

Capannelli, Giovanni; Lee, Jong-Wha; Petri, Peter

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Developing Indicators for Regional Economic Integration and Cooperation

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ADB Working Paper Series on Regional Economic Integration



Developing Indicators for Regional Economic Integration and Cooperation

Giovanni Capannelli, Jong-Wha Lee, and Peter Petri
No. 33 | September 2009

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Developing Indicators for Regional Economic Integration and Cooperation

Giovanni Capannelli,⁺
Jong-Wha Lee,^{**} and Peter Petri⁺⁺⁺

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⁺Giovanni Capannelli, Principal Economist in the Office of Regional Economic Integration, Asian Development Bank, 6 ADB Avenue, Mandaluyong City, 1550 Metro Manila, Philippines. Tel +63 2 632 5965, Fax +63 2 636 2342, gcapannelli@adb.org

^{**}Jong-Wha Lee is the Chief Economist, Economics and Research Department, concurrently Head, Office of Regional Economic Integration, Asian Development Bank, 6 ADB Avenue, Mandaluyong City, 1550 Metro Manila, Philippines. Tel +63 2 632 4900, Fax +63 2 636 2183, jwlee@adb.org

⁺⁺⁺Peter Petri is the Carl J. Shapiro Professor of International Finance at the Brandeis International Business School (IBS) and a Senior Fellow of the East-West Center in Honolulu, Hawaii. Tel +78 1 736 2256, Fax +78 1 736 2263, ppetri@brandeis.edu

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Unless otherwise noted, \$ refers to US dollars."

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Abstract

We develop indicators to measure the degree of economic integration and cooperation among East Asian economies and compare these with similar measures for other regions. Our indicators cover regional integration in trade, investment, financial assets, and people-to-people exchange. We also analyze measures of regional cooperation such as the density of free trade agreements and official policy dialogues. We find that in various Asian groupings, and especially in a group of 16 integrating Asian economies, interdependence in trade, direct investment, financial flows, and other forms of economic and social exchange has increased significantly over time, and now approaches that in the European Union. Nonetheless, Asia's official cooperation remains weak and formal regional institutions remain relatively underdeveloped. To provide insight into the causes of this discrepancy, we also develop quantitative measures of political and cultural similarity of nations, and find that Asian countries have relatively low levels of political and cultural proximity compared to regions such as Europe. The diversity of political interests and cultural values may have hindered more intense cooperation among Asian economies in the past. But if regional economic and social interactions continue to grow, requirements for joint decision-making are also likely to expand, leading to stronger frameworks of official cooperation.

Keywords: Regional integration, economic cooperation, East Asia

JEL Classification: F15, F36

1. Introduction

As globalization becomes an increasingly prominent feature of the world economy, why should countries continue to look to their neighbors first before dealing with partners located outside their regions? Indeed, as technological advances in transportation and telecommunications reduce economic barriers to exchanging goods, services, and factors of production, physical distance should become increasingly less relevant for economic transactions. Yet evidence suggests that the importance of distance is not declining, but is increasing for some types of transactions. Economies seem as prone as ever to integrate within their own regions.¹ Thus, globalization, the main story of our time, needs to be understood in parallel with a lesser-known process that is best described as “global regionalization”.

The persistent importance of distance in international transactions could be explained by several factors. One possible explanation involves the homogenization of technology: as technology diffuses rapidly, specialized products do not need to be sourced from distant locations, but can be found within an economy’s own region. A second explanation is based on coordination costs. The fragmentation of production has resulted in a greater need for human capital to coordinate production processes. But such use of human capital increases travel costs, which include airfares, per-diems, and accommodation costs, and also the increasing value of time (not to mention discomfort) associated with travel. Such transport costs may have increased, not decreased, and reducing travel distance remains an important factor pushing for regional interdependence. A third explanation is related to similarities in social values, religious beliefs, and political interests, which affect economic decisions and create a preference for regional exchanges if the degree of similarity increases. All these factors of course do not stop long-distance economic transactions from happening, but they may explain why short-distance exchanges remain and, perhaps, are becoming more attractive.

One of the unique features of Asian economic growth is the transmission of the development process—through market forces as well as government policies—from more- to less-advanced countries. In this context, a unique nexus of trade and investment flows developed, eventually creating strong regional production networks and a vibrant regional economy. But the region’s financial systems remained inefficient and poorly integrated. The correction came with the financial crisis of 1997/98, a major economic shock for the entire region. The crisis spawned a wide range of initiatives for regional cooperation including new regional forums, dialogue, and initiatives. The ASEAN+3² group, created in response to the crisis, established an Economic Review

¹ Distance coefficients in gravity equations seem to have increased rather than decreased. This has been found from time to time by authors interested in trade models (for example, Frankel 1997; Leamer 1993), but more recently research has begun to look more directly at the effect of distance (Coe et al. 2002).

² The following definition of regional groups or trade blocks is used in this paper: (i) Association of Southeast Asian Nations (ASEAN) includes Brunei Darussalam, Cambodia, Lao People’s Democratic Republic, Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam; (ii) ASEAN+3 includes ASEAN countries plus People’s Republic of China, Japan, and Republic of Korea; (iii) East Asia Summit (EAS) includes ASEAN+3 countries plus Australia, India, and New Zealand; (iv) Mercado Común del Sur (MERCOSUR), or Southern Common Market, includes Argentina, Brazil, Paraguay, and

and Policy Dialogue to strengthen regional surveillance and crisis-prevention, and the Chiang Mai Initiative, to shield members' currencies from potential crisis by providing short-term liquidity support through swap arrangements. The Asian Bond Markets Initiative was also established to stimulate the development of local-currency bond markets and, more generally, to improve the efficiency of Asian capital markets. An Asian Bond Fund was also launched. A recent Asian Development Bank (ADB 2008) study provides a detailed analysis of the emergence of Asian regionalism after the 1997/98 crisis.

This paper develops quantitative economic indicators to assess the extent of market integration and to track the development of intergovernmental cooperation and regional institutions in Asia. While the focus of the paper is on Asia, the integration and cooperation process—and its evolution—is observed from a comparative perspective. Although Asian regionalism has its own distinctive logic and characteristics, interdependence indicators for other regions—especially those of the European Union (EU)—represent useful international benchmarks for measuring Asia's progress in various dimensions. In this paper, the economies included in the definition of Asia vary according to data availability, the type of indicator that is being analyzed, and the needs of regional comparisons.

Several previous studies have also attempted to develop composite indicators for regional integration and cooperation (Dreher 2006, Chen and Woo 2008). One important criterion used in these studies is regional price convergence, under the assumption that the law of one price sets a theoretical standard for perfect market integration. Other measures include economic convergence, such as a reduction in the intraregional income gap across countries, or common structural changes, as hallmarks of economic integration.³

The aim of this paper is to study how regional economic integration occurs by observing the evolution of different indicators of regional interaction in areas such as production and investment, finance, macroeconomic links, and people to people exchanges. We use a variety of indicators including intraregional trade and investment shares, correlation of equity prices in the region's stock markets, correlation of gross domestic product across regional economies, intraregional flows of tourism. We also assess changes in income gaps across economies in the region as regional economic integration promotes convergence of income levels among regional members.

We measure an important dimension of regional policy cooperation using the density of free trade agreements as a proxy, and discuss the evolution and functions of Asia's

Uruguay as founding members, Bolivia, Chile, Colombia, Ecuador, and Peru as associate members, and Venezuela, which has signed a membership agreement in 2006, but is currently waiting to become a full member, as its entry has yet to be ratified by Brazil and Paraguay; (v) North America Free Trade Agreement (NAFTA), includes Canada, Mexico, and the United States; (vi) Integrating Asia-16 (IA-16) includes ASEAN+3 countries plus Hong Kong, China; India; and Taipei, China; (vii) European Union-15 (EU-15) includes Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

³ For example, Qin (2008) uses this approach to analyze the case for a currency union among ASEAN+3 countries.

growing number of regional forums for policy dialogue and coordination. Finally, we develop empirical measures of the degree of political and cultural similarities among Asian economies, and compare these measures with those of other regions. While several previous studies have addressed these issues, we are not aware of any systematic empirical research on political and cultural proximity in the context of Asian integration.

In section 2, we develop quantitative indicators to measure the degree of regional integration in trade, investment, financial assets, and tourist exchange, and then compare them across regions. Section 3 discusses the indicators of regional policy cooperation. Section 4 summarizes quantitative indicators of Asian integration and cooperation before and after the 1997/98 financial crisis, and compares them with the EU. In section 5 we develop indicators to measure the degree of political and cultural similarity and ask whether similarity in political regimes, foreign policy interests, and religious beliefs plays a role in facilitating regional cooperation. Concluding remarks follow in Section 6.

2. Measuring Market Integration

A succinct way to measure globalization is the trade/gross domestic product (GDP) ratio, measured as the sum of the US dollar value of total exports and total imports over the region's GDP. Over time, this ratio tends to increase for all major world regions including Asia, Europe, and America.

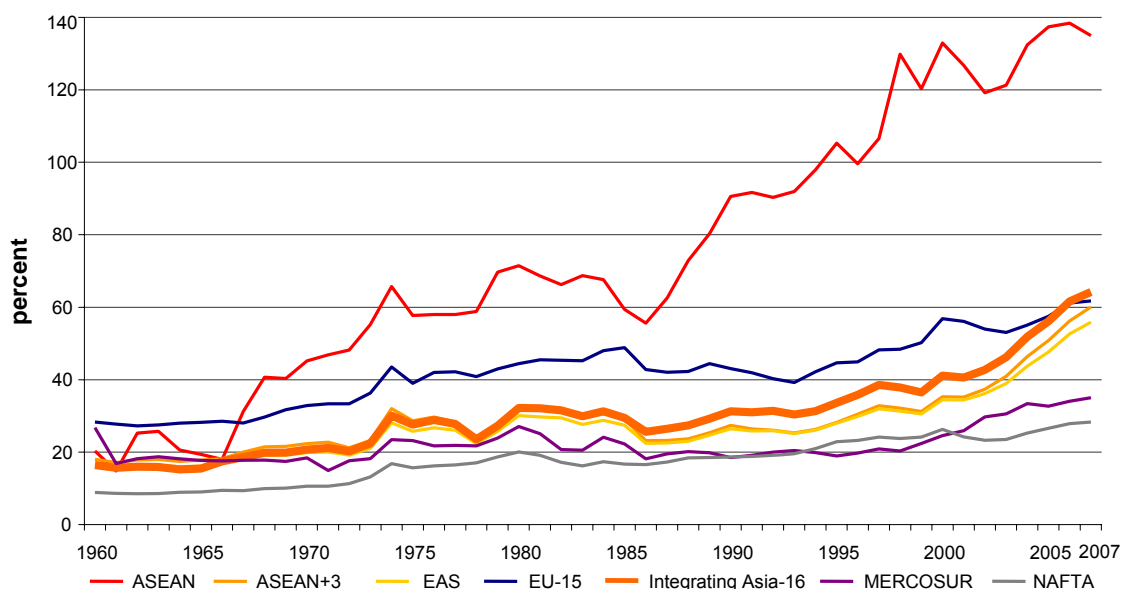
But Asia's ratio is increasing faster than other regions and—using this indicator—Asia surpassed Europe in 2006 as the most globally integrated region in the world (Figure 1). For Asia, various sub-regional groups—including the Association of Southeast Asian Nations (ASEAN), ASEAN+3, the East Asia Summit (EAS), and Integrating Asia (IA)—show rapid globalization. This trend may be explained by the adoption of the so-called Flying Geese Model, the creation of regional production networks through production and trade fragmentation, and the related expansion of exports to serve the world markets.

Trade of Asian economies has developed both within the region and with economies outside Asia: it has not been diverted from the rest of the world. Figure 2 shows that, over the last 40 years, Asia's trade with world trading blocs such as the EU, North American Free Trade Agreement (NAFTA), and Mercado Comun del Sur (MERCOSUR) has increased relative to Asia's GDP, not merely in absolute terms. For instance, Asia's trade with the EU increased from 2% of its GDP in 1967 to 8% in 2007. At the same time, Asia's trade increased from 4% to 9% of its GDP for the same period for NAFTA and from 3.5% in 1967 to more than 11% in 2007 with the rest of the world that is countries outside IA, EU, NAFTA, and MERCOSUR.⁴

⁴ Similar patterns are observed for the other regions. The results can be provided upon request.

Figure 1: Trade/GDP Ratio of Major World Regions

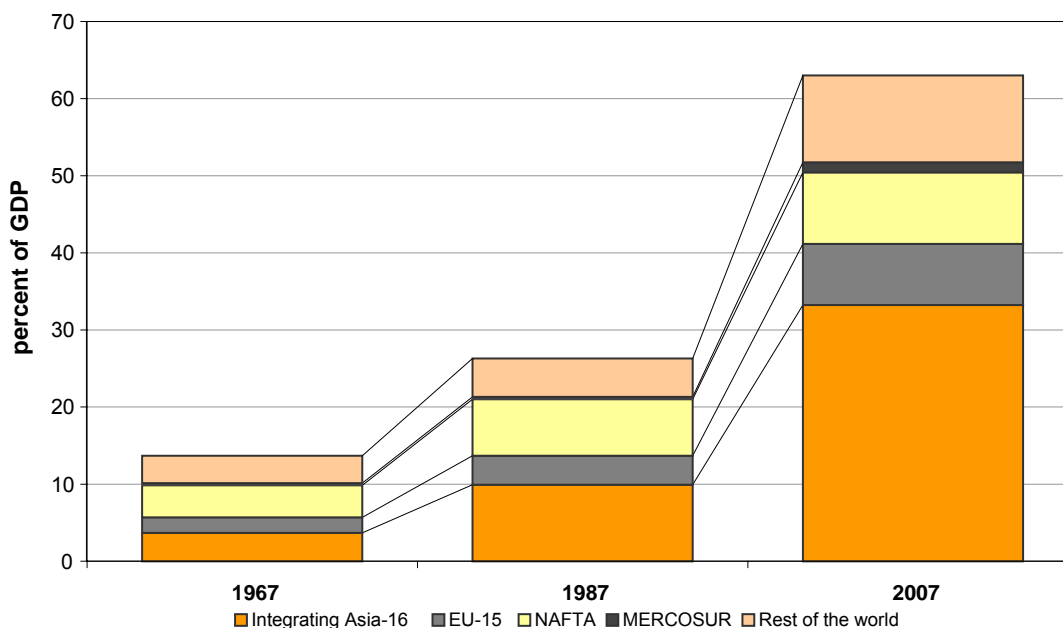
Long-term trend: 1960–2007



Authors' computations based on data sourced from: International Monetary Fund, *Direction of Trade Statistics* (June 2008); CEIC Data Company Ltd. (June 2008); and World Bank, *World Development Indicators* (July 2008).

