

## ADB Working Paper Series on Regional Economic Integration



### Is Trade in Asia Really Integrating?

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Shintaro Hamanaka

No. 91 | January 2012





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## **Abstract**

Is intraregional trade in Asia really integrating? It is not easy to answer this ostensibly simple question. There are two ways to assess the level of trade integration: de facto integration and de jure integration. With respect to de facto integration (actual level of interdependence in terms of trade flows), the answer depends on which Asian countries are being considered and which indicator is being used to measure trade interdependence. This paper compares the trade interdependence of different sets of Asian countries using various indices. With respect to de jure integration (the signing of free trade agreements [FTAs]), the number of signed FTAs in Asia is growing but the relation between trade interdependence and the signing of FTAs has not been sufficiently studied. The second half of this paper addresses whether de jure trade integration is ultimately brought about by high-level or low-level de facto trade integration.

*Keywords:* FTAs, trade interdependence, scope of agreements

*JEL Classification:* F15, F53, F55, F59

## 1. Introduction

Is intraregional trade in Asia really integrating? It is not easy to answer this ostensibly simple question. There are two ways to assess the level of trade integration: de facto integration and de jure integration. De facto trade integration refers to the actual growth of trade interactions within a region (Hurrell 1995). Because trade is basically a commercial matter, the focus of de facto trade integration is on private entities' trade activities (trade transactions). De jure trade integration refers to the conscious policies of states to coordinate trade activities in a particular region (Wyatt-Walter 1995). Thus, the focus of de jure trade integration is governments' activities, especially policies, relating to regional arrangements such as free trade agreements (FTAs).

Assessing de facto trade integration depends primarily on which indicator to use in measuring the level of trade interdependence. Although there are some interesting studies on this issue using various indicators, including Petri (2006)<sup>1</sup> and Athukorala and Kohpaiboon (2009),<sup>2</sup> an empirical assessment of the long-term trends of trade interdependence based on various indicators has not been conducted. It is also important to identify which set of Asian countries are being considered. The significance of indicators for actual trade interdependence varies depending on the composition of the group under review. While existing literature on Asia tends to focus on the trade interdependence of ASEAN or ASEAN+3, we should carefully assess the level of trade integration among various sets of Asian countries.<sup>3</sup>

With respect to de jure trade integration, many commentators have argued that Asia has been deepening its level of trade integration based on the simple observation that there are an ever-increasing number of Asian FTAs that have either been concluded or are under negotiation. However, the driving forces behind this phenomenon have not been fully analyzed. The principal question that has been insufficiently explored is the relationship between de facto and de jure trade integration. More specifically, whether de jure trade integration is brought about by high-level or low-level de facto trade integration?<sup>4</sup> Although there are studies that have analyzed the impact of FTAs on trade interdependence in the region, the reverse causality—the impact of trade interdependence on countries' trade policies regarding FTAs—has not been sufficiently researched. While studies tends to assess whether the proliferation of FTAs in Asia can be explained by the overall development of trade interdependence in Asia, such a general analysis does not tell us much about the relationship between de facto and de jure trade integration. Rather, we need to examine the level of economic

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<sup>1</sup> Petri (2006) analyzes trade interdependence in Asia using three indicators (absolute measure, relative measure, and double-relative measure) that are similar to the analysis of this paper. However, his analysis of Asia is limited to comparing East Asia and the Pacific Rim to other regions, not assessing various sets of Asian countries. His analysis also includes individual countries' linkages to regional economies.

<sup>2</sup> While they use only share and intensity indicators, Athukorala and Kohpaiboon (2009) analyze trade interdependence in Asia at the commodity level.

<sup>3</sup> ASEAN+3 comprises the 10 member countries of ASEAN plus the People's Republic of China (PRC), Japan, and the Republic of Korea.

<sup>4</sup> Theoretically, the change in the level of integration may be more important than the level itself in explaining changes in FTA policies. Section 3 will discuss this point.

interdependence of a particular set of Asian countries and consider whether it affects the modality of economic agreement among them.

The paper is structured as follows. The next section assesses actual trade interdependence (de facto trade integration) among different sets of Asian countries using various indices. The Association of Southeast Asian Nations (ASEAN), various groupings of ASEAN+1, ASEAN+3, and various groupings of ASEAN+3+1 will be analyzed in turn. The third section analyzes the relationship between de facto trade integration and de jure trade integration. This section highlights various types of FTAs in Asia; those that deal with problems stemming from high levels of trade interdependence and those that are expected to increase trade among members. The fourth section considers policy implications for designing regional trade and economic agreements in Asia in terms of membership and scope. The final section summarizes the key messages of this paper.

## 2. Recent Development of Trade Interdependence in Asia

### 2.1. The Measurement of Regional Trade Bias

We use three kinds of indices to assess the actual level of trade interdependence. The strengths and weakness of each index will be explained in turn. (For details of the indicators, see Plummer, Cheong, and Hamanaka 2010.) Annual data on total exports and imports are used in this research.<sup>5</sup> The analysis covers a 30-year period from 1980 to 2009 to capture structural changes in Asian trade, including the appreciation of the Japanese yen after the Plaza Accord in 1985.

$$\text{Intraregional Trade Share} = T_{ii} / T_i$$

$$\text{Intraregional Trade Intensity Index} = (T_{ii} / T_i) / (T_i / T_w)$$

$$\text{Regional Trade Introversion Index} = (HI_i - HE_i) / (HI_i + HE_i)$$

Where

$$HI_i = (T_{ii} / T_i) / (T_{oi} / T_o)$$

$$HE_i = (1 - T_{ii} / T_i) / (1 - T_{oi} / T_o)$$

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<sup>5</sup> We use the data on total exports and imports because the difference between the level of intraregional trade in agricultural products and non-agricultural products is small. According to Athukorala and Kohpaiboon (2009), ASEAN+3's intraregional trade share in total non-oil trade is 38.7% and ASEAN+3's intra-regional trade share in primary products (excluding oil) is also 38.7%. This is mainly because the share of agricultural products in Asian trade is less than 10%.

Each variable is defined as

$T_{ii} \equiv$  exports of region  $i$  to region  $i$  plus imports of region  $i$  from region  $i$

$T_i \equiv$  total exports of region  $i$  to the world plus total imports of region  $i$  from the world

$T_{oi} \equiv$  exports of region  $i$  to outsiders plus imports of region  $i$  from outsiders

$T_o \equiv$  total exports of outsiders plus total imports of outsiders

$T_w \equiv$  total world exports plus imports

Intraregional trade share is a widely used index to assess the level of trade interdependence because the calculation is easy to make. However, it is a problematic indicator for two reasons: (i) the share can rise when more countries are included in the group even without a regional bias in trade between members,<sup>6</sup> and (ii) the share can increase when a large trading nation is included in a group even without a regional bias in trade (Anderson and Norheim 1993).<sup>7</sup> Thus, this indicator is not suitable for comparing across regions or groups, although it is useful in giving a snap shot of trade interdependence in a particular region.

