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Rana, Pradumna B.

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Economic Integration in East Asia: Trends, Prospects, and a Possible Roadmap

by Pradumna B. Rana

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Economic Integration in East Asia: Trends, Prospects, and a Possible Roadmap

Pradumna B. Rana
Senior Advisor
Office of Regional Economic Integration
Asian Development Bank
Tel: 63 632 5458
e-mail: prana@adb.org

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Abstract:
This paper reviews trends in East Asian regionalism in the areas of trade and investment, money and finance, and infrastructure. It presents various measures of trade and financial integration. An important finding of the paper is that increasing trade and financial integration in the region is now starting to lead to a synchronization of business cycles in a selected group of countries, further enhancing the case for monetary integration among these countries. The paper also outlines a roadmap for East Asian integration.

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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 involved unilateral reforms and embraced multilateralism under the GATT/WTO framework and led to East Asia's economic dynamism and global integration, in tandem with regional integration in international trade and capital flows. Regional integration flourished under the multilateral framework of trade—driven by increasing market access and the force 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.

This paper has three objectives: (i) to review the progress in market-led integration in East Asia (defined as ASEAN+3[2] 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 challenges such as the economic heterogeneity of countries and the oft-cited lack of political will within the region, and (iii) to outline a possible roadmap that the region may adopt to enhance 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 forward.

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. Section IV explores whether increased integration has led to a greater synchronization of East Asian business cycles. Section V outlines a roadmap East Asian countries could adopt to enhance the integration process. And finally, Section VI summarizes the paper and offers some conclusions.

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 subregions and proposals have also been made for establishing an ASEAN+3 Free Trade Area (FTA).

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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-substitution policies in a regional context. These efforts were highly protectionist and ineffective (later referred to as "closed regionalism").

[2] ASEAN+3 includes the 10 members of the Association of Southeast Asian Nations (Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam), People's Republic of China, Japan, and Republic of Korea.

Trade and Investment

As mentioned, 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—China FTA that 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). Within East Asia, eight FTAs have been signed and are presently under implementation, six are under negotiation and seven have been proposed. Similarly, between East Asia and South Asia, two FTAs are under implementation, eight under negotiation, and six have been proposed. Many of the FTAs in East Asia are FTA Plus in the sense that they go beyond just tariff reduction—into trade facilitation measures for customs duties, partial movement of labor, or the opening of government procurements, among others. 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. There is an ascending order of intensity of these efforts 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. By level of intensity, these efforts have ranged from economic review and policy dialogue to establishing regional financing arrangements and eventually toward 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 semiannually 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 semiannually. Steps have been taken to monitor short-term capital flows and to develop early warning systems of currency and banking crises. Initially, Deputies would 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 forum as they tend to focus on issues of common interest. An ASEAN+3 Research Group, comprising about 30 think tanks from across the region, has also been established to support ERPD. Until its dissolution in December 2005, the Manila Framework Group was another forum that 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 members, and to set up a network of bilateral swap arrangements (BSAs) among ASEAN+3 countries. The ASA expansion was done in November 2000, and its size increased from $200 million to $1 billion. In April 2005, the size of the ASA was again increased to $2 billion. At their May 2005 meeting, the ASEAN+3 Finance Ministers announced that the size of existing bilateral swaps would be doubled and that swaps would be signed among

ASEAN countries as well.[3] To date, ASEAN+3 countries have signed 16 bilateral swaps amounting to $75 billion, almost double from a year ago. At the May 2005 meeting, the ministers decided to increase the percentage of swaps that can be disbursed without IMF-supported programs from 10% to 20%. They also agreed on a collective decision-making system for BSAs. Although the latter agreement to some extent complicates, the administration of the bilateral swaps, it is an important breakthrough for two reasons: (i) as mentioned in the Ministerial Statement, it is the first step to the full multilateralization of bilateral swaps, and (ii) it is also the first time that the ASEAN+3 members agreed to sacrifice a certain amount of national sovereignty for the common regional good. There was further progress at the May 2006 meeting, where the ministers decided that "all swap providing countries can simultaneously and promptly provide liquidity support to any parties involved in bilateral swap arrangements at times of emergency" and "set up a new task force to further study various possible options towards an advanced framework of the regional liquidity support arrangement (CMI multilateralization or Post-CMI)."[4]

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 yet to be a clear regional initiative. This will, however, undoubtedly change as the integration process moves forward, business cycles become more synchronized, and macroeconomic policy interdependence becomes stronger.[5] In fact, at the May 2006 meeting, the ASEAN+3 finance ministers endorsed a study on "regional monetary units." On 21 July 2005, the PRC and Malaysia joined Singapore in adopting a managed floating exchange rate regime based on a currency basket, which suggests the basket-pegging regime is gaining popularity in the region and in due course could culminate in enhanced exchange rate coordination.

For other types of financial sector cooperation, East Asia has come up with a number of initiatives to develop regional bond 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 Markets Initiative (ABMI) under the ASEAN+3 Finance Ministers Process. In 2003, EMEAP launched ABF1, 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 ABF2, which invests in bonds denominated in regional currencies, began implementation in April 2005. Under the ABMI, ASEAN+3 established several apex bodies —a Focal Group with an Ad Hoc Support Group and Technical Assistance (TA) Coordination Group—and four working groups that meet regularly. The AsianBondsOnline website was launched in May 2005[6]—developed by ADB, it has become a popular one-stop clearinghouse of information on sovereign and corporate bonds issued in ASEAN+3 countries,

Infrastructure and Associated Software

In Asia, most of the poor live in remote or isolated areas, especially in regions close to national borders. They need to be linked to commercial and industrial centers not only within their own countries but to those in other countries in the region and beyond as well—via highways, railways, ports, telecommunications, and other "hard" infrastructure. The "software" aspects of infrastructure development, including trade facilitation, are also important for the smooth flow of traffic. Greater connectivity enhances trade and investment integration by facilitating movement of goods.