Figure 2: Integrating Asia's Increasing Trade Links

Trade of Integrating Asia-16 as percentage of GDP by destination



Authors' computations based on data sourced from: International Monetary Fund, *Direction of Trade Statistics* (August 2008); and World Bank, *World Development Indicators* (August 2008). Integrating Asia-16 includes: Brunei Darussalam; Cambodia; People's Republic of China; Hong Kong, China; India; Indonesia; Japan; Republic of Korea; Lao PDR; Malaysia; Myanmar; Philippines; Singapore; Taipei, China; Thailand; and Viet Nam.

2.1 Trade Integration

The two measures that are commonly used to examine the extent of regional interdependence are the share of intraregional trade over total trade, or intraregional trade share (IT Share), and the intensity with which a region trades with itself compared with its trade with the rest of the world, or intraregional trade intensity (IT Intensity). The IT Share is a more straightforward measure of interdependence, as it shows the relative importance of internal (intraregional) versus external trade dependence. The IT Intensity is a more sophisticated measure showing the region's bias for trading within itself, that is, among partners located within the region. In both measures, total trade is defined as the US dollar value of exports plus imports.

The intraregional trade share of region “*i*” is defined as

$$IT\ Share_i = (X_{ii} + M_{ii}) / (X_i + M_i) \quad (1)$$

where

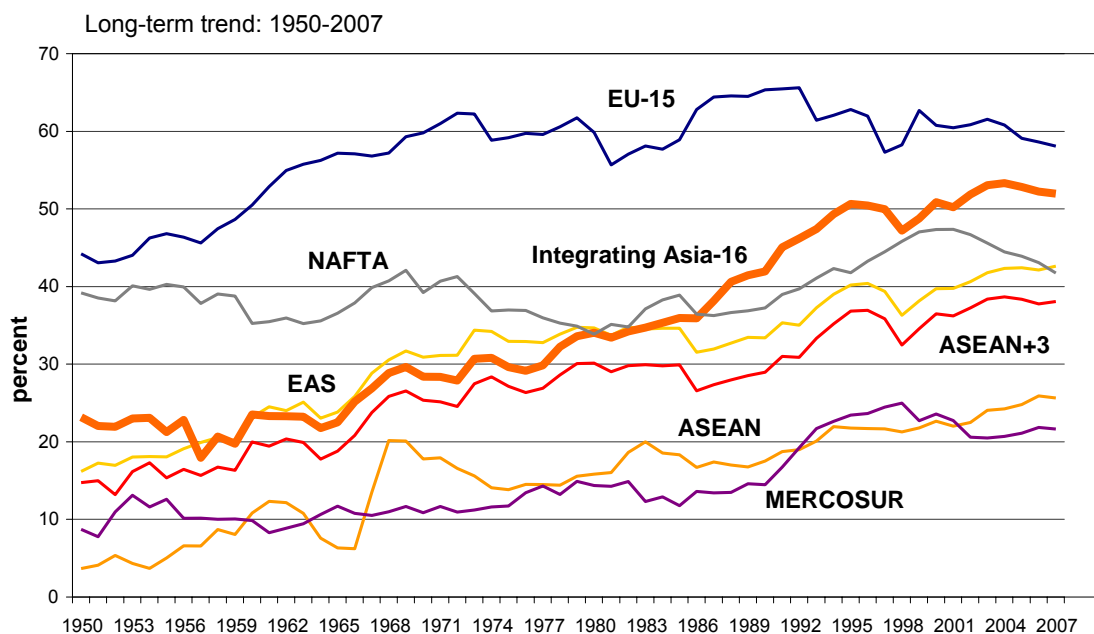
X_{ii} = exports of region *i* to region *i*;

M_{ii} = imports of region *i* from region *i*;

X_i = total exports of region *i*; and

M_i = total imports of region *i*.

Figure 3: Intraregional Trade Shares of Major World Regions



Authors' computations based on data sourced from: International Monetary Fund, *Direction of Trade Statistics* (June 2008); and CEIC Data Company Ltd. (June 2008).

For a definition of Integrating Asia (16), see note to Figure 2. EAS = East Asia Summit.

Figure 3 shows the long-term trend of IT shares for four major world regions. While the shares tend to increase over time for all regions, the share for IA has been increasing particularly fast—in 2007 it surpassed 52%, quite close to the EU's 58% share. In summary, Asia today is as broadly interdependent as Europe is, although Asia's share was only about half of the EU's in the early 1980s.

The intraregional trade intensity of region “*i*” is defined as

$$IT\ Intensity_i = \frac{(X_{ji} + M_{ji}) / (X_i + M_i)}{(X_{..} + M_{..}) / (X_{..} + M_{..})} \quad (2)$$

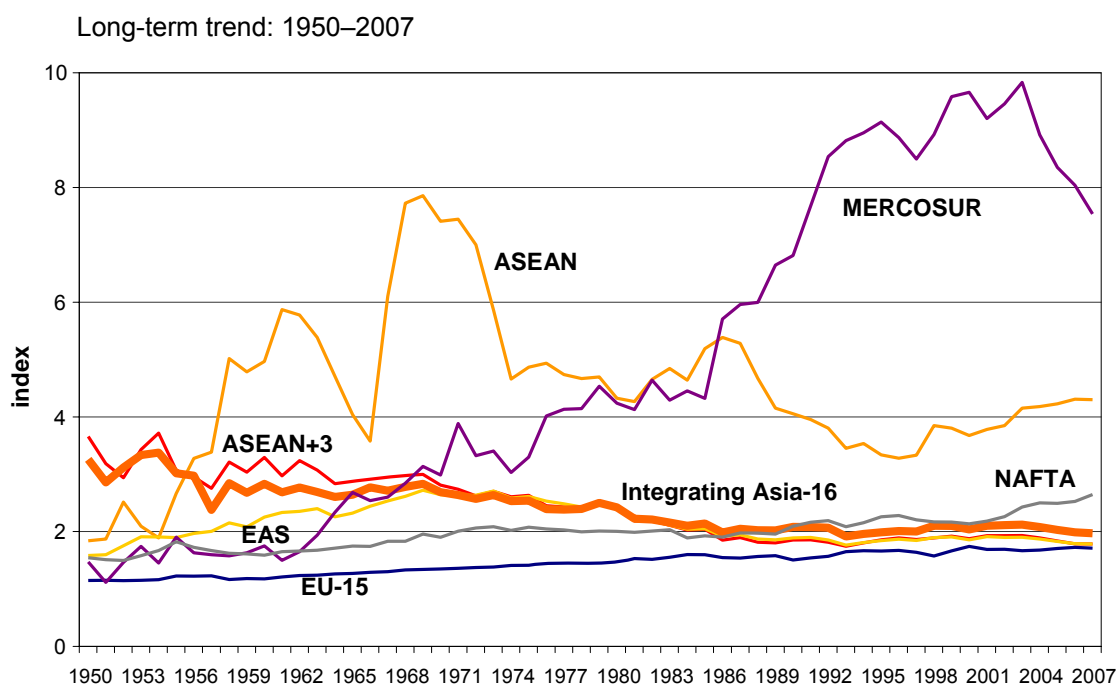
where

X_i = total exports of region *i* to the world;

M_i = total imports of the region to the world;

$X_{..}$ = total world exports; and $M_{..}$ is total world imports.

Figure 4: Intraregional Trade Intensities of Major World Regions



Authors' computations based on data sourced from: International Monetary Fund, *Direction of Trade Statistics* (June 2008); and CEIC Data Company Ltd. (June 2008).

For a definition of Integrating Asia-16, see note to Figure 2. EAS = East Asia Summit.

The evolution of intraregional trade intensities for the four regions is shown in Figure 4. Intensities tend to rise when the share of the region's trade within itself rises faster than its share of world markets, not simply because the region has a larger weight in the world economy and trade. Latin American countries belonging to MERCOSUR are outliers mainly because their weight on total world trade is much smaller than that of the three other regions (EU, Asia, NAFTA), which makes their denominator increase.

However, as MERCOSUR economies become more integrated with the global economy and increase their trade with the rest of the world, their intraregional trade intensity eventually declines. This trend is also observed in Asia. The intraregional trade intensity for IA declined rapidly until the mid-1980s, as IA's share of total world trade increased and IA economies traded more intensively with non-Asian economies than among themselves. However, while this general trend continues, the speed of decline has slowed substantially during the past several decades. This can be explained by the growth in fragmented trade and production and the creation of regional production networks, as well as the increase in Asia's share of total world trade. This trend contrasts with the experiences of the EU and NAFTA: while their intraregional trade intensities are also increasing, their bias for regional trade is rising at the same time that their share in world trade is declining.

All in all, the trends of trade/GDP ratios, the intraregional trade shares, and intraregional trade intensities show that Asia is following a pattern of "open regionalism", that is, one that does not discriminate against non-regional members. In other words, increasing regional interdependence for Asian economies is happening together with integration with world markets and the global economy. While this is also common to other major regions in the world, it is more pronounced in Asia.

2.2 Foreign Direct Investment

Another measure of the extent to which national markets are integrated regionally and globally is given by foreign direct investment (FDI). However, unlike trade data, FDI data are less comparable over time and across countries. National authorities in charge of issuing licenses for manufacturing operations—or agencies such as boards of investment or industrial development authorities—are usually the best sources for data on FDI. They typically classify ownership by nationality. But these data are very difficult to compare across countries because, for example, individual classifications followed over the years tend to change. Instead, balance of payments statistics, where FDI is included under the capital account, are a better source for cross-country and time-series comparisons. Unfortunately, it is difficult to get consistent data showing FDI inflows and outflows by country of origin and destination over the years.

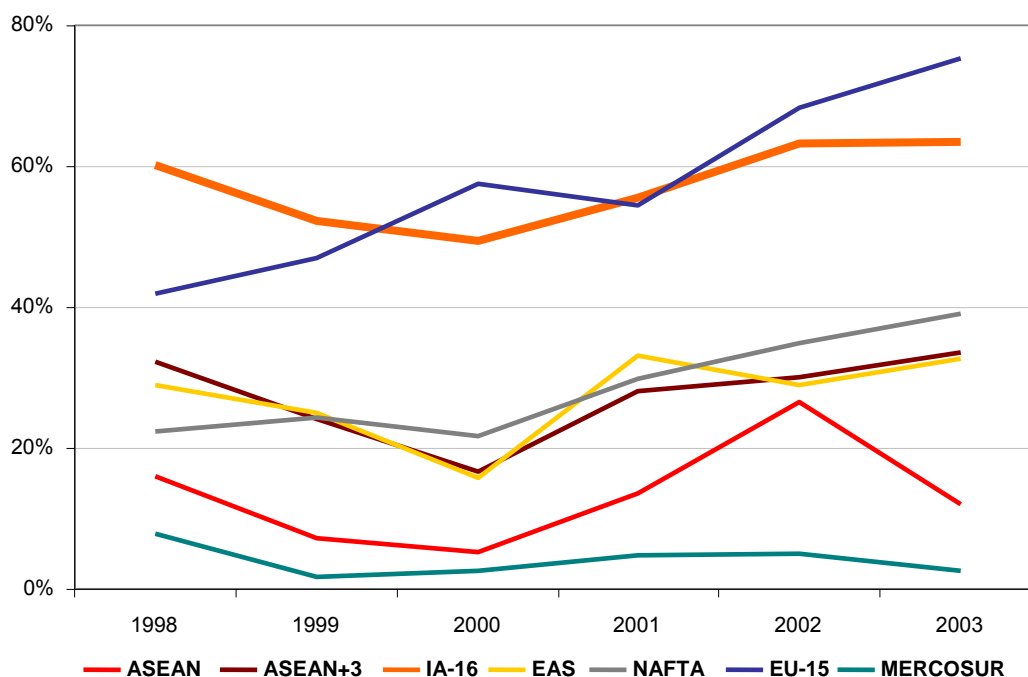
Bilateral FDI data are weaker than other bilateral data. The International Monetary Fund (IMF) is undertaking a survey, similar to the Coordinated Portfolio Investment Survey (CPIS), to provide reliable measures of bilateral FDI. But the results of this survey are not expected to be available for a long time. In this paper we use balance of payments data collected by the United Nations Conference on Trade and Development (UNCTAD) from national sources. They have anomalies, and usually don't add up to reported national totals (for example, Malaysia).

These data show that IA's reliance on intraregional investment is high, similar to that of Europe (Figure 5). In terms of the two-way investment flows—inflows plus outflows—in 2003, 64% of IA's FDI flows were regional, with a similar share for Europe (75%). Both Japan and Hong Kong, China have Asia-focused FDI investment portfolios and are Asia's two largest investors. Each accounts for about one-third of regional outward investments (all other economies accounting for the remaining third), although Hong

Kong, China data may be subject to “round-tripping” with the People’s Republic of China (PRC). In general, the intraregional share of FDI in the flows of smaller groups (ASEAN, MERCOSUR) is not very pronounced.

In general, the FDI regional share coefficients seem to be rising, but the data are variable and the period too short to allow strong conclusions. Besides, the observed period includes the economic slowdown that began in 2000. Despite the data limitations, the principal findings we can draw from this analysis are as follows: (i) intraregional FDI in Asia is high, comparable to levels in North America and Europe; (ii) the intraregional share of FDI may be rising gently over time, in Asia as well as in other regions; (iii) and because Asia’s FDI patterns are dominated by a few large investors, they could change rapidly—for example, as the business environment makes it possible to eliminate round-tripping through Hong Kong, China, the PRC tends to become a more important investor.

