

# A two-hub trading bloc in East Asia?

Chen Lurong

## [Abstract]

Asian countries are said to be on their way towards regionalism in the last decade as EU was born in Europe and NAFTA came into being in North America. There are currently more than 30 FTAs under working on among Asian nations. The dazzling network of FTAs makes it worthwhile to outline the underlying structure of the on going trading bloc in East Asia and to evaluate the potential effects of different FTAs.

In this paper we draw an outline of Asian regional trading bloc with the aid of the gravity model and the two indices – HM and BTL, based on which we find that Japan and China are the two individual hub candidates in the region. Even though neither of them has a *de facto* dominant position in the region from the aspect of international trade, we believe that they are the only two individuals that are qualified to become the hub in the region.

It shows that so far the most influential FTA might be China-ASEAN FTA. Once it is fully implemented, it will be very difficult for the other countries to keep apart from it. In order to avoid to fall in the “spoke trap”, other countries might choose either to join China-ASEAN FTA earlier or move fast to establish their own FTA(s).

**Keywords:** East Asia, Regionalism, FTA, Bilateral Trade Liberalization

**JEL Classification:** C23, F13, F14, F15, F17, O53, R12

## 1. Introduction

East Asian countries<sup>1</sup> are said to be on their way towards regionalism in the last two decades. Just as many other regional trade agreements among developing countries, the political progress of the economic integration in East Asia seems to be rather a topic on the papers until the last five years. There are currently more than 30 free trade agreements (FTAs) or FTAs under negotiation among the nations in the region. The various degrees of liberalization and the different paces in the negotiations have made up a dazzling network which prevents us from having a full picture on the real process of East Asian regionalism. In order to understand what is going on in the region, it is worthwhile for us to outline the underlying structure of such a network and to evaluate the potential impacts of these arrangements at least from the perspective of international trade.

When policymakers are thinking about creating or joining a FTA, they always concern that trade liberalization will cause industries to reallocate among the member countries. As trade cost declines, a couple of economic elements such as economies of scale and so called 'home market effects' will drive industries to reallocate in big markets and produce there. That is, trade liberalization will affect the geographic distribution of industries within a regional free trade zone. As more and more industries agglomerate in one or few nation(s), the market sizes of those host nation(s) will enlarge; whilst the markets of the other nations will shrink. At a result, we will see the former become the center of regional economy, so called the 'hub'; while the latter become 'spokes' because their economies are seriously marginalized. The outcome of a free trading bloc driven by pure market forces with any political designations is very likely to be in such a hub-and-spokes pattern. Moreover, once this pattern is set up, it is hardly to be revised.

In literature, the idea of hub-and-spoke arrangement of FTAs in East Asia was recently raised by Baldwin (2002 and 2004), in which he analyses the trade pattern among the main Asian countries and warns that some small economies within the region might burden the negative impacts of bilateral trade liberalization by falling into so called 'spoke traps'. The fundamental of

this hub-and-spoke regionalism is in deed on the theory of new economic geography where economies of scale in industries are the crucial assumption. In short, the theory of hub-and-spoke regionalism argues that in general it is good to be a hub whilst it is bad to be a spoke. As that Baldwin (2004) summarizes, there are three typical advantages for the hub nation within a regional trading bloc: (1) As many industries will agglomerate into the hub nation, the hub-based firms will be more efficient and more competitive. A hub-and-spoke arrangement favors industries in the hub nation at the expense of industries in the spoke nations. (2) Because most of the investors' decisions are based the consideration of the market size, most of new investments will go to the hub nation, which re-enforces the nation's big market advantages. (3) The property of self-enforced agglomeration will lead to a one-way process of industry reallocation in the region – *'Once a particular location gets a head start, it may be extremely difficult for other regions to catch up as investment deterring effects of the current hub and spoke system may have consequences that last far beyond the termination of that system'*.<sup>2</sup> Furthermore, using the experience of NAFTA and EU for reference, he also suggests that small economies might be able to avoid the spoke-typed marginalization via their early integration with the 'hub' candidate or by initializing a FTA which is supposed to trigger the 'domino effect' in the region.

Even though the industry reallocation generated by hub-and-spoke regionalism has not yet taken place, the possibility of being a spoke nation grows while a hub in the region is on shape. The consideration on their positions in the circle will affect the nations' decision making during the free trade negotiation and therefore influence the process of East Asian regionalism. Different from NAFTA where the USA's hub position is obvious; and from EU which is well institute-constructed, the situation in East Asia is rather intricate because of the various economic gaps among member nations plus the lack of super-national institutions and the lack of powerful leader in the region. More precisely, the question mark comes from the existence of the two big economies in the region -- Japan and China, which makes it even harder to predict the direction of the regional integration in

East Asia. Albeit he suggest that the optimal decision is to build on bilateral FTAs with Japan, the birth of China-ASEAN FTA makes Baldwin (2004) modify his proposal to an ‘East Asian bicycle’ where Japan and China are the axis of the two wheels respectively.

The purpose of this chapter is to figure out such a two-hub structure in extension to Baldwin (2004). First of all we test the existence of intra-regional trade bias in East Asia in section 2. In section 3, we study the countries’ market dependences by reproducing the HM index which is created and employed by Baldwin (2004), but using a different data source and extending to do the calculation based on bilateral trade in manufacturing goods and that in intermediate goods. After that we attempt to evaluate nations’ bilateral trade relations using the BTL index in section 4. Finally we compare several possible arrangements to see which one would trigger the domino effect of regionalism in East Asia. Some concluding remarks are presented at the end.

