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NOT TO BE QUOTED]

ECONOMIC INTEGRATION IN EAST ASIA – TRENDS, PROSPECTS, AND A POSSIBLE ROADMAP

Pradumna B. Rana
Senior Director
Office of Regional Economic Integration
Asian Development Bank

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ECONOMIC INTEGRATION IN EAST ASIA – TRENDS, PROSPECTS, AND A POSSIBLE ROADMAP

I. Introduction

East Asia's experience with open market-oriented development policies during the last four decades is well-known. This market-oriented approach also embraced multilateralism under the GATT/WTO framework and led to East Asia's economic dynamism and global integration in tandem with regional integration in the areas of international trade and capital flows. Regional integration flourished in the multilateral framework of trade driven by increasing market access and forces of competition. It was only in the late 1990s that East Asia began to pursue regionalism more actively.[1] This development can be attributed, as Kawai (2005) and others have mentioned, to various factors such as growing economic interdependence in the region, the slow progress in multilateralism and popularity of regionalism elsewhere, and various lessons learned from the 1997-98 financial crisis.[2]

This paper has three objectives: (i) to review the progress in market-led integration in East Asia (defined as ASEAN+3 unless specified otherwise); (ii) to argue that this market-led integration is now being complemented by various government efforts and institutions and will continue to drive economic integration despite the challenges including economic heterogeneity of countries and the much-cited absence of political will in the region, and (iii) to outline a possible roadmap that the region may adopt in enhancing regional integration. Needless to say, an East Asian economic community (on the trade front) and a single currency (on the monetary front) are long term goals at best. However, transitional goals of integration in various areas are beneficial in their own right and will continue to drive East Asian integration.

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1 In contrast, regionalism was popular in Latin America and Africa in the 1960s driven by the desire to consolidate import-substituting policies in a regional context. These efforts were highly protectionist and were later referred to as "closed regionalism" which became ineffective.

2 It is important to note that a strong and convincing case can be made to institutionalize the regional integration process even without referring to the weaknesses of the IMF.

The paper is organized as follows. Section II briefly reviews the trends in East Asian regionalism in the areas of trade and investment, money and finance, and infrastructure and associated software development. Section III presents various indicators of trade [similar to Kawai (2005) and others] and financial integration (similar to McCauley 2002). Section IV explores whether increased integration has led to a greater synchronization of business cycles in East Asia. Section V outlines a possible roadmap that East Asian countries could adopt in enhancing the integration process. Finally, Section VI summarizes the paper and concludes.

II. Regionalism in East Asia

East Asian regionalism, which began in the late 1990s, has two features. First, in terms of scope it covers three areas - trade and investment, money and finance, and infrastructure and associated software. Second, in terms of geographical coverage, except for money and finance, it has been mainly bilateral and subregional. More recently, bridges are being built across the sub-regions and proposals have also been made for establishing an ASEAN+3 Free Trade Area (FTA). These efforts have been described in detail in Asian Development Bank (ADB, 2005 forthcoming), and hence this paper presents only a brief summary.

Trade and Investment

As mentioned earlier, East Asia basically adopted multilateralism in designing its trade policy. In this sense, the ASEAN Free Trade Area (AFTA) initiated in 1992 was an exception. However, with the signing of the Japan-Singapore Economic Partnership Agreement in November 2002 and the Framework Agreement on ASEAN – PRC Comprehensive Economic Cooperation in the same month and year – the region's approach seems to have changed. Presently, the region is experiencing a proliferation of FTAs (see Appendix 1 for an annotated list). In East Asia, three FTAs have been signed and are presently under implementation – the AFTA, the Japan-Singapore Economic Agreement for a

New Age Partnership, and the ASEAN-PRC Framework Agreement on Comprehensive Economic Cooperation – and another nine FTAs are under negotiation. Also the India-Singapore Comprehensive Economic Cooperation Agreement was signed on June 2005 and became effective in August 2005. Five other FTA proposals between East Asian and South Asian countries are either under negotiation and/or under study. Many of the FTAs in East Asia are FTA Plus in the sense that they go beyond just tariff reduction into, for example, trade facilitation measures for customs duty, partial movement of labor, or the opening of government procurements, etc. The India-Singapore Comprehensive Economic Cooperation Agreement covers not only trade in goods but also services, investments and cooperation in technology, education, air services, and human resources.

Money and Finance

In the aftermath of the Asian financial crisis, East Asian countries have sought to promote closer monetary and financial cooperation among themselves. These efforts have ranged – in ascending order of intensity in the sense that they involve progressively increasing constraints on the amount of discretion that individual countries can exercise in the design of macroeconomic policies – from economic review and policy dialogue to establishing regional financing arrangements and eventually coordinating exchange rate policies.

In the area of economic review and policy dialogue there are two major ongoing initiatives. First, the ASEAN Surveillance Process was established in October 1998 to strengthen the policy making capacity within the group. Based on the principles of peer review and mutual interest, this process reviews global, regional, and individual country developments and monitors exchange rate and macroeconomic aggregates, as well as sectoral and social policies. Under this Process, the ASEAN Finance Ministers meet annually and the ministries of finance and central bank deputies meet semi-annually to discuss issues of common interest. Second, with the formation of the ASEAN+3 Finance Ministers Process in November 1999, the first ASEAN+3 Economic Review and Policy Dialogue

(ERPD) was held in May 2000. Under the ERPD, ASEAN+3 Finance Ministers meet annually and their deputies meet semi-annually. Steps have been taken to monitor short-term capital flows and to develop early warning systems of currency and banking crises. Initially the Deputies used to meet for a couple of hours but now they meet for a full day and a half. The value-added of regional monitoring is that countries tend to be more frank with each other in a regional fora and they tend to focus on issues of common interest. An ASEAN+3 Research Group, comprising about 30 think tanks from the region, has also been established to support the ERPD. Until its dissolution in December 2005, the Manila Framework Group was another forum which brought together deputies from a wide-range of countries for policy dialogue.

Progress has also been made in establishing regional financing arrangements. At their May 2000 meeting in Chiang Mai, Thailand, the ASEAN+3 Finance Ministers agreed on the Chiang Mai Initiative (CMI) to expand the ASEAN Swap Arrangement (ASA) to all ASEAN member countries, and to set up a network of bilateral swap arrangements (BSAs) among the ASEAN+3 countries. In November 2000, ASA was expanded to cover all ASEAN member countries and its size was also increased from $200 million to $1 billion. Again in April 2005, the size of the ASA was increased further to $2 billion. Under the CMI, ASEAN+3 countries have signed 16 BSAs for a total amount of $47.5 billion. Both the number and amounts of BSAs are expected to increase significantly because at their May 2005 meeting, the ASEAN+3 Finance Ministers announced that the size of the existing swaps would be doubled and that swaps would be signed among the ASEAN countries as well. At this meeting, the Ministers decided to increase the percentage of swaps that can be disbursed without IMF-supported program from 10% to 20%. The Ministers also agreed on a collective decision-making system for the BSAs. Although the latter agreement complicates, to some extent, the administration of the bilateral swaps, it is an important breakthrough for two reasons – as mentioned in the Ministerial Statement, it is the first step to the full multilateralization of the bilateral swaps, and it is also the first time that the ASEAN+3 member countries have agreed to sacrifice certain amount of national sovereignty for the common good of the region.

In the area of exchange rate coordination, aside from the conduct of research under various fora such as the ASEAN Currency and Exchange Rate Mechanism Task Force, the Kobe Research Project of the Asia-Europe Finance Ministers, and the ASEAN+3 Research Group, there has been no clear regional initiative. This will, however, undoubtedly change as the integration process proceeds in the region, business cycles become more synchronized, and macroeconomic policy interdependence becomes clearer.[3] On 21 July 2005, the PRC and Malaysia joined Singapore in adopting a managed floating exchange rate regime based on a currency basket suggesting the basket-pegging regime is gaining popularity in the region and this could in due course culminate in enhanced exchange rate coordination.

[3] Some evidence on these trends are provided in Section IV.

For other types of financial sector cooperation, East Asia has come up with a number of initiatives to develop regional bonds markets. These include the APEC Bond Initiative, the Asian Bond Fund (ABF) Initiative under the Executives' Meeting of East Asia Pacific Central Banks (EMEAP), and the Asian Bond Market Initiative (ABMI) under the ASEAN+3 Finance Ministers Process. In 2003, EMEAP launched the ABF 1, which had an initial size of $1 billion, and invested in US dollar denominated bonds issued by Asian sovereign and quasi-sovereign issuers. A $2 billion ABF 2 which invests in bonds denominated in regional currencies entered the implementation phase in April 2005. Under the ABMI, the ASEAN+3 has established several apex bodies ─ the Focal Group. Ad Hoc Support Group and TA Coordination Group ─ and four working groups which meet regularly. The AsianBondsOnline, a one-stop clearinghouse of information on sovereign and corporate bonds issued in ASEAN+3 countries developed by ADB, has been launched.[4]

Infrastructure and Associated Software

In Asia, most of the poor live in remote or isolated areas, especially in regions close to borders. They need to be linked to commercial and industrial centers within their countries as well as to those of other countries in the region and beyond through highways, railways, telecommunications etc. Software aspects of infrastructure development including trade facilitation are also important for smooth flows of traffic. Greater connectivity enhances trade and investment integration by facilitating movements of goods.

