

Northeast Asia Economic Integration: An Analysis of the Trade Relations among China, Japan, and South Korea

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<Korean Executive Summary>

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This paper analyzes several issues related to the proposed economic integration (free trade area, FTA) of the three countries in Northeast Asia, Korea, China, and Japan. It examines the details and history of the proposed free trade agreement consisting of the three countries. It describes the policies of them toward FTAs, arguing they are viewing establishing FTAs as an important part of their foreign trade policies.

It analyzes the trade relations among the three countries, and shows that they are very trade dependent on each other, with important inter-industry and intra-industry trade. It also proposes several approaches to analyzing economic integration. In addition, it argues that while the traditional approach is familiar to most trade theorists, it is not too suitable for explaining why FTAs have become a trend in Asia and for analyzing these FTAs in Asia. It proposes the international rivalry approach and the political economy of FTAs. It argues that establishing an FTA with an important export market is a way to help the trade performance of some of its exporting firms, usually at the expense of their foreign competitors. Similarly, forming an FTA is a way to avoid unfair treatment by an important export market if the international rivals of a country's domestic firms already have an FTA with the export market.

It also examines some of the political-economy concerns that arise when some domestic political pressure groups are trying to lobby against the establishment of an FTA. The international rivalry approach and the political economy approach are applied to explain some of the recently established FTAs in Asia, including the one between Korea and Chile.

Keywords: FTA, international rivalry approach, regional integration

JEL Classification Number: F13, F15

. Introduction

It has long been held by economists that in a distortion-free world, free trade is the optimal trade policy, at least in terms of the welfare of the world.¹⁾ Economists have been using this assertion to argue for trade liberalization by the countries of the world

It is of course true that restricted trade instead of free trade is what most, if not all, of the countries are imposing. Theoretically, there are arguments for restricted trade, either because governments are more concerned of their own country's welfare instead of the world's welfare, or when distortions are present in at least some countries. In some societies where lobbying and public pressure can play a role in setting trade policies, restricted trade could be the outcome of political process even if it is not the best economic solution for the country.

It is recognized that the world is far from free trade. Yet, in the post-war era, countries have made big achievements in dismantling many trade restrictions set up by governments in the past. Three channels for trade liberalization have been experienced: unilateral trade liberalization, multilateral trade negotiations, and regional trade liberalization.

For many reasons, regional trade agreements (RTAs) have been getting more and more popular, especially in Asia in the past decade. Ever since the decision of the Association of Southeast Asian Nations (ASEAN) the early nineties to form a new free trade area (FTA) consisting of the members of the association, many Asian countries are trying to get into this FTA bandwagon.

In this paper, we examine several issues concerning the proposed free trade area among the three countries in Northeast Asia (NEAFTA): Korea, China, and Japan. This proposal is being considered by the governments of the three countries, and many details have to be worked out, should they choose to go ahead with the proposal. We will also investigate the trade relations among the three countries.

1) This view is stronger than the gains from trade argument because it states that free trade not only is good for each individual country, but also is the best policy that all the countries when taken together can get.

Getting a closer economic integration in the Northeast Asia is important not only to these countries but also to many countries that are related to these three countries by trade and foreign direct investment. An economic integration consisting of these three countries will form a huge economic unit in this part of the world, and its impacts will radiate out to other countries.

In Section 2, we examine the background of this proposal, including how the FTA negotiations were initiated and the trade policies of each of these countries. We will also discuss about the policies of the three governments toward free trade areas. In Section 3, we examine various features of the trade relations among the three countries. We will examine how the competitiveness and complementarity among the exports from the three countries. Section 4 presents several theories of free trade areas, including the traditional view, the international rivalry approach, and the political economy of FTA. How these theories can be applied to the NEAFTA will be explained in detail. In explaining these theories, we will draw the recent experience of Korea and Japan from the FTAs they just established or are negotiating about. The last section provides some concluding remarks.

. The Background

1. Historical Development of the FTA Negotiations

Until recently, the three Northeast Asian countries, Korea, China, and Japan had not shown much interest in any regional trade arrangements, despite the growing fever of regionalism in many other parts of the world. After the financial crisis, the attitude of these countries changed: They showed more enthusiasm toward regional economic cooperation.

In November 1999, the three countries made an official attempt to discuss stronger economic cooperation in Northeast Asia during a trilateral summit meeting in Manila. Two years later, in another trilateral summit meeting in Brunei in November 2001, many issues were raised, including the commencement of foreign affairs and finance ministerial meetings among the three countries, a business forum, the development of cultural exchange and human resources, and the enforcement of an information technology (IT) cooperation system. The three countries finally were able to take their first steps toward trilateral economic cooperation and integration.

One year later, then Chinese Premier Zhu Rongji proposed the study of the possibility of a trilateral FTA consisting of China, Japan, and Korea (Northeast Asian Free Trade Area, or NEAFTA) in the summit meeting in Phnom Penh, November 2002. The Trilateral Joint Research Project was initiated and since then has been undertaken by the Development Research Center (DRC) of the China State Council, the Japan National Institute for Research Advancement (NIRA) and the Korea Institute for International Economic Policy (KIEP). This research has been carried out on a step-by-step basis, examining the “Economic Effects of a Possible Free Trade Agreement among China, Japan and Korea”. The research results were reported at the trilateral meeting in Bali, October 2003 and then a study for sectoral impacts and policy of an NEAFTA is being undertaken in 2004.

The policies of each of these three countries in terms of economic integration in Northeast Asian are described separately as follows.

2. China's FTA Policy

The Chinese government first announced its plan to promote FTAs at the end of 2000. Previously, China's interest toward regionalism was very low, since its entry into the WTO has been the main direction of its foreign trade policy for a long time. However, China has changed its position toward regionalism, as ASEAN countries expressed worry that FDI would be attracted toward China after its access to the WTO. To reduce ASEAN countries' concerns about the possible negative impacts on their trade and investment, Chinese premier Zhu Rongji made a proposal to examine the possibility of China-ASEAN economic cooperation including the formation of FTA during the ASEAN+3 Meeting in Singapore, November 2000.

The proposal suggested by China has raised the interest in these Southeast Asian countries and the countries in Northeast Asia. Since then, the process moved on quickly. Actual negotiation between China and ASEAN began at the end of 2001. One year later, in a China-ASEAN summit meeting held in Phnom Penh in November 2002, these countries announced the signing of a framework agreement for forming a free trade area. The basic agreement can be seen as a guideline to a future FTA between the two regions and evaluated as a practical advancement that carries out the Early Harvest Package in which the both have high interests before a formal agreement for a free trade area.

At the end of 2002, China announced its plan of negotiation to establish an FTA with ASEAN within 10 years; however the date could be moved forward. China might launch an earlier FTA with the original six member countries with a long-term goal of launching an FTA with all ten ASEAN countries. At the beginning, the negotiation was expected to be hard due to a tight schedule and possible competition for leadership between the two regions. Moreover, it seemed a little unreasonable for China to complete a commodity concession negotiation with 10 ASEAN countries by June 2004 as planned. However, China seems to be eager to have an earlier settlement of the negotiation.