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[3]Joint Ministerial Statement of the 8th ASEAN+3 Finance Ministers' Meeting, 4 May, 2005, Istanbul, Turkey.

[4]Joint Ministerial Statement of the 9th ASEAN+3 Finance Ministers' Meeting, 4 May, 2006, Hyderabad, India.

[5] Some evidence on these trends is provided in Section IV.

[6]This website tracks developments in East Asia's local currency bond markets and provides detailed progress reports on the various ABMI initiatives, among others.

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 begun in 1992.

In South Asia, at the request of Bangladesh, Bhutan, India, and Nepal, ADB launched the South Asia Subregional Economic Cooperation (SASEC) Program in 2001. The SASEC Program promotes economic cooperation in six priority sectors: transport; trade, investment, and private sector cooperation; tourism; energy and power; environment; and information communication technology. Similarly, in Central Asia there is the Central Asia Regional Economic Cooperation (CAREC) program. Begun in 1997, this program has focused on regional initiatives in transport, energy, trade facilitation, and trade policy. There are also efforts to link western South Asia with Central Asia under the Subregional Economic Cooperation in South and Central Asia (SECSCA) program started in 2003. The SECSCA Program provides transport and trade facilitation along the road corridors connecting the Central Asian republics to the Arabian Sea and the Pacific Gulf via Afghanistan. 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

Tables 1 and 2 basically update the various measures of trade integration developed, among others, by Kawai (2005) using data from the June 2006 International Monetary Fund *Direction of Trade Statistics CD-Rom*. Table 1 shows that during the period 1980 to 2005, intraregional trade among ASEAN+3 members increased steadily from 30.2% to 38.2%.[7] This level is somewhat lower than NAFTA (45.0%) but significantly lower than that for EU-25 (66.2%). If, however, we include data from Hong Kong, China and Taipei,China, the intraregional trade ratio increases to 54.5%, well above NAFTA and closer to the EU-25 level. Intraregional trade among ASEAN countries has remained unchanged since 1995 while among the South Asian countries, it has increased somewhat.

Table 1: **Intraregional Trade** (as % of total world trade) [1]

	1980	1985	1990	1995	2000	2005
Brunei Darussalam	80.1	77.3	81.7	79.5	74.2	75.0
Cambodia		67.4	68.6	81.5	35.8	46.8
Indonesia	58.3	53.3	51.7	49.5	50.6	54.6
Lao People's Dem. Rep		82.6	85.7	65.3	72.8	74.0
Malaysia	46.7	54.1	49.6	48.2	49.4	54.7
Myanmar	50.6	42.9	58.7	72.5	62.2	74.9
Philippines	33.8	36.0	32.8	37.5	39.7	52.7
Singapore	36.8	40.6	39.5	47.2	46.5	45.4
Thailand	38.1	42.7	42.6	43.7	44.9	49.5
Viet Nam		10.5	27.8	57.6	56.4	52.7
China, People's Rep. of	29.4	36.2	21.3	33.7	33.1	30.0
Korea, Rep. of	29.2	26.7	29.1	35.4	36.6	43.6
Japan	20.7	20.3	21.2	29.9	30.9	36.8
ASEAN+ 3	**30.2**	**30.2**	**29.3**	**37.3**	**37.0**	**38.2**
Memo Items:						
ASEAN	17.9	20.3	18.8	23.9	24.5	24.0
ASEAN+3 + Hong Kong, China + Taipei,China	34.6	37.1	43.0	51.7	51.9	54.5
SOUTH ASIA	4.6	3.2	2.9	4.0	4.2	5.5
European Union (EU-25)	61.3	59.8	67.0	67.4	66.8	66.2
NAFTA	33.8	38.7	37.9	43.1	48.8	45.0

[1]For regional groupings, intraregional trade share is calculated using export data and the formula: Xii /{(Xiw + Xwi)/2}, where Xii is export of region i to region i; Xiw is export of region i to the world, and Xwi is export of world to region i.

Sources: International Monetary Fund *Direction of Trade Statistics CD-Rom* (June 2006), and CEIC.

[8]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 presents data on total trade intensity indexes which, by adjusting for the country or 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 remained relatively steady at about 2 since 1990. This level is higher than that for EU-25 (1.7) and lower than that for NAFTA (2.6).

Table 2: **Intraregional Trade Intensity Index**[1]

	1980	1985	1990	1995	2000	2005
Brunei Darussalam	6.7	5.4	5.3	4.0	3.7	3.5
Cambodia		4.7	4.4	4.1	1.8	2.2
Indonesia	4.9	3.7	3.4	2.5	2.5	2.5
Lao People's Dem. Rep		5.8	5.6	3.3	3.7	3.4
Malaysia	3.9	3.8	3.2	2.4	2.5	2.5
Myanmar	4.2	3.0	3.8	3.6	3.1	3.5
Philippines2.8	2.5	2.1	1.9	2.0	2.4	
Singapore	3.1	2.8	2.6	2.4	2.3	2.1
Thailand	3.2	3.0	2.8	2.2	2.3	2.3
Viet Nam		0.7	1.8	2.9	2.8	2.4
China, People's Rep. of	2.5	2.5	1.4	1.7	1.7	1.4
Korea, Rep. of	2.4	1.9	1.9	1.8	1.8	2.0
Japan	1.7	1.4	1.4	1.5	1.5	1.7
ASEAN+ 3	2.4	2.1	1.9	2.0	2.0	1.9
Memo Items:						
ASEAN	4.8	5.7	4.4	3.7	4.0	4.2
ASEAN+3 + Hong Kong, China + Taipei,China	2.5	2.3	2.2	2.1	2.2	2.2
SOUTH ASIA	5.1	2.9	3.0	3.9	3.9	4.1
European Union (EU-25)	1.5	1.6	1.5	1.7	1.8	1.7
NAFTA	2.1	2.0	2.1	2.4	2.2	2.6