## 2. The existence of the intra-regional trade bias in East Asia

As a starting point, we test the existence of the trading bloc by running a regression on the gravity model including a dummy variable to measure the possible intra-regional trade bias for East Asian countries.

$$\ln M_{ij} = a_0 + a_1 \ln Y_i + a_2 \ln Y_j + a_3 \ln y_i + a_4 \ln y_j + a_5 \ln d_{ij} + a_6 \text{Dummy} \quad (1)$$

where  $Y$  denotes country’s GDP PPP;  $y$  denotes GDP per Capita;  $d_{ij}$  distance; and  $M_{ij}$  denotes country  $i$ ’s imports from country  $j$ . All the variables are in form of logarithm. The value of the dummy variable equals to 1 only when both the importer and the exporter are East Asian countries. The regressions are based on 87 countries’ bilateral trade data in year 2002.

[Table 1 here]

The coefficients in the logarithm function essentially represent the elasticity of each independent variable on the bilateral trade flow. At first sight on table 1, all the coefficients are

with their expected signs. The elasticity of the economic factors of the export country is more influential than that of the import country. The positive effect of the dummy is significant, meaning that East Asian nations in general prefer to trade more with each other. The bilateral trade in aggregate trade between the two East Asian countries is around 86 per cent higher than the average level<sup>3</sup>. The bias is even more significant in the regressions on trade in manufacturing and trade in parts and components, of which the intra-regional trade is 1.7 times<sup>4</sup> and 2.5 times<sup>5</sup> higher respectively. Supposed that the elasticity of geographic distance is identical, the intra-regional bias of trade in parts and components is much more significant than that of aggregate trade, which partially supports the argument that East Asian countries tie up their economies via regional production sharing. The results demonstrate the existence of the *de facto* intra-regional trade bias in East Asia. Moreover, it suggests that analyses based on trade in parts and components among East Asian countries could help us have a better understanding on East Asian regionalism.

### **3. Japan and China as the two individual hub candidates**

Before evaluating the importance of a nation's market using the HM index, we first of all introduce the concept of hub-and-spoke bilateralism. From the mercantilist view of trade negotiation, countries are normally export-preferred and import-reluctant. In general countries open their home market under the conditions that they will also be able to get access to those trade partners' domestic markets. Therefore the political economy of trade negotiate is essentially the exchange of markets access, of which the success or the failure depends on the interactions between the so called 'pro-liberalization' groups (mainly consist of export promotion industries) and 'anti-liberalization' groups (mainly consist of import competition industries).<sup>6</sup> Based on this logic, we can image that it would be easier for two nations, say country A and country B, to establish a bilateral free trade agreement successfully in three situations in follows:

Situation 1: country B is one of the biggest destinations of country A's exports. Because the market in country B is so important to country A, the pro-liberalization groups in country A will push their government hard to establish a FTA with country B lest their market will be taken away by some other countries having FTA with country.

Situation 2: the imports from country A takes only a small share of country B's total imports. When country A comes to ask for a FTA, (which is probably driven by some geopolitical considerations), the opposition from the domestic import competition industry in country B will be relatively small, which allows policymakers in country B to sign a bilateral agreement to liberalize trade with country A.

Situation 3: The asymmetry in countries' economic sizes will also facilitate the trade negotiation. For instance, country B is very big but country A is very small. Even though the *de facto* bilateral trade flow is still quite small, country A will always be interested in entering into country B's big market promoted by a bilateral FTA. From the perspective of country B, country A is so small that the open up of bilateral free trade will only generate a small number of domestic losers. Since this side effect can easily be compensated by the nation's overall welfare gains from free trade, it is very likely that the two countries can eventually set up a FTA. In comparison, the process of the FTA negotiation between two big economies is rather difficult because in either country the 'struggle' between the domestic 'pro-liberalization' groups and 'anti-liberalization' groups is normally so intensive that policymakers can hardly make the decision and it takes times for both sides to reach a consensus. A FTA negotiation between two small nations also takes a long time because either side is lack of motivation to move forward due to the small market potential.

The formula below illustrates the three conditions summarized above, in which  $HM_B$  measures the 'hub-ness' of country B to country A.  $X_{AB}$  denotes the exports from A to B as a share of country A's total exports;  $M_{BA}$  denotes country B's imports from A as a share of its total imports.

$$HM_B = X_{AB} \cdot (1 - M_{BA}) \quad (2)$$

The value of HM ranges from 0 to 1, of which the closer the value to 1, the deeper the dependence of country A's exports on country B's market.

[Table 2 here]

We can see the overwhelming influence of the economy of Japan and China within the region from Table 2, where we list the HM indices calculated for Japan, Korea, China, Australia, New Zealand and the five big ASEAN member nations. The number in the bracket ranks the importance of the markets. The number '1' means the most important market to the country, the number '2' means the second most important market; while the number '9' means the most 'ignorable' market. For instance, the HM of China to Japan is 7.68 per cent (as that is shown in the third cell of the second row of the table); the number '1' in the bracket indicates that from the perspective of foreign trade of Japan, China's market is more important than that of any other nations; while on the side of China, the HM of Japan is 12.72 per cent, showing that Japan is also the most important market to China within the region. For each individual country, we simply sum up their ranks in each row and list their 'overall rank' at the bottom of the table 2. Intuitively, the country with the lowest value of 'overall rank' is the most important market to the other nations and is most likely to become a 'hub' in the region when there is a hub-and-spoke pattern there. Per data in the table, Japan and China, the two top markets within the region, are the only candidates for the hub position of the circle.

Next, we reproduce HM indices in table 3-1 to compare 'hub-ness' for six markets: four intra candidates (Japan, China, Korea and ASEAN<sup>7</sup>) and two extra candidates (US and EU).

[Table 3-1 here]

Table 2 and table 3-1 allow us to evaluate nations' current position in East Asia from the perspective of market dependence. Firstly, unlike the situation in North America and that in Europe,

there is no overwhelming dominant economy in the regional economy either internally or externally. Albeit US is still the most influential market to most of the East Asian countries, even for Japan, the country in the region that appears to be the most dependent on the USA's market, the value of its HM on US is less than 25 per cent, much less concentrative than that in the western hemisphere (Baldwin, 2004). Furthermore, it shows that East Asian countries still highly depend on the two extra-regional markets. In fact, the influence from US and EU is so significant in the region that we can hardly see a leap of East Asian regionalism unless the member nations in the region can release their highly dependence on the markets of US or EU.

