to estimate the contemporaneous parameters u_{dt} and u_{st} $(c_{ij}(0))$.

Using the estimated $c_{ij}(0)$ above, we can calculate the estimated values for the structural shocks. From (2), e_{it} is the one step ahead forecast error of Dy_t and Dp_t; while from (1), we know that those one step ahead forecast errors are $S_j c_{ij}(0) u_{jt}$. Therefore, $u_t = C(0)^{-1} e_t$.

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