[1] Intraregional trade intensity index is the ratio of intraregional trade share to the share of world's trade with the region. For regional groupings, trade intensity index is calculated using export data and the formula: [Xii /{(Xiw + Xwi)/2}] / [{(Xiw + Xwi)/2}/Xww], where Xii is export of region i to region i; Xiw is export of region i to the world, Xwi is export of world to region i, and Xww is total world export.

Sources: International Monetary Fund *Direction of Trade Statistics CD-Rom* (June 2006), and CEIC.

Financial Integration

Unlike in the case of trade, data on bilateral capital flows 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.[8] 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 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 commonly thought.

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%.[9] During the period from September 2002 to 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 et al cautioned, however, that one should not draw any inference about regional financial integration from the above data. We need information on the nationality of bondholders. McCauley et al collected information on new international bonds issued from various trade periodicals to measure Asia's 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 issued, the weighted average Asian share of primary market distribution was 44%.[10] We have updated the analysis for the period from September 2002 to 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).

Table 3: **International Bond Issuance by Asian Issuers** (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.

[8]The only complete bilateral foreign direct investment data that the author could find was from the ASEAN Secretariat. These data indicate that, as a percentage of GDP, FDI inflows to ASEAN countries initially dipped sharply in the postcrisis period, but have started to recover yet are still below precrisis levels. Similar results obtained for both ASEAN and ASEAN+3 countries from UNCTAD's FDI database on bilateral flows. Since 2001, the IMF has conducted a survey of portfolio investments, but the series is too short to establish a trend.

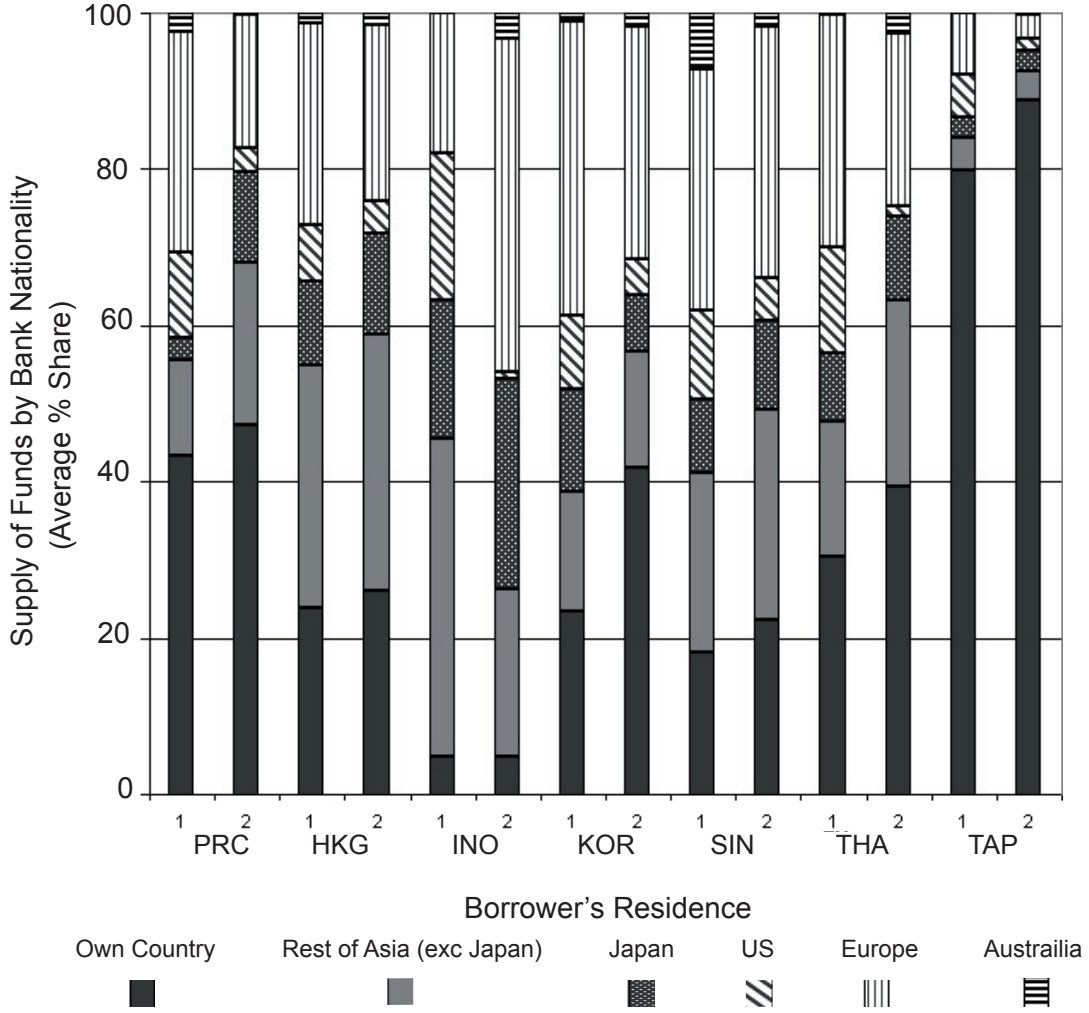
[9]HSBC and Standard Chartered are treated as Hong Kong, China banks.

