

A Two-hub Trading Bloc in East Asia?

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[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. The former is for the long time the biggest economy in East Asia; while the latter's influence keeps rising in last years. 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. More precisely, if there is a FTA that could really trigger the domino effect and drive other countries in the region to join the area; it should include at least one of these two hub candidates or even both of them.

As for the question on the possible fundamental agreement of the regional integration, the most influential FTA might be the one that set up between China and the ten ASEAN countries in late 2004. The *HM* measure also predicts that once China-ASEAN FTA is there, it will be very difficult for the other countries to keep apart from it. In order to avoid to fall in the “spoke trap”, they might choose either to join China-ASEAN FTA early or move fast to establish their own FTA(s).

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1. Introduction

Asian countries are said to be on their way towards regionalism in the last fifteen years. Just as many other RTAs among developing countries, the political progress of the economic integration in East Asia seem rather a topic on the papers than a real process until 2000s. Among Asian nations, there are currently more than 30 FTAs under working on. The various degrees of liberalization and different paces in the process of negotiations make up a dazzling network for us to investigate into. It is worthwhile for us to outline the underlying structure of the on going trading bloc in East Asia and to evaluate the potential effects of regional trade agreements.

One of the political concerns that policymakers should take into account when they are thinking of creating or joining a FTA is that along with the trade liberalization there would be a series of industry reallocation among the member countries. As trade cost declines, the profit maximization of the scale economy will naturally motivate industries to locate and produce in larger markets. That is, trade liberalization would have impacts on the industry distribution within a regional free trade zone. Eventually industries will agglomerate in one or few nation(s), and consequently the market size of those host nation(s) will enlarge while the rest nations' markets would correspondingly be shrinking. At the end we will see the former become the center of regional economy, so called the "hub"; while the latter are "spokes" because their economies are marginalized. Without the necessary political designation, the outcome of a free trading bloc driven by pure market-force is very likely to be in this hub-and-spokes pattern. Moreover, once this pattern is set up, it is hardly to be rearranged.

In literature, the idea of "hub-and-spoke" arrangement of FTAs in East Asia is 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 from 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 geography¹ where scale economy is the crucial driver of trade liberalization. In short, the theory of hub-and-spoke regionalism tells us that in general it is good to be a “hub” whilst it is bad to be just a “spoke”. As that Baldwin (2004) summarizes, there are three typical advantages for the hub nation with a circle of regional integration: (1) As 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, more and more 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 re-arrangement 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”*.² Furthermore, using the experience of NAFTA and EU for reference, he also suggest that one of the solution for the small economies to avoid this spoke-typed marginalization is to move earlier to integrate its economy with the “hub” candidate or to join the 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 as there is a hub on shape in the region. The expectation 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 hub position of US is obvious; and from EU which is well institute-constructed, the situation in East Asia is rather intricate because of the economic gap among member nations

¹ The theory of new economic geographic, which is one of the most important branches in field of the study at international trade and cross-border industry re-allocation, is firstly raised by Krugman (1991) and has been illustrated symmetrically in Fujita *et. al.*(1999) and Baldwin *et. al.*(2003).

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

such as market sizes and income levels. 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. Whilst he used to suggest that the optimal decision is to build on bilateral FTAs with Japan, the coming out of China-ASEAN FTA in 2003 makes Baldwin (2004) modify his proposal to be an “East Asian bicycle” where the axis of the two wheels is Japan and China respectively.

The purpose of this paper is to re-examine this argument in an extensive scope. We investigate the two hub system in three folders. We first of all 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, but extend the data from bilateral aggregate trade flow to bilateral trade in manufacturing goods and that in industrial intermediate goods. After that we move forward to evaluate nations’ bilateral relations in the last decade using *BTL* index (Chen 2003) in section 4. Finally we discuss the possible arrangement that would be influential enough to trigger the domino effect of regionalism in East Asia. A summary is at the end.

2. The *De facto* intra-regional trade bias

First of all, 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.