Figure 5: FDI Inflows and Outflows, Intraregional Share



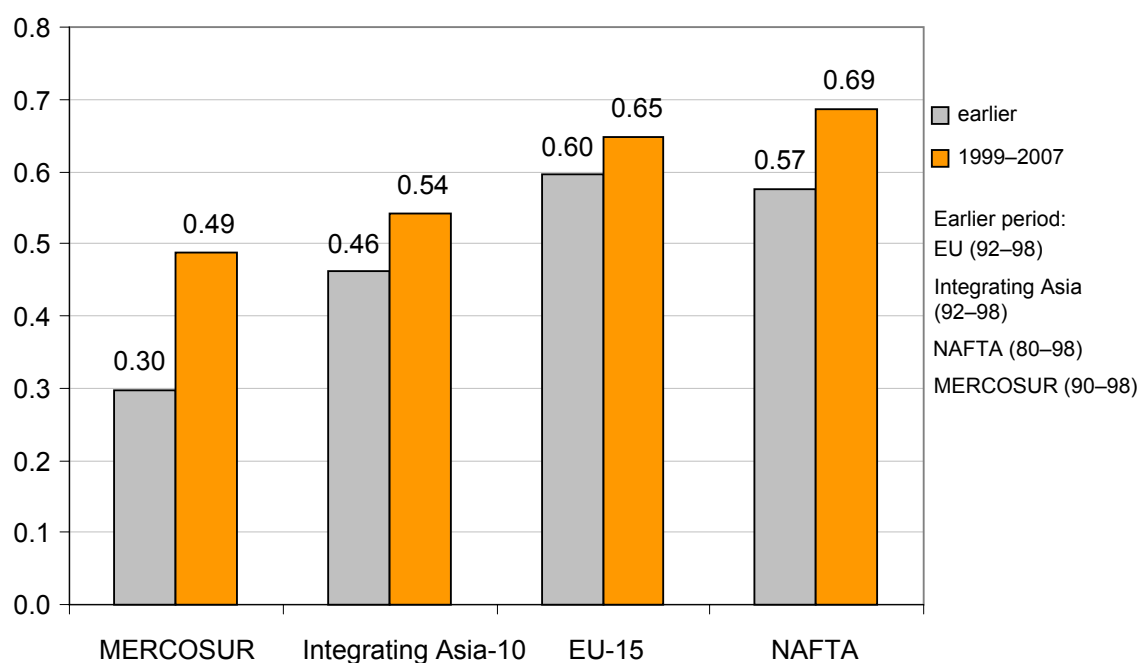
Authors' computations based on data sourced from United Nations Conference on Trade and Development, available: www.unctad.org
 EAS = East Asia Summit; IA-16 = Integrating Asia-16: for a definition see note to Figure 2.

2.3 Financial Integration

Two types of measure are often used to assess the extent of financial market integration: price indicators—to measure the degree to which the price of the same financials asset is equalized across countries—and quantity indicators to measure financial asset cross-border trade volume and holdings.

To have a closer look at price indicators of financial integration, we examine cross-country correlations of financial asset returns by constructing the degree of comovement of stock prices. When financial markets become more integrated we expect market movements of stock prices to become more closely associated with each other. Figure 6 shows the average of pairwise correlation coefficients of quarterly changes in stock price index in different regions. To calculate the correlation coefficients, we use quarterly data on stock exchange indexes, averaging daily data from Bloomberg⁵ and convert these indexes from national currencies into US dollars.

Figure 6: Pair-wise Equity Prices Correlations (Intraregional), Simple Average



Authors' computations based on data sourced from Bloomberg, available: www.bloomberg.com
 Integrating Asia-10 includes: People's Republic of China; Hong Kong, China; Japan; Republic of Korea; Malaysia; Indonesia; Philippines; Singapore; Taipei, China; and Thailand.

The results of this analysis show that the value of the correlation coefficients before and after the 1997/98 crisis increases considerably for all regions, especially for MERCOSUR.⁶ The average value of the equity prices correlation for IA economies, in particular, increases from 0.46 during 1992–1998 to 0.54 during 1999–2007. However, this result alone cannot be used as an indicator of increased financial integration, as the

⁵ Available: www.bloomberg.com

⁶ The differences across regions in the periods available before 1997 and the lack of data for some countries, may partially account for the different performances. For instance, of the 10 MERCOSUR countries data are available only for only six countries (Argentina, Brazil, Chile, Colombia, Peru, Venezuela), and data of the 16 integrating Asian economies are available only for 10 economies (People's Republic of China; Hong Kong, China; India; Indonesia; Japan; Republic of Korea; Malaysia; Philippines; Singapore; and Thailand).

stronger correlation among Asian stock exchange indexes may be due to an increased correlation between Asian indexes and indexes outside the region, which is simply reflected in the intraregional values. But as we observe that bilateral correlations between Asian stock indexes are generally higher than those with the US—before and after the 1997/98 financial crisis—and that bilateral correlations between Asian stock indexes have increased before and after the crisis in about 80% of cases, we conclude that Asian financial integration—as measured by price indicators—is growing.

Table 1 shows cross-border holdings of total international portfolio assets and liabilities in major world regions. The IMF Data are from the Coordinated Portfolio Investment Survey. In 2006, the share of financial assets (liabilities) held intraregionally by IA economies was a mere 9.6% (11.1%) in 2006. But for Integrating Asian economies excluding Japan, the intraregional share of assets (liabilities) increased to 25.3% (16.8%) in the same year.⁷ Although these ratios are not particularly high, especially when Japan is included in the analysis, it is interesting to observe that they have increased from 2001. In particular, the share of intra-regional assets (liabilities) within Integrating Asia was only 5.6% (10.1%) in 2001, or 15.0% (13.7% for liabilities) when Japan is excluded. We conclude, therefore, that intraregional financial integration in Asia as measured by quantity indicators is growing—although it is still quite low—especially when Japan is excluded from the region. An international comparison shows further that although IA is far from matching the financial integration of the EU—the ratio for intra-EU assets (liabilities) holdings was 61.7% (62.3%) in 2006—generally, the intraregional shares of international financial assets for Integrating Asia are higher in magnitude than those in Latin America and comparable to those in NAFTA.

⁷ The picture changes substantially depending on Japan's inclusion. Japan is by far not only the largest holder of financial assets and liabilities in Asia, but also its financial flows with the rest of the world have a strong bias in favor of non-Asian destinations, especially the US.

Table 1: Intra-regional Portfolio Investment (US\$ Billion)

Reporting region/ country	Assets invested in				Total Assets	Liabilities received from				Total Liabilities
	IA15 (IA-16 less Japan)	Japan	IA-16	US		IA15 (IA-16 less Japan)	Japan	IA-16	US	
2001										
IA-15 (IA-16 less Japan)	48.6	20.0	68.6	63.6	324.8	48.6	21.8	70.4	132.2	354.0
Share (%)	15.0	6.2	21.1	19.6	100.0	13.7	6.1	19.9	37.4	100.0
Japan	21.7	n.a.	21.7	490.2	1,289.8	20.0	n.a.	20.0	197.8	542.3
Share (%)	1.7	n.a.	1.7	38.0	100.0	3.7	n.a.	3.7	36.5	100.0
IA-16	70.3	20.0	90.3	553.8	1,614.6	68.6	21.8	90.4	330.1	896.3
Share (%)	4.4	1.2	5.6	34.3	100.0	7.7	2.4	10.1	36.8	100.0
2006										
IA15 (IA-16 less Japan)	237.9	28.2	266.6	136.8	941.9	238.4	50.7	289.1	516.9	1,415.5
Share (%)	25.3	3.0	28.3	14.5	100.0	16.8	3.6	20.4	36.5	100.0
Japan	50.6	n.a.	50.6	797.6	2,343.5	28.2	n.a.	28.2	585.6	1,434.9
Share (%)	2.2	n.a.	2.2	34.0	100.0	2.0	n.a.	2.0	40.8	100.0
IA-16	288.5	28.2	316.7	934.4	3,285.3	266.7	50.7	317.4	1,102.4	2,850.4
Share (%)	8.8	0.9	9.6	28.4	100.0	9.4	1.8	11.1	38.7	100.0

Memo Items (Intra-regional Shares, %)

Regions	Assets		Liabilities	
	2001	2006	2001	2006
Integrating Asia-16	5.6	9.6	10.1	11.1
IA15 (IA-16 less Japan)	15.0	25.3	13.7	16.8
ASEAN	11.0	10.4	11.8	9.4
ASEAN+3	3.1	3.7	5.9	4.3
East Asia Summit	5.7	7.2	9.1	6.9
EU-15	60.0	61.7	57.1	62.3
MERCOSUR	5.6	4.5	1.0	1.4
NAFTA	16.2	13.9	11.8	12.8

n.a. = not available. IA = Integrating Asia, US = United States. Integrating Asia-16 includes Brunei Darussalam; Cambodia; People's Republic of China; Hong Kong, China; India; Indonesia; Japan; Republic of Korea; Lao People's Democratic Republic; Malaysia; Myanmar; Philippines; Singapore; Taipei, China; Thailand; and Viet Nam. Authors' computations based on IMF 2007. Coordinated Portfolio Investment Survey. Available: www.imf.org/external/np/sta/pi/cpis/html

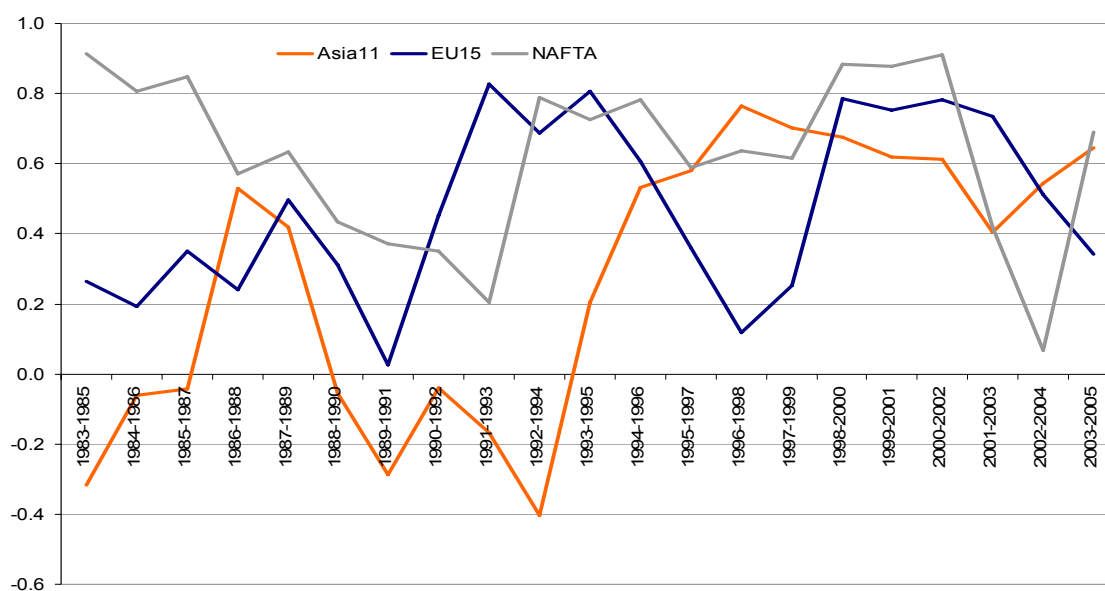
2.4 Output Correlation as a Measure of Macroeconomic Interdependence

As IA economies develop closer links in trade and finance, the importance of their markets as drivers of regional economic activity increases. Based on the findings shown in the previous sections, one would therefore expect the macroeconomic interdependence among Asian economies to have increased in recent years. Indeed, this is increasingly so as Asian economies have become more and more subject to similar shocks originating within and outside the region. The ADB (2008) *Emerging Asian Regionalism* (EAR) study provides enough evidence that intraregional trade among integrating Asian economies is mostly intra-industry (parts and components, or intermediate products in the same industry), suggesting that when industry-specific shocks hit the region, they will tend to propagate quickly across economies. Moreover, as integrating Asian economies remain largely dependent on exports (especially of final products) to outside regions, a demand shock from the US or Europe will tend to hit Asian economies in a similar way. Several studies suggest that business cycle synchronization greatly increased among Asian countries after the 1997/98 crisis (see ADB 2008, page 153).

In order to discuss the extent of deepening macroeconomic interdependence in Asia, Europe, and North America, we calculate the output correlation of IA, EU, and NAFTA for the period 1983–2005. The results are shown in Figure 7. Data are available only for 11 IA economies (People’s Republic of China; Hong Kong, China; India; Indonesia; Japan; Republic of Korea [Korea]; Malaysia; Philippines; Singapore; Taipei, China; and Thailand). We take the natural logarithm of quarterly GDP data in local currency from Oxford Economics⁸ and apply the Baxter-King method to derive the data cyclical component by filtering the data from short-term fluctuations and the long-term trend. We then conduct the correlation using a 12-quarter moving average using the filtered cyclical component of GDP and nominal GDP values of individual economies as weights. Based on data availability, we run the correlation from the first quarter (Q1) of 1983 until Q4 2005, as the Baxter-King filter drops the last 12 observations and we estimate the GDP values until Q4 2008 (at the time of writing, actual GDP data were available until Q2 2008).

⁸ See www.oef.com

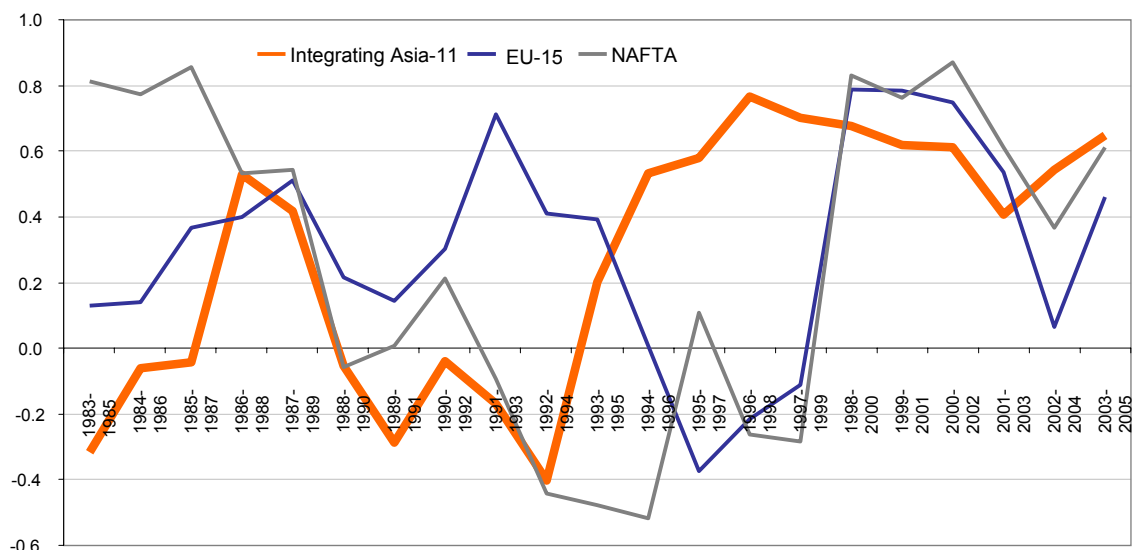
Figure 7: Output Correlation of Integrating Asia-11, EU-15, and NAFTA with Themselves



Authors' computations based on data sourced from Oxford Economics 2008. Forecasting and Analysis, available at: www.oef.com/OE_FA_IntMac.asp. Integrating Asia-11 includes: People's Republic of China; Hong Kong, China; India; Indonesia; Japan; Korea; Malaysia; Philippines; Singapore; Taipei, China; and Thailand.