[4] This web site provides, among others, detailed progress reports on the various Initiatives.

The most advanced program in Asia is the Greater Mekong Subregion comprising Cambodia, Lao PDR, Myanmar, Thailand, Viet Nam, and Yunnan Province of the People's Republic of China (PRC). The six countries initiated the program of subregional cooperation in 1992. The Brunei Darussalam-Indonesia-Malaysia-Philippines-East Asian Growth Area (BIMP-EAGA) initiative was also initiated in 1992. There are now efforts to link East Asia with South Asia through the East-West corridor project involving India, Thailand, and Myanmar.

III. Measures of Integration

Trade Integration

Table 1: Intra-regional Trade: Total Trade (as % of Total World Trade)

	1980	1985	1990	1995	2000	2003
Brunei Darussalam	80.10	77.28	81.65	79.50	74.21	75.44
Cambodia		67.41	68.58	81.52	35.85	45.75
Indonesia	58.30	53.32	51.67	49.54	50.59	52.28
Lao People's Dem. Rep		82.57	85.68	65.33	72.76	72.26
Malaysia	46.73	54.14	49.62	48.23	49.40	49.79
Myanmar	50.63	42.90	58.67	72.49	62.18	68.05
Philippines	33.76	36.01	32.85	37.54	39.68	46.18
Singapore	36.87	40.78	39.53	47.21	46.55	45.79
Thailand	38.16	42.75	42.58	45.29	44.89	48.11
Viet Nam		10.48	27.76	57.56	56.41	47.89
China, People's Rep. of	29.35	36.23	21.29	33.73	32.47	32.32
Korea, Rep. of	29.20	26.65	29.11	35.40	36.67	40.19
Japan	20.67	20.33	21.19	29.88	30.86	35.66
ASEAN+ 3	28.96	29.18	28.61	37.13	37.31	38.94
Memo Items:						
ASEAN	15.93	17.97	16.97	21.29	22.75	22.28
ASEAN+3 + Hong Kong, China + Taipei,China	32.73	34.99	41.15	49.64	50.74	52.51
SOUTH ASIA	3.50	3.04	2.70	4.20	4.05	5.59
PANASIA [1/]	33.21	35.77	41.65	50.10	50.94	52.80
European Union (EU-25)	57.34	58.39	65.38	65.15	64.62	66.07
NAFTA	33.20	38.36	37.25	41.97	46.90	44.86

1 PanAsia consists of ASEAN+3, Hong Kong, China, Taipei,China and South Asia.
Source: IMF Direction of Trade (DOTS) CD-Rom, April 2005; and, CEIC.

Tables 1 and 2 basically update the various measures of trade integration developed among others by Kawai (2005) using data from the April 2005 IMF Direction of Trade Statistics CD-Rom. Table 1 shows that during the period 1980 to 2003 East Asia's total intra-regional trade (export+import) as percentage of total world trade increased steadily from 29% to 39% except in 1990 when it dipped slightly[5]. This level of 39% is somewhat lower than that for NAFTA (which is 45%) but significantly lower than that for EU-25 (which is 66%). If, however, we include data from Hong Kong, China and Taipei,China, the intra-regional trade ratio increases to 52.5% which is much higher than that for NAFTA and closer to the EU-25 level. Intra-regional trade among the ASEAN countries and the South Asian countries also increased during this period but they remain at a lower level (22% for the former and only 6% for the latter).

Table 2 presents data on total trade intensity indices which, by controlling for the region's relative size, gives a better measure of economic interdependence. The data show that after a dip in the 1980s, total trade intensity index among the ASEAN+3 countries has increased steadily from 1.86 in 1990 to 1.92 in 2003. This level is higher than that for EU-25 (1.69) and lower than that for NAFTA (2.43).

[5] Country-level data suggest that intra-ASEAN+3 trade ratios were the highest for Brunei Darussalam and the newer ASEAN member countries and the lowest for PRC, Japan, and Korea, with other countries falling in between.

Table 2: Total Trade Intensity Index[1]

	1980	1985	1990	1995	2000	2003
Brunei Darussalam	6.71	5.42	5.30	3.99	3.73	3.71
Cambodia		4.72	4.45	4.09	1.80	2.25
Indonesia	4.88	3.74	3.35	2.49	2.54	2.57
Lao People's Dem. Rep		5.79	5.56	3.28	3.66	3.56
Malaysia	3.91	3.79	3.22	2.42	2.48	2.45
Myanmar	4.24	3.01	3.81	3.64	3.12	3.35
Philippines	2.83	2.52	2.13	1.88	1.99	2.27
Singapore	3.09	2.86	2.56	2.37	2.34	2.25
Thailand	3.20	3.00	2.76	2.27	2.26	2.37
Viet Nam		0.73	1.80	2.89	2.83	2.36
China, People's Rep. of	2.46	2.54	1.38	1.69	1.63	1.59
Korea, Rep. of	2.45	1.87	1.89	1.78	1.84	1.98
Japan	1.73	1.43	1.37	1.50	1.55	1.76
ASEAN+ 3	2.43	2.05	1.86	1.86	1.87	1.92
Memo Items:						
ASEAN	4.34	5.20	4.06	3.36	3.68	3.88
ASEAN+3 + Hong Kong, China + Taipei,China	2.52	2.23	2.16	2.05	2.10	2.36
SOUTH ASIA	4.13	2.64	2.72	3.90	3.74	4.57
PANASIA [2/]	2.40	2.13	2.07	1.98	2.02	2.25
European Union (EU-25)	1.45	1.55	1.50	1.67	1.76	1.69
NAFTA	2.01	1.93	2.09	2.26	2.13	2.43

1 Total trade intensity index of country i with country j or $T_{ij} = (x_{ij}/X_{it})/(x_{wj}/X_{wt})$ where x_{ij} and x_{wj} are the values of country's exports plus imports and of world exports plus imports to country j; and where X_{it} and X_{wt} are country's total exports plus imports and total world exports plus imports, respectively.

2 PanAsia consists of ASEAN+3, Hong Kong, China, Taipei,China and South Asia.

Financial Integration

Unlike in the case of trade, bilateral capital flows data are not available. Hence researchers measure the level of financial integration by using various indirect measures such as interest parity conditions, correlation of stock market returns, and regulatory and institutional measures[6]. These indirect methods have led to conflicting results. A much quoted example is the debate between Park and Bae (2002) and McCauley, Fung, and Gadanecz (2002). The former assert that in the process of financial opening, East Asian countries have developed stronger ties with advanced countries rather than with one another implying a lack of

6 The only complete bilateral foreign direct investment data that the author could find was for the ASEAN countries from the ASEAN Secretariat. These data indicate that FDI inflows as percentage of GDP in ASEAN countries, after dipping sharply in the post-crisis period have started to recover but are still below the pre-crisis levels. Similar results also obtained for both ASEAN and ASEAN+3 countries from the UNCTAD FDI database on bilateral flows that we subscribe to. Since 2001, the IMF has started conducting a survey of portfolio investments, but the series is too short to establish a trend.

financial integration among East Asian countries. The latter, by investigating data on bond financing and loans syndicated for East Asian borrowers, has argued that East Asian financial markets are more integrated than they are commonly made out to be.

For international bonds issued by East Asian borrowers between April 1999 and August 2002, McCauley et al found that the shares of book runners headquartered in North America and Europe were 54% and 29%, respectively, while the share from Asia was 17%[7]. During the period September 2002 and May 2005, the share of Europe increased to 37% and that of North America decreased to 44%. Asia's share increased slightly to 19%.

As McCauley has cautioned, however, one should not draw any inference about regional financial integration from the above data. We need information on the nationality of bondholders. McCauley collected information on new international bonds issued from various trade periodicals to measure the Asian share of the initial allocations of bonds issued by Asian borrowers from April 1999 to August 2002. He found that, for a sample of 71 bonds, the weighted average Asian share of the primary market distribution was 44%[8]. We have updated the analysis for the period September 2002 and May 2005 and find that for a sample of 58 international bonds issued by various East Asian countries the Asian share continues to remain high at 44.2% in weighted average terms (Table 3).

[7] HSBC and Standard Chartered are treated as Hong Kong banks.

[8] The discussion in this paragraph and the next provide an indication of only primary market allocation. However, McCauley mentions that discussions with market participants suggest that subsequent trading in the secondary market is likely to move more paper/loans into regional portfolios.