China's interest in forming a FTA with ASEAN could be based on the following reasons: China's accession to the WTO; the development of a Korea-Japan FTA; the response to the proliferation of regionalism; and China's intention to take an initiative

in regional integration. ASEAN countries are willing to form a FTA with China because of some economic reasons. The FTA talks were carried out at a time when ASEAN is worrying about losses due to the China's entry into the WTO. With the promotion of a FTA with China, ASEAN could expand the ASEAN FTA (AFTA) to other countries: ASEAN has been promoting to solidify AFTA internally, while developing strategies of being a FTA hub through multiple bilateral FTAs with China, Japan, Korea, India, and other major Asia-Pacific countries.

Because the China-ASEAN FTA is under process at this moment, the contents are not known to the public. The agenda concerning market access is especially difficult to predict. Fortunately, the framework agreement on a bilateral FTA between China and ASEAN is open, thus revealing general form of the bilateral FTA. The most noticeable point in the basic agreement is the Early Harvest Package. This can be seen as China's favor to attract passive ASEAN latecomers, such as Laos, Myanmar, and Cambodia, into the China-ASEAN FTA.

Trade between China and ASEAN was not particularly significant, despite geographical proximity and cultural resemblance between the two regions. However, recently trade between them has been booming. ASEAN countries have increased exports toward China rapidly and bilateral intra-industry trade has also grown.

Several studies have been done to estimate the impacts of a China-ASEAN FTA on the two groups of countries. One of the earliest ones was that done by the ASEAN-China Expert Group on Economic Cooperation. It published a report in 2001, saying that the China-ASEAN FTA will create a market with a population of 1.7 billion, a GDP of US \$2 trillion, and trade volume of US \$1.2 trillion. Furthermore, a China-ASEAN FTA will increase ASEAN's GDP by 0.9 % (an increase of US \$5.4 billion annually) and China's GDP by 0.3 % (an increase of US \$2.2 billion annually).²⁾ Two later studies estimate that the China-ASEAN FTA will bring China an increase in real GDP of 0.20 % to 0.36 %, while ASEAN will gain an increase in GDP of 0.38 % to 0.9 % .³⁾

2) The study was done by ASEAN-China Expert Group on Economic Cooperation and the report was published in 2001. See Cheong (2002) for more information.

3) See Hai and Li (2003).

For China, ASEAN as a whole is a large market with a total population of 522 million and GDP of US \$548 billion. Currently, ASEAN is the fourth largest market after the United States, Japan, and the European Union. However, comparing to the top three markets, ASEAN has relatively tighter trade restrictions. Thus, ASEAN countries have higher potential to import more Chinese products once trade barriers are lowered when an FTA is formed. According to Chirathivat (2002), forming an FTA with ASEAN is expected to foster Chinese exports to ASEAN by 23.1%.

On July 6, 2004, China and the Cooperation Council for the Arab States of the Gulf (GCC) signed a framework agreement on economic cooperation. They also agree to start talks on establishing a FTA. According to the bilateral framework agreement on cooperation in economy, trade, investment, and technology, the two regions will establish a joint committee on economic and trade cooperation and launch a consultation mechanism. During his meeting with visiting GCC financial ministers and Secretary-General Abdul-rahman Al-attiyah, Chinese Minister of Commerce Bo Xilai proposed to begin the first consultation on FTA in September. Chinese Premier Wen Jiabao told the GCC delegation that China hopes to reach a FTA agreement at an earliest possible date.

Trade between the two regions surged from US \$1.5 billion in 1991 to US \$16.9 billion in 2003, an increase by more than 10 times. The GCC, consisting of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates, has become China's eighth largest trade partner, or the eighth largest export destination and ninth largest import source worldwide. China-GCC cooperation in construction, energy and two-way investment witnessed great progress, but bilateral trade volume is still small as compared with each side's total trade volume. China exports mainly garments, fabrics, electronic and telecommunication facilities to the GCC's markets, while it imports mostly oil and natural gas and chemical products from GCC. China hopes that since the GCC members are rich in fund, more GCC enterprises would make foreign direct investment in China, especially in hydropower, energy and mining, transport, and telecommunication sectors. China is also willing to enhance cooperation with GCC in service trade, high-tech and labor sectors.

Besides the FTA negotiations with ASEAN and GCC, China has not officially promoted the formation of FTAs with any other countries. However, China may have

sensed the pressure from other countries, including Japan, that are working toward economic cooperation in Southeast Asia, and thus is expressing its interest in economic integration with other neighboring countries, notably Japan and Korea in Northeast Asia. Recently, Chinese scholars proposed a FTA with Korea, although there are no formal discussions about a China-Korea FTA. Furthermore, Chinese Premier Zhu Rongji proposed the study of an NEAFTA during the ASEAN+3 summit meeting in Phnom Penh, November 2002. Such a proposal reflects China's rising interest in this part of Asia.

3. Japan's FTA Policy

Since the late 1990s, Japan has also shifted its trade policy toward regional trading arrangements under the multilateral trade system of GATT/WTO. Japan has been participating in promoting regionalism and establishing FTAs with major trading partners. This policy eventually gave birth to the Japan-Singapore FTA in January 2002. This free trade agreement, called New Age Economic Partnership, already put into effect in December 2002. This is the first-ever FTA for Japan, which not only removes tariffs on trade in goods and services between the two countries, but also reinforces cooperation on a wide range of economic activities, including investments.

Under this agreement, more than 94 percent of Japan's trade with Singapore, covering more than 3,800 items, would be free from tariffs. On top of tariff reductions, the FTA includes the liberalization of investment and services, the harmonization of competition policy, and a mutual recognition agreement. With an FTA, Japan would open up additional more than 30 sectors to investment from Singapore. The agreement also covers the promotion of cooperation in the financial sector and information technology, while calling for cooperation in human resources and academic exchange.

On March 16, 2004, Japan reached a final agreement on a bilateral FTA with Mexico, ending nearly 16 months of hard negotiations. With such a pact, which will take effect in January 2005, Mexico became the second country to ink an FTA with Japan. More important, Japan has agreed to a comprehensive free-trade package including the agricultural sector for the first time. However, they agreed to postpone a decision on tariffs on some Mexican farm products.

The deal will phase out barriers on many Japanese exports to Mexico, eliminate the tariffs on about 380 Mexican agricultural products, and lower those on Mexican pork, chicken, beef, oranges and orange juice imports. Japanese tariffs on three Mexican products, chicken, beef, and oranges, will remain at zero for the first year or two within the annual low-tariff quota of 10 tons each. The quotas will be expanded after the transitional period. However, the two sides postponed deciding on what the tariffs will be until after the transitional periods.

Currently, Japan has been undertaking official negotiations on FTAs with Korea, Chile, Malaysia, Indonesia, and the Philippines. Japan is also having talks with Thailand after carrying out a study of closer economic partnership between the two countries. Furthermore, Japan has examined the feasibility of an FTA with Canada and already proposed a trilateral FTA with Korea and China, an FTA with ASEAN, and an FTA among ASEAN+3 countries.

Discussions of an ASEAN+Japan FTA have progressed rapidly since talks of an FTA between the ASEAN and China blossomed in late 2000. Japan was especially hastening discussions on an FTA with ASEAN for fear of losing its leadership position to China in the East Asian region. On his January 2002 visit to Southeast Asia, Japan's Prime Minister Koizumi Junichiro proposed the establishment of the Study Group on the ASEAN-Japan FTA. Japan intends to lead East Asia's economic integration through FTAs with Korea and ASEAN. Japan's recent progressive promotion of FTAs is related to the rise in the Chinese economy.