The results of the output correlation exercise show that macroeconomic links among integrating Asian economies have increased considerably since the Asian financial crisis of 1997/98. Although the sharp increase shown in Figure 7 in the correlation at the end of the 1990s is largely due to the impact of the Asian financial crisis on the real economy, we also observe that the average correlation before and after the crisis has increased substantially. In the last decade, the degree of macroeconomic interdependence among integrating Asian economies is comparable with the EU and NAFTA.

As emphasized in ADB (2008), the correlation of Asian GDP with the EU and NAFTA has also increased in recent years, as Asian trade expanded with both European and North American countries that are Asia's major trading partners and Asian trade (Figure 8). We conclude therefore that Asian economies are becoming increasingly interdependent among themselves as well as with the EU and NAFTA.

Figure 8: Output Correlation of Integrating Asia-11 with:

Authors' computations based on data sourced from Oxford Economics 2008. Forecasting and Analysis, available at: www.oef.com/OE_FA_IntMac.asp. Integrating Asia-11 includes: People's Republic of China; Hong Kong, China; India; Indonesia; Japan; Korea; Malaysia; Philippines; Singapore; Taipei, China; and Thailand.

2.5 People-to-People Exchange

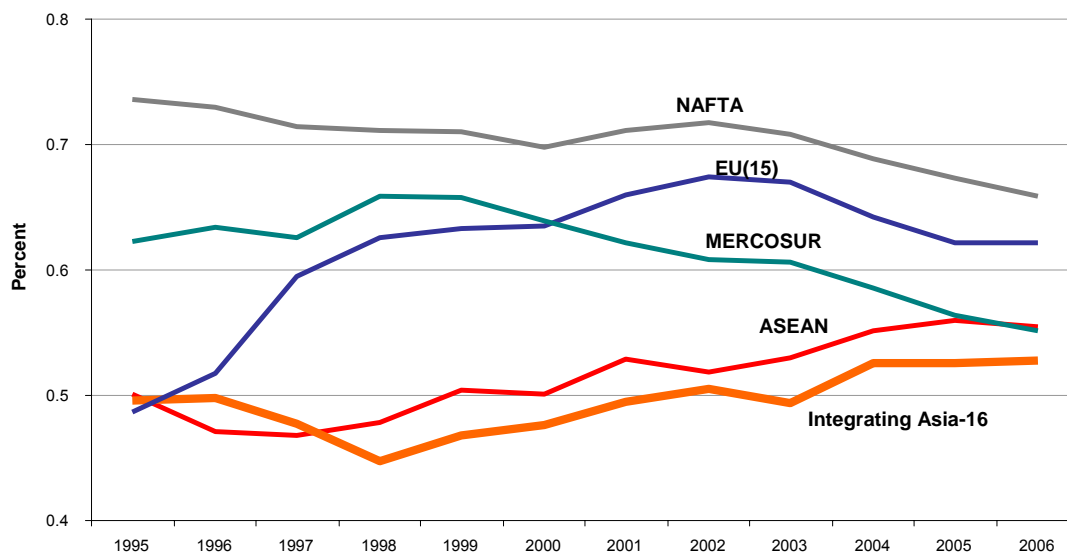
As production networks link Asia together, labor flows in the region increase together with the creation of new employment opportunities. Intraregional labor migration is induced by the expanding gaps in levels of economic development, incomes, population dynamics, skill imbalances, and policies designed to regulate the flow of people from suppliers to recipients of labor flows. Anecdotal evidence suggests that labor migration flows and, more generally, people-to-people exchange, have greatly increased among Asian economies in recent years (Chia 2006).

But it is difficult to gain a clear picture of the labor migration flows from and to Asian countries, and particularly within the region. There is no good data set quantifying labor flows across countries over the years in a consistent manner. Collecting information on intraregional flows is even more challenging. A recent study which gathers information for various national sources suggests that there may be some 15 million East Asian workers abroad and about 12 million foreign workers in East Asia (Hugo, 2008). Key exporters of labor are the Philippines, Indonesia, Myanmar, Thailand, and Viet Nam, while key recipients are Hong Kong, China; Japan; Singapore; and Malaysia.

Due to the lack of consistent and comparable information on labor migration, we construct a measure of intraregional flows of tourism (Figure 9), using data from the World Tourism Organization, as a proxy of a regional people-to-people exchange indicator. Several countries did not report data for 2006, and when possible, these holes were filled by extrapolating the 3-year growth of the flows from 2002-2006. Tourism

shares move slowly and have substantial intraregional bias. Thus, the share of intraregional arrivals ranges from around half of ASEAN inflows to three-quarters of NAFTA inflows.

Figure 9: Intraregional Shares of Tourism, Two-way Flows



Source: United Nations World Tourism Organization. Yearbook of Tourism Statistics (various years). Available: www.un.wto.org. For a definition of Integrating Asia-16, see note to Figure 2.

The data have been netted of Macao, China-Hong Kong, China-PRC flows (in other words, those tourism flows are treated as if they were movements of people inside the PRC). If those data are included, then the high visitor counts between PRC and Hong Kong, China—which often involve very short visits for commercial purposes—dominate Asian statistics and generate very high, yet biased intraregional tourism flows. To be sure, similar phenomena do occur in Europe and North America, but these are smaller relative to the overall tourism flows in those regions and therefore do not impact the results as extensively.

Variations among regions are not very pronounced: NAFTA and EU have two-way flow shares in the low 60% range, while Asian groups and MERCOSUR have shares in the mid 50% range. In recent years, however, the two-way tourism flow shares for NAFTA and EU have been falling while Asian shares have been rising—in other words, intraregional tourism flows are converging across regions, and they are likely to meet in another three or four years if extrapolated linearly.

2.6 Intraregional Income Gap

As economies within the same region become more integrated, the income gap between rich and poor economies tend to reduce. Many studies have shown how the income gap between European economies inside the EU has shrunk much faster than between those outside the EU. Empirical studies usually find that increased economic integration

and regional openness leads to an increased converge of income levels, as factors of production become more mobile. The capacity of regional groups' members to close the income gap faster than non-members has been a main reason for the new members of the EU to apply for membership.⁹

The rapid growth in regional integration occurred among Asian economies during the last two decades is reflected in a pronounced decline of the intraregional income gap, which happened at a much faster speed than in Europe and the Americas. Table 2 shows the evolution of total population, GDP, and GDP per capita of economies in Asia, Europe (EU-15) and the Americas (NAFTA and MERCOSUR). From these figures we calculate four different income indicators on intraregional income gap (Table 3). "Gap I" is the ratio between the highest and the lowest GDP per capita in each of the three regions (Asia, Europe, and the Americas), while "Gap II" shows the ratio between the largest GDP per capita in the region and the region's average. As the economies with the largest or smallest GDP per capita in each region are often "outliers" and may not necessarily serve as good proxies for the intraregional income distribution, we have calculated two more ratios to include the average of the 3 economies with the largest (smallest) GDP per capita in each region. "Gap III" measures the ratios between the 3 economies in each region with the highest and lowest GDP per capita in each region, while "Gap IV" is the ratio between the 3 economies with the highest GDP per capita and the region's average.

⁹ See Fisher, Sahay, Vegh (1988), Barbone and Zalduendo (1996), Dorrucchi, et. al (2002), and Vamvakidis (2008).

Table 2: Basic Economic Indicators by Regions and Countries, 1987, 1997, 2007

Regions/ Countries	1987			1997			2007		
	Population (million)	GDP (US\$ million)	GDP per capita PPP (US\$ current)	Population (million)	GDP (US\$ million)	GDP per capita PPP (US\$ current)	Population (million)	GDP (US\$ million)	GDP per capita PPP (US\$ current)
ASEAN	410.2	264,329	1,282	491.0	687,152	2,851	571.9	1,283,299	4,593
Brunei Darussalam *	0.2	2,754	34,481	0.3	5,197	40,929	0.4	12,284	50,199
Cambodia *	8.7	141.0	427	12.0	3,688	710	14.4	8,350	1,802
Indonesia	169.0	75,930	1,122	198.2	215,749	2,596	225.6	432,817	3,712
Lao People's Democratic Republic	3.7	1,087	607	4.9	1,747	1,103	5.9	4,108	2,165
Malaysia	16.6	32,182	3,589	21.7	100,169	8,701	26.5	186,719	13,518
Myanmar *	38.2	11,275	249	44.3	4,656	395	57.6	19,618	1,309
Philippines	57.0	33,196	1,448	71.6	82,344	2,176	87.9	144,062	3,406
Singapore	2.8	20,571	12,610	3.8	95,867	28,717	4.6	161,347	49,704
Thailand	52.3	50,535	1,971	58.8	150,891	5,094	63.8	245,351	8,135
Viet Nam	61.8	36,658	528	75.5	26,844	1,172	85.2	68,643	2,600
Plus Three	1,247.7	2,830,532	2,149	1,402.1	5,727,512	4,272	1,494.6	8,559,556	8,428
China, People's Republic of	1,084.0	270,372	620	1,230.1	952,653	1,836	1,318.3	3,205,507	5,383
Japan	122.1	2,420,154	14,450	126.1	4,258,576	24,277	127.8	4,384,255	33,632
Korea, Republic of	41.6	140,006	5,884	46.0	516,283	14,592	48.5	969,795	24,801
Other EAS	818.2	500,184	989	987.7	902,027	1,746	1,150.0	2,133,531	3,432
Australia	16.3	185,051	13,738	18.5	427,061	22,307	21.0	820,974	34,923
India	798.7	276,004	679	965.4	410,915	1,287	1,124.8	1,176,890	2,753
New Zealand	3.3	39,130	13,359	3.8	64,051	18,469	4.2	135,667	27,336

Table 2 continued

Regions/ Countries	1987			1997			2007		
	Population (million)	GDP (US\$ million)	GDP per capita PPP (US\$ current)	Population (million)	GDP (US\$ million)	GDP per capita PPP (US\$ current)	Population (million)	GDP (US\$ million)	GDP per capita PPP (US\$ current)
Other Integrating									
Asia	25.2	154,412	8,627	28.2	476,286	18,714	29.8	590,439	33,124
Hong Kong, China	5.6	50,467	13,594	6.5	176,312	24,823	6.9	207,169	42,306
Taipei, China	19.6	103,944.8	7,207	21.7	299,973.3	16,884	22.9	383,270	30,349
Memo Items									
ASEAN+3	1,658.0	3,094,861	1,934	1,893.1	6,414,664	3,904	2,066.5	9,842,855	7,378
EAS	2,476.2	3,595,045	1,622	2,880.8	7,316,691	3,164	3,216.6	11,976,386	5,963
IA-16	2,481.8	3,525,276	1,598	2,886.7	7,301,865	3,173	3,221.2	11,610,185	5,998
European Union 15	360.0	4,970,239	13,769	373.1	8,424,111	21,964	391.1	15,664,660	33,482
Austria	7.6	122,614	15,832	8.0	208,751	25,143	8.3	373,192	37,370
Belgium	9.9	147,473	15,189	10.2	249,418	23,837	10.6	452,754	34,935
Denmark	5.1	107,366	16,324	5.3	170,435	25,278	5.5	311,580	36,130
Finland	4.9	90,375	14,502	5.1	123,269	21,008	5.3	244,661	34,526
France	55.6	922,366	14,521	58.2	1,424,399	22,366	61.7	2,589,839	33,674
Germany	77.8	1,256,268	14,860	82.1	2,160,591	23,587	82.3	3,317,365	34,401
Greece	10.0	63,178	10,791	10.8	135,887	16,051	11.2	313,354	28,517
Ireland	3.5	32,915	9,563	3.7	81,248	21,716	4.4	259,018	44,613
Italy	56.6	776,294	14,417	56.9	1,192,326	22,594	59.4	2,101,637	30,353
Luxembourg	0.4	8,250	22,391	0.4	18,517	40,688	0.5	49,460	79,485
Netherlands	14.7	226,988	14,353	15.6	386,534	24,110	16.4	765,818	38,694
Portugal	10.0	46,077	8,071	10.1	111,948	14,449	10.6	222,758	22,765
Spain	38.6	309,487	10,541	39.6	572,638	17,706	44.9	1,436,891	31,560
Sweden	8.4	171,655	16,608	8.8	252,394	23,423	9.1	454,310	36,712

Table 2 continued

Regions/ Countries	1987			1997			2007		
	Population (million)	GDP (US\$ million)	GDP per capita PPP (US\$ current)	Population (million)	GDP (US\$ million)	GDP per capita PPP (US\$ current)	Population (million)	GDP (US\$ million)	GDP per capita PPP (US\$ current)
United Kingdom	56.8	688,934	13,430	58.3	1,335,758	22,050	61.0	2,772,024	35,130
NAFTA	347.4	5,263,894	15,959	396.6	9,289,917	24,495	439.9	16,104,101	37,322
Canada	26.6	421,530	16,990	30.0	637,537	24,416	33.0	1,329,885	35,812
Mexico	78.6	140,264	4,976	93.9	401,480	7,780	105.3	1,022,815	14,104
United States	242.3	4,702,100	19,407	272.7	8,250,900	30,261	301.6	13,751,400	45,592
Total MERCOSUR members	278.2	556,684	4,713	330.4	1,560,816	6,726	381.5	2,375,848	9,807
Argentina	31.2	111,106	5,741	35.7	292,859	9,024	39.5	262,451	13,238
Brazil	141.7	294,084	4,970	166.6	871,200	6,684	191.6	1,313,361	9,567
Paraguay	3.8	4,216.0	2,468	5.0	8,872	3,561	6.1	12,222	4,433
Uruguay	3.0	7,330	4,487	3.3	21,772	7,576	3.3	23,136	11,216
Venezuela **	18.4	45,344	6,466	23.0	85,837	8,744	27.5	228,071	12,156
Of which, associate members									
Bolivia	6.2	4,324	1,903	7.8	7,926	2,961	9.5	13,120	4,206
Chile	12.5	20,902	3,653	14.8	82,809	8,587	16.6	163,913	13,880
Colombia	31.3	36,373	3,620	37.9	106,671	5,752	46.1	207,786	8,587
Ecuador	9.6	9,099	3,404	11.8	23,647	4,921	13.3	44,490	7,449
Peru	20.4	23,905	4,025	24.6	59,223	4,764	27.9	107,297	7,836

Table 2 continued

ASEAN = Association of Southeast Asian Nations.