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

For 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[11] and Japanese banks. US banks arranged another 12% and European banks 23%. Our update for the January 2003–May 2005 period 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 1999–2002, East Asian banks initially provided 50–85% of funds to borrowers in East Asia for internationally syndicated loans (Figure 1). This ratio increased to 60–95% during the January 2003 to May 2005 period, 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 funding. These may reflect a "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.[12] Therefore, East Asia is less exposed than some imagine to sudden and large-scale cessation of capital flows from Europe on the one hand, and the US on the other.

Figure 1: **Participation in Internationally Syndicated Loans for East Asian Borrowers**[1]
(Jan 2003–May 2005)



[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

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

[12]Many underwriters do not provide bond issue data on Pan-Asian investment versus investment from issuer's country. But from a limited sample of press announcements this ratio was about a third of total issuance.

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. Thus, our finding of an increasing trend in trade integration in East Asia, and that the level of regional financial integration is high and increasing (at least in syndicated loan markets) is consistent with the hypothesis that trade and financial integration in East Asia are virtuously reinforcing each other and further deepening its integration process.

IV. Trade and Financial Integration and the Synchronization of East Asian Business Cycles

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 unclear. 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 East Asia, with the establishment of regional production networks and supply chains by multinational corporations—and thus a high share of intra-industry trade—one would expect a positive correlation between trade integration and business cycle synchronization. However, empirical evidence is, mixed. Shin and Wang (2003) found an increase, while Crosby (2003) did not find any evidence of synchronization. It also appears that growing integration among G7 nations[13] has 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 (exceptions are Brunei Darussalam and Cambodia), simple 10-year moving correlations between GDP growth of individual ASEAN+3 members and the group (excluding the individual member) were calculated from 1989 to 2003. Figure 2.1 shows that correlations have been increasing, especially after the financial crisis, suggesting greater synchronization of business cycles among ASEAN+3 countries. Correlations have been converging toward 1 in Indonesia, Malaysia, Philippines, and Thailand and toward 0.6 – 0.7 in Korea, Japan, Lao PDR, Singapore, and Viet Nam. They are lower, however, in 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 have shown a downward trend in the postcrisis period (Figure 2.2). This trend is also visible in the region's growth correlation with G7 members France, Germany and Italy (Figure 2.3).

[13]G7 consists of Canada, France, Germany, Italy, Japan, United Kingdom, and United States.

Figure 2: **10-Year Moving Correlation of GDP Growth**

Figure 2.1: **Between Individual Countries and ASEAN+3** (excluding own)