At present, China and Japan have been competitively promoting bilateral FTAs with ASEAN, apparently trying to secure a leadership role in the region. However, up to this moment China is pursuing more progressively than Japan. China agreed a framework agreement for a bilateral FTA with ASEAN at the ASEAN+China Summit at Phnom Penh, Cambodia in November 2002 and announced its plan to finish the negotiation for an FTA with ASEAN by 2004. Meanwhile, Japan made it clear that Japan plans to promote an FTA with ASEAN within the next 10 years.

Japan also sought to create an ASEAN+3 Free Trade Area linking up China, Korea and the 10 ASEAN countries. Japan had an aim to obtain a consensus among the 13 countries under the ASEAN-plus-three framework, as it showed expressively in a summit meeting in Cambodia, November 2002.

Japan appears to have a more ambitious vision of establishing an East Asian Free Trade Area well before 2010. Japanese government would consider this to take advantage of an integrated market of 2 billion people, encompassing Japan, Korea, and ASEAN, as well as China, Hong Kong, and Taiwan. The grouping, dubbed “ASEAN plus five,” would represent a third of the world’s population and would seek to liberalize trade and investment in East Asia’s vast markets. It would also aim to offset the economic challenges posed by the European Union and the North American Free Trade Area. Japan hopes that the integration should take place well before 2010, the deadline for the Asia-Pacific Economic Cooperation (APEC) forum to liberalize trade under the so-called Bogor declaration.

4. Korea’s FTA Policy

Up to mid-1990s, Korea stayed within the multilateral framework of GATT/WTO and implemented its trade policy consistent with the multilateral trade agreements. Korea did not pay much attention to regional trading arrangements because, due to non-discriminatory principle and comprehensive coverage of previous trade talks, it had always preferred the multilateral framework to regional economic blocks and maintained its commitment to trade liberalization on the global level. However, there were both external and internal factors that made Korea reconsider the adoption of an FTA policy. Among these factors are: (i) the proliferation of regional trade arrangements worldwide; (ii) the changes in the international perception toward regionalism; (iii) the need for securing export markets and attracting foreign direct investment; (iv) the need for continuous market openings and structural reforms of the Korean economy; and (v) the need for strengthening political ties and economic cooperation with major trading partners.

In view of the growing importance of regional integration, Korea reformulated its trade policy and began examining the feasibility of FTAs with its major trading countries. Korea’s pursuit of FTAs was motivated by a fear of exclusion from the recent trend of growing regionalism and then reinforced by the need of regional economic cooperation after the economic crisis in 1997. To recover from the crisis and stimulate growth, Korea intended to accelerate structural reforms and convert itself

into an 'open trading country' through the establishment of FTAs with major trading partners. The Korean government has also come to realize that an FTA policy would help to secure stable export markets for Korean industries as well as to attract foreign investment into the Korean economy.

In 1998, just after the outbreak of the financial crisis, the Korean government established the Office of Minister for Trade and began to consider FTAs as a possible goal of the country's trade policy. Finally, the government announced its plan to proceed with an FTA with Chile in November 1998. Its basic strategy is to establish an FTA with Chile and sequential FTAs with similar, small and medium sized countries and then pursue additional FTAs with major countries such as the United States, Japan, and China.

Korea strategically chose Chile as its first FTA partner not only because of complementarity in industrial and trade structures but also because of valuable learning effects from Chile's plentiful experience in regional economic cooperation. In addition, Korea might gain a pilot experience of an FTA with a small-sized country such as Chile, while it could minimize the risk and possible losses from it. Another main reason why Korea chose Chile as its first FTA partner is that the potential industrial damage will not be so much on the Korean agricultural sector, and the major agricultural imports from Chile are confined to some fruits such as grapes, kiwi, and tomato paste. As for grapes, Chile's season is very opposite to Korea's because Chile is geographically located in the Southern hemisphere. Meanwhile, Chile also showed a strong interest in getting an FTA with Korea to take advantage of the ever growing Korean markets as well as Korea's close linkage with other neighboring Asian countries.

In April 1999, both governments initiated the first meeting for FTA negotiations and agreed upon three basic principles of a Korea-Chile FTA negotiation: (i) a comprehensive FTA consistent with the GATT/WTO rules, principles, and commitments, (ii) liberalization of all areas including goods, services, investment, intellectual property, government procurement, competition policy, dispute settlement and other legal provisions, (iii) transparency. From 1999 to 2002, Korea had 6 rounds of FTA negotiations with Chile. However, at the fourth round both sides revealed some disagreements on the tariff concession for sensitive sectors. Korea proposed

exclusion of some agricultural products from tariff concession, but Chile insisted on no exceptions. In return of conceding exclusion of some manufacturing products to Chile, Korea earned the exemption of some sensitive agricultural products from the tariff concession. After the revision and adjustment of tariff concession schedule at the fifth and sixth round of FTA negotiations, they had reached the conclusion on October 24, 2002.

Under the agreement, Chile would lift tariffs on more than 2,000 products ranging from automobiles, mobile phones, computers and machinery, all of which account for more than two thirds of Korean exports to Chile. In return, Korea would reduce tariffs on Chilean copper products, animal feed, wheat, wool, tomatoes and 277 types of fish. Considering the Korean export structure in agriculture, the two countries agreed to treat the most sensitive agricultural products such as apples, pears, and rice as 'exceptions to liberalization' as well as to impose seasonal tariff on grapes in a high demand season. Also, the two governments agreed to postpone the negotiation for the market opening of garlic, onion, pepper, and dairy products after the conclusion of on-going WTO DDA negotiation, and set transitional period up to 10 years for other sensitive sectors, i.e., fisheries and forest products.

However, the selling of the FTA with Chile to the residents of Korea has been difficult due to heavy opposition from the agricultural sector and labor union. Farmers strongly resisted the launch of the Korea-Chile FTA for fear that the first FTA would bring similar pacts requiring the opening of the domestic agricultural markets. It took four years to reach an agreement with Chile and more than one year to gain approval before the rectification by the Korean National Assembly in February 2004. Finally, the Korea-Chile FTA came into effect in April 2004.

After the Asian financial crisis, Korea and Japan have recognized the merits of the FTAs and began the discussion of a bilateral FTA between the two countries in 1998. After that, the Korea Institute for International Economic Policy (KIEP) and Japan's Institute of Developing Economies (IDE) began to conduct a joint study on the economic effects of a Korea-Japan FTA. This study reveals that preferential tariff elimination under a Korea-Japan FTA may worsen Korea's welfare level and trade balance with Japan and also may cause a reduction in the production of Korea's heavy and chemical industries. Especially, it will have the worst adverse impacts on the parts

and components industries, thereby making the Korean industrial structure a labor-oriented one or over-dependent upon the light industries.

However, Korea will improve substantially in the long-term if its competitiveness is strengthened with an FTA. Additionally, the growing foreign direct investment (FDI) inflows into Korea may improve Korea's industrial structure and trade balance with the world. Overall, the joint study suggests that Korea can benefit from the FTA with Japan, and the governments of both countries should discuss the FTA. After starting a bilateral negotiation for an FTA in 2003, the governments of Korea and Japan agreed to conclude the FTA negotiation within 2004 and launch a bilateral FTA in 2005.