EAS = East Asia Summit.

MERCOSUR = Mercado Común del Sur.

NAFTA = North America Free Trade Agreement.

PPP = Purchasing Power Parity.

* The following data were sourced from IMF WEO Database (April 2009): 1) GDP in million US\$ for Brunei Darussalam in 2007; 2) GDP in million US\$ and current US\$ PPP for Cambodia in 2007; 3) GDP in million US\$ for Myanmar in 1987, 1997 and 2007; and 4) GDP in current international PPP for Myanmar in 2007.

** Venezuela signed a membership agreement in 2006, waiting for ratification by the Paraguayan and the Brazilian parliaments to become full MERCOSUR member.

Source: World Bank, 2007. World Development Indicators. Available: <http://ddp-ext.worldbank.org/ext/DDDPQQ/> (accessed April 2009); and International Monetary Fund. World Economic Outlook Database April 2009. Available: www.imf.org/external/pubs/ft/weo/2009/01/weodata/index.aspx (accessed April 2009).

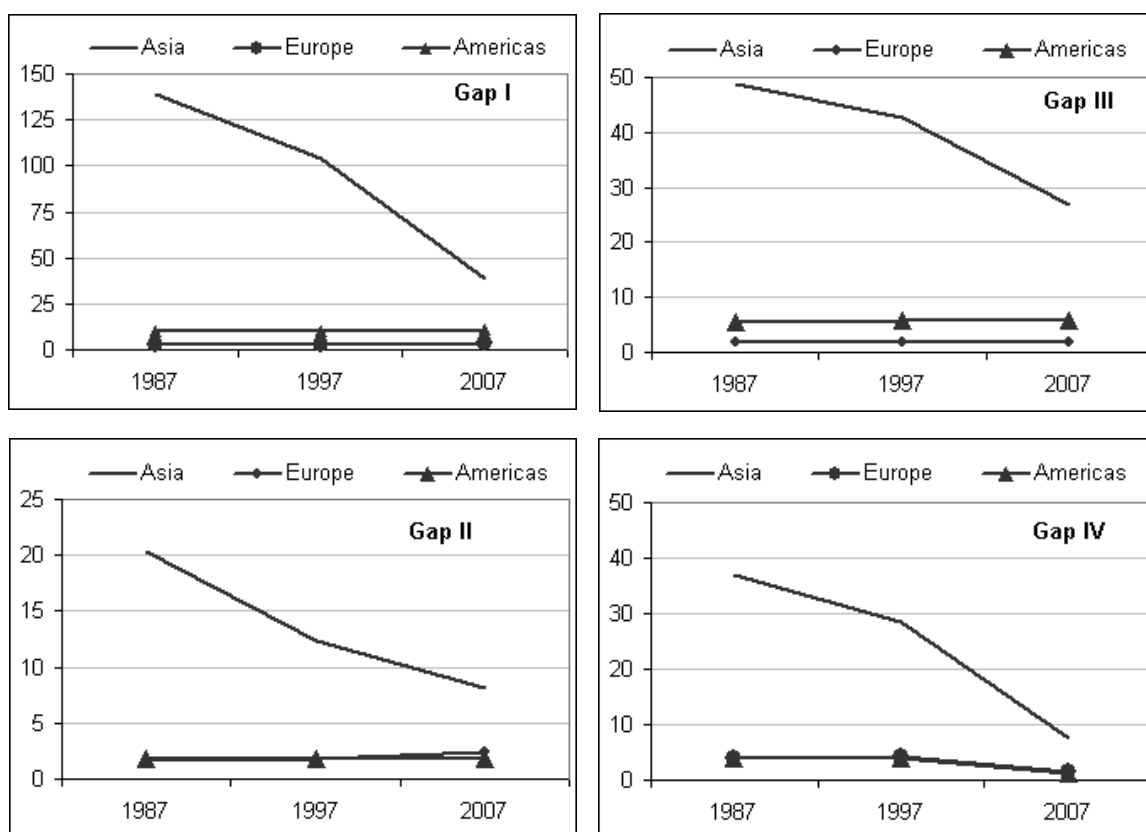
Table 3: GDP Per-capita Gaps Across World Regions

Indexes	1987				1997				2007			
	Asia	Europe	Americas	Asia	Europe	Americas	Asia	Europe	Americas	Asia	Europe	Americas
Gap I (highest/lowest)	138.6	2.8	10.2	103.7	2.8	10.2	38.4	3.5	10.8			
Gap II (highest/region's average)	20.4	1.6	1.8	12.3	1.9	1.8	8.1	2.4	1.9			
Gap III (average 3 highest/average 3 lowest)	48.8	2.0	5.5	42.8	1.9	5.6	27.0	1.9	5.9			
Gap IV (average 3 highest/region's average)	37.0	4.0	3.9	28.5	4.1	3.9	7.6	1.6	1.3			

Source: See Table 2.

The historical evolution of the intraregional income gaps in Asia, Europe, and the Americas during the last two decades is shown in Figure 10. While the order of magnitude across the four gaps (Gap I, II, III, and IV) varies substantially, the figures clearly shows how the income gap in Asia has been declining decreasing much faster in Asia than in Europe and the Americas. This trend supports the conclusion drawn so far by observing other indicators of economic integration, i.e. that during the last couple of decades Asia's integration has proceeded at a fast pace, which is generally higher than that observed in Europe and the Americas.

Figure 10: Declining Intraregional Income Gap in Asia



3. Indicators of Regional Policy Cooperation

Against the background of intensifying regional relationships, regional intergovernmental cooperation efforts have substantially intensified. The form of this cooperation has varied across and even within world regions, ranging from formal agreements designed to lead the integration process, to informal measures to manage the consequences of integration. It has involved increasingly frequent consultations on regional issues, ranging across all levels of government. Today, most regional heads of state have multiple, scheduled opportunities to meet each year, and their ministers and national

agencies' executives meet frequently in various forums. In Asia, these forums range from independent regional organizations such as the Executives' Meetings of East Asia-Pacific Central Banks (EMEAP), to those conducted in the framework of regional organizations such as ASEAN, ASEAN+3, Asia-Europe Meeting (ASEM), or Asia-Pacific Economic Cooperation (APEC), and even regional forums organized by global institutions such as United Nations (UN) agencies and the Bank for International Settlements (BIS).

Alongside intensifying regional consultations, formal methods of cooperation have also deepened. This has been true in many areas of governance. In finance it has ranged from the unprecedented currency union established in Europe, to more limited measures such as the liquidity assistance facilities set up by the Chiang Mai Initiative and new initiatives to establish a Bank of the South in Latin America. Regional organizations have also emerged to discuss and develop standards for products, environmental issues, education, and many other areas of economic activity. And importantly, a wide range of initiatives has been launched to liberalize trade and investment on a regional or bilateral basis.

Just as the range of policy cooperation initiatives is wide, so is the range of measures to track its progress. In this section, we focus on a single, formal index of regional cooperation, and complement it with a broader, qualitative discussion of the progress of cooperation specifically in the Asian region. The formal measure is based on free trade agreements (FTA) that have been notified to the World Trade Organization (WTO). Such agreements now exist in all major regions of the world, and indeed are approaching full coverage of each regional economy. The qualitative discussion reviews the status and function of the many cooperative mechanisms that have emerged in Asia in recent years.

3.1 Trade Agreements

Table 4 shows a summary of FTA initiatives involving at least one of the 16 IA economies, being proposed, negotiated, or already concluded. As of 30 June 2008, the 16 IA economies had concluded 48 FTAs, while the number of FTAs under negotiation or proposed involving these economies was 47 and 42 respectively. Of these 137 FTAs, only 30 (or about 20%) concerned negotiating bodies (either individual economies or groups) located within the IA region, while 104 involved at least one negotiating body located outside IA.

Table 4: Integrating Asia's Free Trade Agreements (FTA) (as of 30 June 2008)

Negotiating Body	Concluded	Under Negotiation	Proposed	Total	inside IA	outside IA
ASEAN	3	3	0	6	4	2
Brunei Darussalam	3	0	4	7	3	4
Cambodia	1	0	2	3	2	1
China, People's Rep. of	8	5	10	23	8	15
Hong Kong, China	1	1	0	2	1	1
India	9	10	12	31	8	23
Indonesia	3	1	6	10	4	6
Japan	8	7	4	19	12	7
Korea, Republic of	6	5	11	22	9	13
Lao PDR	3	0	2	5	3	2
Malaysia	4	5	4	13	5	8
Myanmar	1	1	2	4	2	2
Philippines	2	0	4	6	3	3
Singapore	12	9	5	26	6	20
Taipei, China	4	2	1	7	0	7
Thailand	6	6	6	18	7	11
Viet Nam	1	2	2	5	3	2
TOTAL (*)	48	47	42	137	30	107

(*) The total avoids double-counting and does not correspond to the vertical sum of FTA by status.

Concluded = Signed and/or under implementation.

Under negotiation = Under negotiation with or without a signed framework agreement.

Proposed = Involved parties are considering creating an agreement, establishing joint study-groups or joint taskforces and/or conducting feasibility studies for an agreement.

Data sourced from Asia Regional Integration Centre, 2008. Available: www.aric.adb.org

A formal index of trade policy cooperation can be developed by constructing a "Trade Agreements Matrix" (TRAM) similar to a bilateral trade matrix, that is, a matrix with cells that indicate whether or not there is an FTA in effect between the economies identified in the corresponding rows and columns. A summary indicator can then be calculated as the percentage of all possible bilateral cells covered by an FTA:

$$T_G = \sum_i \sum_j n_{ij} / N(N-1) \text{ for } i, j \in G \quad (3)$$

where

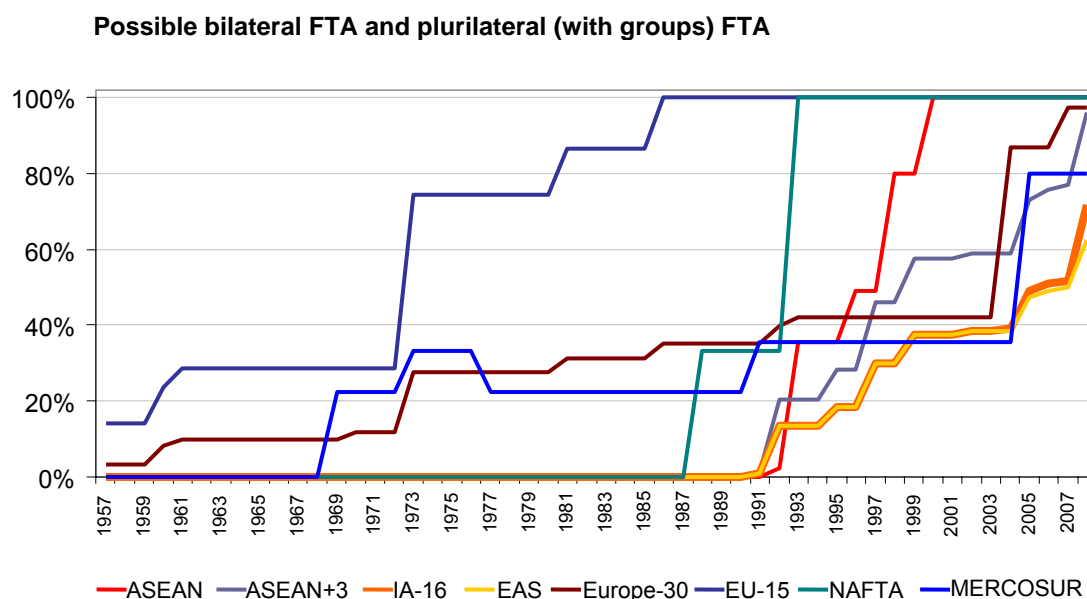
T_G denotes the trade agreement index for group G

n_{ij} is equal to 1 if i and j have an FTA and zero otherwise

N is the number of countries in G

The index reaches 100% when all economies in G are covered by a regional FTA or have all possible bilateral agreements among them. Using information available at the WTO on the number of agreements that have been notified by the various negotiating bodies, we construct the index shown in Figure 11. The index shows that EU-15 achieved 100% in 1986¹⁰, NAFTA in 1993, and ASEAN in 2000. MERCOSUR (Venezuela) and the various “ASEAN-plus” arrangements are not yet there.

Figure 11: FTA Density Indicator



Authors' computations based on data sourced from the World Trade Organization (www.wto.org) and Asian Regional Integration Center (www.aric.adb.org) IA-16 = Integrating Asia-16: for a definition see note to Figure 2.

These calculations encompass both bilateral FTAs linking two countries (negotiating bodies) and FTAs that link two countries (negotiating bodies) as part of a larger, plurilateral agreement. Even if these two types of FTAs were otherwise equivalent, their economic effects could still differ due to “rules of origin” (ROOs) that are normally written into FTAs to limit trade concessions to products primarily produced within signatory countries. Thus, a country may have bilateral FTAs, say, with both the PRC and the Republic of Korea, but a product produced by the two together may not qualify for FTA treatment under either bilateral agreement. In technical terms, the value-added of partners in different FTAs does not usually cumulate in determining whether the product originates within either FTA. By contrast, a plurilateral agreement usually allows “cumulation”. Were it not for this difference, a TRAM matrix filled with bilateral agreements would be equivalent to a plurilateral regional FTA.

¹⁰ It should be noted that the index for Europe-30, which includes the current 27 EU member countries plus Iceland, Norway, and Switzerland, hasn't reached unity yet, although it is very close to it (97%).

As noted above, the TRAM matrix on which these calculations are based was developed primarily on the basis of WTO data on agreements that have been notified to the WTO, and an FTA is entered in the matrix based on the date on which it took effect. One exception to this general rule is that FTAs concluded in 2008 were also included in the matrix, based on recent information from the ADB's Asia Regional Integration Center FTA database. Not all of these agreements had taken effect as of 2008, and in some cases they have not even been ratified by all signatory countries.