Secondly, though Japan is still the most important market within the region for most of its Asian neighbors, it is facing the challenge from China, who is growing so fast in the last three decades and is now able to compete for the leading position of the regional economy. In particular, China is currently the biggest market to Korea, which hints that Korea will now consider China instead of Japan as a prior choice of bilateral trade liberalization once it decides to set up a FTA in East Asia.

Thirdly, it shows that we should not overlook the role of ASEAN once we consider it as a *de facto* integrated economic entity in the region. From the perspective of Korea, the market of ASEAN as a whole is slightly more important than that of Japan; while on the side of Japan, the market of ASEAN is indeed far more important than that of Korea. In comparison to the minor position in the case that they play individually, it might be more beneficial for ASEAN members to move synchronically as a group when they negotiate FTA with other countries.

Fourthly, at the level of aggregate trade, the two Oceania countries are closely related to East Asian countries especially Japan. About 20 per cent of the exports from Australia go to Japan, which is double than that the overall flows to US and 50 per cent more than the total exports to EU.

[Table 3-2 here]

[Table 3-3 here]

In extension, we reproduce HM index based on the trade in manufacturing goods and trade in parts and components and present the results in table 3-2 and table 3-3 respectively. The influences from US and EU magnify when we narrow the calculation based on the trade flows in manufacturing goods. The USA is a universal favorite partner for bilateral trade liberalization for all the nations in our sample except for Singapore if we only concern trade in manufacturing goods. The 'hub-ness' of Japan is weakened in comparison to its level of aggregate trade. Though Table 3-1 shows that Japan's market is very important to Australia and New Zealand, in Table 3-2 and table 3-3 the value of HM index of Japan to them are extremely low. The difference can be explained by the export structure of these two countries. The motivation of their active participation into East Asian regionalism might come from either agriculture sector or service sector but apparently not manufacturing sector.

Regarding the trade in manufacturing goods, China is now the most important market to Australia and New Zealand in the region. It shows that China's market is indeed much more important to Japan's exports of parts and components than the other way round. Exports of parts and components from Korea, Malaysia and Singapore are also more dependent on China's market than on Japan's. China's eligibility to be an individual 'hub' comes out to be clear once we look at the production sharing in the region. Moreover, the centripetal force of ASEAN as an economic entity is indeed quite remarkable, which are essentially linked by intra-industry trade in parts and components.

Generally speaking, Japan is still the first candidate for the individual 'hub' in the region in case there is a hub-and-spoke arrangement comes into being. However, the fast growth of China not only has enable itself as a competitor for this regional leadership but has brought it about a *de facto* hub-ness position at the manufacturing sector especially trade in parts and components.

#### 4. The *de facto* bilateral trade liberalization in East Asian countries

One of the methods to estimate the *de facto* bilateral trade relation between nations is via calculating BTL (the index of *de facto* bilateral trade liberation). The basic idea of calculating BTL is to decompose the policy frictions from trade cost by considering bilateral trade as an outcome of a mixture of economic and political factors. The components of the term ‘trade cost’ are very difficult to be specified accurately in practice. Holding the assumption that all the other elements of trade cost can affect countries’ bilateral trade flow via their impacts on the geographic distance, we introduce a term called ‘economic distance’ (*ED*) which is defined as geographic distance (*Dist<sub>ij</sub>*) multiple by a parameter *A*.

$$ED=A*GD \quad (3)$$

Accordingly a revised version of gravity equation looks like

$$IM_{ij} = \frac{(GDP_i^{\beta_1} \cdot GDP_j^{\beta_2}) \cdot (K_i^{\beta_3} \cdot K_j^{\beta_4})}{(A_{ij} \times Dist_{ij})^{\beta_5}} \quad (4)$$

It transfers to equation (5) taking in logarithm form

$$\begin{aligned} \log(IM_{ij})_t = & \beta_1 \times \log(GDP_i)_t + \beta_2 \times \log(GDP_j)_t + \beta_3 \times \log(K_i)_t + \beta_4 \times \log(K_j)_t \\ & + \beta_5 \times \log(Dist_{ij}) + \beta_5 \times \log(\hat{A}_{ij}) \end{aligned} \quad (5)$$

To estimate the parameters in the equation above based on the fixed effect regression on panel data, we have

$$\begin{aligned} \log(IM_{ij})_t = & \hat{\beta}_1 \times \log(GDP_i)_t + \hat{\beta}_2 \times \log(GDP_j)_t + \hat{\beta}_3 \times \log(K_i)_t + \hat{\beta}_4 \times \log(K_j)_t \\ & + \hat{\beta}_5 \times \log(Dist_{ij}) + FE_{ij} + v_{ij,t} \end{aligned} \quad (6)$$

where  $\hat{\beta}_i$  ( $i=1 \dots 5$ ) is the estimated marginal effect of each independent variable;  $FE_{ij}$  denotes the fix effect of the section,  $V_{ij,t}$  is white noise.

From equation (5) and (6), we have  $\hat{\beta}_5 \times \log(\hat{A}_{ij}) = FE_{ij}$ , where  $\hat{A}_{ij}$  represents  $BTL_{ij}$ .<sup>8</sup> As an indicator of the countries' bilateral trade liberalization, the smaller the value of  $BTL_{ij}$ , the higher the degree of market openness of country  $i$  to country  $j$ .<sup>9</sup> Furthermore,  $BTL_{ij} < 1$  can be interpreted as a signal of "pro-trade" effects of bilateral trade policy that encourage country  $i$  to import more from country  $j$ ; while  $BTL_{ij} > 1$  is a signal of "anti-trade" effects showing the additional cost of country  $i$ 's import from country  $j$  due to political frictions.