Right now, Korea is negotiating on an FTA with Singapore after a joint study on the FTA that was completed in 2003. In addition, Korea started in September 1999 a joint feasibility research on the economic effects of the FTAs with New Zealand and in November 1999 began a similar joint feasibility research with Thailand. The results of an interim report of a Korea-Thailand FTA were completed in March 2001 and that of a Korea-New Zealand FTA was released in late 2001. These reports will be used as a valuable foundation when the two governments engage in FTA negotiations with each other. Korea also agreed to conduct a research on an FTA with ASEAN in the Korea-ASEAN summit in Bali in October 2003. Korea has also been considering establishing FTAs with Mexico and the United States.

Discussions about a Korea-US FTA began in the late 1980s. Due to their growing economic interdependence, the two countries felt the strong need for deeper forms of economic cooperation. Korea hoped that it could secure the export markets in the U.S. and avoid trade restrictions and retaliation through an FTA with the U.S. On the other hand, to expand export markets, the United States has initiated discussions on FTAs with some strategic partners such as Chile, Singapore, and Korea. As a first step to getting an FTA, the US and Korean governments agreed to begin negotiations for a Bilateral Investment Treaty (BIT). However, the negotiation came to a deadlock due to the Screen quota problems.

Although no formal BIT or FTA initiatives had been reached yet, the private sectors of the two countries have so far been keeping talks on the possibility of an FTA. On the US side, Senator Max Baucus proposed an US-Korea FTA Act, which authorized the US government to launch FTA negotiations with Korea. The Senate also requested

the International Trade Commission (ITC) to submit a report on the feasibility of a US-Korea FTA. Although no real progress on a US-Korea FTA has been reached so far, both countries still have a strong interest in establishing a BIT or an FTA in the near future.

After the financial crisis, Korea also raised the possibility of a trilateral FTA between Korea, China, and Japan to counterbalance other regional economic blocks such as the EU and NAFTA. The three countries made an official attempt to discuss stronger economic cooperation in Northeast Asia during a trilateral summit meeting in Manila in 1999. Three years later, then Chinese Premier Zhu Rongji proposed a study of the trilateral FTA during the summit meeting in Phnom Penh, November 2002. Since then, the Trilateral Joint Research has been carried out to examine the economic effects of an FTA consisting of Korea, China, and Japan (NEAFTA). The research results were reported in the trilateral meeting in Bali, October 2003.

There are also ongoing formal and informal discussions on the need for the establishment of ASEAN+3 (i.e., ASEAN plus Korea, Japan, and China), which could turn into an East Asian economic cooperation.

It is clear that Korea has been pursuing a parallel approach of simultaneously adopting multilateral commitments and negotiating for regional trading arrangements. The Korean government would promote its FTA policy in the following way.

First, to maximize the benefits of trade liberalization, to secure export markets, and to continue structural reform, Korea needs to establish FTAs with large and advanced countries such as Japan, and the United States, although FTAs with Japan and the United States cannot be reached in the short run because there are many problems such as trade imbalance and opposition from sensitive sectors. While the Korean government should take a deliberate and long-term approach to an FTA with these countries, Korea should continue restructuring its economy and gain more experience of FTAs with other countries.

Second, Korea should make efforts to establish FTAs with neighboring Asian countries with Japan, China, and ASEAN. However, the formation of ASEAN+3 will be very difficult and a time consuming process. The most feasible choice for Korea is to establish an FTA with Japan and then invite China to join. Later, ASEAN members can be incorporated to develop an East Asian regional trading area.

. Trade Relations among Korea, China, and Japan

In this section, we will look at the trade relations among the three countries in Northeast Asia, Korea, China, and Japan, as well as their trade relations with other countries in the world. Such discussion will shed light on some of the features of proposed FTAs consisting of two or three of the countries.

1. Overview of the Trade Structures of Korea, China, and Japan

Table 1 presents the export and import trends of Korea, China and Japan. The total exports of three countries have increased from US \$699.7 billion in 1998 to US \$1,102.9 billion in 2003, and the total imports by them also increased from US \$513.7 billion to US \$974.2 billion dollars during the same period. The import and export of these countries grew faster than those of the world as a whole, as the share of the total export of these countries increased from 12.9% in 1988 to 15.3% in 2003, and the corresponding increase in import share was from 9.2% to 12.8%.⁴⁾ The main reason for such increases is mainly due to the growing significance of China's foreign trade.⁵⁾ They accounts for 15.3% and 12.8% in 2003, respectively.

4) The shares of exports and imports in the world in 2003 are calculated by using the data from January through October.

5) The export and import shares of China in the world market have increased by about 100% from 1998 to 2003, while they have been stable for Korea and they have decreased slightly for Japan.

<Table 1> **Export and Import of Korea, China and Japan, 1998 – 2003**

(Units: billion US dollar, %)

		1998	1999	2000	2001	2002	2003
Exports	Korea	132.3 (2.4)	143.7 (2.5)	172.3 (2.7)	150.4 (2.5)	162.5 (2.5)	193.8 (2.7)
	China	180.5 (3.3)	196.2 (3.5)	249.2 (3.9)	266.7 (4.4)	325.6 (5.1)	438.5 (6.0)
	Japan	386.9 (7.1)	417.4 (7.4)	479.3 (7.5)	403.0 (6.6)	415.6 (6.5)	470.6 (6.7)
	Total	699.7 (12.9)	756.3 (13.4)	900.8 (14.2)	820.1 (13.4)	903.7 (14.1)	1,102.9 (15.3)
Imports	Korea	93.3 (1.7)	119.8 (2.1)	160.6 (2.4)	141.1 (2.2)	152.1 (2.3)	178.8 (2.3)
	China	140.4 (2.5)	165.8 (2.9)	225.1 (3.4)	243.6 (3.8)	295.3 (4.5)	413.1 (5.4)
	Japan	280.0 (5.0)	309.6 (5.3)	379.9 (5.8)	349.0 (5.5)	336.8 (5.1)	382.3 (5.1)
	Total	513.7 (9.2)	596.2 (10.3)	765.5 (11.7)	733.7 (11.6)	784.2 (12.0)	974.2 (12.8)

Notes : Numbers in parentheses represent the shares of exports (imports) in the world exports (imports).
Those for 2003 are calculated by using the data from January through October.

Source : Korea International Trade Association, KOTIS data

Table 2 shows the rising intra-regional trade among these three countries. Such trade has increased substantially and their shares of exports and imports have reached 20.3% and 27.6%, respectively in 2003.⁶⁾ This shows that Korea, China, and Japan are very important trading partners of each other. Given deepening economic interdependency among the three countries, the need for policy cooperation among them is obvious.⁷⁾

6) They fell abruptly in 1998 after the Asian financial crisis.

7) However, the shares of intra-regional trade among these three countries remain small compared to

<Table 2> **Trilateral Trade among Korea, China, and Japan, 1998 – 2003**

(Unit: %)

		1998	1999	2000	2001	2002	2003
Korea to (from) China	Export (A)	11.9	13.7	18.5	18.1	23.8	35.1
	Import (B)	6.5	8.9	12.8	13.3	17.4	21.9
	A-B	5.4	4.8	5.7	4.8	6.4	13.2
Korea to (from) Japan	Export (A)	12.2	15.9	20.5	16.5	15.1	17.3
	Import (B)	16.8	24.1	31.8	26.6	29.9	36.3
	A-B	-4.6	-8.2	-11.3	-10.1	-14.8	-19.0
China to (from) Japan	Export (A)	29.5	32.4	41.6	45.1	48.5	59.5
	Import (B)	28.3	33.8	41.5	42.8	53.5	74.2
	A-B	1.2	-1.4	0.1	2.3	-5.0	-14.7
Intra-regional trade share	Export	13.6	15.3	17.0	18.1	18.9	20.3
	Import	22.5	24.0	24.2	24.7	26.3	27.6

Note : Intra-regional trade share for 2003 is calculated by using the data from January through October.