Table 3: International Bond Issuance by Asian Issuers (during the period Aug 2002 - May 2005)

Issuing Country	Number of Issues	Total Value of Issues ($ billion)	Asian Share (%)	Non-Asian Share (%)
China, People's Rep. of	5	3,056	43.1	56.9
Hong Kong, China	11	8,425	32.7	67.3
Indonesia	7	3,100	58.8	41.2
Korea, Rep. of	25	11,498	44.8	55.2
Philippines	6	3,230	48.1	51.9
Singapore	3	2,617	55.4	44.6
Thailand	1	350	65.0	35.0
TOTAL	58	32,276	14,391	17,885
AVERAGE (%)			44.6	55.4
WEIGHTED AVERAGE (%)			44.2	55.8

Source: Finance Asia.

In the case of syndicated loan markets, using arranger league tables from Dealogic Loanware between 1999 and 2002, McCauley found that 63% of syndicated credit facilities signed by borrowers in East Asia were arranged by East Asian[9] and Japanese banks. US banks arranged another 12% and European banks 23%. Our update for the period 2003 – May 2005, finds that the East Asian and Japanese bank share increased to 68% while the US and European bank shares declined slightly.

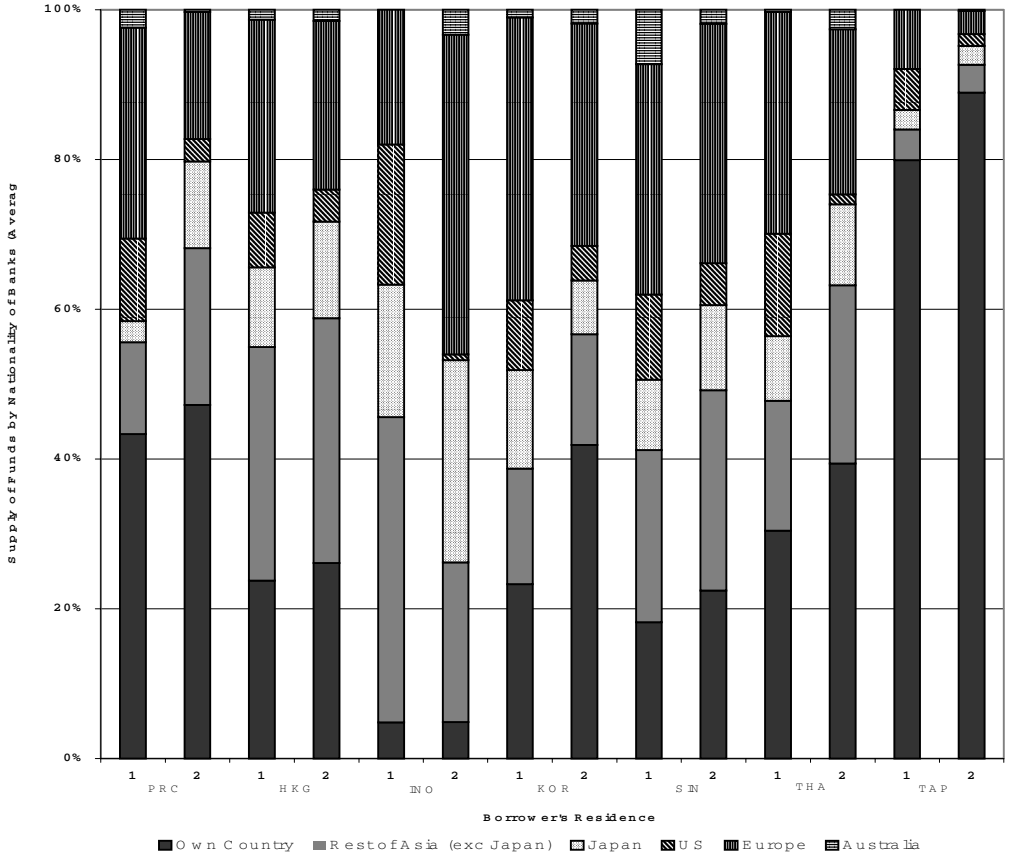
In terms of participation in syndicates, during the period 1999 and 2002, banks from East Asia initially provided 50-85% of funds in the internationally syndicated loans to borrowers in East Asia (Figure 1). This ratio increased to 60-95% during the period 2003 to May 2005 except in Indonesia where it declined somewhat during the two periods. Banks of the same nationality as the borrower on average provide about 30% of the funds. These may reflect "home bias" of banks and have little to do with financial integration. However, even if this portion is netted out, the share of other East Asian banks including Japan shows an increasing trend in most countries[10]. East Asia is, therefore, less exposed than is imagined by some to sudden and large-scale cessations of capital flows on the one hand from Europe and the US on the other.

Figure 1: Participation in Internationally Syndicated Loans

[9] PRC, Hong Kong, China; Indonesia; Korea; Singapore; Thailand; and Taipei,China.

[10] Many underwriters do not provide data on Pan-Asian versus investment take up from issuer's country for bond issues, but from a limited sample of press announcements such ratio was about a third of total issuance.

for East Asian Borrowers[1/]



[1] PRC; Hong Kong, China; Indonesia; Korea; Singapore; Thailand; and Taipei,China
Notes: 1 – Average from 1999 to 2002 2 – Average from 2003 to May 2005
Source: Deologic Loanware

Because of the absence of data, it is not possible to conduct a more formal analysis of the interrelationships between trade and financial integration. However, the close nexus between trade and FDI in the region and the emerging linkages in the financial sector suggests that such relationships should be positive. Our finding that trade integration in East Asia has shown an increasing trend and that the level of regional financial integration is high and increasing (at least, in syndicated loan markets) is, therefore, consistent with the hypothesis that trade and financial integration in East Asia are reinforcing each other in a virtuous manner and further deepening its integration process.

IV. Trade and Financial Integration and Synchronization of Business Cycles in East Asia

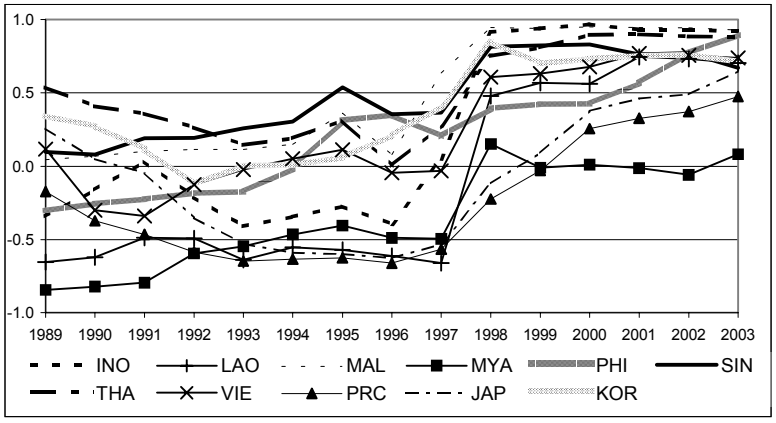
Has increased trade and financial integration in East Asia led to greater synchronization of business cycles? Theoretically, in the case of trade, the answer is not clear. If trade is based on Heckscher-Ohlin and Ricardian principles of comparative advantage, higher specialization would induce the industrial structures of trading countries to diverge, resulting in less synchronized movements of business cycles. In contrast, if trade occurs mainly through intra-industry trade, business cycle synchronization would be enhanced. In the case of East Asia, given the establishment of regional production networks and supply chains by multinational corporations and the high share of intra-industry trade, one expects a positive correlation between trade integration and business cycle synchronization. Empirical evidence is, however, mixed. Shin and Wang (2003) found an increase, while Crosby (2003) did not find any evidence of synchronization. Growing integration among G-7 has also not led to increased output correlations (Doyle and Faust, 2003).

Simple Correlations

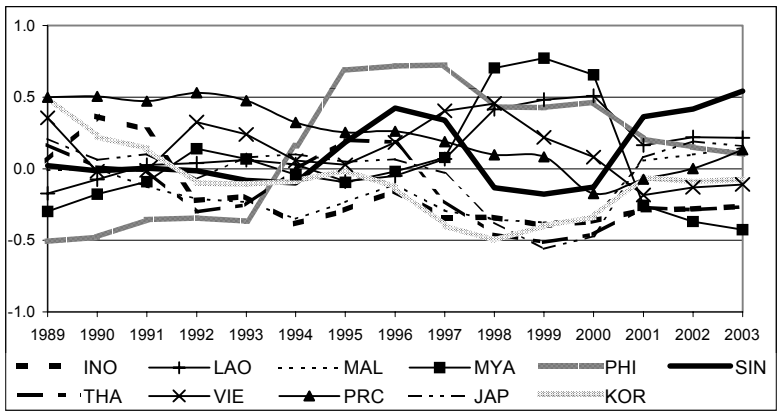
Using annual GDP growth rates for 11 of the ASEAN+3 countries for which data are available (except Brunei Darussalam and Cambodia), simple 10-year moving correlations between GDP growth of an individual ASEAN+3 country with the group (excluding own country) from 1989 to 2003 were calculated. Figure 2.1 shows that such correlations have been increasing especially after the financial crisis suggesting greater synchronization of business cycles among ASEAN+3 countries. Correlations have been converging towards 1 in the cases of Indonesia, Malaysia, Philippines, and Thailand and towards 0.6-0.7 in Korea, Japan, Lao PDR, Singapore and Viet Nam. They are, however, lower in the cases of the PRC and Myanmar. On the other hand, with a few exceptions (Singapore, Japan, Malaysia, and Korea), 10-year moving correlations between growth rates of individual ASEAN+ 3 countries with the US has shown a downward trend in the post-crisis period (Figure 2.2). This trend is also visible in the case of the region's growth correlation with EU (comprising Germany, and Italy) (Figure 2.3).