IA-16 has a high level of trade policy cooperation by this measure, comparable to that of the EU-15 in the early 1980s. ASEAN, which is at the core of Asian cooperation efforts, completed its FTA internal agreements in 2000, and it is in the process of deepening them through a blueprint designed to create an ASEAN Community by 2015. ASEAN has now also established FTAs with PRC, India, Japan, and Korea, and so the IA TRAM is now full, except for agreements among the latter four countries.

Figure 10 clearly indicates the sequential pattern of trade and investment cooperation across world regions. Europe was followed by South America, then by North America, then by Asia. It also shows that South American trade policy cooperation proceeded more slowly than other initiatives, once it was underway. Initially, South American agreements moved along two separate tracks, with an FTA among the north Andean countries, and an FTA among the MERCOSUR countries. In 2004 these tracks were merged to establish a single South American group, which is now nearly complete pending the admission of Venezuela into MERCOSUR.

Trade policy cooperation in Asia, though it began later, has moved more rapidly than in Europe and the Americas. But the FTA agreements concluded in Asia are often not as deep or wide-ranging in their initial coverage as agreements have tended to be in Europe and the Americas. One reason for this is that Asian agreements typically envision multiple rounds of negotiations, and thus have a built-in mechanism for generating improvements over time. Agreements elsewhere tend to be larger and deeper, but are less frequently reopened and improved, either with respect to new partners or sector coverage.

3.2 Regional Policy Forums

Trade agreements are only part of the complex fabric of regional cooperation. For example, the ADB (2008) study identifies 14 major groups that now help to manage varied requirements of cooperation among the 16 IA economies. The first of these organizations—ASEAN—came into existence in 1967, and seven more were started in the following 30 years. Since the 1997/98 crisis, six more have been established, nearly doubling the forums available for regional economic cooperation. In addition, several existing groups (especially ASEAN) have been substantially strengthened over the years.

As the number of organizations facilitating cooperation has increased, so has the range of their activities. In addition to the general regional groupings, specialized institutions have emerged to address financial issues, including three with somewhat overlapping memberships to facilitate dialogue among central bank officials. The forums differ substantially in scale, from the expansive 28-member Asia Cooperation Dialogue to the

Brunei Darussalam-Indonesia-Malaysia-Philippines-East-ASEAN Growth Area (BIMP-EAGA), for example, which comprises only some provinces of its member countries.

A summary of the different areas in which the groups cooperate is provided in Table 5. It is interesting to note that the functions vary systematically with the scale of different groupings. Large forums tend to concentrate on national and international issues, including major trends in the region's political and economic relations, finance, and trade, while the smaller ones have more focused agendas dealing with issues such as transport, energy, environment and agriculture. There is, nevertheless, considerable functional overlap among them—for example, nearly every forum deals with trade. It is, however, reasonable to suspect that real overlap is more limited, in that groups concentrate their activities on narrower initiatives than the formal announcements suggest. And while duplication and competition among groups could be wasteful, it also provides incentive for groups to compete in the services they offer—that is, to be proactive and efficient in finding approaches that benefit their members.

Potentially more important than the scope of cooperation is its intensity—the degree to which cooperation leads to better outcomes. Table 6 summarizes various types of regional cooperation groups in the area of financial and macroeconomic cooperation in Asia, which typically involves information exchange and policy dialogue. But cooperation built on binding or contractual frameworks is still lacking. Ultimately, strengthening regional policy cooperation in Asia will require nurturing stronger regional institutions.

Table 5: Major Economic Cooperation Groups in Asia and the Pacific

Name, Year Established	Membership	Areas of focus	Major initiatives
Asia Cooperation Dialogue (ACD 2002)	Bahrain, Bangladesh, Brunei Darussalam, Cambodia, People's Republic of China, India, Indonesia, Iran, Japan, Kazakhstan, Republic of Korea, Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, Oman, Pakistan, Philippines, Qatar, Russia, Saudi Arabia, Singapore, Sri Lanka, Tajikistan, Thailand, United Arab Emirates, Uzbekistan, Viet Nam.	<ul style="list-style-type: none"> • Technology. • Tourism • Trade and Investment • Money and Finance • Energy • Health and Education • Politics • Agriculture 	<ul style="list-style-type: none"> • Annual Ministerial meetings • Projects in 19 areas involving cooperation between various members • Think Tank (symposium and network) to support ACD projects
Asia Pacific Economic Cooperation (APEC 1989)	Australia; Brunei Darussalam; Canada; Chile; Hong Kong, China; Indonesia; Japan; Malaysia; Mexico; New Zealand; Papua New Guinea; People's Republic of China; Peru; Philippines; Republic of Korea; Russia; Singapore; Taipei, China; Thailand; United States; Viet Nam.	<ul style="list-style-type: none"> • Business Facilitation • Economic and technical cooperation • Trade and investment liberalization 	<ul style="list-style-type: none"> • Bogor Goals of "free and open trade and investment" • Early Voluntary Sectoral Liberalization • APEC Business Travel Card • Best Practices for RTAs and FTAs, • Declaration on Climate Change, Energy Security and Clean Development
Asia-Europe Meeting (ASEM 1996)	ASEAN members, ASEAN Secretariat, European Union members, European Commission, India, Japan, Mongolia, Pakistan, People's Republic of China, Republic of Korea.	<ul style="list-style-type: none"> • Cultural and intellectual issues • Financial and social reform • Political issues • Trade and investment barriers 	<ul style="list-style-type: none"> • Asia-Europe Cooperation Framework • Asia-Europe Foundation • Trans-Eurasian Information Network
Association of Southeast Asian Nations (ASEAN 1967)	Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Thailand, Singapore, Viet Nam.	<ul style="list-style-type: none"> • Economic Cooperation • Trade and Investment • Regional Security • Socio-Cultural exchange 	<ul style="list-style-type: none"> • Security Community • Regional Security Forum • Free Trade Area • Economic Community
ASEAN plus Three (ASEAN+3, 1997)	ASEAN members, Japan, People's Republic of China, Republic of Korea.	<ul style="list-style-type: none"> • Finance • Macroeconomics 	<ul style="list-style-type: none"> • Finance Economic Review and Policy Dialogue • Chiang-Mai Initiative

Table 5 continued

Name, Year Established	Membership	Areas of focus	Major initiatives
Brunei Darussalam-Indonesia-Malaysia-Philippines East ASEAN Growth Area (BIMP-EAGA 1994)	Brunei Darussalam, provinces of Indonesia, Malaysia, and the Philippines.	<ul style="list-style-type: none"> • Agro-industry • Environment • Tourism • Transportation 	<ul style="list-style-type: none"> • Asian Bond Markets Initiative • Research Group • Roadmap to Development (2006-2010) • Agreements on air transport, other transportation, trade facilitation and tourism
Central Asia Regional Economic Cooperation (CAREC 1997)	Afghanistan, Azerbaijan, provinces of the People's Republic of China, Kazakhstan, Kyrgyz Republic, Mongolia, Tajikistan, Uzbekistan.	<ul style="list-style-type: none"> • Energy • Trade facilitation • Trade policy • Transport 	<ul style="list-style-type: none"> • Comprehensive Action Plan (CAP, 2006) • Transport and Trade Facilitation Strategy • CAREC Institute
East Asia Summit (EAS 2005)	ASEAN members, Australia, India, Japan, New Zealand, People's Republic of China, Republic of Korea.	<ul style="list-style-type: none"> • Economic community • Energy and Environment • Trade and Finance 	<ul style="list-style-type: none"> • Declaration on Climate Change, Energy and the Environment • Declaration on East Asian Energy Security
Greater Mekong Subregion (GMS 1992)	Cambodia, Lao PDR, Myanmar, Thailand, Viet Nam, and two Chinese provinces.	<ul style="list-style-type: none"> • Agriculture • Environment • Human resource development • Tourism • Trade and investment • Transport, energy, telecommunications 	<ul style="list-style-type: none"> • East West Economic Corridor • Ten Year Strategic Framework

Table 5 continued

Name, Year Established	Membership	Areas of focus	Major initiatives
Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT 1993)	Provinces in Indonesia, Malaysia and Thailand.	<ul style="list-style-type: none"> • Agriculture and fisheries • Environment • Human resources development • Tourism • Trade and investment • Infrastructure 	<ul style="list-style-type: none"> • IMT-GT Roadmap to promote trade and investments, agriculture, agro-industry, tourism, infrastructure, human resource development, mobility of labor, natural resource management • Joint Tourism Promotion
Pacific Islands Forum (PIF 1974)	Australia, Cook Islands, Micronesia, Fiji, Kiribati, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu.	<ul style="list-style-type: none"> • Energy • Information and Communications Technology • Transport 	<ul style="list-style-type: none"> • Pacific Agreement on Closer Economic Relations • Pacific Aviation and Safety Office • Pacific Island Countries Trade Agreement
Shanghai Cooperation Organization (SCO 2001)	People's Republic of China, Kazakhstan, Kyrgyz Republic, Russian Federation, Tajikistan, Uzbekistan.	<ul style="list-style-type: none"> • Political issues • Culture and education • Energy and transportation • Environment protection • Science and technology • Trade and economy 	<ul style="list-style-type: none"> • Action plan on implementation of the program for multilateral trade and economic cooperation • Regional antiterrorist structure • SCO Business council and inter-bank consortium
South Asian Association for Regional Cooperation (SAARC 1985)	Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka.	<ul style="list-style-type: none"> • Agriculture and rural development • Environment and forestry • Health and population • Human resources development • Science, technology and meteorology • Transport Women, youth and children 	<ul style="list-style-type: none"> • SAARC Development Fund • South Asian Free Trade Area

Source: Asian Development Bank (2008, page 256).

Table 6: Emerging Monetary and Financial Cooperation in Asia

Finance	Finance ministry-led cooperation				Central bank-led cooperation				Others	
	APEC	ASEAN	ASEAN+3	ASEM	EMEAP	SEACEN	SEANZA	ACD	EAS	
Forum	1989	1967	1999	1996	1991	1966	1956	2002	2005	
Year established	21	10	13	45	11	16	20	28	16	
Number of members	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Policy dialogue/ information exchange										
Surveillance/peer review		✓	✓	✓	✓	✓	✓	✓	✓	
Regional financing arrangements		✓	✓	✓	✓	✓	✓	✓	✓	
Regional capital-market development	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Capacity building	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Research	✓	✓	✓	✓	✓	✓	✓	✓	✓	

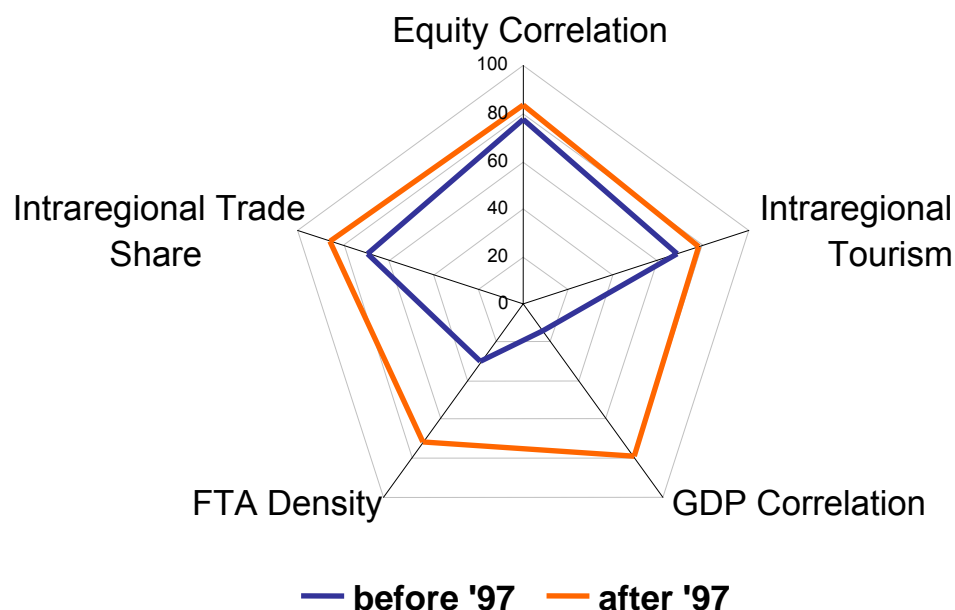
ACD = Asian Cooperation Dialogue (includes Bahrain, Bangladesh, Brunei Darussalam, Cambodia, People's Republic of China, India, Indonesia, Iran, Japan, Kazakhstan, Republic of Korea, Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, Oman, Pakistan, Philippines, Qatar, Russian Federation, Saudi Arabia, Singapore, Sri Lanka, Tajikistan, Thailand, United Arab Emirates, Uzbekistan, Viet Nam); APEC = Asia-Pacific Economic Cooperation (includes Australia, Brunei Darussalam; Canada; Chile; People's Republic of China; Hong Kong, China; Indonesia; Japan; Republic of Korea; Malaysia; Mexico; New Zealand; Papua New Guinea; Peru; Philippines; Russian Federation; Singapore; Taipei, China; Thailand; United States; Viet Nam); ASEAN = Association of Southeast Asian Nations (includes Brunei Darussalam, Cambodia, Lao People's Democratic Republic, Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam); ASEAN+3 = ASEAN countries plus People's Republic of China, Japan, Republic of Korea; ASEM = Asia-Europe Meeting (includes ASEAN+3 countries, ASEAN Secretariat, India, Mongolia, Pakistan, 27 European Union member countries, the European Commission); EAS = East Asia Summit (includes ASEAN+3 countries plus Australia, India, New Zealand); EMEAP = Executives Meetings of East Asia-Pacific Central Banks (includes the Reserve Bank of Australia, People's Bank of China, Hong Kong Monetary Authority, Bank Indonesia, Bank of Japan, Bank of Korea, Bank Negara Malaysia, Reserve Bank of New Zealand, Banko Sentral ng Pilipinas, Monetary Authority of Singapore, Bank of Thailand); SEACEN = South East Asian Central Banks (includes the Ministry of Finance, Brunei Darussalam; National Bank of Cambodia; Reserve Bank of Fiji; Bank Indonesia; Bank of Korea; Bank Negara Malaysia; Bank of Mongolia; Central Bank of Myanmar; Nepal Rastra Bank; Bank of Papua New Guinea; Banko Sentral ng Pilipinas; Monetary Authority of Singapore; Bank of Sri Lanka; Central Bank of the Republic of China-Taipei, China; Bank of Thailand; State Bank of Viet Nam); SEANZA = South East Asia New Zealand and Australia (includes the Reserve Bank of Australia, Bangladesh Bank, People's Bank of China, Hong Kong Monetary Authority, Reserve Bank of India, Bank Indonesia, Central Bank of Iran, Bank of Japan, Bank of Korea, Monetary Authority of Macao, Bank Negara Malaysia, Bank of Mongolia, Nepal Rastra Bank, Reserve Bank of New Zealand, State Bank of Pakistan, Bank of Papua New Guinea, Banko Sentral ng Pilipinas, Monetary Authority of Singapore, Central Bank of Sri Lanka, Bank of Thailand).