<<Table 1>>

The coefficients in the logarithm function essentially represent the elasticity of each independent variable on the bilateral trade flow. At the first sight on the table, all the coefficients are with the 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% higher than the average³. The bias is even more significant when we consider trade in manufacturing and trade in parts and components, of which the intra-regional trade is 1.7 times⁴ and 2.5 times⁵ higher respectively. It has been argued since 1970s that typically Asian countries tie up their economies via regional production sharing. A big share of bilateral trade is in manufacturing goods, especially intra-industrial exchange of parts and components, which is exactly what we have seen from the regressions.

The results demonstrate the existence of the *de facto* intra-regional trade bias in East Asia based on the data from 1990 to 2002. Moreover, it hints that we should not just narrow our sights in aggregate trade flow within the region when we monitor the process of regional integration. It would help us have a better understanding on East Asian regionalism if we could pay more attention to the trade flows in parts and components among nations.

3. To find the individual hub candidate(s)

Before moving forward to evaluate the importance of a nation's market using the *HM* index, we first of all introduce the concept of hub-and-spoke bilateralism, which has been symmetrically illustrated by Baldwin (1994b, 2002, and 2004). From the mercantilist view of trade negotiation,

³ $e^{0.62}-1=0.86$

⁴ $e^{1.01}-1=1.74$

⁵ $e^{1.25}-1=3.49$

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 dynamic games between the so-called "pro-liberalization" groups (mainly consist of export promotion industries) and "anti-liberalization" groups (mainly consist of import competition industries). Based on this logic, we can image that under such three situations, it would be easier for two nations, say country A and country B, to establish a bilateral free trade agreement successfully:

Situation 1: country A is one of the biggest destinations of country B's exports. Because the market in country A is so important to country B, the pro-liberalization groups in country B will push their government hard to establish a FTA with country A lest their market will be taken away by the other countries that have FTA with the 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 import competition industry in country B will be relatively small. Therefore in many cases country B will agree to open free trade with country A just because of "why not?"

Situation 3: The asymmetry in countries' economic sizes will also facilitate the trade negotiation. For instance, country A is very big but country B is very small. Even though the *de facto* bilateral trade flow is still quite small, country B will always be interested in country A's big market by setting up a bilateral FTA. From the perspective of country A, country B is relatively small. The open-up of bilateral free trade will just generate a small number of domestic losers. As the side effect of free trade is easier to be compensated by the welfare improvement, 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 generally very slow because in either of them, the struggle between the “pro-liberalization” groups and “anti-liberalization” groups is so intensive that neither of the governments can make the decision easily; while it is also difficult for two small nations to reach an agreement due to the lack of motivations.

The formula below illustrates all the three conditions intuitively, in which we use HM_B as a measure of the dependence of country A’s exports on country B’s market. The derivation of the index can be seen in Baldwin (2004).

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

Where X_{AB} denotes the exports from A to B as a share of country A’s total exports;

M_{AB} denotes the imports from A to B as a share of country B’s total imports.

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>>

We can easily 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 5 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, and the number “9” means the most ignorable market. For instance, the HM of China to Japan is 7.08% (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 5.13%, and the ranking shows that Japan is also the most important market to China within the region. At the bottom of the table, we built in a

row titled “overall ranking” which is calculated by summing up the ranks regarding to each individual countries. The lower value indicates the higher the degree of the overall importance of the market, and the most likely “hub candidate” is the nation with the lowest overall ranking value. 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.

Since the other nations are apparently not competitive with the “big two”, we only exclude them from the table, but consider Japan and China as the two individual hub candidates, and assume ASEAN as a *de facto* integrated economic entity. Therefore we re-produce *HM* indices for six markets: four intra candidates (Japan, China, Korea and ASEAN⁶) and two extra candidates (USA and EU).

<<Table 3-1>>

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 USA 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 USA is less than 25%, 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 USA 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 release their dependence on the markets of the “outsiders”.

⁶ It is actually ASEAN5 as we base the calculation only on the five biggest economies in ASEAN – Singapore, Indonesia, Malaysia, Philippines, and Thailand as the other five are relatively small.

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, next to USA as its second most important partner, 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% of the exports from Australia go to Japan, double than that the overall flows to USA and 50% more than the total exports to EU.