[Table 4 here]

We list the import countries  $i$  in the left column and export countries  $j$  in the top row. The value in the cell indicates the preference of trade policy that country  $i$  offer to country  $j$ . Here we assume the trade preference is an asymmetric index – that is, the policy preference that country  $i$  offers to country  $j$  is not necessary the same as that country  $j$  offers to country  $i$  though preferential treatments are normally reciprocal.

It shows in Table 4 that Japan has opened its domestic market to other countries to a high level, especially to Korea and China. As a return, it also enjoys preference to access those countries' markets. The relatively low trade cost not only drive other Asian countries to trade more but also encourage them to carry out high level economic cooperation with Japan, which in consequence contribute to build up Japan's leadership in the region. As the only developed country in the region, Japan might exports capital intensive goods to other labor-abundant Asian countries in exchange of labor intensive goods taking advantage of its high capital/labor ratio. Moreover, international fragmentation and outsourcing strategies will motivate it to distribute most of manufacturing processes to other Asian countries where the labor is relatively cheaper but only keep those key production or service stages at home. Similar to its role in so called 'goose-flight

formation' of Asian industrialization where it plays as a head goose, Japan might still be the core of regional production sharing circle in East Asia because of its technical and capital advantages.

Moreover, the *de facto* tight trade linkage among the 'Big Three' countries -- Korea, Japan and China<sup>10</sup> is obvious. Theoretically it is easier for those markets with high openness to move a step further to fully liberalize trade relations simply because the resistance from the import competition groups would be relatively small. As least from the economic perspective, it is likely that Korea, Japan and China will liberalize their markets in faster paces as countries normally prefer to establish bilateral free trade agreements with those partners that are close to them. .

The results above enforce our findings that Japan and China are the only two individual hub candidates in the region. Moreover, they also suggest that Korea might be able to 'share' some benefits coming along as a hub economy by setting up a FTA with Japan and Korea taking advantage of its *de facto* close tie with Japan and China. The 'Big Three' proposal makes sense as it will consist of two biggest economies in East Asia, where Seoul is supposed to be a bridge between Tokyo and Beijing. If Korea could push this happened, the 'Big Three' proposal will be very appealing to the rest of countries in the region.

## **5. The fundamental arrangement and perspectives on East Asian regionalism**

In this section, we try to find a possible FTA that will effectively trigger other nations running to join it based on the market size that the arrangement could generate initially. Based on the logic of 'what if it happened', we set off our discussion from three aspects in follows.

### **a. JKFTA vs. the 'Big Three' proposal**

It is until we exam the countries' bilateral trade relation based on BTL index that Korea grasps our attention. Albeit it is indeed one of the most active players in East Asian regionalism, economically Korea is too small to be an individual hub. Its GDP is only about half of that of

China and about 1/8 of that of Japan.<sup>11</sup> And in geography it locates between two biggest countries in East Asia. It is likely that Korea will be the first loser in case China and Japan belong to different FTAs, but Korea is in neither of them. (Kang, 2005) In particular, a FTA between China and other countries such as the one with ASEAN would make Korea nervous because its economy is now depending on China so deeply that it would be too painful to lose this market.

One rationale for Korea to vie for hub-ness position is to ‘fly earlier’ to liberalize its trade relation with either Japan or China on its own initiative. In fact, it seems to be what Seoul is trying to achieve so far. The bilateral trade barrier between Korea and Japan; or that between China and Korea is already very low. Ideally it would be good for Korea to set up a bilateral FTA with Japan (JKFTA proposal) or to sign a trilateral FTA with both China and Japan (‘Big Three’ proposal).

#### b. China – ASEAN FTA vs. Japan- ASEAN FTA

As we mentioned above, since they are relatively too small in economic size, it is better for ASEAN members to move together to negotiate free trade with other countries. Even though, they still need to seek either China or Japan as their initial ally in order to create a market large enough to generate the domino effect to fascinate other countries to join the agreement.

China signed an exclusive FTA with ASEAN in late 2004, which is supposed to create the most populous FTA in the world – with around 1.7 billion consumers and a total GDP of nearly 2 trillion US dollars. Compared to JKFTA, the negotiation of China-ASEAN FTA started later but reached the agreement earlier. Japanese government has commenced a series of FTA negotiations with individual ASEAN members since its first FTA in the region with Singapore in early 2002. It has also signed agreements (or performed formal negotiations) with the other four main ASEAN members (Philippines, Malaysia, Thailand and Indonesia) till early 2005. We loosely call all these FTAs (negotiations) as Japan-ASEAN FTA in the following just to simplify the text.

It shows that either China-ASEAN FTA or the Japan-ASEAN FTA could get birth to a combined market that is big enough to marginalize the economies outside the arrangement. Though it is still difficult to predict which of the arrangement is more appealing, the fact that China-ASEAN FTA is already there plus Korea's exports stick to China's market so much does persuade us to put more weight on the former. Once Korea joined China-ASEAN, it is very likely this arrangement would trigger the 'domino effect' of regionalism in East Asia.

#### c. Australia+New Zealand+ASEAN FTA

Despite their geographic disadvantage, Australia and New Zealand are also very active players in East Asian regional integration. Both of them are currently negotiating FTA with China and attempting to open free trade negotiations with Japan. Australia, New Zealand and ASEAN commenced a trilateral FTA negotiation in early 2005, which is supposed to conclude a FTA by year 2007. Exports of agriculture from Australia depend more on Japan's market; while its exports in manufacturing depend more on China. Moreover, New Zealand would always like to join those FTAs that Australia participates in.

[Table 5 here]

Based on the comparison above, we come to provide an outline of East Asian regionalism from six aspects. First of all, so far there is no single FTA or FTA under negotiation that has already had the 'universal gravitation' to all the countries in the region. The 'wild fire' of Asian regionalism refers to situation where countries are running to initialize their own FTA, but no one is willing to join those agreements already set up by others. From this aspect, we would like to argue that East Asian regionalism is still in its infant stage.