An intraregional trade intensity index is a more precise indicator for assessing a regional bias in trade because it accounts for the weight of the trade of member countries; the higher the rate, the higher the regional bias. If this intensity indicator is more than 1, then the region has a bias toward trading with itself; if the indicator is less than 1, then the region has a bias toward trading with outsiders. The major problem is that it only considers internal bias and not external bias. If we focus solely on internal bias, the following two scenarios look similar: (i) a region's intraregional share is 20% and the region's weight in world trade is 10%, and (ii) a region's intraregional share is 40% and the region's weight in world trade is 20%. In both cases, the intraregional share is double the region's trade share in the world. However, the extra-regional bias of the two scenarios is not the same.<sup>8</sup> When we factor this in, the regional trade introversion index is the most suitable index to measure trade interdependence. It considers not only internal but also external bias of trade. In other words, the introversion index assesses the level of internal bias of trade in relation to external bias (relative regional bias of trade). If the indicator of introversion is equal to zero, then the region's trade is geographically neutral. If it is greater than zero, the region's trade has an intraregional bias; if it is less than zero, then the region's trade has an extra-regional bias.

<sup>6</sup> Imagine a hypothetical situation in which California is an independent country. Under this scenario, the intraregional share of North America comprising four entities—Canada, Mexico, the United States (US) ex California, and California—becomes larger than the share for North America comprising only three countries—Canada, Mexico, and the US—because trade between California and the US ex California is now considered international trade.

<sup>7</sup> Assume that the US' share of world trade is 10% and that of the Democratic People's Republic of Korea (DPRK) is 0.1%. If the US' share and the DPRK's share in Country X's trade are 10% and 0.1%, respectively, we cannot say that the country trades more with the US than with the DPRK in relative terms. However, the intraregional share of a group comprising the US and Country X becomes much higher than the group comprising the DPRK and Country X provided that the US and the DPRK do not have trade bias vis-à-vis Country X since the US is a large trading nation and the DPRK is not.

<sup>8</sup> In this hypothetical situation, while the ratios of internal bias are the same in the two scenarios, the external bias of the former is higher than that of the latter.

## 2.2. Trade Interdependence of ASEAN

The ASEAN Free Trade Area (AFTA), which was launched in 1992, is one of the oldest FTAs in Asia.<sup>9</sup> Assessing the level of trade integration among ASEAN members provides a good starting point for the discussion on trade interdependence in Asia. We will use data for the ASEAN-6—the members of ASEAN when AFTA was established—for time-consistency purposes.<sup>10</sup> We will compare ASEAN's trade interdependence with the North America Free Trade Area (NAFTA), comprising the US, Canada, and Mexico; and the European Union (EU). We will compute the EU's indicators using trade among the EU-15 for the time-consistency purposes.<sup>11</sup> It is necessary to fix the countries that will be included to assess the trend of trade interdependence.

Based on data from 2009, ASEAN's intraregional trade share is extremely low at about 0.2, compared with about 0.4 for NAFTA and 0.6 for the EU (Figure 1). While ASEAN's intraregional share increased between the mid-1980s and mid-1990s, it has remained at almost the same level since then. However, it would be misleading to overemphasize ASEAN's low-level of trade interdependence based on this indicator alone. As we will see, it is still much higher than the intraregional trade share of other sets of Asian countries such as ASEAN+3.

If we look at the intraregional intensity indicator, ASEAN's figure is remarkable. It is much higher than the intensity of trade in the EU or NAFTA. While ASEAN's figure is about 4.0, NAFTA's is about 2.5 and the EU's is less than 2.0. This means that ASEAN countries conduct a significant amount of trade with other members despite the fact that most member countries are relatively small trading nations. Unlike the case of trade share, ASEAN's trade intensity sharply declined between the mid-1980s and mid-1990s. Therefore, intraregional trade did not increase that much compared with the overall trade growth of ASEAN members during the same period.

In terms of regional introversion, ASEAN's figure is almost the same as the EU and NAFTA's at about 0.7. However, the trends in each region over the past 3 decades are very different. ASEAN's regional introversion index declined sharply between the mid-1980s and mid-1990s (from 0.75 to 0.60), but showed an increasing trend after the mid-1990s. In contrast, the introversion indices of NAFTA and the EU both show a similar and stable increasing trend over the past 3 decades.

A comparison between various indicators tells us an interesting story of recent developments in ASEAN trade interdependence. The acceleration of intraregional trade in ASEAN, especially between the mid-1980s and mid-1990s, is very similar to that of ASEAN+Japan, which will be discussed in detail in the next section. Such a coincidence implies that production networks produced by multinational corporations (MNCs), especially Japanese MNCs, contributed to the increase of trade not only between Japan

<sup>9</sup> Before AFTA, there was Asia-Pacific Trade Agreement (APTA) established in 1975, which was originally called the Bangkok Agreement. APTA includes India, Bangladesh, Sri Lanka, Republic of Korea, and the PRC.

<sup>10</sup> Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

<sup>11</sup> Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

and ASEAN but also among ASEAN members. At the same time, we should note that intraregional intensity in ASEAN declined during the same period. This means that while production networks have connected ASEAN countries with each other, they have connected ASEAN countries with Japan to an even greater degree.

In summary, ASEAN members conduct relatively large amounts of trade with each other even though most are small trading nations. As a result, ASEAN's intraregional trade intensity and introversion are at least as high as that of the EU and NAFTA. It is therefore wrong to argue that ASEAN's trade integration is insignificant based on an analysis of intraregional trade share alone.