Source: Based on Yap, 2007, Table 3.2, p.30, with modifications.

4. Summary of Indicators of Asian Regionalism

To assess the extent of Asian regionalism and its evolution over the last few decades, we draw from the data and results discussed in the previous sections to compare the values of selected market integration and regional cooperation indicators for IA with those of the EU and observe how these indicators have evolved over time, before and after the 1997/98 Asian financial crisis. Figure 12 shows the result of this comparison, where the value of the indicators for IA is expressed in percent of EU values.

Figure 12: Regionalism Indicators (IA as a % of EU)



Authors' calculations based on data shown in Figures 3, 6, 7, 9, and 10.
The number of economies included in Integrating Asia varies according to data availability.

The figure reveals some striking characteristics of Asian integration: first, IA is quickly approaching EU benchmarks, and second, it is doing so across a wide range of indicators, which all have more or less reached 80% of levels in the EU. In this exercise we use the intraregional trade share as a proxy of production integration; the correlation among the region's stock price indexes as a proxy of financial integration, the correlation among quarterly GDP growth rates to observe the extent of macroeconomic interdependence; the intraregional share of the two-way flow of tourism as a proxy of people-to-people interactions, and the index of FTA density as an indicator of intergovernmental policy cooperation.

Several points should be noted. To start with, the assessment of the degree of regional integration and cooperation can depend critically on the choice of indicators. For

example, the degree of integration of Asian financial markets is quite high, comparable to that of European markets, when it is measured by equity price correlation. But using a quantity measure of intraregional financial asset holdings, the degree of financial integration in Asia turns out to be much lower than that of Europe. The structures and efficiency of financial markets also differ substantially between the two regions. It is therefore difficult to reach a clear conclusion on the gap between Asia and Europe in terms of financial integration. The intraregional share of the two-way flow of tourism is used for a proxy of people-to-people interactions, but it doesn't measure the degree of labor market integration, which would be of greater interest for economic policy discussions. The extent of regional integration in labor markets in Asia is lower than that of Europe. In Asia, the degree of integration in financial and labor markets falls behind that of trade and investment.

Of course, these comparisons should not be viewed as suggesting that Asia is following a European path to economic integration. Indeed, as the next section will show, Asia is much less homogeneous than Europe. This can help to explain why Asia has developed its own distinct path toward economic regionalism and why intergovernmental cooperation is evolving more slowly in Asia than it did in Europe.

5. Toward Greater Cooperation in Asia: Similarity Measures

As Section 2 made it clear, Asian economies, especially the 16 economies that have been integrating more closely during the last decade, are increasingly interconnected through markets. The indicators introduced above show that the degree of regional integration in trade, direct investment, financial markets, and other forms of economic and social interactions have increased over time. Notably, some forms of economic interdependence—particularly trade and production networks—are deeper in Asia today than they were in Europe in the early stages of European regionalism in the 1960s or 1970s.

But Asia falls far behind Europe in the extent of intergovernmental cooperation. Over the last decade, there have been various new initiatives of intergovernmental cooperation attempting to foster market-led integration and to create regional public goods aimed at increasing macroeconomic and financial stability. Regional policy dialogue at all levels has greatly deepened. But, as shown in Section 3, Asia's official cooperation is still weak and formal regional institutions remain relatively underdeveloped.

Can Asian regionalism move forward? Deeper integration necessitates further official cooperation in the region. The case for greater intergovernmental cooperation in Asia is compelling (ADB, 2008, Chapter 7). The integration of Asia's production networks and the proliferation of FTAs beg for further cooperation in trade policy. Enhanced intergovernmental dialogue is needed to further strengthen regional financial monitoring, supervision of financial institutions, and ultimately increase regional resilience against future financial crises. Macroeconomic policy cooperation is also needed to manage increasing macroeconomic interdependence more effectively. The region also needs mechanisms to manage regional public goods in areas such as health, environment, and safety.

Ultimately, intensified cooperation requires stronger regional institutions. Because Asian regionalism is “institution-lite”, the creation of some new mechanisms and institutions would help intensify cooperation in the region. For example, creating an *Asian Secretariat for Economic Cooperation* that addresses macroeconomic and financial issues and develops effective mechanisms to respond to shocks and crises in global and regional markets could provide adequate professional expertise to facilitate a deeper and more formal cooperation among the region’s central banks, finance ministries, and other agencies as well (ADB 2008).

Building consensus among Asian economies, especially the larger and more powerful ones, remains a major challenge. Asian economies share many common objectives, but they also have different priorities. Differences are often amplified by history, culture, and politics. To a certain extent, regional cooperation requires the sacrifice of national authority to regional institutions. Participation in an extreme form of monetary policy cooperation—such as a common currency, for example—implies that member countries delegate their monetary policy to an anchor country’s central bank or a new regional central bank. The benefit would be in the higher gains that member countries receive from shared regional sovereignty.

Developing a more formal institutional framework is a process involving not only economic decisions, but also critical political decisions by participating countries. Indeed, negotiations to form new regional institutions necessitate political, ideological, and social affinity among members. If countries have similar ideological preferences over economic policy objectives as well as political and cultural values, they will likely be more willing to accept neighbors’ policies and to cooperate with each other.

It is the political, cultural, and social differences between Asian countries that are often seen as the ultimate barrier hindering the process of cooperation and integration. The experience of the EU over the past half century demonstrates that regional integration encompasses political, social, and cultural factors that are fundamental in building bridges across diverse societies. Social and cultural proximity among European countries with common political goals has undoubtedly facilitated closer cooperation and institutional development.

5.1 Similarity of Political Interests

There is no perfect measure of the degree of political similarity between nations. There are attempts to measure the similarity of state preferences/interests among two states (dyads) based on the extent to which they have common foreign policy interests. Since the pioneering work of Bueno de Mesquita (1975), the similarity of states’ alliance policies is used as a common measure. However, data on states’ formal security-alliance may not always provide enough information to gauge accurately the similarity of states’ common political interests. A number of different data sources such as UN votes, diplomatic missions, and disputes are also suggested to measure states’ policy positions in common.

We use data on voting at the UN to construct the measure of political proximity between two countries. This is based on the fraction of the votes that they cast on the same side

in the UN General Assembly.¹¹ In doing so, we assume that when the UN voting pattern of nations is more alike, their political interests are more similar.

Our measure of similarity is the ‘S’ index or the ‘affinity of nations’ index (Signorino and Ritter 1999). When state i 's and j 's UN vote portfolio are P_i and P_j , respectively, the similarity index S is defined by

$$S(P_i, P_j) = 1 - 2d(P_i, P_j) / d^{\max} \quad (4)$$

where

$d(P_i, P_j)$ is the sum of metric distance between votes by dyad members; and

d^{\max} is the maximum possible distance for those votes.¹²

The similarity index ranges between -1 (most dissimilar) and 1 (most similar).

5.2 Similarity of Political Institutions

Political factors that affect the process of negotiation and cooperation include the characteristics of political institutions such as democracy. A nation with a fully institutionalized democracy would have difficulty fully engaging with a hereditary monarchy. We assume that the more similar the characteristics of political regimes among two states, the more likely it will be for the authorities to agree on the process and form of cooperative arrangements among them.¹³ For measurement, we use the ‘S’ index for political regimes, which takes values in the interval [-1,+1], and measures the average distance between two states’ political regimes. The raw data used in this analysis is from the Polity IV database,¹⁴ which assesses the characteristics of countries’ regime authority, ranging from full autocracy (-10), to full democracy (+10).

¹¹ We use data on UN roll-call votes on resolution in the United Nations General Assembly collected by Erik Voeten (www9.georgetown.edu/faculty/ev42/UNvoting.htm). Alesina and Dollar (2000) and Barro and Lee (2005) used the UN voting data to investigate the influence of the US and major power countries on foreign-aid and IMF lending decisions.

¹² We adopt the countries’ votes absolute distance matrix, which is commonly used:

$$d(x_i, x_j) = \sum_1^N |x_i - y_j|$$

The votes are coded as 1 for “yes” or approval for an issue, 2 for “abstain” and 3 for “no” or disapproval for an issue.

¹³ One can argue that states with high levels of democratic political institutions would find it easier to agree on benefits of cooperation and the processes of joint decision-making. However, the democratic process necessitates more discussion and majority support from the public and the legislature in making major decisions such as joining a new regional institution. Even autocratic regimes can have a stronger collaboration (for example, the former Soviet bloc and the PRC-North Korea alliance). It seems that more important to coordination and cooperation is not the level of democracy of states but the similarity of their political regimes.

¹⁴ The Polity IV Project (Political Regime Characteristics and Transitions, 1800–2004), under the direction of Monty G. Marshall at George Mason University, carries data and analysis through 2006 (www.cidcm.umd.edu/polity/data/).

5.3 Similarity of Religion

People would cooperate more easily and intensively with friends than with strangers. Familiarity with the culture and social values of neighbors or sharing the same culture and values can play an important role in fostering regional cooperation. Cultural and religious dissimilarities are often argued to lead to interstate conflict. Some authors believe that since the end of the Cold War, conflicts between different civilizations have been increasing.¹⁵

We construct a measure of religious similarity to assess the extent to which two countries share similar cultural values and religious beliefs. We use a measure of religious similarity between dyads based on four major world religions (Christianity, Islam, Buddhism, and Hinduism).¹⁶ The index is similar to the ‘S’ index and defined as:

$$1 - \sum_{k=1}^4 |R_i^k - R_j^k| \quad (5)$$

where R_i^k and R_j^k denote the fraction of the religion k in the population of country i and j respectively.

The index, which ranges between -1 (most dissimilar) and +1 (most similar), measures the similarity and dissimilarity notably only in four major religions. In other words, the dyads of countries which have small population shares in all four major religions assume an index value very close to 1 (most similar), regardless of their difference in other religions and the percentage of the population that is classified as nonreligious. For simplicity, we assume that the inter-country differences in nonreligious population and in the population professing other religions do not influence the process of policy coordination and cooperation between countries.¹⁷

5.4 Trends of Regional Political and Cultural Similarity

Figures 13–15 present the measures of political and cultural similarity by region and country groups for the years 1960, 1980, and 2000.

Figure 13 shows that according to the UN vote measure, the political affinities among Asian economies increased substantially since 1960. The average value of similarity of political interests between the pairs of ASEAN economies jumped from 0.41 in 1960 to 0.92 in 2000. The current level of political proximity in ASEAN is quite high, comparable to that existing in the EU. The degree of similarity of political interests among ASEAN+3, EAS, or IA is on average lower than that among ASEAN economies. This reflects the relatively low degree of political proximity existing between ASEAN member countries and other Asian countries. In fact, in 2000, the average of political proximity for ASEAN

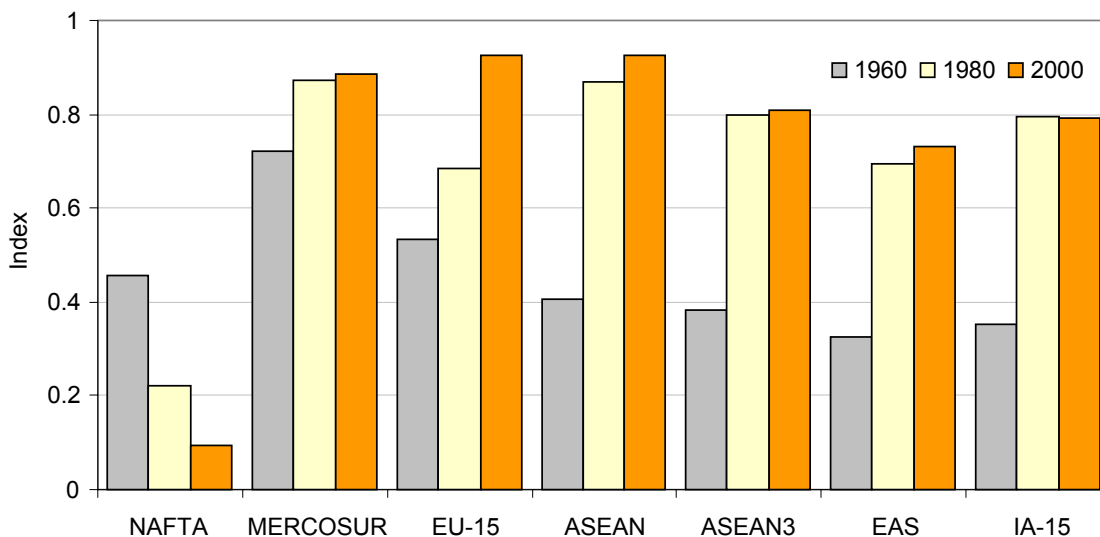
¹⁵ Huntington (1996).

¹⁶ The raw data comes from Barret et al. (2001) and Barro (2006).

¹⁷ Different religions can have different effects on people’s attitudes towards non-religious or other religion population. See Guiso et al. (2003).

economies was 0.56 with Japan, 0.58 with Korea, and 0.76 with India. In contrast, the level of political proximity between the ASEAN members and PRC was relatively high, 0.88.¹⁸

Figure 13: Similarity of Political Interest



IA-15 includes: Brunei Darussalam; Cambodia; People's Republic of China; Hong Kong, China; India; Japan; Korea; Lao People's Democratic Republic; Malaysia; Indonesia; Philippines; Singapore; Taipei, China; Thailand; and Viet Nam. Authors' calculations based on data sourced from United Nations General Assembly, originally collected by Erik Voeten. Available: www.georgetown.edu/faculty/ev42/UNvoting.htm

It should also be noted that the quite low degree of political proximity within NAFTA (0.09 in 2000), primarily reflects the US tendency to vote independently from the majority of other UN member countries, including Canada (0.15) and Mexico (-0.36), on resolutions such as those related to the Israel-Palestine conflicts.