Second, we would like to say China has moved from a passive participant on regionalism to a promoter of regional trade liberalization after its entry to WTO. China-ASEAN FTA might be a milestone of East Asian regionalism. The substantive provisions of the agreement will bring about

the implementation of zero tariffs on bilateral trade within the next ten years. This largest FTA in the world would cover nearly two billion people with a combined GDP of around two trillion US dollars by year 2010. (Lim, 2004) As we can see, Japan, Korea, Australia and New Zealand are now talking to either China or/and ASEAN about FTA since the frameworks of China-ASEAN FTA were signed in later 2004. The rationale behind the scene is that once there is a dominant market generated by a FTA in the region, the risk to fall into the 'spoke' trap for outsiders will increase as a consequence of the regional trade liberalization.

Third, the last FTA Japan would like to see is the indeed China-ASEAN FTA simply because of its highly dependence of the two economies. The complementarities of Japan and China are rather apparent: the former is capital abundant, labor expensive but deficient in resources; while the latter has the largest population and the third largest territory in the world. It is very likely that Japan is treating China one of its 'production bases'. As Japan is shifting its economy to high value-added, service-focused industry, it is outsourcing more and more fragmented manufacturing procedures to China. One of the possible routines is that it exports high-tech intensive or capital-intensive parts and components to China to finish those labor-intensive procedures there. The cheap labor cost guarantees the competitiveness of Japanese products in the global market. Japan has been China's biggest trade partner for ten years while China is currently Japan's biggest partner in corresponding. A FTA between China and some other nations would pose negative impacts on Japan's exports via the direct trade diversification and the competitiveness shifting because China will not only import more final goods from those countries having FTA with but also buy more intermediate goods from them.

Fourth, Korea will not be happy to see a FTA between China and another nation party without its participation such as the creation of China-ASEAN FTA in year 2004. As we have shown, Korea's export industries are depending on Chinese economy (19.5 per cent) much more deeply than it is on Japanese market (8.8 per cent). China is currently the largest market for Korea while

ASEAN is the fifth. The implementation of China–ASEAN FTA will generate the world’s most populous united market. The preferential treatment between China and ASEAN would diversify Korea’s original exports to either of them. More seriously, effects of market agglomeration will not only force more industries to reallocate in China-ASEAN free trade zone but also diversify foreign investments apart from Korea. In order to avoid these negative impacts, Seoul might choose either to join the agreement early or to contend it with its own initial, for instance, a FTA with Japan.

Fifth, after concluding an agreement with China in 2004, ASEAN seems to be a focus of East Asian regionalism as Japan, Korea, Australia and New Zealand come to ask for FTAs. Since early 2005, all of them have announced that they are going to open free trade negotiations with ASEAN.<sup>12</sup> In order to play a role as a real nucleus of Asian regionalism, ASEAN must first of all realize a single market or at least a highly integrated market among its ten member nations. The integration is not easily achievable, however, due to the wide range of economic development among its members.

Finally, Australia and New Zealand are also Asia-oriented. Both of them depend on East Asian markets deeply. Being excluded from East Asia regional integration will cost them much. In comparison to the other participants, Australia and New Zealand are at an inferior position geographically but have compensated for this disadvantage by lowering trade barriers. It seems that a joint deal with Japan would be interesting to both Australia and New Zealand.

## **6. Concluding remarks**

In this chapter we have drawn an outline of Asian regional trading bloc with the aid of two indices – HM and BTL. Our findings support that both Japan and China can be the individual hub candidate in the region even though neither of them has a *de facto* dominant position in the region

from the aspect of international trade. Therefore the FTA that might trigger domino effects of regionalism in East Asia should be the one that contains either Japan or China.

We would like to see China-ASEAN FTA as a milestone in Asian regional integration. Once China-ASEAN FTA is fully implemented, it would be very difficult for the others such as Japan, Korea, Australia and New Zealand to say 'no' to join it. Moreover, if it eventually works out to be a fundamental arrangement of regional economic integration, those economies refusing to join China-ASEAN FTA might be marginalized. In order to avoid this "spoke traps", the nations have either to join China-ASEAN FTA early on or to move fast to establish their own FTA(s). Either approach, however, would promote the whole process of East Asian regionalism.

**Table 1: The estimation of the *de facto* intra-regional trade bias in East Asia**

|                         | Dependent variable |                          |                               |
|-------------------------|--------------------|--------------------------|-------------------------------|
|                         | Aggregate imports  | Imports in manufacturing | Imports in intermediate goods |
| GDP importer            | .87***<br>(.013)   | .76***<br>(.014)         | .77***<br>(.016)              |
| GDP exporter            | 1.00***<br>(.012)  | 1.04***<br>(.014)        | 1.06***<br>(.015)             |
| GDP per Capita importer | .41***<br>(.023)   | .51***<br>(.027)         | .44***<br>(.029)              |
| GDP per Capita exporter | .54***<br>(.022)   | .90***<br>(.025)         | 1.09***<br>(.027)             |
| Distance                | -1.08***<br>(.023) | -1.03***<br>(.026)       | -1.02***<br>(.028)            |
| Intra-regional bias     | .62***<br>(.088)   | 1.01***<br>(.094)        | 1.25***<br>(.107)             |
|                         |                    |                          |                               |
| R <sup>2</sup>          | .69                | .67                      | .66                           |
| Obs                     | 7399               | 6689                     | 7399                          |

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Sources:

All data is for year 2002.

The data of GDP PPP and GDP per Capita PPP comes from WDI 2004, the data of distance comes from CEP II geography database; the bilateral trade in intermediate goods is from the calculation based on UN COMTRADE database 2004.