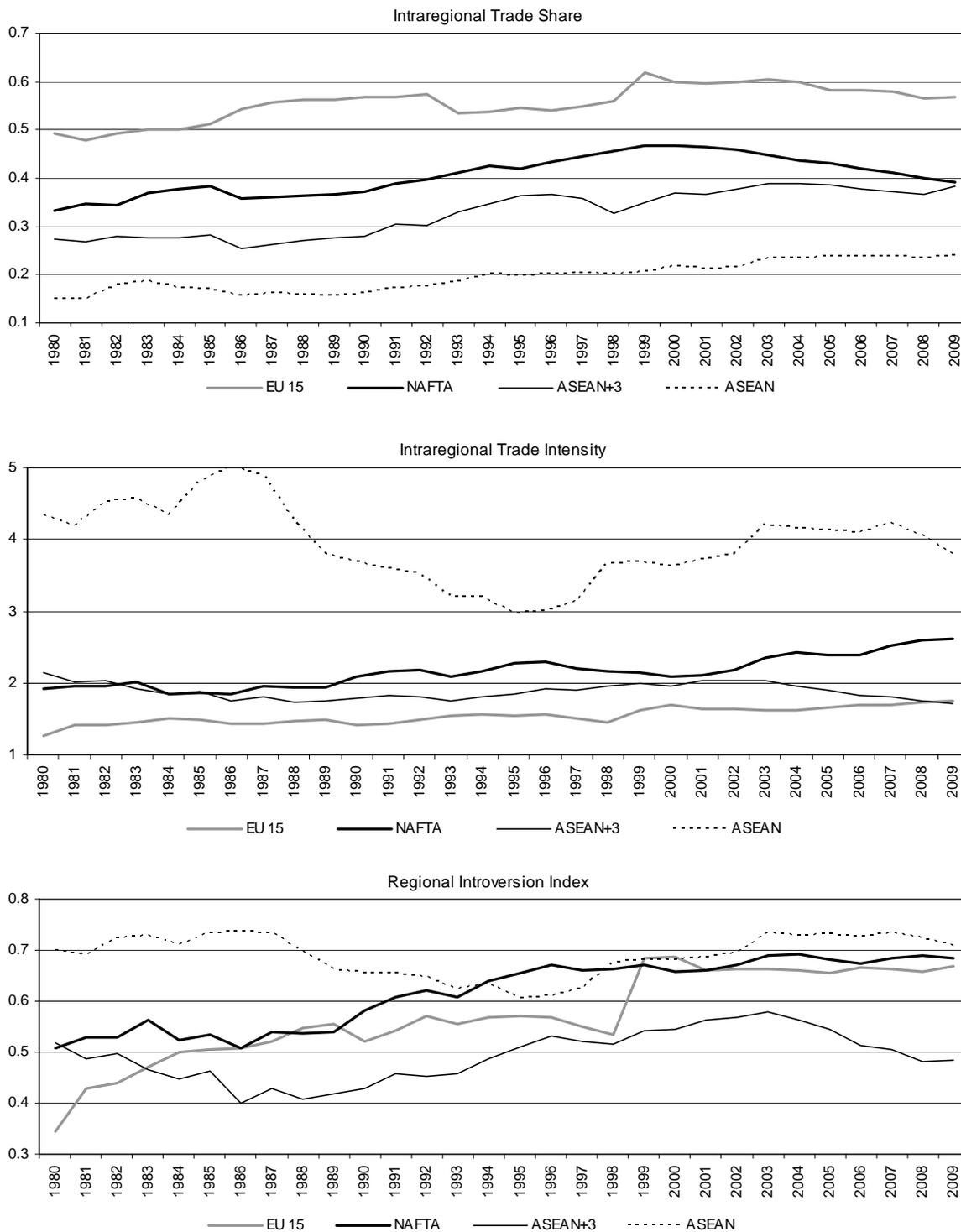
### **2.3. Trade Interdependence of Various ASEAN+1 Groupings**

The main finding of the previous section is that ASEAN's intraregional trade intensity and introversion are high, while its intraregional trade share is low since most ASEAN members are relatively small trading nations. This demonstrates the importance of including a relatively large trading nation in any trade integration scheme. Therefore, which additional country (“+1”) will raise ASEAN+1's intraregional trade share above that of ASEAN's while also maintaining relatively high intensity and introversion indexes? We will analyze Japan, the People's Republic of China (PRC), and the US as possible candidates. Because of their relatively small trade interaction with ASEAN countries, adding Australia or India does not impact the figures.

The ASEAN+Japan group records a higher intraregional share and lower intraregional intensity and introversion indices than ASEAN (Figure 2). The intraregional share of ASEAN+Japan significantly increased between the mid-1980s and mid-1990s, mainly due to the establishment of production networks by Japanese MNCs triggered by the sharp appreciation of the Japanese yen after the Plaza Accord in 1985. The share has remained at roughly the same level over the last 15 years. In terms of intraregional intensity and regional introversion, the indices began increasing in the mid-1980s and have maintained this trend ever since. The difference in the trends among share, intensity, and introversion in the last 15 years implies that trade interdependence between Japan and ASEAN deepened in relative (but not absolute) terms after the mid-1990s. Furthermore, Japan may be regarded as a regional trader, unlike the PRC, because the trade interdependence of a regional grouping of ASEAN+Japan is much more significant than a grouping of ASEAN+PRC.

The group of ASEAN+PRC has lower indices than ASEAN only for share, intensity, and introversion. Such a fact is striking given the common belief that the PRC is a driving force behind trade integration in Asia. However, the reality is that the PRC is a global trader rather than a regional trader. Accordingly, the inclusion of the PRC decreases the value of all indices. Moreover, while the intraregional share of ASEAN+PRC maintains the same level, the intensity and introversion of this grouping has significantly declined in the last decade. In 2000–2009, the intensity index declined from 2.0 to 1.3 and the introversion index from 0.4 to 0.2. Despite the rapid growth of the PRC's overall trade, ASEAN's trade with the PRC has not increased much. While such a situation is understandable given that the PRC is a global trader, the fact that indices regarding