[<<Table 3-2>>](#)

[<<Table 3-3>>](#)

In extension, we reproduce *HM* index based on the trade flows in manufacturing goods and that in parts and components, which is presented in table 3-2 and table 3-3 respectively. The influence from USA and EU magnifies when we narrow the calculation based on the trade flows in manufacturing goods. USA is a “universal” favor partner for bilateral trade liberalization for all the nations in our sample except Singapore. The countries’ dependences on Japan are in general not as strong as that at the level of aggregate trade. The exception is China, of which the market in parts

and components is more important to Japan's exports than the other way round. Surprisingly, 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.

On the other side, the role of China in the region relative to Japan is more outstanding regarding the trade in manufacturing goods. To Australia and New Zealand, China is now the most important market for either final goods or parts and components. The five ASEAN nations divide into two camps – two prefer China as the partner while the other three prefer to choose Japan. Plus the fact that Korea is always set China as priority, it seems that China's eligibility to be an individual hub mainly comes from its big market in intermediate goods. Moreover, the centripetal force of ASEAN as an economic entity is quite remarkable concerning trade in manufacturing goods. One of the ties that link ASEAN together within a network of production sharing is the intra-industry trade in parts and components.

To sum-up, so far Japan is still the first candidate for the individual "hub" in the region once there is a hub-and-spoke arrangement comes into formation. 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 *BTL* index and the *de facto* bilateral liberalization

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 taking into consideration that bilateral trade is

the outcome of a mix of natural and political factors. In practice, the components of the term “trade cost” are very difficult to be specified accurately. 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 ($Dist_{ij}$) multiple by a parameter A as shown below.

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

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*.⁷ The smaller the value of *BTL*, the higher the degree of market openness of country *i* to country *j*.⁸ Loosely speaking, *BTL* < 1 can be interpreted as a signal of “pro-trade” effect of bilateral trade policy; while *BTL* > 1 is a signal of “anti-trade” effect showing the additional cost of bilateral trade due to political restricts.

<<Table 4>>

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*.

Again Japan highlights Table 4. It has opened its domestic market to other countries to a very high level especially to Korea and China; whilst it enjoys preference to access those countries’ markets. This provides us additional evidences on the leading position of Japanese economy 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 Japan to distribute most of manufacturing processes to other Asian countries where the labor is relatively cheaper but only keep those key productions or services stages at home. As that it used to play as a head “goose” in the history of so called “goose-flight formation” of Asian industrialization, Japan might still be the core in the regional production sharing circle because of its technical and capital advantages.

⁷ For more details, see *A new approach to measure the “de facto” regional trade liberalization in East Asia*.

⁸ We use imports data in our regression. Country *i* is the import country while country *j* is the exporter.

Furthermore, we can also see the *de facto* close trade relation among the “big3” countries -- Korea, Japan and China⁹. We predict that it will be easier for them to further liberalize bilateral trade believing that normally a country would like to establish a PTA with its close trade partners based on their existing highly market interdependence. As the country has opened the home market to its trade partner to a very high degree, the relative cost of further trade liberalization would be rather cheaper simply because the resistance from the import-competition group would be relative small.¹⁰

The results above enforce our findings in the last section that Japan and China might be the two individual hub candidates in East Asian trading bloc. Moreover, the calculation of *BTL* also provides us some intuitions on Korea’s regional strategies. Its *de facto* close tie with Japan and China hints that Korea might be able to “share” the benefits of a hub by moving quickly to be the first one that has FTA with the both. The “big 3” proposal makes sense as it consists of the two biggest economies in the arrangement, where Seoul is supposed to be a bridge between Tokyo and Beijing. If Korea could push it happened, the “big 3” proposal will be very appealing to the rest of the countries.

5. The fundamental arrangement(s) and perspectives on East Asian regionalism

The discussion in this section is mainly based on “what if”. We will recalculate *HM* index to see what is likely to happen in case some countries shake hands in advance while the others are taking a wait-and-see attitude. In other words, we want 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.

⁹ The lower the value of *BTL* indicates the higher degree of bilateral trade preference.

¹⁰ Unfortunately this logic does not work for Japan and China due to the historical tension between the two countries.