Figure 2: 10-Year Moving Correlation of GDP Growth

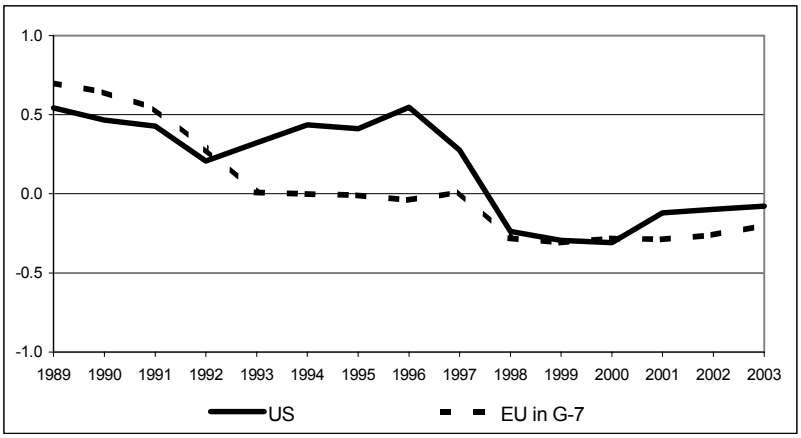
2.1 Between Individual ASEAN+3 Countries and the Group (excluding own)



2.2 Between Individual ASEAN+3 Countries and US



2.3 Between ASEAN+3 as a Group and US and EU[1/]

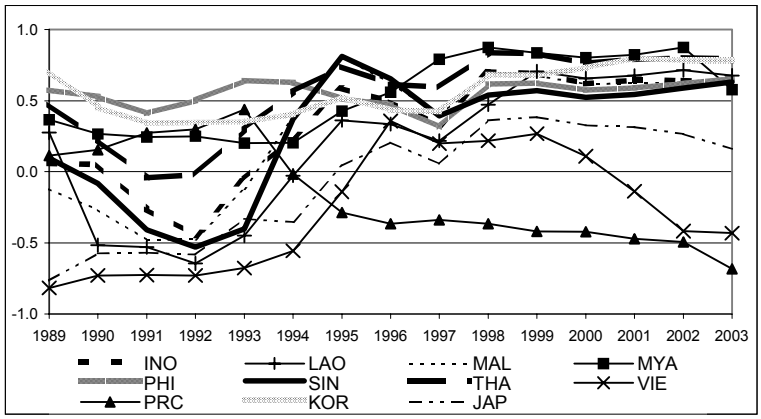


1/ EU is France, Germany, and Italy.

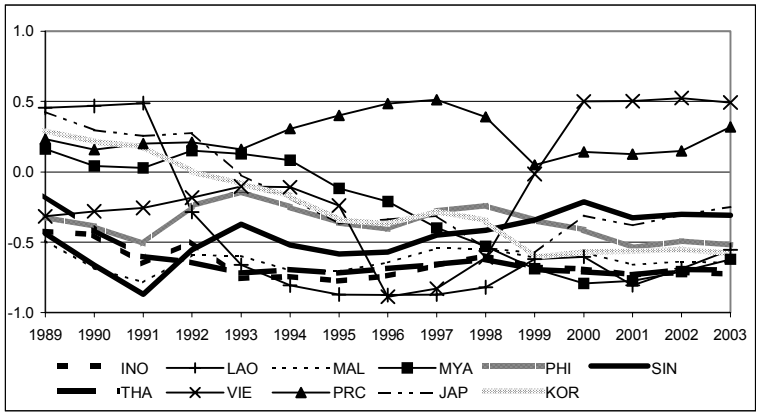
Following Frankel and Rose (1998), the above correlations were recalculated using only the cyclical component of GDP growth and are presented in Figure 3. The Hodrick-Prescott filter was used to de-trend the variables and 10-year moving correlations were calculated. The results are broadly similar although, of course, as expected the correlation ratios are relatively lower.

Figure 3: 10-Year Moving Correlation of Cyclical Component of GDP Growth

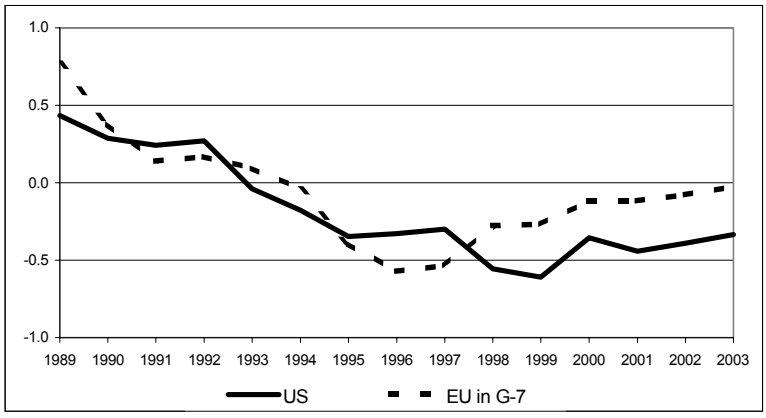
3.1 Between Individual ASEAN+3 Countries and the Group (excluding own)



3.2 Between Individual ASEAN+3 Countries and US



3.3 Between ASEAN+3 as a Group and US and EU[1/]



1/ EU is France, Germany, and Italy.

VAR Analysis

To address some of the weakness associated with simple correlations, the VAR method, which takes into account dynamic information about the co-movements of variables including lags and leads, was used. Unfortunately, the VAR analysis requires a large number of data points and hence industrial production data which are available on a monthly basis were used. Even then, only eight ASEAN+3 countries – PRC, Japan, Indonesia, Korea, Malaysia, Philippines, Singapore, and Thailand – and the US (as an outside country) could be included in our sample. The period considered was from January 1989 to December 2004 and all variables were expressed as first difference of logs.

Assume that the time-series process for industrial production index can be approximated by a vector auto-regression, and consider X_t which is an 9-vector industrial production variable. The VAR model is as follows

$$X_{i,t} = a_i + \sum_{k=1}^{L} A_{i,k} X_{i,t-k} + v_{i,t}, \quad i = 1, \Lambda\ ,9$$

where $A_{i,k}$ is a $9 \times L$ matrix of regression coefficients, a_i is a 9-vector constant term, $v_{i,t}$ is 9-vector innovations terms, and L is the total number of lags. To avoid the trade-off problem between R^2 value and the number of explanatory variables, we use the Akaike Criterion Test. As a result, $L = 5$ or five lags were found to be optimal for this model.

Table 4 presents the correlation coefficients between the fitted values of growth rates in the pre-crisis (January 1989 to December 1997) and the post-crisis periods (January 1998 to December 2004). The data confirm that correlation of industrial production between all possible pairs of East Asian countries has increased in the post-crisis period as compared to the pre-crisis period. They are high and statistically significant in country combinations involving Indonesia, Japan, Korea, Malaysia,

Philippines, Singapore, and Thailand. The PRC appears to be the only outlier – its growth correlations with the sample countries are statistically insignificant.[11]

Table 4: Correlation Coefficients of Fitted Industrial Production Index Using VAR

Pre-Crisis Period									
	PRC	INO	KOR	MAL	PHI	SIN	THA	JPN	USA
PRC	1.000	0.141	0.427	-0.110	-0.405	0.374	-0.156	0.162	0.077
INO		1.000	-0.384	0.070	-0.313	0.300	-0.186	0.299	-0.454
KOR			1.000	0.213	-0.003	0.457	0.318	0.206	-0.119
MAL				1.000	0.067	0.431	-0.205	0.188	-0.159
PHI					1.000	0.151	0.469	-0.108	0.454
SIN						1.000	0.381	0.443	-0.169
THA							1.000	0.240	-0.200
JPN								1.000	-0.513
USA									1.000
Post-Crisis Period									
	PRC	INO	KOR	MAL	PHI	SIN	THA	JPN	USA
PRC	1.000	0.243	0.594	0.350	0.320	0.603	0.392	0.236	0.146
INO		1.000	0.741*	0.807*	0.742*	0.669*	0.714*	0.800*	-0.164
KOR			1.000	0.617	0.745*	0.676*	0.747*	0.664*	-0.134
MAL				1.000	0.684*	0.743*	0.723*	0.716*	-0.060
PHI					1.000	0.695*	0.672*	0.711*	-0.244
SIN						1.000	0.604	0.663	0.060
THA							1.000	0.551	0.204
JPN								1.000	-0.273
USA									1.000

Note: (*) statistically significant at the 5% level.