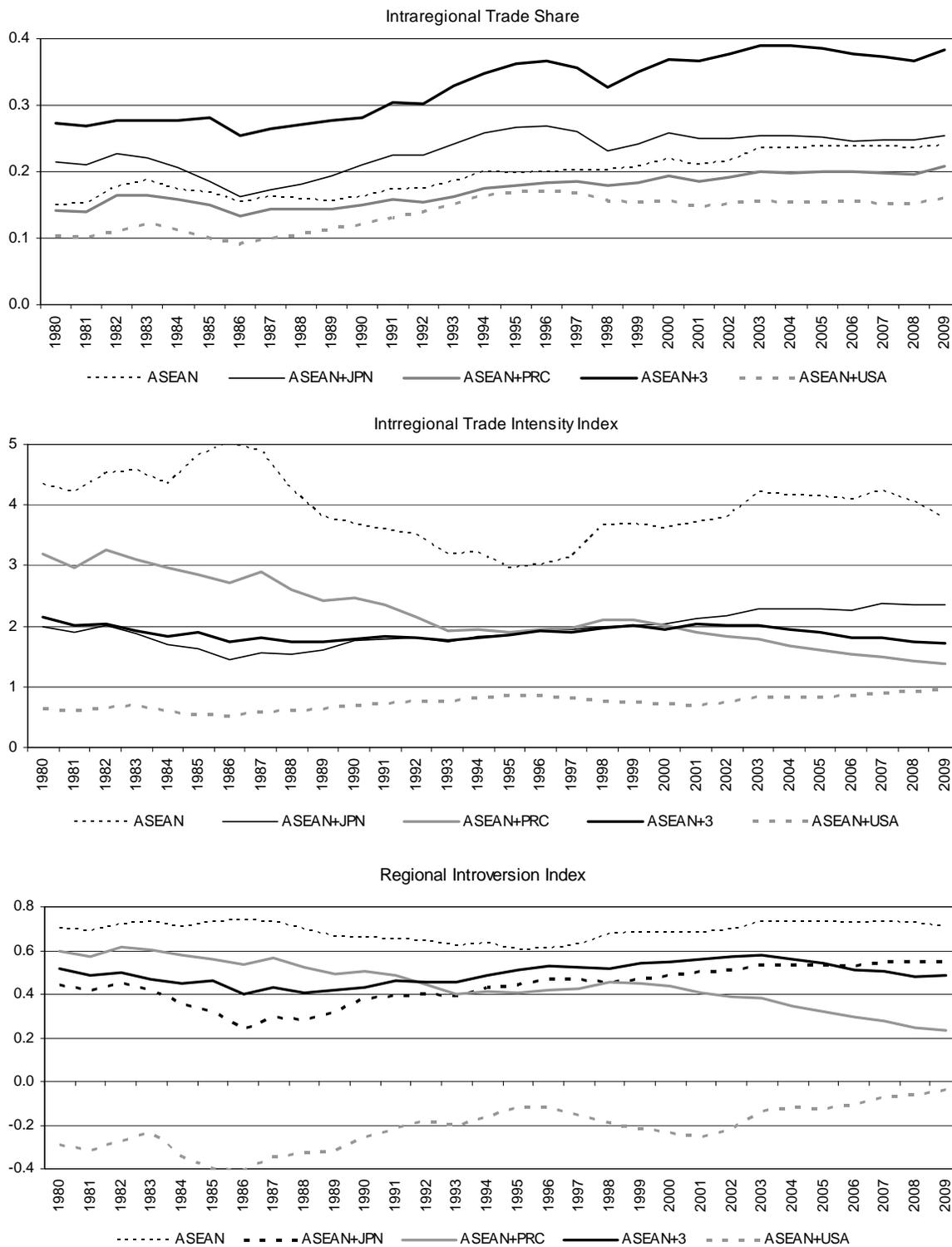
**Figure 1: Trade Interdependence of ASEAN, ASEAN+3, the EU, and NAFTA**



ASEAN = Association of Southeast Asian Nations, EU = European Union, NAFTA = North American Free Trade Area.

Source: Author's calculation based on UN Comtrade Data.

**Figure 2: Trade Interdependence of ASEAN+3 and Various ASEAN +1 Groupings**



ASEAN = Association of Southeast Asian Nations, JPN = Japan, KOR = Republic of Korea, PRC = People's Republic of China, US = United States.

Source: Source: Author's calculation based on UN Comtrade Data.

intensity and introversion in an ASEAN+PRC grouping have sharply declined in the past decade is remarkable.

Just like the case of ASEAN+PRC, the grouping of ASEAN+US has lower indices for share, intensity, and introversion than ASEAN only. In fact, ASEAN+US has lower readings than ASEAN+PRC for all three indices. This is not unexpected since the US is also a global trading nation. However, unlike the case of ASEAN+PRC, all three indices for ASEAN+US show increasing trends. While the introversion index of ASEAN+US was once negative, it was nearing zero by 2009, suggesting that this group now has an internal trade bias.

In summary, Regional trade introversion gives us the clearest picture of the degree of trade interdependence among various ASEAN+1 groupings. The regional introversion of ASEAN+Japan is only slightly lower than that of ASEAN. However, the regional introversion of ASEAN+PRC is much lower than ASEAN's and this ratio has followed a declining trend in the last decade. This can be explained by the PRC being a global rather than a regional trader. Meanwhile, the regional introversion of ASEAN+US has traditionally been negative, although it recently approached zero. In short, the level and recent development of trade interdependence among various ASEAN+1 groupings are significantly diverse.

#### **2.4. Trade Interdependence of ASEAN+3**

While the conclusion of an ASEAN+3 FTA is unlikely in the near future, we will still analyze the level of trade interdependence among ASEAN+3 members given the group's political significance. Although data on various sets of East Asian countries is used in examining East Asian trade interdependence, the results are often similar to the results based on ASEAN+3 data.<sup>12</sup> Thus, it is very useful to assess the level of trade interdependence among ASEAN+3 using a variety of indicators.

The intraregional share of ASEAN+3 trade is higher than that of not only ASEAN but also ASEAN+Japan and ASEAN+PRC. It increased significantly during the mid-1980s and mid-1990s, although it has shown a declining trend in the last 5 years. However, from the high intraregional share of ASEAN+3 trade we cannot conclude that trade interdependence in ASEAN+3 has deepened. First, the high intraregional share in ASEAN+3 is due to the nature of the index as increases in the number of countries included tend to raise the index. The ASEAN+3 group's share is still lower than that of the EU and almost the same as NAFTA's, which has only three members. It is important to carefully analyze the trade interdependence of ASEAN+3 using other indicators. Another interesting issue is that the intraregional share of ASEAN+3 is much higher than that of ASEAN+Japan or ASEAN+PRC. This implies that trade between Japan and the PRC is quite significant. In effect, the intraregional share of ASEAN+3 is much higher than that of ASEAN not because of high levels of trade between ASEAN and Japan or ASEAN and the PRC, but rather because of trade between Japan and the PRC.

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<sup>12</sup> Some East Asian groupings include not only ASEAN+3 countries but also economies such as Hong Kong, China and Taipei, China.