Source : Korea International Trade Association, KOTIS Data

One of notable findings from the trilateral trade is that trade between Korea and China has increased remarkably. In particular, Korea's exports to China have increased by more than 100% during the previous five years, thanks to the rapid economic growth of China, and reached US \$35.1 billion in 2003. The export volume to China exceeded that to Japan in 2001, and exceeded that to the US in 2003, making China the biggest export market for Korea. Besides, Korea's imports from China also have increased fast since 1998 and reached US \$21.9 billion in 2003, while Korea still had trade surplus with China.

other regional economic entities. According to Lee (2002), the intra-regional shares of MERCOSUR were 20.0% and the shares of NAFTA were 46.5% in 1999. Since the shares of intra-regional trade are getting higher as the number of participant countries increases, it is required to adjust the intra-regional trade shares by the region's shares of world trade to obtain a better measure of the regional concentration (Frankel et al. 1997). The adjusted intra-regional trade shares of the three countries were 1.7 in 1999, which were still lower than those of MERCOSUR (14.6), and NAFTA (2.2) (Lee 2002).

In 2003, Korea's principal exports to China consisted of HS85 (electrical machinery and equipment), HS84 (nuclear reactors, boilers, machinery and mechanic), HS29 (organic chemicals), HS72 (iron and steel), while China's main exports to Korea were HS85 (electrical machinery and equipment), HS84 (nuclear reactors, boilers, machinery and mechanic), HS27 (mineral fuels, mineral oils, bituminous substances, mineral waxes), and HS62 (articles of apparel and clothing accessories, not knitted or crocheted knit). Five of the ten principal Korean exports to China and five of the ten principal Chinese exports to Korea were the same.

On the other hand, Japan is the third largest importer and the fourth largest exporter for Korea. Of Korea's total external trade, Japan's shares have gradually decreased since 1990s. However, of Japan's total external trade, Korea's shares have remained fairly stable, except in 1998.

It is interesting to note that Korea has been running enormous trade deficits with Japan, and is one of the largest sources of Japan's trade surpluses. The trade deficit dropped sharply to US \$4.6 billion in 1998, but it rose to US \$19.0 billion in 2003, mainly because of the economic recovery of Korea. Furthermore, Korea's domestic production depends heavily upon Japan for parts, intermediate goods, and equipment in various industries.⁸⁾ This phenomenon is one of the major factors exacerbating Korea's trade deficit with Japan. In 2003, Korea's principal exports to Japan were HS85 (electrical machinery and equipment), HS27 (mineral fuels, mineral oils), HS84 (nuclear reactors, boilers, machinery and mechanic), HS72 (iron and steel), HS90 (optical, photographic, cinematographic, measuring, medical or surgical instruments). Of the ten principal Korean exports to Japan and the ten principal exports of Japan to Korea five coincided in 1998, but seven products did in 2003, even though Japan's principal export products to Korea did not change from 1998 to 2003. This may reflect the changes in the trade structures between Korea and Japan.

8) It may be said that a division of labor by product differentiation and by manufacturing process exists between the two countries. The division of labor by manufacturing process, in particular, is characterized by a trade pattern whereby the materials and capital goods needed for production are imported from Japan and final products are re-exported to Japan (Lee 2002).

<Table 3> **Ten Major Export and Import Products between Korea and China,**
1998 and 2003

(Unit: %)

Export to China				Import from China			
1998		2003		1998		2003	
Product	Share	Product	Share	Product	Share	Product	Share
HS39	13.7	HS85	24.8	HS85	17.5	HS85	25.2
HS85	11.9	HS84	20.0	HS27	11.2	HS84	9.5
HS27	9.6	HS29	8.9	HS72	6.0	HS27	7.4
HS84	8.5	HS72	7.6	HS10	5.5	HS62	5.1
HS72	7.8	HS39	7.4	HS55	5.0	HS10	4.8
HS29	7.6	HS27	5.3	HS84	4.7	HS72	3.6
HS41	5.0	HS87	3.9	HS89	3.6	HS61	3.4
HS54	4.6	HS90	2.4	HS29	2.9	HS03	3.1
HS48	4.3	HS54	1.7	HS03	2.9	HS76	2.6
HS55	3.6	HS60	1.5	HS62	2.4	HS90	2.3

Source: Korea International Trade Association, KOTIS Data

However, it should be noted that Korea's exports to Japan are mainly general purpose products, technically standardized products, and low-priced products, while Japan's exports to Korea are special processed products, components and intermediate products that cannot be procured within Korea, and high-priced famous brand products (Institute of Developing Economies 2000).

<Table 4> **Ten Major Trading Products between Korea and Japan, 1998 and 2003**

(Unit: %)

Export to Japan				Import from Japan			
1998		2003		1998		2003	
Product	Share	Product	Share	Product	Share	Product	Share
HS85	23.0	HS85	29.3	HS85	31.8	HS85	30.4
HS27	9.7	HS27	15.3	HS84	16.0	HS84	17.7
HS72	8.1	HS84	12.1	HS72	8.4	HS72	11.1
HS84	5.7	HS72	5.5	HS90	6.8	HS90	8.9
HS03	5.5	HS39	4.3	HS29	6.6	HS39	4.5
HS61	5.2	HS03	3.1	HS39	4.3	HS29	4.5
HS39	3.2	HS29	2.9	HS38	2.7	HS38	2.8
HS73	2.8	HS73	2.6	HS74	2.6	HS87	2.6
HS02	2.6	HS90	2.5	HS87	2.0	HS70	1.6
HS29	2.5	HS87	1.6	HS37	1.7	HS37	1.5

Source: Korea International Trade Association, KOTIS Data

Our analysis now turns to trade between China and Japan. Since 2002, China has been running trade deficits with Japan, as a result of its rapid growth. In 2003, China's principal exports to Japan are HS85 (electrical machinery and equipment and parts), HS84 (nuclear reactors, boilers, machinery and mechanic), HS62 (articles of apparel and clothing accessories, not knitted or crocheted knit), HS61 (articles of apparel and clothing accessories, knitted or crocheted knit). In the same year, Japan's main exports to China are HS85 (electrical machinery and equipment and parts), HS84 (nuclear reactors, boilers, machinery and mechanic), HS90 (optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments), HS87 (vehicles other than railway or tramway rolling stock). Japan's major export products to China did not change from 1998 to 2003.