Simple bilateral correlations had suggested that co-movements between East Asian and US GDP growth had declined in the post-crisis period. On the other hand the VAR analysis suggests that they increased, except in the cases of Korea and the Philippines. The correlations are, however, low and statistically insignificant.

In general, the more synchronized the economic activity within the region the higher the degree of resilience of regional activity to outside shocks. To test the validity of this argument, the impulse response functions derived from the VAR analysis were considered. These functions provide complete information about the co-movement of industrial production after a shock. Two types of shocks were

[11] Kawai and Motonishi (2005) also found similar results.

considered – external shock from the US and regional shock from Korea and Thailand.[12] The magnitude of each shock was one standard deviation of the forecast error and after the initial one-time shock the response period given was 36 months.

Table 5 presents the simple mean of the impulse response considering the absolute levels. The table shows that responses in East Asian countries to both external and regional shocks in industrial production have become more pronounced in the post-crisis period. This suggests that despite synchronization of their business cycles, East Asian countries have not become more resilient to external shocks – at least, not yet.

Table 5: Mean of Absolute Value of Impulse Response Using VAR

From Shock in U.S.									
	USA	JPN	PRC	SIN	KOR	MAL	THA	INO	PHI
Before Crisis	0.083	0.106	0.046	0.065	0.037	0.03	0.04	0.018	0.032
After Crisis	0.131	0.19	0.2	0.059	0.118	0.137	0.093	0.07	0.067
From Shock in Korea									
	USA	JPN	PRC	SIN	KOR	MAL	THA	INO	PHI
Before Crisis	0.055	0.104	0.088	0.072	0.11	0.029	0.051	0.035	0.047
After Crisis	0.066	0.186	0.166	0.103	0.121	0.077	0.089	0.045	0.073
From Shock in Thailand									
	USA	JPN	PRC	SIN	KOR	MAL	THA	INO	PHI
Before Crisis	0.087	0.113	0.05	0.06	0.027	0.028	0.03	0.017	0.027
After Crisis	0.103	0.135	0.086	0.048	0.049	0.044	0.043	0.031	0.043

[12] These two countries were selected because these countries statistically significantly "Granger-caused" regional economies.

Multiple Regression Analysis

In order to analyze more formally the relationship between trade intensity and synchronization of economic activity, following Shin and Wang (2003) and Frankel and Rose (1998), we specify the following model:[13]

$$\text{corr}\, IP\,(i,j)_t = \alpha + \alpha_1\ TI\,(i,j)_t + \alpha_2\ \text{corr}\, RI\,(i,j)_t + \varepsilon_{ijt}$$

where $\text{corr}\, IP\,(i,j)_t$ refers to the correlation of de-trended industrial production index between country i and j at time t,

$TI\,(i,j)_t$ refers to bilateral trade intensity index between country i and j at time t defined as $\frac{Tijt}{Tit+Tjt}$ where $Tijt$ is total trade between country i and j at time t and Tit and Tjt are total trade of country i and j at time t respectively, and

$\text{corr}\, RI\,(i,j)_t$ is the monetary policy coordination variable defined as bilateral correlation of short-term real interest rate between country i and j at time t.

The above model was estimated by pooling data from eight countries—Indonesia, Japan, Korea, Malaysia, Philippines, PRC, Singapore and Thailand. Monthly data were collected from January 1989 to December 2004. Five year windows were used to calculate the bilateral correlations and hence our sample for the regressions was from January 1993 to December 2004. The sample was also broken into the pre-crisis (1993-mid-1997) and post crisis (1999-2004) periods and the model estimated both with and without country dummy variables. The results are presented in Table 6.

The estimated results show that bilateral trade intensity is statistically significant in explaining co-movements of industrial production index during the entire sample period of 1993-2004. However, the regression results for the pre-crisis and post-crisis period show that this is true only during the post-

crisis period. During the pre-crisis period, bilateral trade intensity did not seem to have any significant effect on business cycle synchronization.

Addition of the monetary policy coordination variable to the regression does not reduce the magnitude and statistical significance of the trade intensity variable. Hence we can rule out multicollinearity problem in our results. Both bilateral trade intensity and coordination of monetary policy are statistically significant in explaining business cycle synchronization in the East Asian region. This is, once again, true mainly during the post-crisis period when the pace of monetary and financial cooperation picked up and regular policy dialogue is being held in the region. During this period, the bilateral correlation of real interest rates between countries increased in most cases. This correlation peaked in 2002 when following the most recent round of interest rate easing by the Fed in response to the synchronized global economic slowdown, many East Asian countries also followed suit (Appendix 2)[14]

[13] Frankel and Rose included only the trade intensity term. This approach leads to an endogeneity problem because of omitted variables (namely, macroeconomic coordination). Shin and Wang do not present the results for the post-Asian crisis period.

[14] Further details and alternative specifications of the model are in Rana and Yoon (2005 forthcoming).

Table 6: Business Cycle Co-movement Regressions

	Constant	TI	Corr RI
Pooled Regression without Policy Coordination Factor			
1993~2004	0.2413 (10.37)**	0.0245 (3.41)**	
1993~1997	0.1303 (3.66)**	0.0141 (1.20)	
1998~2004	0.3586 (15.77)**	0.0176 (2.63)**	
Pooled Regression with Policy Coordination Factor			
1993~2004	0.1631 (6.23)**	0.0257 (3.63)**	1.1789 (5.24)**
1993~1997	0.1220 (3.03)**	0.0177 (1.40)	0.0096 (0.16)
1998~2004	0.3038 (10.27)**	0.0180 (2.73)**	0.1014 (2.76)**
Panel Regression with Fixed Effects			
1993~2004	0.4126 (6.36)**	0.0118 (1.44)*	0.1540 (4.95)**
1993~1997	0.5266 (6.18)**	0.0003 (0.03)	0.1290 (2.78)**
1998~2004	0.0280 (0.68)	0.0122 (1.76)**	0.9600 (3.19)**

* Significant at 5%.
** Significant at 10%.

The above findings have important implications for monetary cooperation in East Asia. Eichengreen and Bayoumi (1999) have calculated an optimum currency index (based on historical data on trade patterns, openness, and nature of disturbance) for East Asia and found that this index is not very different from what it was in Europe before the Maastricht Treaty was signed. Bayoumi and Mauro (1999) and Plummer (2000) have reached a similar conclusion for the ASEAN countries. Ex ante East Asia is, therefore, suited for a currency union. However, some of the conditions for economic integration are endogenous, i.e., they arise after integration is initiated. The findings of this paper that increased trade and financial integration has led to greater business cycle synchronization in East Asia means that the on-going integration process is enhancing the incidence of symmetric shocks in the region. This together with the findings of Frankel and Rose (1998) that the level of trade increases

significantly after the formation of a currency union - their initial finding was a threefold increase which was subsequently reduced to a lower multiple - suggest that endogenous factors also enhance the case for establishing a currency union in East Asia. East Asia, therefore, appears to be a good candidate for a currency union based on both ex ante - using historical data - and ex post - based on endogenous factors. The latter factors are important because trade expansion due to the formation of a currency union will lead to a greater synchronization of business cycles which in turn reduces the costs of a union by increasing the incidence of symmetric shocks.

V. A Possible Roadmap for East Asia's Integration

According to Bela Balassa (1961), the degree of economic integration increases in a linear manner: FTA, customs union, common market, and economic and monetary union. In practice, however, no region in the world has adopted this textbook model. For example, even in Europe in the 1960s, there were two tracks: European Economic Community (EEC) and European Free Trade Association (EFTA). The EFTA continues to be a FTA, while EEC has moved from a customs union to a common market and is now an Economic and Monetary Union (EMU).

A similar multi-track system may be desirable for East Asia – a trade track and a money and finance track. On the trade track, given the proliferation of FTAs in the region, policy-makers should consider the so-called "spaghetti bowl" effects. FTAs require implementation of strict rules of origin that involve administrative costs. If different agreements have different rules of origin administrative costs could be high. To avoid such a situation, it is necessary to carefully design FTAs to be compatible with others. A review system may need to be established. Membership in FTAs could also be expanded to eventually establish an ASEAN+3 FTA. In order to enhance trade integration, it will also be necessary to address connectivity issues including infrastructure development and trade facilitation.

On the money and finance track, three sub-tracks based on the typology developed in Section II could be considered. Short-term, medium-term, and long term actions on each sub-track highlighted in various ADB studies are outlined in Table 7. With the recent decision to collectivize the decision-making process of the CMI, the next steps are to fully multilateralize the CMI by earmarking a portion of foreign exchange reserves held by the ASEAN+3 countries for financing short-term liquidity needs of member countries. As part of this process and also with a view to reducing the linkage to IMF conditions, an independent policy dialogue unit should also be established for regional economic monitoring. Over the medium-term, a centralized reserve pool [tentatively, the Asian Monetary Cooperation Fund (AMCF)] could be established. After that, in the resource sharing and exchange rate sub-tracks, two approaches – the "European" approach and the "parallel currency" approach – are possible. Under the "European" approach, over the longer term, a common basket peg similar to the European Monetary System could be established. Then rigid Maastricht-type convergence criteria could be introduced and eventually, as a last step, a single currency could be adopted.