The intraregional trade intensity of ASEAN+3 has maintained a near constant level over the last 3 decades and is much lower than that of ASEAN. It is also lower than NAFTA's and almost the same as the EU's. In order to understand the intensity index as it applies to ASEAN+3, we should compare it with trends in the intensity indexes of ASEAN+Japan and ASEAN+PRC. As we have already seen, the intensity index of ASEAN+Japan increased between the mid-1980s and mid-1990s, while the intensity index of ASEAN+PRC has declined over the last 3 decades, particularly in recent years. As a result of this combination of the "pulling-up" effects from ASEAN+Japan and the "pushing-down" effects from ASEAN+PRC, movement in the trade intensity index of ASEAN+3 has been relatively stable. But if we observe carefully, we find that Japan's pulling-up effects were larger than the PRC's pushing-down effects until 2000, leading to a slight increasing trend in the trade intensity of ASEAN+3 over this period. The PRC's impact subsequently became larger than Japan's after 2000 due to the increasing weight of the PRC's trade in Asia, which is reflected in a slight decline in the trade intensity of ASEAN+3 after 2000.

The introversion index of ASEAN+3 is very low. While the low level of trade interdependence in ASEAN+3 is not immediately obvious when looking at intraregional trade share and trade intensity, we can conclude that regional trade bias in ASEAN+3 is much lower than that of the EU and NAFTA based on the introversion index; the introversion index for ASEAN+3 is about 0.5 compared with about 0.7 for both the EU and NAFTA. As in the case of trade intensity, Japan's influence was most significant before 2000, while the PRC's influence becomes dominant after 2000. More precisely, the introversion of ASEAN+3 increases from about 0.4 in the mid-1980s to 0.6 in the early 2000s due to the establishment of production networks by Japanese MNCs, but it decreased to 0.5 by 2009 because of the increasing weight of the PRC whose trade does not have a regional bias.

In summary, although the intraregional trade share of ASEAN+3 is high, this is partly due to the mathematical feature of the indicator. Specifically, a group with a larger number of participants will tend to have a higher intraregional trade share. Thus, we should look at other indicators. The introversion of ASEAN+3 is much lower than that of both the EU and NAFTA. While the introversion of ASEAN+3 increased until around 2000 due to Japanese MNC production networks, it has declined in recent years due to the increasing weight of the PRC's trade in Asia, with the PRC being a global, rather than regional, trader.

## **2.5. Trade Interdependence of Various ASEAN+3+1 Groupings**

We have found that while the trade intensity and introversion of ASEAN is significant—even more significant than either the EU or NAFTA with respect to introversion—the intraregional trade share of ASEAN is low because of members' small absolute amounts of trade. Meanwhile, ASEAN+3's trade interdependence is very low, especially when we look at the introversion index. In this section, we will discuss which "+1" country will have the greatest impact on the index when added to the ASEAN+3 group. We will analyze Australia, India, and the US in turn.

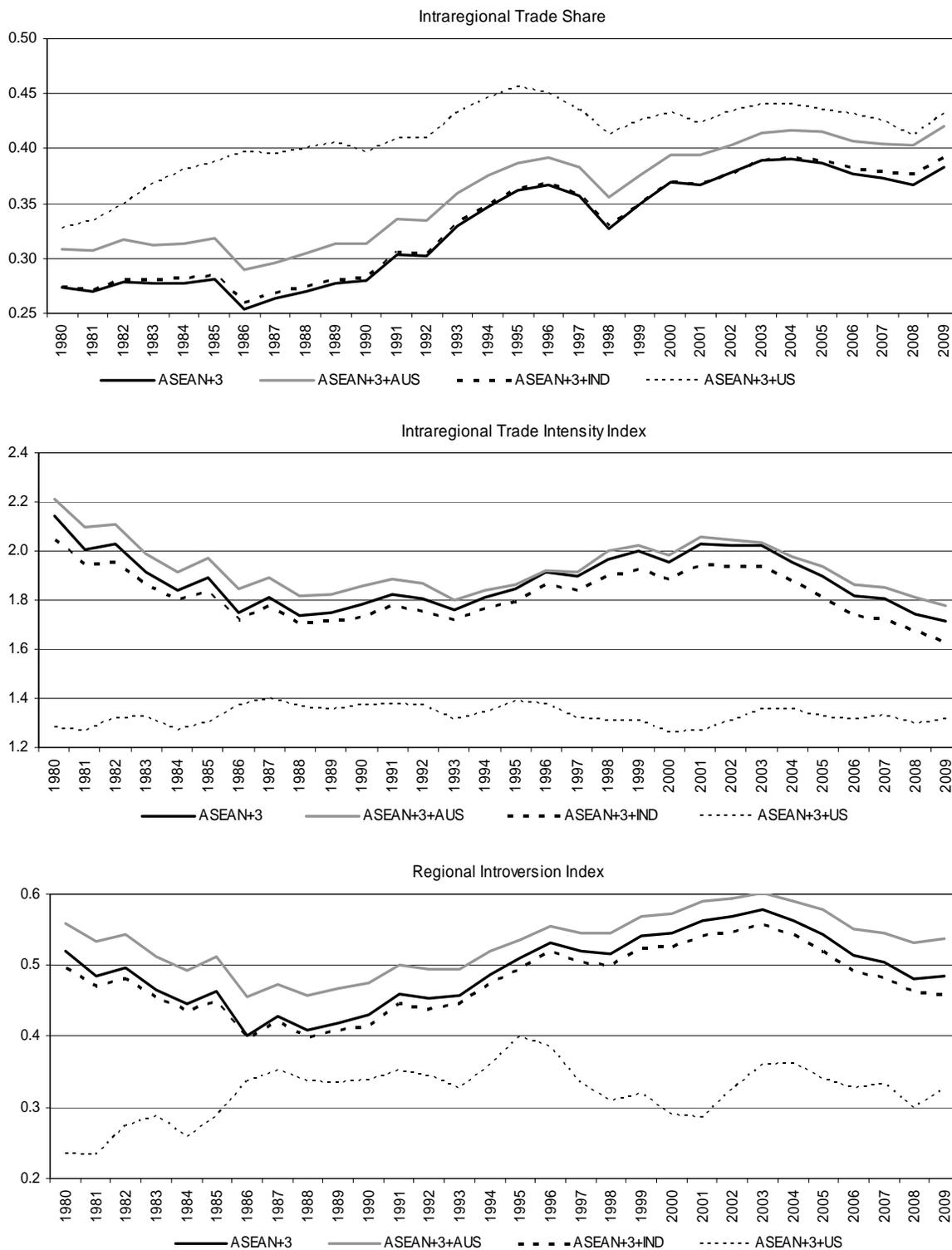
The trade interdependence between ASEAN and Australia is not that high as evident by indices that are similar to those of ASEAN. On the other hand, trade interdependence between Australia and the “+3” countries of the PRC, Japan, and the Republic of Korea is significant and the inclusion of Australia in the grouping leads to higher readings for all three indices (Figure 3). This is expected given that the PRC, Japan, and the Republic of Korea are all large importers of Australian agricultural products and natural resources. The overall trends since the mid-1980s of the intraregional share of ASEAN+3+Australia and ASEAN+3 are almost the same, with the former consistently posting readings about 0.04 higher than the latter. For example, the share of ASEAN+3 in 2009 is 0.38 while that of ASEAN+3+Australia is 0.42. While Australia’s positive impact on the intensity ratio is limited, the impact becomes very clear when we look at introversion. The introversion index of ASEAN+3+Australia has been higher than that of ASEAN+3 by more than 0.05 over the last 3 decades. In 2009, the introversion of ASEAN+3 is 0.48, while that of ASEAN+3+Australia reaches 0.54. In short, trade interdependence among ASEAN+3+Australia is quite significant. Although the overall trends of introversion among ASEAN+3 and ASEAN+3+Australia are similar, we should not overlook the underlying rising trend of the latter group. While the level of introversion of ASEAN+3 in 2009 is the same level as in 1994 (0.49), the introversion of ASEAN+3+Australia in 2009 (0.54) is higher than in 1994 (0.52).