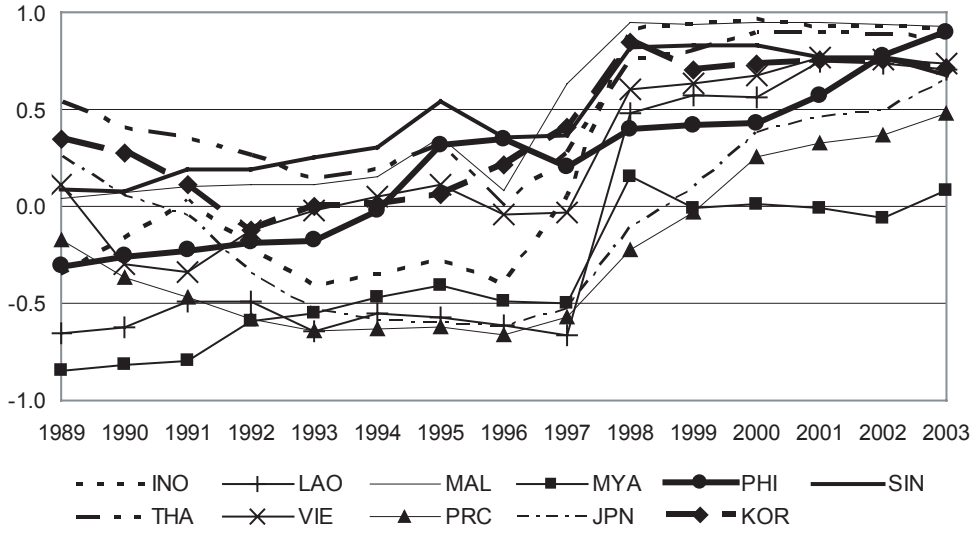


Figure 2.2: **Between Individual ASEAN+3 Members and US**

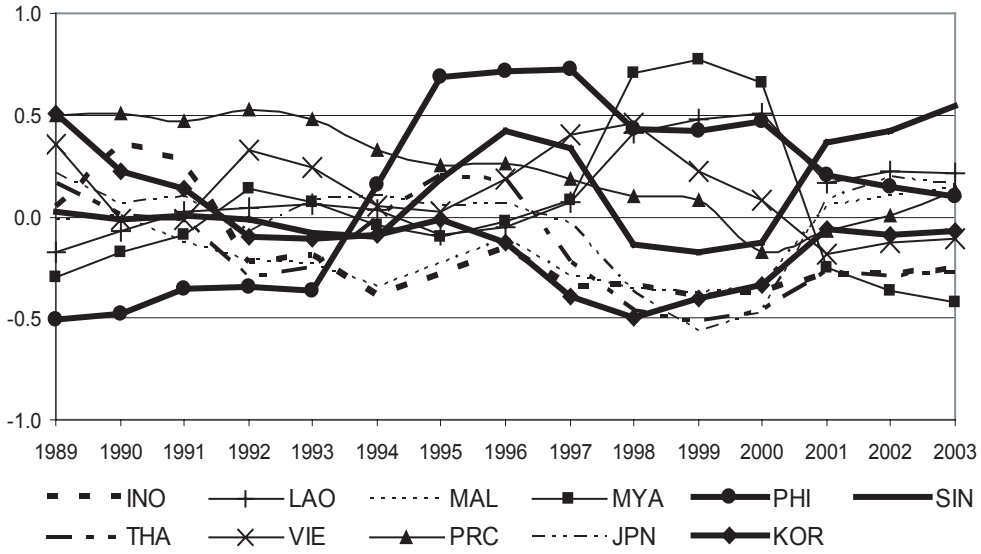
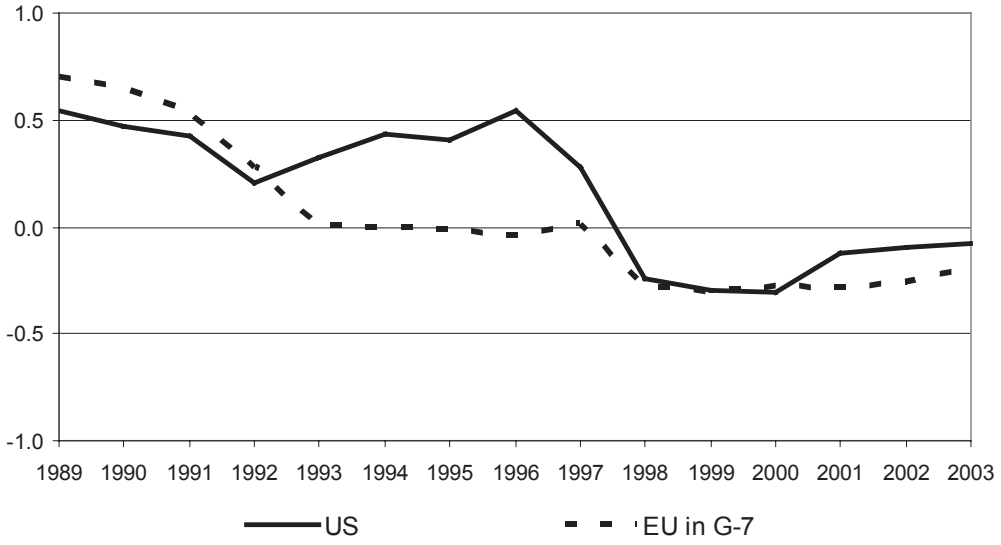


Figure 2.3: **Between ASEAN+3 and the US and EU**[1]



[1] EU = France, Germany, and Italy.

Following Frankel and Rose (1998), the above correlations were recalculated using only the cyclical component of GDP growth (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, as expected, the correlation ratios are relatively lower.

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

Figure 3.1: **Between Individual Countries and ASEAN+3** (excluding own)