<Table 5> 10 Major Trading Products between China with Japan, 1998 and 2003

(Unit: %)

Export to Japan				Import from Japan			
1998		2003		1998		2003	
Product	Share	Product	Share	Product	Share	Product	Share
HS62	15.2	HS85	17.6	HS85	25.6	HS85	31.4
HS85	15.1	HS84	15.3	HS84	22.2	HS84	22.6
HS61	9.4	HS62	11.7	HS39	7.4	HS90	8.0
HS84	5.3	HS61	8.7	HS72	7.3	HS72	5.8
HS27	4.9	HS27	4.1	HS90	4.9	HS87	5.4
HS90	3.1	HS90	3.3	HS29	3.2	HS39	4.9
HS16	3.1	HS16	2.8	HS87	2.5	HS29	4.2
HS07	2.8	HS63	2.3	HS54	2.4	HS73	1.4
HS63	2.6	HS94	2.1	HS55	2.4	HS74	1.2
HS03	2.5	HS64	1.8	HS73	2.2	HS55	1.1

Source: Korea International Trade Association, KOTIS Data

2. The Export and Import Structures of Korea, China and Japan

A. Export Structures of the Countries

Let us now compare the export structures of the three countries in 1998 and 2003. First, consider Korea and China. In both years, the two countries had HS85 (electrical machinery and equipment) and HS84 (nuclear reactors, boilers, machinery and mechanic) as the first and the second major exports, respectively. Other major export products are For products ranked below third, however, a degree of dependency on exports comes in at high levels for HS87 (vehicles other than railway or tramway rolling stock), HS89 (ships, boats and floating structures), HS39 (plastic and articles thereof), and HS72 (iron and steel) in Korea and for HS61 (articles of apparel and clothing accessories, knitted or crocheted knit), HS62 (articles of apparel and clothing accessories, not knitted or crocheted knit), and HS95 (toys, games and sports requisites) in China, showing that Korea still has an competitive edge over China in

capital-intensive industries such as automobiles, ships, and steels, even though Korea has been rapidly losing competitiveness to China in the area of light industrial products.

Korea and Japan have the same three industries as the top three exports (HS85, 84, and 87). In the case for Japan, these three industries carry about the same weights, and these weights remain approximately constant from 1998 to 2003. On the contrary, Korea's exports were skewed heavily toward HS85 as the first exchange earner, and such dependence actually increased in 2003 (from 24 percent to more than 28 percent), mainly due to the expansion of investments in IT industries.⁹⁾

<Table 6> **Shares of 10 Major Exports of Korea, Japan, and China, 1998 and 2003**

(Unit: %)

Korea				Japan				China			
1998		2003		1998		2003		1998		2003	
Prod.	Share	Prod.	Share	Prod.	Share	Prod.	Share	Prod.	Share	Prod.	Share
HS85	24.0	HS85	28.4	HS84	22.3	HS85	22.1	HS85	14.8	HS85	20.3
HS84	9.7	HS84	16.4	HS85	22.2	HS87	22.1	HS84	9.2	HS84	19.0
HS87	8.6	HS87	11.9	HS87	20.3	HS84	20.1	HS61	8.4	HS61	5.7
HS89	6.1	HS89	5.7	HS90	5.9	HS90	5.8	HS62	6.0	HS62	4.7
HS71	6.0	HS39	4.6	HS72	3.1	HS72	4.1	HS64	4.6	HS95	3.0
HS72	4.8	HS72	3.7	HS29	2.7	HS29	3.3	HS95	4.2	HS64	3.0
HS39	4.3	HS27	3.6	HS89	2.6	HS39	2.9	HS42	2.9	HS94	2.9
HS54	3.8	HS29	3.0	HS39	2.2	HS89	2.6	HS27	2.8	HS27	2.5
HS27	3.5	HS54	1.8	HS73	1.6	HS40	2.1	HS39	2.8	HS90	2.4
HS29	2.5	HS71	1.7	HS40	1.5	HS73	1.5	HS90	2.4	HS39	2.4

Source: Korea International Trade Association, KOTIS Data

9) The share of the export products, which reflects the industrial structure, suggests that Japanese industrial structure is very stable. On the other hand, changes in the export products of Korea and China are understood to be accompanied with a relatively radical change in the industrial structure recently.

On the whole, one can say that the export structures of the three countries show some similarities, especially for the three big exporting industries. Korea, as the middle country among these three, is closer to China than to Japan. Japan's export structure shows more stability in the period from 1998 to 2003. Korea and China are getting more and more dependent on the three big exporters, with their shares higher in 2003 than in 1998. For the later two countries, the rise of sector HS 84 was especially remarkable (from 9.7 percent to 16.4 percent for Korea, and from 9.2 percent to 19.0 percent for China).

B. Import Structures of the Countries

The import structures of Korea and Japan were quite stable from 1998 to 2003, possibly because of the relatively developed structures of the economies. For example, the first three major imported products are HS85, HS27, and HS84, with fairly unchanged shares over the period.

<Table 7> Shares of 10 Major Imports of Korea, Japan, and China, 1998 and 2003

(Unit: %)

Korea				Japan				China			
1998		2003		1998		2003		1998		2003	
Prod.	Share	Prod.	Share	Prod.	Share	Prod.	Share	Prod.	Share	Prod.	Share
HS85	20.8	HS27	21.6	HS27	15.4	HS27	21.2	HS85	18.8	HS85	25.2
HS27	19.5	HS85	21.6	HS85	11.2	HS85	12.5	HS84	17.6	HS84	17.3
HS84	10.5	HS84	11.3	HS84	10.6	HS84	10.8	HS39	7.5	HS27	7.1
HS71	5.0	HS72	4.6	HS03	3.8	HS90	3.9	HS27	4.8	HS90	6.1
HS90	3.7	HS90	4.5	HS90	3.7	HS87	3.1	HS72	4.2	HS72	5.4
HS29	3.6	HS29	3.1	HS44	3.3	HS03	2.8	HS90	2.9	HS39	5.1
HS72	3.5	HS71	2.0	HS87	2.9	HS62	2.7	HS48	2.6	HS29	3.9
HS26	1.8	HS39	1.9	HS62	2.7	HS44	2.6	HS29	2.5	HS87	2.9
HS39	1.8	HS87	1.8	HS61	2.3	HS29	2.4	HS54	2.4	HS26	1.7
HS10	1.7	HS38	1.4	HS29	2.3	HS61	2.1	HS88	2.3	HS74	1.7

Source: Korea International Trade Association, KOTIS Data

Japan had the same three industries as the three major imports in both years, with their shares slightly higher in 2003 than in 1998. China's import structures seemed to be less stable. In 2003, the third major imported products were from industry HS27, replacing HS39. Moreover, the share of imported product HS85 jumped from 18.8 percent in 1998 to 25.2 % in 2003.

3. Characteristics of the Trade Relations among Korea, China and Japan

A. Competitive Export Relations among the Three Countries

We now examine the export competition among Korea, China, and Japan. We first consider their trade specialization indices. For industry i in country A , the specialization index, TSI , is defined as

$$TSI_{Ai} = \frac{X_{Ai} - M_{Ai}}{X_{Ai} + M_{Ai}}, \quad (1)$$

where X_{Ai} and M_{Ai} represent the export and the import of product i by country A , respectively. The index TSI lies between -1 (when $X_{Ai} = 0$ and $M_{Ai} > 0$) and $+1$ (when $X_{Ai} > 0$ and $M_{Ai} = 0$), and a positive (negative) number reveals the country's comparative advantage (disadvantage) in the product.