**Table 2: HM matrix for selected countries, 2002 (based on aggregate trade flows)**

|                 | Japan                | China                | Korea        | Indonesia    | Malaysia             | Philippines  | Singapore            | Thailand     | Australia            | New Zealand  |
|-----------------|----------------------|----------------------|--------------|--------------|----------------------|--------------|----------------------|--------------|----------------------|--------------|
| Japan           |                      | <b>12.72%</b><br>(1) | 4.89%<br>(2) | 1.04%<br>(8) | 2.10%<br>(5)         | 1.46%<br>(7) | 2.89%<br>(3)         | 2.22%<br>(4) | 1.64%<br>(6)         | 0.28%<br>(9) |
| China           | <b>7.68%</b><br>(1)  |                      | 3.16%<br>(2) | 0.73%<br>(8) | 1.17%<br>(4)         | 0.75%<br>(6) | 1.85%<br>(3)         | 0.74%<br>(7) | 1.14%<br>(5)         | 0.15%<br>(9) |
| Korea           | 8.77%<br>(2)         | <b>19.45%</b><br>(1) |              | 1.86%<br>(4) | 1.85%<br>(5)         | 1.66%<br>(6) | 2.49%<br>(3)         | 1.10%<br>(8) | 1.39%<br>(7)         | 0.19%<br>(9) |
| Indonesia       | <b>20.71%</b><br>(1) | 7.22%<br>(3)         | 7.14%<br>(4) |              | 3.55%<br>(5)         | 1.35%<br>(8) | 9.35%<br>(2)         | 1.82%<br>(7) | 3.33%<br>(6)         | 0.26%<br>(9) |
| Malaysia        | 10.67%<br>(3)        | 10.89%<br>(2)        | 3.20%<br>(5) | 1.86%<br>(7) |                      | 1.39%<br>(8) | <b>13.14%</b><br>(1) | 3.39%<br>(4) | 2.20%<br>(6)         | 0.34%<br>(9) |
| Philippines     | <b>14.51%</b><br>(1) | 10.36%<br>(2)        | 3.71%<br>(6) | 0.58%<br>(8) | 4.47%<br>(4)         |              | 6.81%<br>(3)         | 3.79%<br>(5) | 1.00%<br>(7)         | 0.06%<br>(9) |
| Singapore       | 6.97%<br>(3)         | 14.06%<br>(2)        | 3.99%<br>(5) | n.a.<br>(9)  | <b>15.43%</b><br>(1) | 2.27%<br>(7) |                      | 4.03%<br>(4) | 2.61%<br>(6)         | 0.33%<br>(8) |
| Thailand        | <b>14.11%</b><br>(1) | 9.16%<br>(2)         | 1.83%<br>(7) | 1.86%<br>(6) | 3.92%<br>(4)         | 1.69%<br>(8) | 7.54%<br>(3)         |              | 2.01%<br>(5)         | 0.27%<br>(9) |
| Australia       | <b>18.50%</b><br>(1) | 9.97%<br>(2)         | 8.30%<br>(3) | 2.51%<br>(6) | 1.91%<br>(7)         | 0.96%<br>(9) | 4.12%<br>(5)         | 1.78%<br>(8) |                      | 5.76%<br>(4) |
| New Zealand     | 11.58%<br>(2)        | 6.72%<br>(3)         | 4.46%<br>(4) | 1.48%<br>(7) | 1.92%<br>(5)         | 1.52%<br>(6) | 1.26%<br>(8)         | 1.21%<br>(9) | <b>19.83%</b><br>(1) |              |
| Overall ranking | <b>17</b>            | <b>18</b>            | 38           | 61           | 40                   | 65           | 31                   | 56           | 49                   | 75           |

Source:  
Author's calculation based on UN COMTRADE database 2004.

**Table 3-1: HM for East Asian countries on the selected markets (aggregate trade)**

|             | Japan         | China         | Korea | ASEAN5        | USA           | EU     |
|-------------|---------------|---------------|-------|---------------|---------------|--------|
| Japan       |               | 12.72%        | 4.89% | 9.90%         | <b>24.58%</b> | 13.95% |
| China       | 7.68%         |               | 3.16% | 5.26%         | <b>17.84%</b> | 13.35% |
| Korea       | 8.77%         | <b>19.45%</b> |       | 9.00%         | 19.41%        | 13.16% |
| Indonesia   | <b>20.71%</b> | 7.22%         | 7.14% | 16.01%        | 13.10%        | 13.78% |
| Malaysia    | 10.67%        | 10.89%        | 3.20% | <b>21.55%</b> | 20.08%        | 12.17% |
| Philippines | 14.51%        | 10.36%        | 3.71% | 15.72%        | <b>24.33%</b> | 18.01% |
| Singapore   | 6.97%         | 14.06%        | 3.99% | <b>22.87%</b> | 14.98%        | 12.40% |
| Thailand    | 14.11%        | 9.16%         | 1.83% | 15.37%        | <b>19.81%</b> | 15.91% |
| Australia   | <b>18.50%</b> | 9.97%         | 8.30% | 11.28%        | 9.67%         | 12.37% |
| NewZealand  | 11.58%        | 6.72%         | 4.46% | 7.38%         | <b>15.44%</b> | 15.00% |

Notes:

The index for Thailand is based on the data of year 2001.

The indices for the other nations are based on the data of year 2002.

Source:

Author's calculation based on the data from UN COMTRADE database 2004.