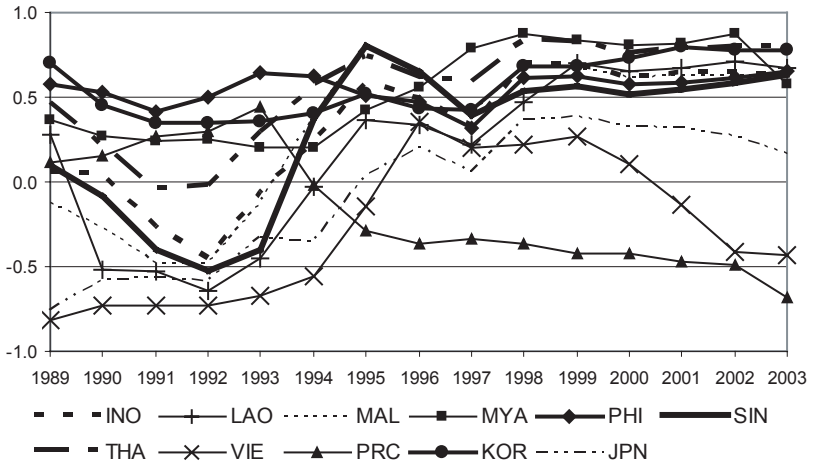


Figure 3.2: **Between Individual ASEAN+3 Countries and the US**

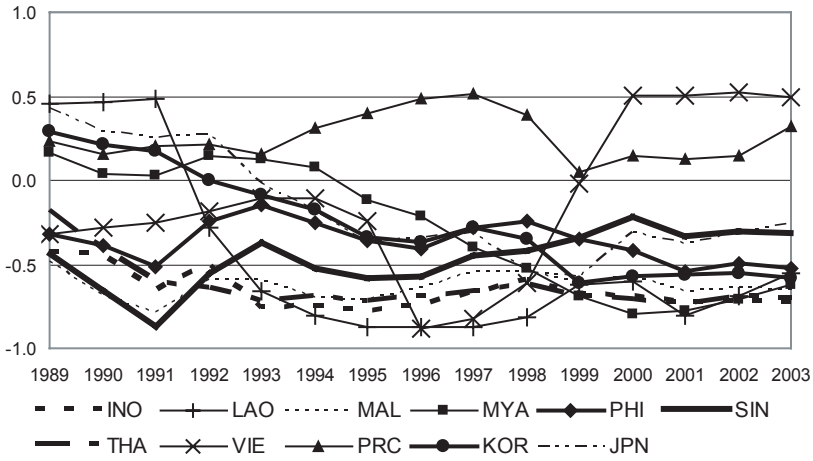
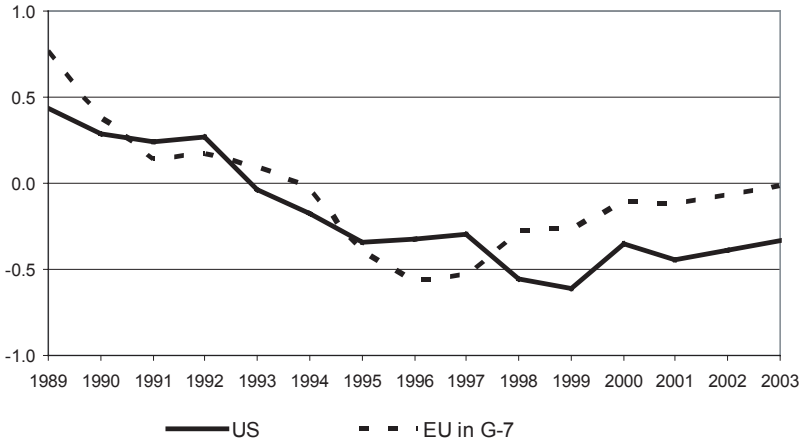


Figure 3.3: **Between ASEAN+3 and the US and EU**[1]



[1] EU = France, Germany, and Italy.

VAR Analysis

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

Assume that the time-series process for an 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:

$$X_{i,t} = \alpha_i + \sum A_{i,k} X_{i,t-k} + v_{i,t}, \quad i = 1,...,9$$

where $A_{i,k}$ is a $9 \text{ x } L$ matrix of regression coefficients, α_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, $\mathrm{L} = 5$, 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 precrisis (January 1989–June 1997) and postcrisis periods (July 1997–December 2004). The data confirm that correlation of industrial production between all possible pairs of East Asian countries has increased in the postcrisis period as compared with the precrisis 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.[14]

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

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.
PRC = People's Republic of China, INO = Indonesia, KOR = Korea, MAL = Malaysia, PHI = Philippines, SIN = Singapore, THA = Thailand, JPN = Japan, and USA = United States

On one hand, simple bilateral correlations had suggested that co-movements between East Asian and US GDP growth had declined in the postcrisis period. The VAR analysis, on the other hand, suggests that they increased, except in 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 examined. These functions provide complete information about the co-movement of industrial production after a shock. Two types of shocks were considered—an external shock from the US and a regional shock from Korea and Thailand.[15] 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 postcrisis period. This suggests that despite the synchronization of business cycles, East Asian countries have not become more resilient to external shocks—at least not yet.

[15]These two countries were selected because they were statistically significant for "Granger-caused" shocks affecting regional economies.

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

From Shock in US

	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

PRC = People's Republic of China, INO = Indonesia, KOR = Korea, MAL = Malaysia, PHI = Philippines, SIN = Singapore, THA = Thailand, JPN = Japan, and USA = United States

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:[16]

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

where 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

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—PRC, Indonesia, Japan, Korea, Malaysia, Philippines, Singapore, and Thailand. Monthly data were collected from January 1989 to December 2004. Five-year windows were used to calculate the bilateral correlations; hence our sample for the regressions was from January 1993 to December 2004. The sample was also broken into precrisis (January 1993–June 1997) and postcrisis (July 1997–December 2004) periods, and the model estimated both with and without country dummy variables. The results are presented in Table 6.

[16]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 postcrisis period.

The estimated results show that bilateral trade intensity is statistically significant in explaining co-movements of industrial production index during the entire 1993–2004 sample period. However, the regression results for the precrisis and postcrisis periods show that this is true only during the postcrisis period. During the precrisis 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 or statistical significance of the trade intensity variable. Thus we can rule out the multicollinearity problem in the results. Both bilateral trade intensity and monetary policy coordination are statistically significant in explaining business cycle synchronization in the East Asian region. Once again, this is true mainly during the postcrisis period, when the pace of monetary and financial cooperation picked up and regular policy dialogue accelerated within the region. During this period, the bilateral correlation of real interest rates between countries increased in most cases. This correlation peaked in 2002 when many East Asian countries followed the most recent round of interest rate easing by the US Federal Reserve, which was in response to a synchronized global economic slowdown (Appendix 2).

Table 6: Business Cycle Co-movement Regressions

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

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

These findings have important implications for monetary cooperation in East Asia. Eichengreen and Bayoumi (1999) have calculated an optimum currency index for East Asia based on historical data on trade patterns, openness, and nature of disturbance. They found that the index is not very different from what it was in Europe prior to the Maastricht Treaty. Bayoumi and Mauro (1999) and Plummer (2000) have reached a similar conclusion for ASEAN. Therefore, ex ante East Asia is suited for a currency union. However, some conditions for economic integration are endogenous, i.e., they arise after integration starts. This paper's findings that increased trade and financial integration has led to greater business cycle synchronization in East Asia means that the ongoing integration process is enhancing the incidence of symmetric shocks in the region. This, together with the findings of Frankel and Rose (1998), i.e., that the level of trade increases significantly after the formation of a currency union—their initial finding was a threefold increase, subsequently reduced to a lower multiple—suggest that endogenous factors also enhance the case for establishing an East Asian currency union. The region, therefore, appears to be a good candidate for 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 greater synchronization of business cycles, which in turn reduces the costs of a union by increasing the incidence of symmetric shocks.