Table 8 presents the $TSIs$ of the ten major export and import industries of Korea, China and Japan. The table reveals several interesting features. First, the $TSIs$ of Korea's ten major export industries are on the whole lower than those of China and Japan. Second, the $TSIs$ of Korea's ten major export products are generally lower in 2003 than in 1998 except for HS84 (nuclear reactors, boilers, machinery and mechanic). This suggests that Korea exports the less specialized products, and consequently, Korea is facing more competition than China and Japan. Therefore, the export structure of Korea is more vulnerable against domestic and foreign shocks than China and Japan are. Kim and Cho (2003) compare the movement of $TSIs$ of major products of Korea and China from 1990 to 2000 and find that Korea lost its competitiveness for the products of clothing, footwear, furniture, toys against China.

<Table 8> Trade Specialization Indices of Korea, China, and Japan, 1998 and 2003

	Korea		China		Japan	
	1998	2003	1998	2003	1998	2003
HS03	0.31	-0.38	0.44	0.28	-0.91	-0.88
HS10	-1.00	-1.00	0.37	0.71	-0.93	-0.10
HS26	-0.98	-0.99	-0.94	-0.94	-0.99	-0.99
HS27	-0.60	-0.70	-0.13	-0.45	-0.95	-0.96
HS29	-0.01	0.03	-0.01	-0.38	0.24	0.18
HS38	-0.55	-0.52	-0.32	-0.46	0.19	0.24
HS39	0.55	0.44	-0.35	-0.36	0.35	0.32
HS40	0.55	0.40	-0.05	-0.19	0.54	0.51
HS42	0.72	-0.39	0.99	0.97	-0.97	-0.92
HS44	-0.76	-0.91	-0.19	-0.15	-0.99	-0.98
HS48	0.64	0.35	-0.58	-0.31	0.11	-0.01
HS54	0.78	0.72	-0.58	0.02	0.79	0.68
HS61	0.84	0.34	0.95	0.95	-0.97	-0.95
HS62	0.77	0.00	0.91	0.94	-0.95	-0.96
HS64	0.67	-0.01	0.93	0.94	-0.96	-0.98
HS71	0.25	-0.03	0.62	0.28	-0.53	-0.45
HS72	0.32	-0.07	-0.43	-0.73	0.60	0.67
HS73	0.33	0.28	0.38	0.47	0.54	0.37
HS74	-0.04	-0.19	-0.55	-0.77	0.34	0.55
HS84	0.14	0.22	-0.20	0.08	0.49	0.39
HS85	0.24	0.18	0.01	-0.08	0.46	0.37
HS87	0.87	0.76	0.04	-0.19	0.81	0.80
HS88	0.06	-0.22	-0.76	-0.82	-0.50	-0.49
HS89	0.91	0.91	0.82	0.58	0.97	0.98
HS90	-0.16	-0.45	0.03	-0.41	0.38	0.30
HS94	0.25	-0.36	0.92	0.90	-0.74	-0.75
HS95	0.46	-0.29	0.93	0.94	-0.01	-0.31

Note: Products cover 10 major export and import products of Korea, China and Japan.

Second, let us look at the export similarity index (*ESI*) between two countries, A and B, which is defined as follows:

$$ESI_{AB} = \sum_i \min\left(\frac{X_{Ai}}{X_A}, \frac{X_{Bi}}{X_B}\right), \quad (2)$$

where X_j is the total export of country j , $j = A, B$. It is a positive number not greater than 1. If the export structures of the countries are more similar, then the index should be closer to 1.

Table 9 shows the ESIs between any two of the three countries from 1998 to 2003 using HS 2 digit codes. The table reveals that the export structures of Korea, China and Japan are getting similar to each other over time, suggesting that the competition among the three countries in the world market is intensifying. The ESIs between China and Japan increased especially fast. One implication is that the rapid economic growth of China is a bigger threat to Japan than to Korea. However, it is important to note that in these years the export competition between Korea and Japan remained the most severe among the three countries.

The present results can be compared with those by Kim (2004) and Park (2003). The former measured the ESIs of Korea, China and Japan using HS 4 digit codes and the latter using HS 6 digit codes. Both Kim and Park found that the ESIs between Korea and Japan were more stable than what Table 9 suggests.

<Table 9> **Export Similarity Indices of Korea, China and Japan, 1998-2003**

	1998	1999	2000	2001	2002	2003
Korea and China	0.575	0.593	0.596	0.622	0.639	0.635
Korea and Japan	0.651	0.695	0.729	0.713	0.724	0.730
China and Japan	0.467	0.495	0.517	0.545	0.572	0.595

Note: ESI is calculated by using the HS two digit codes.

Third, let us look at the market shares of selected industries of Korea, China, and Japan in the US market, the largest importing country in the world (Table 10). Overall, we can see that China's market shares of these industries increased steadily, while those of Korea and Japan decreased over time, with Japan experiencing a faster drop. However, this does not imply that Japan's competitiveness is decreasing because Japan has diversified its export markets by increasing its exports to East Asia.

More details are given in Table 10, which is taken from Kim (2004). For HS8541 (diodes, transistors and similar semiconductor devices) and HS8542 (electronic integrated circuits and micro assemblies), Korea's and Japan's market shares declined due to the expanded exports of multilateral firms located in Southeast Asian countries, while China's market share gradually rose. For HS8517 (electrical apparatus for line telephony) and HS8525 (transmission apparatus for radio-telephony), two of Korea's major export products, Korea's and China's market shares rapidly increased since 1999, while Japan's market share decreased. For HS8471 (automatic data processing machines and units thereof), Korea's and Japan's market shares had decreased since 2000, but China's market share grew rapidly and reached 26.8% in 2003, which is much larger than those of Korea (4.8%) and Japan (10.5%). For HS87 (vehicles other than railway or tramway), Korea's market share increased from 1.5% in 1998 to 4.6% in 2003, while Japan's market share decreased from 26.7% in 1998 to 25.0% in 2003. China's market share has reached just 1.4% in 2003. For HS89 (ships, boats, and floating structures), Korea and Japan had the duopoly market power. For HS72 (iron and steel), HS73 (articles of iron and steel), Korea's market share decreased from 5.7% in 1998 to 3.9% in 2003 and Japan's market share also declined from 14.0% to 6.7% during the same period. However, China rapidly took up the market shares of Korea and Japan, with its market share rising from 4.9% in 1998 to 13.4% in 2003. For HS54 (man-made filaments) and HS55 (man-made fibers), China's market shares increased rapidly from 2.6% in 1998 to 4.9% in 2003, even though Korea's market share was still the largest in 2003. For HS39 (plastics and articles of thereof), China's market share was large in 1998, and it rose up to a more dominating figure in 2003.