JKFTA vs. the “Big 3” proposal

Korea is indeed one of the most active players in East Asian regionalism. However, in our paper it is until our examination on the countries’ bilateral trade relation based on *BTL* index that Korea grasps our attention. Economically it is relatively too small to be a hub as its GDP is only about half of that of China and about 1/8 of that of Japan;¹¹ while it is the closest neighbor to the two big countries in geography. It is likely that Korea will be the biggest loser in case China and Japan belong to different FTAs, but with Korea in neither of them. (Kang, 2005) In particular, either the FTA between China and ASEAN or that between China and some other countries such as Australia would attract Korea to join in because its economy is now depending on China so deeply that it can hardly afford to lose this market.

One of the solutions for Korea is to vie for hub-ness position by “flying earlier” to liberalize its trade relation with either Japan or China or both of them on its own initiative. In fact, it seems to me this is what Seoul is trying to achieve. The bilateral trade barrier between Korea and Japan; or that between China and Korea is already very low as that is shown in Table 4. In practice there are two dimensions for policy choices. One is the agreement between Japan and Korea (JKFTA proposal); the other is the trilateral free trade agreement among Korea, China and Japan (“Big 3” proposal). Though both of the proposals make sense in theory, neither of them comes into being.

China – ASEAN FTA vs. Japan- ASEAN proposal

As we mentioned above, since they are relatively too small, it is better for ASEAN members to move as a group in stead of individually during the free trade negotiation 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.

¹¹ GDP 2002 (constant USD 1995). Data source: World Development Indicators, CD-ROM, 2004

China has signed an exclusive FTA with ASEAN in late 2004, which is said to be creating 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 started later but reached the agreement earlier. Japanese government has commenced a series of FTA negotiations with several individual ASEAN member nations since its first FTA in the region with Singapore in early 2002. It has signed agreements (or performed formal negotiations) with the five main ASEAN members (Singapore, Philippines, Malaysia, Thailand and Indonesia) till early 2005. We loosely call all these FTAs (negotiations) as Japan-ASEAN FTA just to simplify the text.

It shows that either China-ASEAN FTA or 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 export stick to China’s market so seriously does persuade us to put more weight on the former proposal.

Australia+New Zealand+ASEAN proposal

Despite their geographic disadvantage, Australia and New Zealand are also very active in East Asian regional integration. Both of them are currently negotiating FTAs 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. As we can see from the values of *HM* index, while Australia’s preference varies between Japan and China from the different aspect of trade (it depends more on Japan overall but depends more on China regarding exports in manufacturing, especially in parts and components); New Zealand always goes to FTAs that Australia initializes.

<<Table 5>>

First of all, 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 FTAs, 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. Though economic cooperation is one of the most important drivers of regionalism, integration is affected by many other elements in politics, history or culture. For instance, any attempt to establish a direct FTA between Japan and China might be doomed to failure due to the well-known lack of political harmony between them even though their bilateral economic relation is already so tight. More precisely, it seems to be the biggest barrier that prevents the “Big 3” proposal moving forward is the fact that Tokyo and Beijing are lack of trust, which prevents us from seeing the evolution from a proposal to an agreement in the near future.

Secondly, 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 10 years. This largest FTA in the world would cover nearly 2 billion people with a combined GDP of around 2 trillion US dollars by year 2010.¹² 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 the CAFTA were signed in later 2004. The intuition 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. The possible solution for the other countries try to avoid the trap is either by joining the bloc earlier or setting up a FTA in similar size synchronously.¹³ In this case, Korea and Japan should either join the club early before the markets of China and ASEAN are fully

¹² Interview: China-ASEAN FTA to help bring about Asia’s economic integration, People’s Daily, October 31, 2004.

¹³ It is also shown in Table 4 that China-ASEAN FTA is much more attractive to Korea and Japan than inversely that of JKFTA to China.

integrated or accelerate their own negotiation to establish JKFTA in order to release the economic pressure in accompany with China-ASEAN FTA. Either of the approaches, however, would promote the whole process of regional economic integration. From this aspect, we would like to argue that China-ASEAN FTA will play as a powerful engine of Asian regionalism.