If the level of political will in the East Asian region is not strong enough for the adoption of the European approach, a parallel currency approach could be considered. This involves issuance of an Asian Currency Unit (a weighted basket of members' currencies by the AMCF) in the medium-term of say three to five years. Then the issuance of ACU-denominated bonds could be encouraged and a clearing and settlement system for ACU transactions established. In the longer term, as the volume of ACU transactions increases, the ACU could be transferred to be the sole legal tender in the region. The AMCF could be converted into an Asian Central Bank.

As Eichengreen (2005 forthcoming) argues, the appeal of the parallel currency approach is dictated by economic forces – that is to say, market forces – more than politics. This is consistent with the greater emphasis placed by the East Asian countries on market-led rather than policy-led integration. It also accommodates the fact that the political context is very different in East Asia as compared to Europe. In the latter, the transition to a monetary union was driven by an underlying

commitment to political solidarity. He also mentions that the parallel currency approach was considered in Europe, but it was abandoned in favor of the Maastricht process because of the strong political commitment that existed at the time.

In addition to being multi-track, East Asian integration could be multi-speed. On each track and sub-tracks, members must be allowed to move at a pace that is suitable and acceptable to them. For example, as found in Section II, in East Asia, Indonesia, Korea, Malaysia, Philippines, Singapore, Thailand, and Japan may be ready to move to a higher level of monetary and financial cooperation, but the PRC and others are not quite ready yet. Membership should also be expanded as appropriate.

Table 7: Roadmap For Monetary And Financial Integration In East Asia--- The "European" Vs "Parallel Currency" Approaches

	Information Exchange and Surveillance System	Resource Sharing	Exchange Rate Coordination	Financial Sector Cooperation
Short-term (within the next two years)	Establish an independent regional policy dialogue unit to prepare reports for peer review meetings. Early warning system should be an integral part. Monitor regional financial developments (including adoption and implementation of best practices). Develop terms of reference and conditionality to be associated with lending from a centralized reserve pool (to be established in the medium term).	Expand the Bilateral Swap Agreement Network under the Chiang Mai Initiative. ⇣⇣ Multilateralize the CMI by earmarking portion of foreign exchange reserves for financing short-term liquidity needs of member countries.		Cooperate on post-crisis management of the financial sector. Technical assistance should be provided to individual countries where appropriate.
Medium-term (three-five years)	Develop alternative conditionality for BOP support.	Establish a centralized reserve pool – the Asian Monetary Cooperation Fund (AMCF) – that seeks to prevent and manage financial crisis in the region. ⇣ The AMCF to issue a parallel currency to be called the Asia Currency Unit (ACU, weighted basket of members currency). ⇣ Encourage ACU-denominated bonds and establish a regional clearing and payments mechanism for ACU transactions. ⇣	→ Explore the feasibility of exchange rate coordination by conditioning drawings from the reserve pool on exchange rate policies. ↓	Set up general regional guidelines for prudential regulation enhancing cooperation on these issues by establishing an East Asian Banking Advisory Committee. Extend the supervisory function within each country to all institutions that engage in banking activities.
Longer-term (more than five years)		As ACU transactions grow, transfer ACU into sole legal tender for the region. Convert AMCF into Asian Central Bank.	Establish a common basket peg similar to the European Monetary System. Introduce Maastrict-type convergence criteria. Adoption of a single currency in the last step.	Implement whatever degree of regional harmonization of regulations is required to eventually permit the full unification of regional financial markets. Establish an East Asian Financial Area.

Key:
→ The "European" Approach
⇢ The "Parallel Currency" Approach
Source: ADB (2004) and Eichengreen (2005 forthcoming)

VI. Conclusions

This paper has reviewed the trends and highlighted the prospects for enhancing economic integration in East Asia. The major findings are:

(i) After the crisis in 1997-1998, the market-driven integration process in East Asia is becoming increasingly supported by public sector initiatives and institutional arrangements to enhance regionalism in trade and investment, money and finance, and infrastructure and associated software.

(ii) Various quantitative measures suggest that trade and financial integration are increasing in the East Asian region and the two are mutually reinforcing each other.

(iii) Increased trade and financial integration in the region (and monetary policy coordination) have led to greater synchronization of business cycles in East Asia mainly because of the growing importance of intra-industry trade in the region. This, together with the findings of various other authors [(Eichengreen and Bayoumi (1999), Bayoumi and Mauro (1999), Plummer (2000)), suggests that based on both ex ante (in terms of historical data) and ex post (based on endogenous factors) considerations it appears to be feasible to establish a currency union in East Asia (particularly between, Indonesia, Korea, Malaysia, Japan, Philippines, Singapore, and Thailand).

Going forward, the paper has outlined a “multi-track, multi-speed” roadmap for East Asia based on various studies conducted at ADB. There could be a trade track and

a money and finance track. The trade track could widen the web of proliferating FTAs into a seamless FTA for the ASEAN+3 region as a whole. On the money and finance track, the next agenda item is to fully multilaterize the CMI over the next 3 to 5 years together with strengthening regional surveillance, and establishing a centralized reserve pool (Asian Monetary Cooperation Fund). Thereafter, two approaches are possible – the "European" and the "parallel currency" ─ depending on the political context prevailing at the time. The latter approach is more market-oriented and is an alternative to the rigid and relatively inflexible European approach which requires a strong political commitment. In some sense, the "parallel currency" approach continues East Asia's market-oriented integration.

Appendix 1: An Annotated List of Free Trade Agreements (FTAs) in East Asia and Between East and South Asia [1/]

A. EAST ASIA

FTA SIGNED AND UNDER IMPLEMENTATION

- ASEAN Free Trade Area (AFTA)
  - Agreement on Common Effective Preferential Tariff Scheme (signed on January 1992 and effective on January 1993) required cut in tariff rates on products traded to 0-5% by 2003
  - More than 99% of the products in the Inclusion List (IL) of ASEAN-6 now have tariffs in the 0-5% range while, for new ASEAN members, about 66% of the products have tariff rates between 0-5%
  - An ASEAN Economic Community, characterized by freer flow of goods, services, investment, labor and capital, is targeted by 2020

- Japan-Singapore Economic Agreement for a New Age Partnership (JSEPA)
  - SEPA (signed on February 2002 and effective on November 2002) removes tariffs on 3,938 products imported from Singapore (raising tariff-free imports to 94%) and scraps all duties on Japanese exports to Singapore
  - Removal of tariffs on 6,929 imported items from Singapore takes effect immediately while the rest will be scrapped by 2010
  - The accord includes a new investment framework, custom automation, mutual recognition of standards, common rules on electronic commerce, and facilitation of exchange of experienced workers

- ASEAN-PRC Framework Agreement on Comprehensive Economic Cooperation
  - Framework Agreement signed in November 2002 and became effective in July 2003
  - Agreement on Trade in Goods was signed in November 2004 and became effective January 2005
  - Reduction in tariff rates for manufactured goods started on 20 July 2005
  - Tariffs on 7,445 kinds of goods will be cut to 5% or less by 2010 for ASEAN-6 and 2015 for newer ASEAN members
  - Fruits and vegetables in bilateral trade have been tariff-free since October 2003 while the Early Harvest Plan has allowed tariff reduction in 570 kinds of products since January 2004

FRAMEWORK AGREEMENT SIGNED AND FTA UNDER NEGOTIATION

- ASEAN-Japan Comprehensive Economic Partnership (AJCEP)
  - Japan proposed in January 2002 the establishment of AJCEP
  - Following the Framework for AJCEP (signed on October 2003), consultations for the liberalization of trade in goods and services, and investment started in 2004 and negotiations began in April 2005 to conclude after 2 years
  - Implementation of AJCEP, including FTA, will be completed by 2012, taking into account the economic levels and sensitive sectors in each country, including allowing additional 5 years' time for newer ASEAN members

- Japan-Philippines Economic Partnership Agreement (JPEPA)
  - On May 2002, the setting up of a working group was proposed to study the possibility of establishing an EPA between Japan and the Philippines
  - On December 2003, both sides decided to start negotiations for JPEPA in early 2004
  - Agreements reached on November 2004 involve comprehensive reduction or elimination of tariffs on industrial products and agriculture, forestry, and fishery products
  - Tariffs on almost all industrial products will be removed within 10 years from the day the JPEPA becomes effective

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[1/] FTAs signed by and being negotiated by East and South Asian countries with other countries are not included.