Figure 4 shows the intraregional trade share of each country of an ASEAN+3+Australia group. While Australia’s share in world trade is relatively small at about 1%, ASEAN+3 countries conduct a relatively large share of their global trade (3%–5% on average) with Australia. Thus, the inclusion of Australia makes the grouping’s level of trade interdependence higher. As long as ASEAN+3+Australia grouping is concerned, all members’ intraregional trade share is around 50% or more, with the notable exception of the PRC. Comparing the grouping’s intraregional trade shares against average shares of global trade (about 25%), we can conclude that the trade bias (intensity) of ASEAN+3+Australia is very high.

The inclusion of India does not have a significant impact on the intraregional trade share as the intraregional share of ASEAN+3 and ASEAN+3+India are almost the same. Meanwhile, the inclusion of India has negative impacts on indicators for trade intensity and introversion. Thus, we conclude that trade interdependence between India and ASEAN+3 countries is not yet significant.

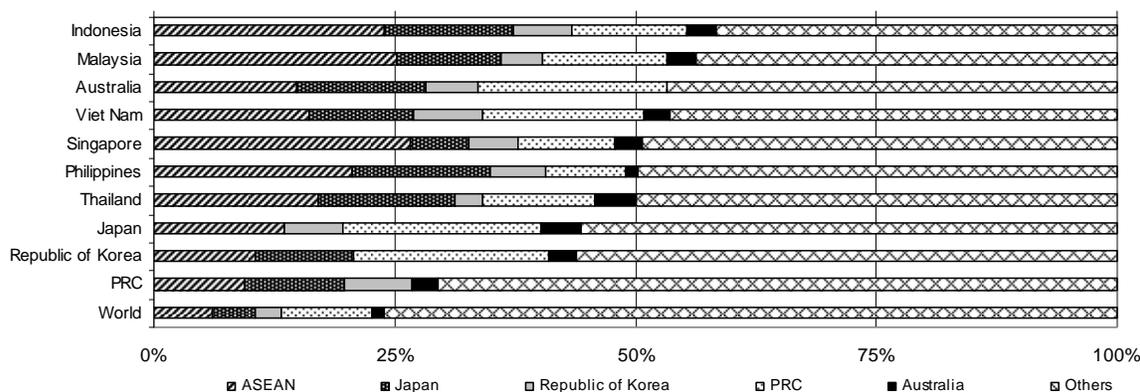
The intraregional share of the ASEAN+3+US grouping is much higher than ASEAN+3 because the US is an important trade partner of all countries in the world, including Asian countries. Thus, high readings for the intraregional trade share among ASEAN+3+US are not due to the high level of trade interdependence between the US and Asian countries. In fact, trade intensity and introversion among ASEAN+3+US are low. Given the fact that the trade introversion of ASEAN+US are negative, positive figures for introversion among ASEAN+3+US implies that trade interdependence between the US and the PRC, Japan, and the Republic of Korea is higher than between ASEAN and the US.

**Figure 3: Trade Interdependence of Various ASEAN+3+1 Groupings**



ASEAN = Association of Southeast Asian Nations, AUS = Australia, IND = India, US = United States.

Source: Author's calculation based on UN Comtrade Data.

**Figure 4: Intra-regional Trade Share of ASEAN+3+Australia, 2009**

ASEAN = Association of Southeast Asian Nations.

Source: Author's calculation based on UN Comtrade Data.

In summary, while the intraregional trade share of ASEAN+3 is high, its trade intensity and introversion are low. If we add Australia to the group and compute intensity and introversion, the figures become much higher. The trade interdependence of ASEAN+3+Australia is substantial. In contrast, the trade interdependence of ASEAN+3+India is low in terms of share, intensity, and introversion. The introversion of ASEAN+US is negative, while that of ASEAN+3+US is positive due to the high level of trade interdependence between the US and the PRC, Japan, and the Republic of Korea. However, the level of the trade introversion indicator of ASEAN+3+US is not that high.

### 3. Relation between Trade Interdependence and Free Trade Agreements

#### 3.1. Two Types of Free Trade Agreements

Asian countries have been heavily engaged in FTA negotiations in the last decade. By the Asian Development Bank's count, there are 238 FTAs involving Asian countries that have been concluded and/or are under negotiation.<sup>13</sup> Based on the simple observation of a preponderance of FTAs, many have argued that Asia is in the process of deepening its level of de jure integration.

However, the factors behind the FTA phenomenon have not been fully analyzed. In particular, the relation between de facto and de jure trade integration has not been studied sufficiently. Many commentators argue that trade in Asia is integrating based on the increasing number of FTAs and the fact that several trade indicators (usually share or intensity) are exhibiting increasing trends. However, the very relationship between the two has not attracted sufficient attention. While one tends to assess whether or not the

<sup>13</sup> See Asia Regional Integration Center (ARIC) website, <http://aric.adb.org/>

proliferation of FTAs in Asia can be explained by the overall development of trade interdependence in the region,<sup>14</sup> such a general analysis does not reveal much about the relationship between de facto and de jure trade integration. Rather, we need to examine the level of economic interdependence of a particular set of Asian countries and consider whether this affects the modality of economic agreements among them.