Thirdly, the last FTA Japan would like to see is the one that initialized by China such as that one with ASEAN simply because of the highly interdependence 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, and finishes those labor-intensive procedures there. The cheap labor cost guarantees the competitiveness in price of Japanese products in the global market. Japan has been China’s biggest trade partner for 10 year 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.

Fourthly, Korea might 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 in *HM* index, Korea’s export industries are depending on Chinese economy (19.5%) much more deeply than it is on Japanese market (8.8%). China is currently the large market for Korea while ASEAN is No.5. The expected world’s biggest markets will highlight the region once China and the ten Southeast Asian Nations had implemented the FTA on their bilateral trade. The

relatively low internal trade cost within China-ASEAN FTA would diversify Korea's original exports, while more seriously, the market agglomeration effects will force more industries to reallocate in China-ASEAN FTA and therefore diversifies the foreign investments to 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 with Japan. The high *HM* value (26.7%) shows that the united market of China-ASEAN FTA is very attractive to Korea. Another possibility is that China-ASEAN FTA might stimulate Tokyo and Seoul to accelerate the paces in the negotiation on JKFTA however.

Fifthly, it seems that the ten Southeast Asian nations have realized their political and economic disadvantage as small countries in trade negotiations. The general high value of *HM* index of ASEAN members to any FTAs without ASEAN nations' participation depicts a scene in which they can hardly remain aside. After concluding an agreement with China in 2004, ASEAN has soon received favors from Japan, Korea, Australia and New Zealand. Since early 2005, all of them have announced that they would like to establish FTAs with ASEAN.¹⁴ It seems that ASEAN is becoming the focus of the region. 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, the economies of the two Oceania nations – Australia and New Zealand - are so Asia-oriented. Both of them depend on East Asian markets deeply, and any FTA or FTA under settings in East Asia will affect their exports significantly. In comparison to the other participants in shaping the regional trading bloc, Australia and New Zealand are at an inferior position geographically but have compensated for this disadvantage by lowering trade barriers, as that is reflected in the *BTLs* we calculated in Table 4. It is shown that the first market they care about in

¹⁴ Department of Foreign Affairs and Trade, *Asia Monthly*, The Japan Research Institute Limited, October, 2004

the region is Japan. Therefore either JKFTA or Japan-ASEAN FTA might be relatively more appealing to them. Also, a joint deal with Japan would be the most interesting one to both Australia and New Zealand.

6. Summary

In this paper we have drawn 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 attempted to figure out an outline of the on-shaping Asian regional trading bloc after showing the intra-regional trade preference within East Asian nations at different levels (aggregate trade, trade in manufacturing, and trade in parts and components). Our finding supports those viewpoints that Japan is still the biggest market in the region to other Asian countries; while China is currently the No.2 but its position keeps rising. 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 an individual hub in the region. More precisely, if there is a FTA that could really trigger the domino effect and drive other countries in the region to join the area; it must be one that contains either Japan or China, or even both of them.

Based on *BTL* index, we try to evaluate the degree of countries' *de facto* bilateral trade preference. Economically, the closer the existing bilateral trade links, the easier for the trade partners to remove the rest trade barriers. As Japan, Korea and China are in fact highly interdependent with each other, economically the "Big 3" proposal might be the less "costly" arrangement of Asian regionalism if it could be set up and be implemented by the three governments.

However, the most influential FTA existing now might be the one between China and the ten ASEAN countries, which is planned to establish the world's largest free trade area in ten years. The

HM measure predicts that once China-ASEAN FTA is fully implemented, it will be very difficult for the other countries such as Japan, Korea, Australia and New Zealand to keep apart from it at the cost that its domestic industry might suffer the side effects as a spoke economy. In order to avoid this “spoke trap”, they have either to join China-ASEAN FTA early or move out quickly to setup their own FTA(s).

In short, we would like to argue that as Asian regional integration is still in its early phase. Japan and China are the only two individual hub-ness candidates; while other nations might be able to avoid falling into the “spoke trap” by playing proactively during the process of the regional trade liberalization. As for the choice of the possible fundamental arrangement in the regional integration, we are thinking that the already signed China-ASEAN FTA would be the real booster of Asian regionalism.