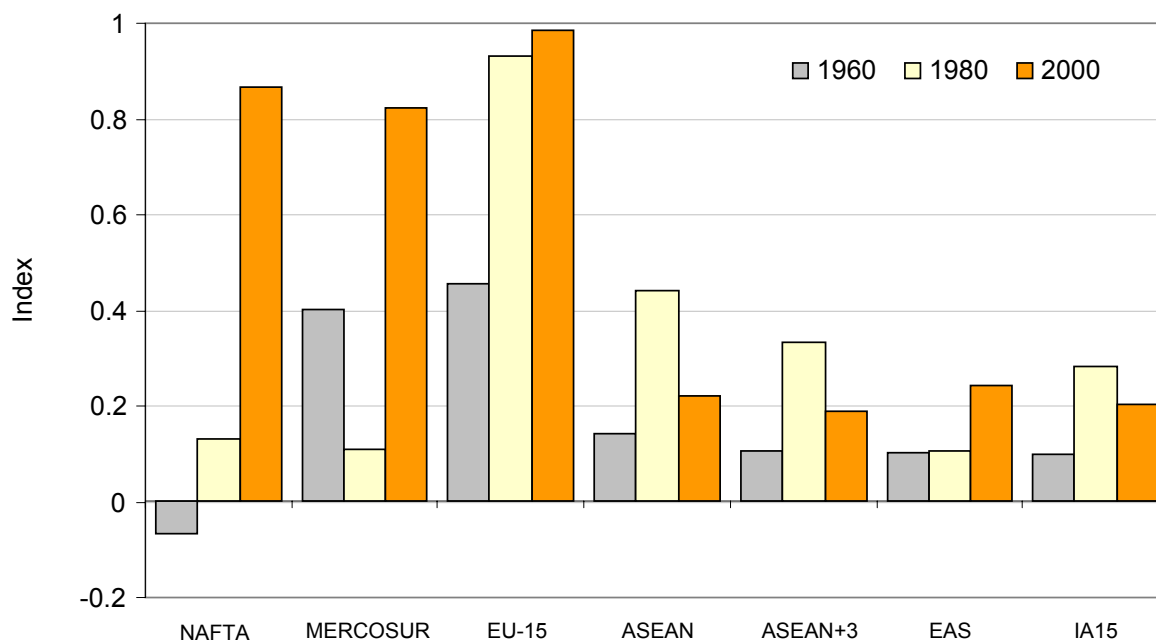
Figure 14 shows the changes in the similarity index of political regimes for each regional group. Asia has relatively lower degree of political institution similarity compared with Europe, NAFTA, or MERCOSUR, because it includes countries at considerably different stages of development of democratic institutions. This is also remarkably true for ASEAN, whose index was only 0.22 in 2000, compared with 0.99 for the EU, 0.87 for NAFTA and 0.82 for MERCOSUR.¹⁹ The degree of political proximity among ASEAN+3 economies

¹⁸ In 2000 the average political proximity of ASEAN members with Australia and New Zealand was, respectively, 0.51 and 0.57.

¹⁹ For ASEAN group, the degree of political similarity declined in 1980s. In some ASEAN economies such as Lao PDR and the Philippines, political institutions became more autocratic during the 1980s. Since many ASEAN economies did have autocratic political regimes at that time, the deterioration of democracy in some countries contributed to the increase in the degree of regional political similarity in ASEAN.

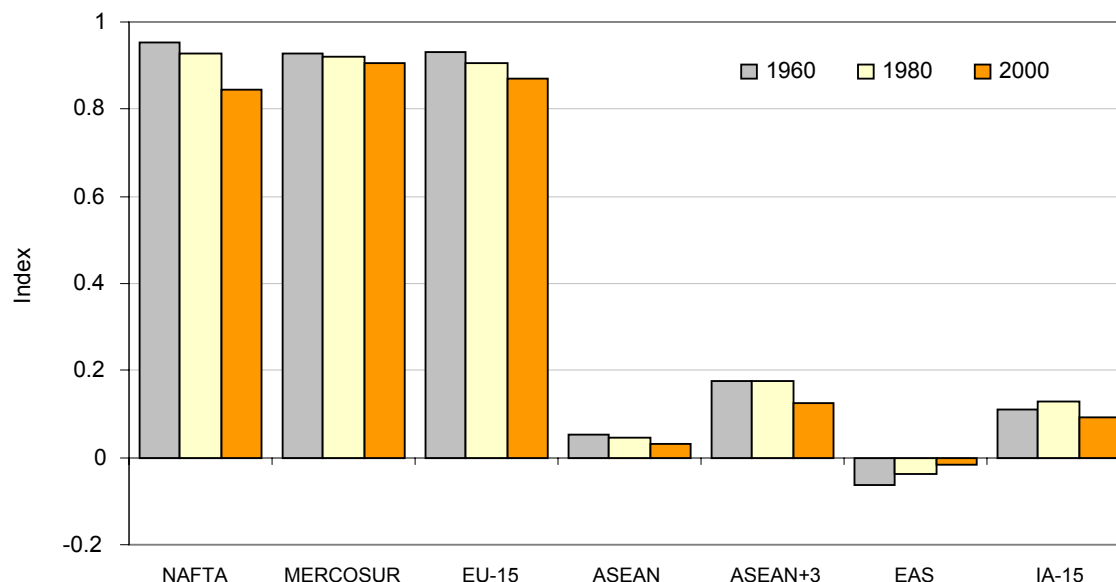
further declines to 0.19, reflecting the wider diversity of political regimes between the PRC and Japan (or Korea).

Figure 14: Similarity of Political Regimes



For a definition of IA-15 see Figure 12, Authors' calculations based on data sourced from the Polity IV Project (Political Regime Characteristics and Transitions, 1800–2004), under the direction of Monty G. Marshall at George Mason University. Available www.cidcm.umd.edu/polity/data/

Finally, Figure 15 depicts the heterogeneous culture present in Asia, compared with other regions. In 2000, the average intraregional religious proximity index was only 0.03 for ASEAN and 0.09 for the IA15, compared with 0.87 for the EU. Although the figure does not show individual countries' values, it is interesting to report that among EAS members, the PRC has a relatively high level of religious proximity with the other countries (0.31), while the lowest level is registered for India (-0.41).

Figure 15: Religious Similarity

For a definition of IA-15 see Figure 12, Authors' calculations based on the index developed by Lee and Pyun (2008). Data sourced from Barret et al. (2001) and Barro (2006).

5.5 Are Asian Countries Too Different Politically and Culturally?

The three similarity indexes included in this paper show that Asian countries have indeed lower levels of political and cultural proximity among themselves compared with other regions, especially Europe. The lower political proximity in Asia may imply that it may be difficult for Asian countries to bring together the political will to cooperate toward the formation of new regional institutions. However, Asia's (and especially ASEAN's) level of similarity of political interests has increased rapidly over time, and the average of intraregional political proximity for Asia in the year 2000 is higher than that for Europe in 1980. This suggests that the lack of political proximity may not necessarily be an insurmountable barrier to developing deeper official cooperation in Asia. At the same time, it is likely that political proximity will increase over time if Asian markets continue to integrate and if governments and related agencies continue to conduct effective policy dialogue. As countries gain confidence in the benefits of concerted action and the processes of joint decision-making, their political similarity is destined to increase.

On the other hand, the indexes of similarity of political regimes among the pairs of Asian countries do not show any convergence, and remain quite low over time. The diverse stage of development of political institutions may indeed be a barrier to intensified cooperation. However, As Asian economies maintain rapid growth, increased economic prosperity will call for greater political freedom and accordingly greater change in political regimes. If the political change happens over time, political institutions in Asian countries will become more similar, converging to a more democratic regime.

The measure of religious similarity we adopt in this paper shows that the level of cultural and social proximity among Asian countries is currently low. It would be difficult to predict any substantial change in this measure for the next few decades, although the trend of increasing social interactions and labor mobility may help to mix different religions and cultures over time.

6. Concluding Remarks

The main findings of this study are that economic interdependence has been generally rising in Asia in the last decade and is approaching European levels, especially in trade and investment. Regional integration has greatly increased within a group of 16 'integrating' Asian economies including the 10 ASEAN members, the 'plus-three' countries (PRC, Japan, Korea), as well as Hong Kong, China; India; and Taipei, China. We also find that increasing market interdependence is not limited to the development of regional production networks via trade and foreign direct investment, but also encompasses financial flows, synchronization of business cycles, and other forms of economic and social exchange.

Nonetheless, despite significant progress in regional economic integration, cooperation among Asian governments remains weak and official institutions for regional cooperation are relatively underdeveloped. While this discrepancy between integration and cooperation has been widely noted, this study is one of the first to propose a partial explanation by finding that quantitative measures of political and cultural proximity for Asian countries are relatively low in comparison with those for other regions, particularly Europe.

Although the conclusions of this study are based on a comprehensive analysis of extensive quantitative indicators, there is still considerable room for improving its empirical base. We would benefit, for instance, from a better proxy for intraregional labor flows. We also need more work on separating regional from global co-movements in the correlation analysis of macroeconomic trends. Our indicator for policy cooperation (the trade agreements matrix) needs to be improved and complemented with indicators for regional cooperation on financial and social issues. And we will need to develop better ways to combine various indicators for regional integration and cooperation in an aggregate measure. Similarity measures could be improved by adding other variables that reveal social and political preferences as well as educational backgrounds. All this could help to build firmer foundations for examining interactions between regional integration and cooperation in Asia.

Some policy implications can be also drawn from our study. Asian economies may need to be more pro-active in building institutional capabilities for economic policy cooperation than countries in some other regions, since political and social connections among them are less likely to drive the process of cooperation than elsewhere. Although there is no need for Asia to emulate Europe in developing a large body of regional institutions, the current institutional setting in Asia remains shallow and not well coordinated. In particular, the difficulties and delays Asia is showing in providing a coordinated regional response to the ongoing global financial turmoil may reflect weak formal institutions, especially

with regard to the provision of technical expertise and the capacity to take initiatives in time of crisis. In part, based on this logic, ADB's *Emerging Asian Regionalism (2008)* study proposes several new mechanisms, such as the creation of an *Asian Secretariat for Economic Cooperation* or an *Asian Financial Stability Dialogue* to help plan, coordinate, and implement regional economic policies.

References

- Alesina, A. and D. Dollar. 2000. Who Gives Foreign Aid to Whom and Why? *Journal of Economic Growth*. 5. pp. 33–64.
- Asian Development Bank. 2008. *Emerging Asian Regionalism. A Partnership for Shared Prosperity*. Manila: ADB.
- Barbone, L. and J. Zalduendo. 1996. EU Accession and Economic Growth: The Challenge for Central and Eastern European Countries. *World Bank Policy Research Working Paper No. 1721*.
- Barrett, D., B. George, T. Kurian, and T.M. Johnson. 2001. *World Christian Encyclopedia*. 2nd ed. Oxford, UK: Oxford University Press.
- Barro, R. and J-W Lee. 2005. IMF Programs: Who Is Chosen and What Are the Effects. *Journal of Monetary Economics*. 52.
- Barro, R. and R.M. McCleary. 2005. Which Countries Have State Religions? *Quarterly Journal of Economics*. November.
- Berthelon, M., and C. Freund. 2004. On the Conservation of Distance in International Trade. *World Bank Working Paper 3293*.
- Brun, J. F., C. Carrere, P. Guillaumont and J. de Melo. 2002. Has Distance Died? Evidence from a Panel Gravity Model. *Center for Economic Policy Research Discussion Paper No. 3500*.
- Bueno De Mesquita, B. 1975. Measuring Systemic Polarity. *Journal of Conflict Resolution*. 19(2). pp.187–216.
- Chen, Bo and Y.P. Woo. 2008. A Composite Index of Economic Integration in the Asia-Pacific Region. *Mimeo*. Simon Fraser University. Burnaby BC: Canada.
- Chia, S.Y. 2006. Labor Mobility and East Asian Integration. *Asian Economic Policy Review*. N.1. pp. 349–367.
- Coe, D.T., A. Subramanian, N.T. Tamirisa and R. Bhavnani. 2002. The Missing Globalization Puzzle. *International Monetary Fund Working Paper WP/02/171*.
- Dorrucci, E., S. Firpo, M. Fratzscher and F. P. Mongelli. 2002. European Integration: What Lessons for Other Regions? The Case of Latin America. *European Central Bank Working Paper No. 185*.
- Dreher, A. 2006. Does Globalization Affect Growth? Evidence from a New Index of Globalization. *Applied Economics*. 38. pp. 1091–1110.

- Fisher, S., R. Sahay and C.A. Vegh. 1988. How far is Eastern Europe from Brussels? *International Monetary Fund Working Paper* WP/98/53.
- Frankel, J. 1997. *Regional Trading Blocs in the World Economic System*. Washington, D.C: Institute for International Economics.
- Guiso, L., P. Sapienza and L. Zingales. 2003 People's Opium? Religion and Economic Attitudes. *Journal of Monetary Economics*. 50(1). pp. 225–82.
- Hugo, G. 2008. Overview of Labor Migration and its Impact on the Global Economy. Presentation made at the Regional Conference on Labor Migration Management in the Process of Regional Integration. Bangkok, Thailand. 27–30 May.
- Huntington, S.P. 1996. *The Clash of Civilizations and the Remaking of World Order*. New York: Simon & Schuster.
- Leamer, A. 1993. The Commodity Composition of International Trade in Manufactures: An Empirical Analysis. *Oxford Economic Papers*. 26(3). pp. 350–74.
- Qin, Duo. 2008. How Much Intra-regional Exchange Rate Variability Could a Currency Union Remove? The Case of ASEAN+3. Paper presented at the 18th Conference of the American Committee for Asian Economic Studies: *Asian Economic Integration in a Global Context*. Rimini. 29–31 August.
- Signorino, C. and J. Ritter. 1999. Tau-b or Not Tau-b: Measuring the Similarity of Foreign Policy Positions. *International Studies Quarterly*. 43. pp. 115–144.
- Vamvakidis, A. 2008. Convergence in Emerging Europe: Sustainability and Vulnerabilities. *International Monetary Fund Working Paper* WP/08/181.
- Yap, J. 2007. Ten Years After: Financial Crisis Redux or Constructive Regional Financial and Monetary Cooperation? *Philippine Institute for Development Studies Discussion Paper* 2007-05.

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Developing Indicators for Regional Economic Integration and Cooperation

In this paper, Giovanni Capannelli, Jong-Wha Lee and Peter A. Petri provide a comprehensive analysis of indicators to measure the degree of economic integration and cooperation in Asia. They present various indicators and develop new ones to find that regional interdependence in trade, investment, financial flows, tourism, and other social and political variables have increased significantly especially within a group of 16 East Asian economies.

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