There are two hypotheses with regard to the relationship between de facto and de jure trade integration. The first hypothesis holds that an increasing trend of trade interdependence between/among countries leads to the conclusion of FTAs between/among them. Some international relations scholars consider that an agreement becomes necessary, because economic interdependence brings problems that require collective action.<sup>15</sup> They argue that policymakers tend to formalize or institutionalize the management of increasingly complex and dense economic interdependencies within a region rather than solving issues through ad hoc political bargaining (Keohane 1993, Petri 1993). In their view, states cooperate to solve common problems arising from economic interdependencies.

Another type of hypothesis, which suggests the opposite causality, is also plausible. For policy perspective, many trade economists and policymakers argue that economic agreements are necessary to exploit the trade potential between the members that has yet to be realized.<sup>16</sup> There is more room for materializing potential trade if the actual level of trade interdependence is still low. Thus, we can theoretically argue that a low level of interdependence is a valid reason for signing a regional trade agreement.

### **3.2. Free Trade Agreements Resulting from High Levels of Trade Interdependence**

A typical example of an FTA resulting from high levels of trade interdependence is NAFTA. Trade interdependence among the three North American countries had been increasing prior to the conclusion of the FTA, especially during the second half of the 1980s. Andrew Hurrell has argued that “the choice facing the US and Mexico in the NAFTA process was not whether or not to move closer to each other, but rather whether the management of the increasingly complex and dense economic, environmental, and societal interdependencies that had emerged over the past 40 years should be formalized or institutionalized, or left to ad hoc political bargaining” (Hurrell 1995, p. 63). The North American countries needed a comprehensive agreement such as NAFTA to solve the problems associated with deepening de facto integration.

Trade interdependence between Japan and ASEAN increased after the mid-1980s. Japanese MNCs rapidly increased their foreign direct investment (FDI) in ASEAN when the Japanese yen sharply appreciated against the dollar following the Plaza Accord in

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<sup>14</sup> For example, Ravenhill (2010) tests the hypothesis that increased interdependence among East Asian economies has been responsible for the proliferation of FTAs in East Asia and enhanced financial cooperation such as the Chiang Mai Initiative Multilateralization.

<sup>15</sup> Those scholars are usually called (neo-liberal) institutionalists (Hurrell 1995).

<sup>16</sup> In the case of Asia, many argue that FTAs between India and other Asian countries are necessary on the grounds that such FTAs materialize the potential trade between them. For example, see: [http://www.ibef.org/Archives/ViewArticles.aspx?art\\_id=17510&cat\\_id=391](http://www.ibef.org/Archives/ViewArticles.aspx?art_id=17510&cat_id=391)

1985. Due to the production networks forged by Japanese MNCs, more trade, especially intra-corporation trade, was being conducted in the region. By 2000, economic interdependence between the two had already become significant and was marked by complex economic structures.

Given these developments, we can easily understand the rationale of the ASEAN–Japan Economic Partnership Agreement (EPA) proposed in 2002 and signed in 2010. A comprehensive agreement was required by both Japan and ASEAN. The EPA actually exceeds the coverage of a typical FTA and illustrates the desire of the contracting countries, especially Japan, to seek comprehensive *de jure* regional economic integration, particularly with respect to investment and services. In addition, the harmonization of various standards is an important component of the EPA as far as Japan is concerned (Hatch 2004).

It is undeniable that political motivations triggered negotiations over the EPA, with the Japanese Prime Minister proposing an ASEAN–Japan EPA soon after the PRC had proposed the ASEAN–PRC FTA. At the same time, however, economic conditions demanded a comprehensive integration agreement between Japan and ASEAN given significant *de facto* economic integration resulting from Japanese investments dating back to the mid-1980s. Because trade between Japan and ASEAN, as well as investments to build-up production networks, were already significant, a more complex mechanism to solve problems associated with trade interdependence was required to avoid the application of *ad hoc* solutions.

### **3.3. Free Trade Agreements Resulting from Low Levels of Trade Interdependence**

The ASEAN Free Trade Area (AFTA) was one of the first FTAs in Asia. In 1991, ASEAN Economic Ministers agreed to endorse AFTA and the Agreement on the Common Effective Preferential Tariff (CEPT) at the ASEAN Summit in 1992. The purpose of establishing AFTA was to increase ASEAN's competitive edge as a production base for global markets (Austria and Avila 2001). Given that trade interdependence within ASEAN had been declining since the 1980s, such a policy objective is understandable. Trade interdependence within ASEAN in terms of introversion declined significantly during the second half of the 1980s: from 0.73 in 1985 to 0.66 in 1990. ASEAN needed to liberalize trade so that the production bases and networks in the region could become more effective. Thus, it is plausible to consider that AFTA was expected to reverse the declining trend of trade interdependence within ASEAN.<sup>17</sup> A goods-centered, shallow agreement was sufficient to achieve this purpose. Yet, a more comprehensive agreement is becoming necessary as economic interdependence among ASEAN members increases.

Despite the common view that Asian trade integration is driven by the PRC, we have observed that trade interdependence between the PRC and ASEAN is relatively

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<sup>15</sup> What is interesting is that the decline in trade interdependence seems to have been the trigger of *de jure* trade integration in South Asia. While the South Asia Free Trade Agreement (SAFTA) was signed in 2006, intraregional trade interdependence in South Asia dropped significantly after 2003.

insignificant and has actually been declining. This is because the PRC is increasingly becoming a global, rather than a regional, trader. For example, the regional trade introversion index for ASEAN+PRC declined from 0.6 in 1980 to 0.4 in 2000. It was under such circumstances that the ASEAN–PRC FTA was first proposed. The agreement between ASEAN and the PRC emphasizes trade in goods by describing itself as an FTA, unlike the EPA between ASEAN and Japan. It also includes a significant Early Harvest Program on agricultural trade. Thus, we can argue that the fundamental purpose of the ASEAN–PRC FTA was to boost trade between the two as quickly as possible. Such a policy strategy is valid given that ASEAN has not been able to trade with the PRC as much as had been expected. In short, the ASEAN–PRC FTA was needed because ASEAN sought to increase its trade with the PRC. More precisely, ASEAN sought to arrest the declining trend of trade interdependence with the PRC, especially with respect to exports.

The background of the ASEAN–India FTA is similar to that of the ASEAN–PRC FTA. Given the low level of trade interdependence between ASEAN and India, an FTA was viewed as having the potential to increase trade between the two. In fact, the ASEAN–India FTA places an emphasis on the traditional area of an FTA, which is trade in goods. One difference between the ASEAN–PRC FTA and ASEAN–India FTA is that the former seeks to address the problems of declining trade interdependence between ASEAN and the PRC, while the latter aims to generate potential trade. Trade interdependence between ASEAN and India has increased recently although the level remains low.