FTA PROPOSED AND FRAMEWORK AGREEMENT UNDER NEGOTIATION

- Japan-Thailand Economic Partnership Agreement (JTEPA)
  - On November 2001, Thailand proposed an FTA to Japan
  - Thailand and Japan decided to begin consultations for a broader JTEPA on April 2002 and a working group was formed for the purpose
  - On June 2003, a task force was set up to expedite the process for JTEPA
  - Negotiations started in February 2004 and FTA will be reached on July 2005
  - Conclusion was reached on the agricultural sector while differences remain in areas such as steel, automobiles, auto parts, investment and trade in services

- Japan-Malaysia Economic Partnership Agreement (JMEPA)
  - On December 2002, Malaysia proposed JMEPA
  - Agreement started in January 2004
  - On May 2005, they agreed in principle to major elements of JMEPA such as an FTA that will remove tariffs by 2015
  - The countries aim to sign a formal agreement in December 2005 so that JMEPA can take effect in 2006
  - Malaysia will immediately remove tariffs on all parts imported for local car production and duties on most finished vehicles will be scrapped by 2010

- Korea-Singapore Free Trade Agreement (KSFTA)
  - Negotiations for KSFTA that began in November 2002 were concluded on November 2004
  - Under KSFTA (expected to be effective in the second half of 2005), Singapore will remove tariffs on all items and Korea will scrap duties on 91.6% of all products over the next 10 years
  - Singapore will also have enhanced access to Korean education, logistics, and environmental services while Korea will gain access into Singapore's construction, logistics, and professional services

- ASEAN-Korea Free Trade Area (AKFTA)
  - Negotiations for AKFTA began in February 2005 and is expected to be completed by end 2006
  - AKFTA will cover trade in goods, services, investment, and other cooperation
  - 80% of products will be tariff-free by 2009 while the remaining 20% will be subject to negotiations in consideration of new ASEAN members' status

- East Asia Free Trade Area (EAFTA)
  - EAFTA was proposed by East Asia Vision Group at the 5th ASEAN+3 Summit in November 2001
  - The 6th ASEAN+3 Summit tasked Economic Ministers to study and formulate options on the gradual formation of EAFTA
  - In November 2004, the 8th ASEAN+3 Summit Economic Ministers decided to set up an expert group to conduct a feasibility study on EAFTA (existing and proposed bilateral trading arrangements will serve as building blocks)
  - ASEAN+3 process will be the main vehicle for the eventual establishment of East Asian Community

- Japan-Korea Free Trade Agreement (JKFTA)
  - In July 2002, Japan and Korea formed a Joint Study Group to appraise the establishment of JKFTA
  - Launching of the negotiations for JKFTA was done on October 2003 and conclusion was expected by 2005
  - Negotiations began in December 2003 but was stalled after the 6th round (November 2004) due in part to differences over the degree to which they should open the agricultural market
  - No date yet has been set for the 7th round of talks

- China-Japan-Korea Free Trade Area
  - On November 2002, the 3 countries agreed to jointly study the economic effects of a possible FTA among them
  - A study group was formed which submitted a report in October 2003 supporting the establishment of an FTA and recommending the conduct of a sector-oriented study focusing on agriculture, electric machinery manufacturing, and automobile
  - On May 2005, the three countries called for further studies on the FTA and for consultations to explore a legal framework concerning investment
  - The three countries are now considering involving government officials in the joint study whose future remains uncertain until trade and investment issues are resolved

B. EAST AND SOUTH ASIA

FTA SIGNED AND UNDER IMPLEMENTATION

- India-Singapore Comprehensive Economic Cooperation Agreement (CECA)
  - Under CECA (signed June 2005 and effective August 2005), India will remove duties on 506 products from Singapore immediately, on 2,202 items by April 2009, and cut duties on another 2,407 products to 50% by the same date
  - Singapore will scrap tariffs on goods made in India starting 1 August
  - The pact also covers services, investments, and cooperation in technology, education, air services, and human resources.

FRAMEWORK AGREEMENT SIGNED AND FTA UNDER NEGOTIATION

- Framework Agreement covering the ASEAN-India Free Trade Area
  - Agreement signed in October 2003 and became effective in July 2004
  - Reduction or elimination of tariffs will start January 2006
  - For India and ASEAN-6, excluding the Philippines, they have until 2011 to reduce or eliminate tariffs
  - Between India and Philippines, the schedule is until 2016
  - For India and new ASEAN members, India will reduce or eliminate tariffs until January 2011 while said ASEAN members will do the same until 2016
  - What rules of origin criteria to use remains an issue to be resolved

- India-Thailand Free Trade Area
  - The Framework Agreement for India-Thailand FTA (signed on October 2003 and effective September 2004) reduces tariffs on 82 “early harvest” items by 50% in the first year, by 75% in the second year, and by 100% thereafter
  - The second phase hopes to have a comprehensive FTA covering all items by 2010
  - Agreement contains a provision on emergency measures to protect domestic producers in case of sudden surges in imports.

- BIMSTEC Free Trade Area
  - The Framework Agreement on BIMSTEC FTA (signed in February 2004 and effective June 2004) involves a reduction and elimination of tariffs starting July 2006 up to 2010 for India, Sri Lanka, and Thailand and up to 2017 for Bhutan, Myanmar, and Nepal
  - Negotiations began in July 2004 and will end by December 2005
  - FTA will have 2 phases (for fast track and normal track products)
  - Members were scheduled to provide their sensitive lists to the trade negotiating committee meeting on June 2005

FTA PROPOSED AND FRAMEWORK AGREEMENT UNDER NEGOTIATION

- India-PRC Free Trade Area
  - On March 2004, the Joint Study Group formed to strengthen trade between India and the PRC discussed the possibility of signing an FTA as part of a 5-year economic cooperation package
  - On April 2005, both sides decided to institute a joint feasibility study on FTA to establish the world's biggest free trade region
  - FTA may focus on agriculture, healthcare, industry, and services

- Pakistan-PRC Free Trade Agreement
  - In December 2004, a Joint Study Group was formed to study feasibility of Pakistan-PRC FTA
  - A Memorandum of Understanding on FTA and Other Trade Issues was signed on April 2005 announcing the conclusion of the Joint Feasibility Study on Pakistan-PRC FTA and launching of negotiations on the FTA
  - The Agreement on Early Harvest Program (EIP) was also signed
  - EIP includes a common list of items whose tariffs will be removed and a separate list by each country whose duties will also be scrapped.
  - Tariff reduction will be from January 2006 to January 2008 when all tariffs will be removed
  - The existing Preferential Trade Agreement has been enlarged (1671 items for PRC and 575 items for Pakistan) and made part of EIP

Source: Various internet sources.

Appendix 2: Bilateral Correlation of Industrial Production Indices and Real Interest Rate, and Trade Intensity Index[1]