**Table 3-2: HM for East Asian countries on the selected markets (trade in manufacturing goods)**

|             | Japan  | China  | Korea | ASEAN5 | USA           | EU     |
|-------------|--------|--------|-------|--------|---------------|--------|
| Japan       |        | 10.53% | 3.80% | 8.85%  | <b>27.32%</b> | 14.96% |
| China       | 8.63%  |        | 2.80% | 5.50%  | <b>23.70%</b> | 16.82% |
| Korea       | 6.90%  | 14.56% |       | 8.39%  | <b>23.93%</b> | 16.50% |
| Indonesia   | 10.18% | 3.19%  | 1.35% | 22.58% | <b>26.20%</b> | 20.86% |
| Malaysia    | 8.55%  | 10.14% | 2.21% | 20.93% | <b>27.04%</b> | 13.86% |
| Philippines | 13.85% | 10.05% | 3.26% | 15.98% | <b>25.26%</b> | 18.84% |
| Singapore   | 7.47%  | 12.45% | 4.44% | 22.65% | <b>18.39%</b> | 13.80% |
| Thailand    | 14.74% | 6.24%  | 1.57% | 15.26% | <b>24.15%</b> | 19.39% |
| Australia   | 2.54%  | 5.85%  | 3.34% | 10.24% | <b>21.11%</b> | 13.83% |
| NewZealand  | 1.66%  | 2.45%  | 0.71% | 4.65%  | <b>20.82%</b> | 10.63% |

Notes:

The index for Thailand is based on the data of year 2001.

The indices for the other nations are based on the data of year 2002.

Source:

Author's calculation based on the data from UN COMTRADE database 2004.

**Table 3-3: HM for East Asian countries on the selected markets (trade in parts and components)**

|             | Japan  | China  | Korea | ASEAN5        | USA           | EU     |
|-------------|--------|--------|-------|---------------|---------------|--------|
| Japan       |        | 7.80%  | 4.02% | 7.98%         | <b>25.89%</b> | 15.45% |
| China       | 8.35%  |        | 3.48% | 9.08%         | <b>17.24%</b> | 13.41% |
| Korea       | 5.52%  | 19.12% |       | 10.16%        | <b>22.46%</b> | 13.45% |
| Indonesia   | 10.84% | 3.61%  | 1.68% | <b>54.29%</b> | 14.36%        | 8.01%  |
| Malaysia    | 7.96%  | 10.36% | 2.09% | 21.24%        | <b>27.04%</b> | 11.81% |
| Philippines | 18.98% | 12.80% | 3.17% | <b>25.92%</b> | 17.28%        | 13.35% |
| Singapore   | 5.74%  | 12.23% | 2.17% | <b>27.56%</b> | 18.62%        | 11.33% |
| Thailand    | 13.41% | 9.58%  | 2.01% | <b>25.88%</b> | 18.05%        | 15.92% |
| Australia   | 2.86%  | 5.52%  | 6.36% | 12.64%        | <b>25.42%</b> | 14.27% |
| NewZealand  | 0.70%  | 3.49%  | 0.81% | 5.69%         | <b>30.57%</b> | 11.03% |

Notes:

The index for Thailand is based on the data of year 2001.

The indices for the other nations are based on the data of year 2002.

Source:

Author's calculation based on the data from UN COMTRADE database 2004.

**Table 4: The *de facto* bilateral trade liberalization (BTL) of trade in manufacturing goods**

|             | Japan | Korea | China | Australia | New Zealand | Indonesia | Malaysia | Philippines | Singapore | Thailand |
|-------------|-------|-------|-------|-----------|-------------|-----------|----------|-------------|-----------|----------|
| Japan       |       | 0.22  | 0.32  | 1.69      | 6.18        | 1.96      | 2.81     | 1.72        | 2.83      | 1.77     |
| Korea       | 0.35  |       | 0.98  | 12.11     | 44.75       | 12.03     | 16.4     | 10.12       | 16.75     | 9.82     |
| China       | 0.72  | 1.37  |       | 14.75     | 54.39       | 13.45     | 17.54    | 12.49       | 18.2      | 10       |
| Australia   | 2.57  | 11.42 | 9.97  |           | 10.97       | 13.55     | 25.43    | 26.24       | 24.4      | 21.33    |
| New Zealand | 12.24 | 54.87 | 47.79 | 14.26     |             | 74.55     | 133.38   | 138.47      | 129.68    | 108.44   |
| Indonesia   | 4.88  | 18.62 | 14.92 | 22.23     | 94.08       |           | 11.87    | 29.96       | N.A.      | 16.75    |
| Malaysia    | 6.39  | 23.07 | 17.68 | 37.92     | 153.04      | 10.53     |          | 37.67       | 4.46      | 12.3     |
| Philippines | 4.73  | 17.21 | 15.22 | 47.32     | 192.11      | 32.94     | 45.55    |             | 44.53     | 29.98    |
| Singapore   | 5.15  | 18.85 | 14.68 | 29.12     | 119.04      | 6.41      | 3.56     | 29.46       |           | 11.98    |
| Thailand    | 3.94  | 13.27 | 9.56  | 30.8      | 120.62      | 14.8      | 11.86    | 24.02       | 14.43     |          |

Source:

Author's calculation based on the data from UN COMTRADE database 2004.

**Table 5: HM for East Asian countries on the selected arrangements**

## Part 1: Aggregate trade

| EXPORTER    | JKFTA         | CKFTA  | Big Three     | C-ASEAN       | J_ASEAN       | A_N_A  | AUS_JPN       | AUS_CHN       |
|-------------|---------------|--------|---------------|---------------|---------------|--------|---------------|---------------|
| Japan       |               | 13.26% |               | <b>17.19%</b> |               | 8.91%  | 1.83%         | 11.08%        |
| China       | 7.10%         |        |               |               | <b>10.77%</b> | 5.76%  | 5.66%         |               |
| Korea       |               |        |               | <b>26.70%</b> | 16.81%        | 10.07% | 9.61%         | 19.44%        |
| Indonesia   | 27.51%        | 14.30% | 34.93%        | 23.12%        | <b>36.39%</b> | 19.46% | 23.70%        | 10.51%        |
| Malaysia    | 13.34%        | 13.60% | 23.88%        | 30.84%        | <b>29.80%</b> | 22.01% | 12.39%        | 12.63%        |
| Philippines | 17.66%        | 13.81% | 28.00%        | 25.53%        | <b>29.32%</b> | 16.42% | 15.12%        | 11.17%        |
| Singapore   | 10.64%        | 17.32% | 24.13%        | 35.34%        | <b>28.75%</b> | 24.62% | 9.34%         | 16.02%        |
| Thailand    | 15.12%        | 10.68% | 24.37%        | 23.71%        | <b>27.81%</b> | 16.87% | 15.08%        | 10.84%        |
| Australia   | <b>26.71%</b> | 18.22% | <b>36.66%</b> | 21.14%        | <b>29.52%</b> | 17.60% |               |               |
| New Zealand | 16.04%        | 11.18% | 22.75%        | 14.08%        | 18.93%        |        | <b>31.51%</b> | <b>26.78%</b> |

Source:

Author's calculation based on the data from UN COMTRADE database 2004.