V. A 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 an 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 monetary 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 and other conditions that increase administrative costs. If different agreements have different rules of origin, administrative costs could be high. To avoid this, FTAs should be carefully designed to ensure compatibility with others. A review system may be needed. FTA membership could also be expanded to eventually establish an ASEAN+3 FTA. 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. The short-term, medium-term, and long-term actions for each sub-track—as highlighted in various ADB studies—are outlined in Table 7. With the recent decision to collectivize the decision-making process of CMI, the next steps are to fully multilateralize the swap arrangements by earmarking a portion of foreign exchange reserves held by ASEAN+3 countries for financing members' short-term liquidity needs. As part of this process, and also with a view to reducing the linkage to IMF conditionality, an independent policy dialogue unit should also be established for regional economic monitoring. Over the medium-term, a centralized reserve pool could be established—tentatively, an Asian Monetary Cooperation Fund (AMCF). After that, for the resource-sharing and exchange rate sub-tracks, two approaches are possible—the "European" approach and the "parallel currency" approach. 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 final step, a single currency could be adopted.

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—an 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 (CMI).		Cooperate on postcrisis management of the financial sector. Technical assistance should be provided to individual countries where appropriate.
		Multilateralize the CMI by earmarking a portion of foreign exchange reserves for financing short-term liquidity needs of members.		
Medium-term (three to five years)	Develop alternative conditionality for balance of payments support.	Establish a centralized reserve pool— the Asian Monetary Cooperation Fund (AMCF)—that seeks to prevent or manage financial crises in the region.	Explore the feasibility of exchange rate coordination by conditioning drawings from the reserve pool on exchange rate policies.	Establish general regional guidelines for prudential regulation, enhancing cooperation on these issues by setting up an East Asian Banking Advisory Committee. Extend the supervisory function within each country to all institutions engaged in banking.
		The AMCF to issue a parallel currency to be called the Asia Currency Unit (ACU, a weighted basket of members' currencies).		
		Encourage ACU-denominated bonds and establish a regional clearing and payments mechanism for ACU transactions.		
Longer-term (more than five years)		As ACU transactions grow, transfer the ACU into sole legal tender for the region. Convert AMCF into an Asian Central Bank.	Establish a common basket peg similar to the European Monetary System. Introduce Maastrict-type convergence criteria. Adopt a single currency as 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

Sources: ADB (2004) and Eichengreen (2006 forthcoming)

If the level of political will in the East Asian region is not strong enough to adopt a 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 develop into the sole legal tender within the region. The AMCF could be converted into an Asian Central Bank.

As Eichengreen (2006 forthcoming) argues, the appeal of the parallel currency approach is dictated by economic forces (i.e., market forces) more than politics. This is consistent with the greater emphasis placed by East Asian countries on market-led rather than policy-led integration. It also accommodates the fact that the East Asian political context is very different compared with Europe. An underlying commitment to political solidarity drove the transition to monetary union in Europe. Eichengreen also mentions that Europe considered the parallel currency approach, but it was abandoned in favor of the Maastricht process because of the strong political commitment that existed at the time.

Aside from being multi-track, East Asian integration could be multi-speed as well. On each track and sub-track, In East Asia, as we found in Section II, Indonesia, Japan, Korea, Malaysia, Philippines, Singapore, and Thailand 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.

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 1997–1998 financial crisis, 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 within the East Asian region and the two are mutually reinforcing each other.

(iii) increased trade and financial integration within the region (and monetary policy coordination) have led to greater synchronization of business cycles in a select group of countries, mainly due to the growing importance of intra-industry trade. 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 feasible to establish a currency union in East Asia—particularly among Indonesia, Japan, Korea, Malaysia, Philippines, Singapore, and Thailand.

Going forward, a "multi-track, multi-speed" roadmap for East Asia based on various studies conducted at ADB is outlined. 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 entire ASEAN+3 region (eventually India could be included). On the money and finance track, the next agenda items are to fully multilaterize the CMI over the next three to five 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 "bottom-up" and more market-oriented, an alternative to the rigid and relatively inflexible "top-down" European approach, which requires a strong political commitment. In some sense, the "parallel currency" approach continues East Asia's current market-oriented integration.

Appendix 1: An Annotated List of Free Trade Agreements (FTAs) in East Asia and Between East and South Asia [17]

A. WITHIN EAST ASIA

FTA SIGNED AND UNDER IMPLEMENTATION

- ASEAN Free Trade Area (AFTA)
  - Agreement on Common Effective Preferential Tariff (CEPT) Scheme (signed January 1992 and effective 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)
  - JSEPA (signed February 2002 and effective 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-China Free Trade Area (ACFTA)
  - Framework Agreement signed November 2002 and became effective 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

- Korea-Singapore Free Trade Agreement (KSFTA)
  - Negotiations for KSFTA that began in November 2002 were concluded November 2004. The FTA became effective March 2006
  - 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

- Japan-Malaysia Economic Partnership Agreement (JMEPA)
  - In December 2002, Malaysia proposed the JMEPA
  - Agreement started January 2004
  - FTA was signed December 2005
  - Malaysia will immediately remove tariffs on all parts imported for local car production and duties on most finished vehicles will be scrapped by 2010

- Laos-Thailand Preferential Trade Agreement
  - FTA under implementation since 1991