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

	Aggregate imports	Imports in manufacturing	Imports in intermediate goods
GDP importer	.87*** (.013)	.76*** (.014)	.77*** (.016)
GDP exporter	1.00*** (.012)	1.04*** (.014)	1.06*** (.015)
GDP per Capita importer	.41*** (.023)	.51*** (.027)	.44*** (.029)
GDP per Capita exporter	.54*** (.022)	.90*** (.025)	1.09*** (.027)
Distance	-1.08*** (.023)	-1.03*** (.026)	-1.02*** (.028)
Intra-regional bias	.62*** (.088)	1.01*** (.094)	1.25*** (.107)
R ²	.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, and the bilateral trade in intermediate goods is from the calculation based on UN COMTRADE database 2004.

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

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

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

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

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

EXPORTER	JKFTA	CKFTA	BIG3	C-ASEAN	J_ASEAN	A_N_A	AUS_JPN	AUS_CHN
Japan		13.26%		17.19%		8.91%	1.83%	11.08%
China	7.10%				10.77%	5.76%	5.66%	
Korea				26.70%	16.81%	10.07%	9.61%	19.44%
Indonesia	27.51%	14.30%	34.93%	23.12%	36.39%	19.46%	23.70%	10.51%
Malaysia	13.34%	13.60%	23.88%	30.84%	29.80%	22.01%	12.39%	12.63%
Philippines	17.66%	13.81%	28.00%	25.53%	29.32%	16.42%	15.12%	11.17%
Singapore	10.64%	17.32%	24.13%	35.34%	28.75%	24.62%	9.34%	16.02%
Thailand	15.12%	10.68%	24.37%	23.71%	27.81%	16.87%	15.08%	10.84%
Australia	26.71%	18.22%	36.66%	21.14%	29.52%	17.60%		
New Zealand	16.04%	11.18%	22.75%	14.08%	18.93%		31.51%	26.78%

Source:

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

Trade in manufacturing goods

EXPORTER	JKFTA	CKFTA	BIG3	C-ASEAN	J_ASEAN	A_N_A	AUS_JPN	AUS_CHN
Japan		14.44%		19.41%		11.00%	2.12%	12.35%
China	11.69%				14.87%	6.98%	10.22%	
Korea				22.98%	15.30%	9.68%	8.07%	15.77%
Indonesia	11.56%	4.55%	14.79%	25.75%	32.70%	24.39%	11.84%	4.85%
Malaysia	10.76%	12.35%	20.90%	31.85%	29.96%	23.21%	10.30%	11.89%
Philippines	17.13%	13.32%	27.24%	26.11%	29.83%	16.94%	14.76%	10.91%
Singapore	11.92%	16.89%	24.36%	35.23%	30.36%	25.10%	9.51%	14.50%
Thailand	16.41%	7.82%	22.42%	21.28%	30.01%	17.40%	16.67%	8.09%
Australia	5.89%	9.19%	11.73%	16.10%	12.80%	27.33%		
New Zealand	2.37%	3.16%	4.82%	7.10%	6.31%		46.24%	47.10%

Source:

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

Trade in parts and components

EXPORTER	JKFTA	CKFTA	BIG3	C-ASEAN	J_ASEAN	A_N_A	AUS_JPN	AUS_CHN
Japan		11.92%		15.78%		10.08%	1.17%	9.60%
China	11.91%				17.42%	10.29%	9.38%	
Korea				30.01%	15.81%	11.45%	6.61%	20.90%
Indonesia	12.55%	5.29%	16.16%	57.72%	64.93%	55.08%	11.60%	4.34%
Malaysia	10.08%	12.62%	20.58%	32.22%	30.33%	24.06%	9.98%	12.42%
Philippines	22.27%	16.02%	35.05%	38.84%	44.93%	27.02%	19.89%	13.65%
Singapore	7.91%	14.57%	20.40%	39.93%	34.19%	31.40%	8.99%	15.46%
Thailand	15.55%	11.65%	25.12%	35.79%	39.46%	26.96%	14.14%	10.25%
Australia	9.24%	11.90%	14.77%	18.19%	15.54%	27.75%		
New Zealand	1.51%	4.30%	5.00%	9.18%	6.39%		34.10%	36.88%

Source:

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

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