		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
(PRC/INO)	Corr IP	0.10	0.19	0.21	0.36	0.47	0.52	0.63	0.66	0.55	0.46	0.44	0.36
	TI	0.94	1.03	1.02	1.03	0.97	0.89	1.06	1.07	0.92	1.05	1.12	1.22
	Corr RI	0.39	0.38	0.20	-0.42	-0.49	-0.64	-0.07	0.34	0.65	0.94	0.90	0.60
(PRC/JAP)	Corr IP	0.29	0.29	0.33	0.36	0.38	0.34	0.42	0.44	0.41	0.46	0.56	0.51
	TI	2.49	2.58	2.70	2.90	2.74	2.91	2.92	2.63	2.83	2.81	2.77	2.51
	Corr RI	0.27	0.57	0.58	0.67	0.82	0.78	0.69	0.89	0.88	0.81	0.37	0.46
(PRC/KOR)	Corr IP	0.58	0.63	0.70	0.69	0.75	0.59	0.73	0.67	0.71	0.72	0.90	0.82
	TI	1.48	1.57	1.68	1.80	2.01	2.02	2.03	2.01	2.14	2.28	2.37	2.47
	Corr RI	0.31	0.34	0.39	0.37	0.25	0.16	0.62	0.73	0.82	0.91	0.73	0.68
(PRC/MAL)	Corr IP	0.23	0.24	0.36	0.34	0.39	0.28	0.45	0.48	0.47	0.42	0.56	0.46
	TI	0.70	0.76	0.64	0.62	0.64	0.72	0.70	0.74	0.93	1.14	1.16	1.15
	Corr RI	-0.88	0.00	0.34	0.14	-0.22	-0.63	0.44	0.77	0.84	0.92	0.77	0.43
(PRC/PHI)	Corr IP	-0.02	0.05	0.18	-0.05	0.05	0.12	0.21	0.32	0.49	0.60	0.70	0.72
	TI	0.34	0.37	0.51	0.49	0.47	0.65	0.58	0.43	0.54	0.64	0.83	1.33
	Corr RI	0.28	0.27	0.44	0.53	0.33	0.29	0.41	0.60	0.68	0.79	0.77	0.73
(PRC/SIN)	Corr IP	0.45	0.47	0.51	0.49	0.60	0.58	0.67	0.69	0.66	0.68	0.74	0.75
	TI	0.76	0.69	0.76	0.80	0.93	1.04	1.01	0.98	1.04	1.13	1.21	1.30
	Corr RI	0.74	0.72	0.39	0.07	-0.29	-0.32	0.05	0.36	0.65	0.84	0.49	0.82
(PRC/THA)	Corr IP	-0.13	-0.12	-0.02	-0.08	-0.03	-0.04	0.14	0.18	0.23	0.33	0.54	0.42
	TI	0.45	0.64	0.77	0.77	0.82	0.91	0.95	1.01	1.02	1.10	1.17	1.12
	Corr RI	0.50	0.51	-0.03	-0.45	-0.55	-0.14	0.58	0.71	0.87	0.89	0.53	0.71
(INO/JAP)	Corr IP	-0.01	0.02	0.00	0.03	0.25	0.36	0.52	0.65	0.70	0.67	0.71	0.59
	TI	3.33	3.31	3.30	3.23	3.20	2.86	2.92	3.16	3.33	3.19	3.37	3.51
	Corr RI	0.70	0.82	0.69	0.27	-0.35	-0.44	-0.06	0.48	0.67	0.85	0.29	0.37
(INO/KOR)	Corr IP	-0.08	-0.02	0.04	0.20	0.48	0.63	0.75	0.73	0.74	0.65	0.56	0.39
	TI	3.31	3.10	2.68	2.61	2.69	2.85	2.90	2.71	2.95	2.71	2.57	2.18
	Corr RI	0.44	0.57	0.48	0.36	0.03	0.25	0.45	0.64	0.78	0.87	0.58	0.64
(INO/MAL)	Corr IP	0.01	0.19	0.54	0.68	0.86	0.85	0.94	0.88	0.85	0.78	0.80	0.68
	TI	1.32	1.25	2.62	1.33	1.50	1.97	1.90	2.09	2.19	2.35	2.60	3.78
	Corr RI	-0.15	0.39	0.40	0.46	0.02	0.46	0.49	0.63	0.75	0.98	0.86	0.64
(INO / PHI)	Corr IP	0.08	0.19	0.29	0.11	0.29	0.49	0.52	0.62	0.74	0.77	0.76	0.81
	TI	1.21	1.32	1.63	1.50	1.53	1.65	1.55	1.35	1.58	1.53	1.93	1.76
	Corr RI	0.26	0.31	0.17	0.00	0.06	-0.02	0.30	0.48	0.59	0.80	0.61	0.53
(INO/SIN)	Corr IP	0.05	0.07	0.21	0.26	0.48	0.59	0.73	0.72	0.69	0.62	0.63	0.60
	TI	4.20	4.28	3.59	3.96	4.80	6.58	6.08	6.08	6.06	6.68	6.75	5.64
	Corr RI	0.55	0.54	0.44	-0.15	0.44	0.62	0.70	0.71	0.74	0.82	0.22	0.47
(INO/THA)	Corr IP	-0.20	-0.37	-0.45	-0.43	-0.14	0.14	0.35	0.47	0.58	0.59	0.59	0.48
	TI	1.04	1.02	1.42	1.75	1.66	2.56	2.50	2.19	2.32	2.68	3.24	3.86
	Corr RI	0.68	0.69	0.55	0.30	0.56	0.48	0.52	0.69	0.77	0.89	0.52	0.71

		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
(JAP/KOR)	Corr IP	0.52	0.53	0.57	0.54	0.63	0.58	0.64	0.67	0.75	0.69	0.75	0.74
	TI	2.28	2.44	2.46	2.30	2.16	2.09	2.42	2.40	2.43	2.46	2.55	2.57
	Corr RI	0.71	0.84	0.86	0.77	0.42	0.19	0.48	0.79	0.81	0.81	0.64	0.63
(JAP/MAL)	Corr IP	0.26	0.25	0.08	0.25	0.36	0.41	0.55	0.73	0.79	0.81	0.86	0.78
	TI	2.50	2.47	2.65	2.66	2.54	2.36	2.49	2.55	2.64	2.45	2.40	2.30
	Corr RI	0.00	0.51	0.68	0.59	-0.05	-0.69	0.15	0.86	0.86	0.87	0.34	0.59
(JAP/PHI)	Corr IP	0.28	0.42	0.55	0.37	0.44	0.53	0.57	0.60	0.73	0.82	0.84	0.79
	TI	2.51	2.65	2.62	2.84	2.77	2.82	2.60	2.54	2.94	3.04	3.21	3.21
	Corr RI	0.22	0.41	0.52	0.59	0.28	0.30	0.36	0.65	0.70	0.87	0.77	0.83
(JAP/SIN)	Corr IP	0.50	0.53	0.54	0.53	0.57	0.63	0.75	0.77	0.89	0.90	0.88	0.76
	TI	1.89	1.87	1.94	1.86	1.83	1.86	1.90	1.88	1.76	1.67	1.63	1.61
	Corr RI	0.73	0.75	0.71	0.10	-0.21	-0.13	-0.02	0.52	0.70	0.83	0.51	0.60
(JAP/THA)	Corr IP	0.15	0.19	0.34	0.47	0.57	0.62	0.72	0.78	0.90	0.90	0.98	0.96
	TI	3.03	3.09	3.14	3.24	3.03	2.94	3.00	2.97	3.08	3.19	3.36	3.35
	Corr RI	0.72	0.78	0.44	-0.21	-0.33	-0.16	0.46	0.81	0.85	0.81	0.26	0.19
(KOR/MAL)	Corr IP	0.21	0.16	0.20	0.37	0.55	0.74	0.82	0.89	0.92	0.85	0.83	0.76
	TI	1.53	1.18	1.29	1.63	1.70	1.95	1.83	1.63	1.59	1.57	1.52	1.45
	Corr RI	-0.05	0.55	0.62	0.49	-0.08	0.24	0.72	0.85	0.87	0.90	0.49	0.55
(KOR/PHI)	Corr IP	0.25	0.32	0.45	0.19	0.30	0.50	0.52	0.54	0.68	0.68	0.59	0.57
	TI	1.67	1.76	1.64	1.55	1.81	2.62	2.44	2.15	2.27	2.33	2.12	2.04
	Corr RI	0.38	0.42	0.52	0.40	-0.02	-0.08	0.31	0.46	0.53	0.65	0.89	0.87
(KOR/SIN)	Corr IP	0.50	0.45	0.47	0.44	0.52	0.60	0.69	0.77	0.86	0.85	0.91	0.86
	TI	1.43	1.46	1.67	1.54	1.46	1.55	1.63	1.58	1.51	1.52	1.55	1.86
	Corr RI	0.61	0.60	0.64	0.20	0.39	0.58	0.67	0.79	0.88	0.88	0.83	0.85
(KOR/THA)	Corr IP	-0.11	-0.03	0.09	0.28	0.35	0.64	0.75	0.79	0.84	0.85	0.85	0.78
	TI	1.29	1.10	1.07	1.14	1.13	1.09	1.11	1.07	1.17	1.26	1.16	1.04
	Corr RI	0.50	0.55	0.36	0.01	-0.09	0.53	0.82	0.86	0.88	0.98	0.53	0.62
(MAL/PHI)	Corr IP	-0.06	0.01	0.14	0.09	0.38	0.48	0.53	0.64	0.75	0.72	0.77	0.75
	TI	1.73	1.74	1.53	1.98	2.06	3.13	2.93	2.85	2.93	3.46	3.87	3.57
	Corr RI	-0.20	0.27	0.46	0.34	0.01	-0.15	0.42	0.60	0.65	0.78	0.55	0.62
(MAL/SIN)	Corr IP	0.48	0.42	0.41	0.43	0.40	0.46	0.59	0.79	0.87	0.87	0.87	0.82
	TI	9.80	8.90	8.17	8.35	8.56	9.36	9.14	9.29	9.31	9.22	9.27	8.23
	Corr RI	-0.52	-0.05	0.11	-0.33	-0.06	0.44	0.64	0.66	0.77	0.83	0.10	0.40
(MAL/THA)	Corr IP	-0.14	-0.17	-0.25	-0.15	-0.02	0.45	0.57	0.64	0.75	0.77	0.64	0.58
	TI	2.95	2.85	2.74	3.13	3.48	3.79	3.63	3.65	3.84	4.04	4.40	4.82
	Corr RI	-0.33	0.18	0.09	-0.12	0.10	0.47	0.71	0.83	0.86	0.93	0.52	0.38
(PHI/THA)	Corr IP	-0.10	-0.01	0.07	0.31	0.19	0.38	0.43	0.48	0.54	0.70	0.72	0.64
	TI	1.16	0.54	2.26	2.19	2.47	2.64	2.62	2.81	3.45	2.96	3.44	3.14
	Corr RI	0.15	0.21	0.04	-0.16	0.07	0.19	0.55	0.63	0.69	0.63	0.48	0.50
(SIN/THA)	Corr IP	0.11	0.17	0.21	0.26	0.19	0.35	0.47	0.55	0.67	0.77	0.81	0.71
	TI	4.68	4.69	4.62	4.71	4.50	4.67	4.75	4.19	4.34	4.51	4.20	3.97
	Corr RI	0.78	0.76	0.46	-0.15	0.16	0.37	0.57	0.69	0.75	0.87	0.36	0.57

† Only January data are shown for each year.

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