- PRC-Hong Kong Comprehensive Economic Partnership Agreement
  - FTA under implementation since January 2004

- PRC-Thailand Free Trade Agreement
  - FTA under implementation since October 2003

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

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 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 five years' time for newer ASEAN members

- Japan-Philippines Economic Partnership Agreement (JPEPA)
  - In May 2002, the establishment of a working group was proposed to study the possibility of an EPA between Japan and the Philippines
  - In December 2003, both sides decided to start negotiations for JPEPA in early 2004
  - Agreements reached 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

- ASEAN-Korea Free Trade Area (AKFTA)
  - Negotiations for AKFTA began in February 2005 and are 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

- 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 were 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

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

- Japan-Indonesia Economic Partnership Agreement
  - Negotiation launched in June 2005

FTA PROPOSED

- 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)

- PRC-Japan-Korea Free Trade Area
  - In 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
  - In 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

- Japan-Brunei Free Trade Agreement
  - Leaders of Brunei Darussalam and Japan decided at the Summit Meeting in Kuala Lumpur in December 2005 to launch scoping consultations in early 2006 with a view to start negotiations for a bilateral EPA.

- Japan-Viet Nam Free Trade Agreement
  - At the Summit Meeting in Kuala Lumpur in December 2005, leaders of Japan and Viet Nam decided to launch the Joint Study Group from January 2005 in anticipation of negotiations for a bilateral EPA.

- Malaysia-Korea Free Trade Agreement
  - Malaysia and the Republic of Korea decided to pursue negotiations on an FTA in August 2004
  - Negotiations between the two countries will commence after taking note of developments in the ASEAN-Korea FTA negotiations

- PRC-Korea Free Trade Agreement
  - The joint study on the feasibility and policy implications of a Korea-China FTA commenced in March 2005

- Taipei,China-Malaysia Free Trade Agreement
  - FTA proposed in March 2005

B. BETWEEN 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

- Asia-Pacific Trade Agreement (APTA, formerly Bangkok Agreement)
  - FTA under implementation since 1976

FRAMEWORK AGREEMENT SIGNED AND FTA UNDER NEGOTIATION

- ASEAN-India Regional Trade and Investment Area
  - Agreement signed October 2003 and became effective 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 runs to 2016
  - For India and new ASEAN members, India will reduce or eliminate tariffs before January 2011, while new ASEAN members will reduce or eliminate tariffs before 2016
  - Criteria for rules of origin remain to be resolved

- India-Thailand Free Trade Area
  - The Framework Agreement for India-Thailand FTA (signed 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 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 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 September 2004
  - 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 in June 2005

- PRC-Pakistan 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 in 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 (EHP) was also signed
  - EHP includes a common list of items whose tariffs will be removed and a separate list by each country whose duties will also be scrapped.

- India-Korea Comprehensive Economic Partnership Agreement (CEPA)
  - A Joint Study Group was set up on 6 October 2004 and its concluding report was signed on January 2006. It recommended that a comprehensive economic partnership agreement (CEPA) would exploit the existing bilateral economic relations between the two countries and provide significant benefits for both.
  - Following the recommendations of the Joint Study Group, a Joint Task Force composed of government officials of both countries was constituted for the development of the CEPA.
  - FTA negotiation launched in March 2006

- Malaysia-Pakistan Free Trade Agreement
  - FTA negotiation launched February 2005
  - Early Harvest Program (EHP) signed October 2005 for implementation January 2006

- Pakistan-Singapore Free Trade Agreement
  - FTA negotiation launched August 2005

- Pakistan-Indonesia Free Trade Agreement
  - On November 2005, Pakistan and Indonesia signed the Framework Agreement on Comprehensive Economic Partnership and expressed willingness to conclude an FTA.
  - Both parties decided to negotiate a preferential trade agreement and move towards the goal of an FTA.

FTA PROPOSED

- China-India Regional Trading Arrangement
  - In June 2003, India and the PRC agreed to set up a Joint Study Group (JSG). The JSG was tasked to present a report and recommendation on comprehensive trade and economic cooperation.
  - In March 2005, report of the JSG was finalized recommending a China-India Regional Trading Arrangement, which shall cover trade in goods and services, and investments.

- Japan-India Economic Partnership Agreement
  - On 29 November 2004, Japan and India agreed to establish a Japan-India Joint Study Group (JSG) for a Comprehensive Study to serve as a framework for reviewing their economic relationship.
  - On 29 April 2005, both parties directed the JSG to submit a report within a year, focusing on requirements for a comprehensive expansion of trade in goods and services, investment flows, and other areas of economic cooperation.
  - FTA proposed August 2005

- Malaysia-India Comprehensive Economic Cooperation Agreement
  - FTA proposed January 2005

- Pakistan-Philippines Free Trade Agreement
  - FTA proposed 2004

- Pakistan-Thailand Free Trade Agreement
  - FTA proposed April 2004

- Singapore-Sri Lanka Comprehensive Economic Partnership Agreement
  - FTA proposed October 2003

Sources: Asia Regional Information Center website, aric.adb.org.

Appendix 2: Bilateral Correlation of Industrial Production Indexes and Real Interest Rates, and Trade Intensity Index[18]

		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/JPN)	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/JPN)	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
(JPN /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
(JPN/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
(JPN/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

		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
	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
(JPN/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
(JPN/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

[18] Only January data are shown for each year.
PRC = People's Republic of China, INO = Indonesia, JPN = Japan, KOR = Korea, MAL = Malaysia, PHI = Philippines, SIN = Singapore, THA = Thailand.

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