## Part 2: Trade in manufacturing goods

| EXPORTER    | JKFTA  | CKFTA  | Big Three | C-ASEAN       | J_ASEAN       | A_N_A  | AUS_JPN       | AUS_CHN       |
|-------------|--------|--------|-----------|---------------|---------------|--------|---------------|---------------|
| Japan       |        | 14.44% |           | <b>19.41%</b> |               | 11.00% | 2.12%         | 12.35%        |
| China       | 11.69% |        |           |               | <b>14.87%</b> | 6.98%  | 10.22%        |               |
| Korea       |        |        |           | <b>22.98%</b> | 15.30%        | 9.68%  | 8.07%         | 15.77%        |
| Indonesia   | 11.56% | 4.55%  | 14.79%    | 25.75%        | <b>32.70%</b> | 24.39% | 11.84%        | 4.85%         |
| Malaysia    | 10.76% | 12.35% | 20.90%    | <b>31.85%</b> | 29.96%        | 23.21% | 10.30%        | 11.89%        |
| Philippines | 17.13% | 13.32% | 27.24%    | 26.11%        | <b>29.83%</b> | 16.94% | 14.76%        | 10.91%        |
| Singapore   | 11.92% | 16.89% | 24.36%    | <b>35.23%</b> | 30.36%        | 25.10% | 9.51%         | 14.50%        |
| Thailand    | 16.41% | 7.82%  | 22.42%    | 21.28%        | <b>30.01%</b> | 17.40% | 16.67%        | 8.09%         |
| Australia   | 5.89%  | 9.19%  | 11.73%    | <b>16.10%</b> | 12.80%        | 27.33% |               |               |
| New Zealand | 2.37%  | 3.16%  | 4.82%     | 7.10%         | 6.31%         |        | <b>46.24%</b> | <b>47.10%</b> |

Source:

Author's calculation based on the data from UN COMTRADE database 2004.

## Part 3: Trade in parts and components

| EXPORTER    | JKFTA  | CKFTA  | Big Three | C-ASEAN       | J_ASEAN       | A_N_A  | AUS_JPN       | AUS_CHN       |
|-------------|--------|--------|-----------|---------------|---------------|--------|---------------|---------------|
| Japan       |        | 11.92% |           | <b>15.78%</b> |               | 10.08% | 1.17%         | 9.60%         |
| China       | 11.91% |        |           |               | <b>17.42%</b> | 10.29% | 9.38%         |               |
| Korea       |        |        |           | <b>30.01%</b> | 15.81%        | 11.45% | 6.61%         | <b>20.90%</b> |
| Indonesia   | 12.55% | 5.29%  | 16.16%    | <b>57.72%</b> | <b>64.93%</b> | 55.08% | 11.60%        | 4.34%         |
| Malaysia    | 10.08% | 12.62% | 20.58%    | <b>32.22%</b> | <b>30.33%</b> | 24.06% | 9.98%         | 12.42%        |
| Philippines | 22.27% | 16.02% | 35.05%    | <b>38.84%</b> | <b>44.93%</b> | 27.02% | 19.89%        | 13.65%        |
| Singapore   | 7.91%  | 14.57% | 20.40%    | <b>39.93%</b> | <b>34.19%</b> | 31.40% | 8.99%         | 15.46%        |
| Thailand    | 15.55% | 11.65% | 25.12%    | <b>35.79%</b> | <b>39.46%</b> | 26.96% | 14.14%        | 10.25%        |
| Australia   | 9.24%  | 11.90% | 14.77%    | <b>18.19%</b> | <b>15.54%</b> | 27.75% |               |               |
| New Zealand | 1.51%  | 4.30%  | 5.00%     | 9.18%         | 6.39%         |        | <b>34.10%</b> | <b>36.88%</b> |

Source:

Author's calculation based on the data from UN COMTRADE database 2004.

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## Notes

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<sup>1</sup> In this chapter, we define ‘East Asian countries’ as Japan, Korea, China (including Hong Kong and Macao), the ten ASEAN members, Australia and New Zealand.

<sup>2</sup> See <http://www.rieti.go.jp/en/events/bbl/03013101.html>

<sup>3</sup>  $e^{0.62} - 1 = 0.86$

<sup>4</sup>  $e^{1.01} - 1 = 1.74$

<sup>5</sup>  $e^{1.25} - 1 = 3.49$

<sup>6</sup> The text here follows Baldwin (2004), in which he has an comprehensive illustration on hub-and-spoke bilateralism. The derivation of HM index can also be seen in Baldwin (1994b and 2004).

<sup>7</sup> It is actually ASEAN5. We only calculate the five biggest economies in ASEAN – Singapore, Indonesia, Malaysia, Philippines, and Thailand as the other five are relatively small.

<sup>8</sup> For more details, see *A new approach to measure the de facto regional trade liberalization in East Asia*.

<sup>9</sup> We use imports data in our regression. Country  $i$  is the import country while country  $j$  is the exporter.

<sup>10</sup> The lower the value of BTL indicates the higher degree of bilateral trade preference.

<sup>11</sup> GDP in year 2002 (constant USD 1995). Data source: World Development Indicators, CD-ROM, 2004

<sup>12</sup> See in *Asia Monthly*, The Japan Research Institute Limited, October, 2004