If an ASEAN–US FTA is proposed, it will be to achieve the goal of increasing trade between ASEAN and the US, especially ASEAN's exports to US markets.<sup>18</sup> From the perspective of the US, more tangible outputs in fields other than trade in goods will be a requirement for signing an FTA. In particular, investment protection, intellectual property protection, and services liberalization are essential to the US. Perhaps this difference in preferences is one of the reasons why there has not been significant progress in negotiations over an economic agreement.

#### 4. Policy Implications

This paper's analysis on trade interdependence in Asia has clear policy implications for the membership and scope of *de jure* agreements. It should be noted that neither membership nor scope is a determining factor of one another. Rather, it is relevant to consider that the membership and scope of agreements, including the appropriate modalities, are in part determined by economic interdependence structures among (potential) participants.

It is fruitless to argue over the appropriate membership of an FTA without carefully analyzing the level and nature of trade and economic interdependence among various sets of countries in a region. In Asia, a simple argument in favor of a region-wide FTA to cover the entire geographical region is not convincing enough. An economic rationale for

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<sup>16</sup> In addition, from ASEAN's perspective maintaining the continuous engagement of the US in Southeast Asia is also important.

the membership of an existing or hypothetical regional agreement should be examined based on economic interdependence. For example, the trend and structure of trade interdependence between ASEAN and the PRC differ from those between ASEAN and Japan. This is one of the reasons why negotiations over an FTA among ASEAN+3 members have failed to gain momentum.

Likewise, it is also fruitless to argue the appropriate scope of de jure agreements without also carefully examining the level and nature of trade and economic interdependence among potential members. A simple argument such as “the more comprehensive the scope of regional agreement, the better” is not convincing enough. The required comprehensiveness of an agreement or the modality of agreements varies from group to group, depending on the level and trend of economic interdependence among group members. A set of countries attempting to solve the same types of problems tends to sign a regional agreement. The problems are not limited to those caused by increased trade interdependence among members. Declining interdependence can also be a problem addressed through an FTA. Since economic interdependence between ASEAN and the PRC was declining, an agreement to quickly boost trade was required. In the case of ASEAN and Japan, an agreement was needed to solve the problems associated with a high level of interdependence. Given differences in the economic interdependence structures of ASEAN+Japan and ASEAN+PRC, each needs a tailor-made agreement to serve members’ specific objectives. Thus, there appears to be little rationale to pursue an ASEAN+3 FTA.

While it is not easy to make a generalized argument based on the limited number of cases analyzed in this paper, a preliminary observation can be made based on the scope of the agreements reviewed. North–South FTAs that bring together developed and developing countries, especially developed and developing countries that are located near one another, tend to be more comprehensive agreements because members need to manage complex issues arising from substantial economic integration. NAFTA and the ASEAN–Japan EPA are illustrative examples. Meanwhile, South–South FTAs tend to be shallow goods-centered agreements since their immediate goal is to interrupt a declining trend of trade interdependence between members.

The variety of trade interdependence structures among economies in Asia may explain the proliferation of FTAs in the region. Because economic interdependence structures between various Asian countries are heterogeneous, Asia needs different types of FTAs for different sets of countries in order to serve the specific shared objective of each group. Thus, rather than having a single pan-Asian FTA encompassing all countries in the region, bilateral and plurilateral FTAs appear to be policymakers’ preferred options in meeting the actual needs of countries.

The empirical analysis contained in this paper provides insight into a future in which Asian policymakers pursue an FTA with a larger set of countries, if not a region-wide FTA or pan-Asian FTA. At least in terms of the level of trade interdependence, ASEAN+3+Australia seems to be more reasonable than an ASEAN+3 FTA. The trade interdependence of ASEAN+3+Australia is much higher than that of ASEAN+3 and is expected to become as significant as that of the EU and NAFTA in the near future. Because economic interdependence among ASEAN+3+Australia is high, a more

comprehensive agreement seems to be suitable for the group. The majority of this group—including Australia, Japan, the Republic of Korea, and most ASEAN countries—prefer a comprehensive agreement among them. For example, given the significance of food trade among members, having provisions calling for harmonization of food and safety standards (sanitary and phytosanitary and technical barriers to trade) seems reasonable. Moreover, because some Asian countries import a large amount of energy resources (e.g., oil and natural gas) from Australia, provisions addressing environmental issues would appear to be an essential component of an FTA to effectively manage trade and economic integration among members. In short, a comprehensive agreement among ASEAN+3+Australia to solve complex issues resulting from interdependence seems better than a shallow agreement that merely aims to boost trade among members.

## 5. Conclusion

In designing regional economic agreements, it is important to carefully examine the level and structure of trade interdependence among potential members. The rationale for forming economic agreements can be based on either high or low levels of trade interdependence. Countries sometimes need a relatively comprehensive agreement (e.g., substantial investment and intellectual property protection) to solve issues associated with high levels of trade interdependence. Meanwhile, a set of countries whose level of economic interdependence is low or declining may require a goods-centered agreement to boost trade between members.

Given that intraregional trade interdependence in ASEAN began declining in the mid-1980s, it is understandable that AFTA was established to reverse this trend and revitalize production networks in the region. Because trade interdependence between ASEAN and the PRC had been similarly declining, an agreement to boost trade between the two was necessary and a shallow goods-centered agreement was sufficient for serving this purpose. In contrast, ASEAN and Japan needed a more comprehensive agreement due to the level of economic interdependence generated by the production networks of Japanese MNCs. Because of different economic interdependence structures among various sets of Asian countries, especially differences between ASEAN–Japan and ASEAN–PRC, networking Asia with a series of bilateral and plurilateral FTAs has been more effective than having a region-wide FTA that includes all members of ASEAN+3.

If policymakers wished to pursue a larger FTA that includes wider membership and still considers levels of economic interdependence among potential members, a grouping of ASEAN+3+Australia would be more appropriate than ASEAN+3 alone. The trade interdependence of the former grouping is much higher than that of the latter. In this case a more comprehensive agreement covering a range of issues, including the harmonization of food and sanitary standards as well as energy and environmental issues, would be necessary to solve existing and future problems associated with high levels of interdependence among members.

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## **Is Trade in Asia Really Integrating?**

When trade interdependence between countries is low, they tend to sign a shallow goods-centered agreement to boost trade between them. In contrast, when a high level of trade interdependence is already achieved and the economic interdependence structure between them is complex, a deep agreement that formalizes economic relations is required to avoid ad hoc political bargaining. This difference is the key to understanding the rationale of the noodle bowl of FTAs in Asia.

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