<Table 10>

**Market Shares in the US of Selected Industries of
Korea, China and Japan, 1998-2003**

		1998	1999	2000	2001	2002	2003
HS8541	Korea	15.7	17.7	15.7	11.6	13.3	13.1
	HS8542	China	1.5	1.8	1.6	2.2	2.8
	Japan	17.7	17.7	17.7	15.5	11.6	10.6
HS8517	Korea	5.1	8.0	8.6	14.2	14.3	15.7
HS8525	China	10.5	9.7	8.6	10.3	15.2	17.9
	Japan	25.8	24.0	18.5	15.4	14.3	12.7
HS8471	Korea	4.7	6.8	8.8	6.4	6.1	4.8
HS8473	China	7.3	9.0	11.4	13.7	19.3	26.8
	Japan	18.6	17.1	16.4	13.9	11.9	10.5
HS87	Korea	1.5	2.2	3.2	4.3	4.3	4.6
	China	0.7	0.7	1.2	1.0	1.1	1.4
	Japan	26.7	25.8	26.2	25.8	26.6	25.0
HS89	Korea	28.7	33.2	39.1	37.2	39.7	-
	China	5.8	5.6	4.8	5.9	5.2	-
	Japan	40.6	40.2	38.4	38.6	36.6	-
HS72	Korea	5.7	5.7	5.2	5.1	4.4	3.9
HS73	China	4.9	6.5	7.9	9.5	10.7	13.4
	Japan	14.0	10.0	8.0	8.5	7.1	6.7
HS54	Korea	14.1	13.2	13.0	12.2	11.9	11.4
HS55	China	2.6	2.4	3.4	3.1	4.2	4.9
	Japan	9.1	9.3	8.8	8.1	6.6	6.8
HS39	Korea	2.5	2.7	2.5	2.3	2.6	2.7
	China	13.9	14.8	15.3	16.9	18.5	18.7
	Japan	10.2	9.6	9.1	7.8	7.1	6.8

Note: The share for HS89 is based on the world market, not US market.

Source: Kim (2004)

B. Complementary Trade Relationship among the Three Countries

Turning to the complementarity nature of the exports of these three countries, let us first examine the intra-regional trade shares of the three countries (Table 11). In general, a higher intra-regional trade share of a group of countries implies that the countries are more inter-dependent in trade. Table 11 shows that both in terms of export or import, the three countries had rising intra-regional shares from 1998 to 2003: Intra-regional export share increased from 15.0% in 1998 to 22.2% in 2003, and intra-regional import share also increased from 20.5% to 24.6% during the same period. These figures are very high (though lower than the corresponding figures for NAFTA and EU), considering the fact that the countries do not have a free trade agreement. One important reason for high intra-regional trade among the countries is that they have vertically differentiated industries, and they are close to each other.

<Table 11> Intra-regional Trade Share of Korea, China and Japan, 1998-2003

(unit: %)

	1998	1999	2000	2001	2002	2003
Export	15.0	17.0	18.5	19.8	20.8	22.2
Import	20.5	21.6	21.8	22.1	24.0	24.6

Let us now look at the export market intensity index from country A to country B , EMI_{AB} , which is defined as follows:¹⁾

$$EMI_{AB} = \frac{X_{AB}/X_A}{M_B/M}, \quad (3)$$

where X_{AB} represents the exports from country A to a country B , X_A means the total exports of the country A , M_B means the total imports of the country B , and M means the total imports of the world. An EMI greater than 1, which occurs when the export share of the country A to the country B is greater than the export share of the world to the country B , implies that country B is trade-dependent on country A .

10) See Kim (2004) for more details.

Table 12 presents the *EMIs* of the three countries from 1998 to 2003. All the numbers are greater than 1, showing how the economies are mutually trade dependent on each other. To China, the *EMI* of Korea (3.5 in 2003) is higher than that of Japan (2.6), implying that the structure of Korea's exports are more suited to China's market. Alternatively, one may say that China is more important for Korea's exports than for Japan. The *EMI* of Korea to Japan (1.7) is lower than the *EMI* of China to Japan (2.3), which implies that Japan is a more important market to China than to Korea. These numbers reflect the fact that China's exports are specialized mainly in low-price consumption products such as apparel, clothes, footwear, toys, and furniture and it is suited to the demand of Japan. The *EMI* of Japan to Korea (3.5) is higher than the *EMI* of China to Korea (1.7), showing that Korea's industries depend heavily on Japan.

<Table 12> **Export Market Intensity Indices of Korea, China and Japan, 1998-2003**

Market		1998	1999	2000	2001	2002	2003
Korea	China	2.04	1.95	1.86	2.12	2.24	1.73
	Japan	2.34	2.66	2.63	2.84	3.10	3.49
China	Korea	3.52	3.34	3.14	3.17	3.25	3.50
	Japan	2.04	1.96	1.86	2.01	2.86	2.62
Japan	Korea	1.83	2.08	2.06	2.01	1.81	1.67
	China	3.23	3.12	2.90	3.09	2.90	2.29

Third, we now consider the Grubel-Lloyd index (Grubel and Lloyd, 1975) to measure the degree of intra-industry among the countries. The intra-industry trade index of industry *i* between two countries is defined as:

$$IIT_i = 1 - \frac{|X_i - M_i|}{X_i + M_i}. \quad (4)$$

Note that the index is symmetric between the countries, and so in (4) it does not matter whether X_i (M_i) is defined as country *A* or *B*'s export (import). The index lies

between 0 (when either X_i or M_i is zero while trade exists) and +1 (when $X_i = M_i > 0$).

Table 13 presents the intra-industry trade indices of ten major export and import industries in Korea, China and Japan. The industries with relatively high indices between Korea and China in 2003 are HS64 (footwear), HS72 (iron and steel), HS73 (articles of iron and steel), HS85 (electrical machinery and equipment), HS88 (aircraft, spacecraft and parts thereof), HS89 (ships, boats and floating structures), and HS90 (optical, photographic, cinematographic). For intra-industry trade between Korea and Japan, the industries with high indices are HS48 (paper and paperboard, articles of paper), HS71 (pearls, precious stones), and HS73 (articles of iron and steel). Between China and Japan, the industries high on the list of intra-industry trade in 2003 are HS71 (iron and steel), HS73 (articles of iron and steel), and HS84 (nuclear reactors, boilers, machines). It is interesting to note that even though the major export industries of Korea, China, and Japan are HS84 and HS85, their *IITs* are not that high. That is because products in these industries are mostly expensive items, raising their importance in terms of the values of trade. However, these countries had significant trade imbalances, implying low intra-industry trade indices. Another point to note is that the industries with relatively high *IITs* in 2003 also had relatively high *IITs* in 1998.

<Table 13> **Intra-industry Trade Indices of Major Export Industries among Korea, China and Japan, 1998 and 2003**

	Korea-China		Korea-Japan		China-Japan	
	1998	2003	1998	2003	1998	2003
HS03	0.66	0.18	0.08	0.42	0.21	0.20
HS10	0.00	0.00	0.06	0.00	0.00	0.00
HS26	0.07	0.09	0.49	0.56	0.64	0.47
HS27	0.78	0.93	0.22	0.32	0.29	0.32
HS29	0.35	0.27	0.43	0.47	0.49	0.30
HS38	0.67	0.72	0.29	0.23	0.58	0.37
HS39	0.05	0.17	0.70	0.63	0.35	0.41
HS40	0.19	0.54	0.52	0.54	0.32	0.38
HS42	0.66	0.23	0.02	0.19	0.01	0.01
HS44	0.57	0.19	0.58	0.46	0.03	0.05
HS48	0.02	0.31	0.76	0.85	0.33	0.64
HS54	0.43	0.31	0.60	0.49	0.06	0.15
HS61	0.20	0.10	0.03	0.17	0.01	0.01
HS62	0.63	0.30	0.06	0.31	0.13	0.05
HS64	0.79	0.82	0.04	0.18	0.03	0.02
HS71	0.86	0.92	0.50	0.76	0.91	0.85
HS72	0.59	0.45	0.82	0.38	0.30	0.23
HS73	0.58	0.93	0.84	0.88	0.83	0.94
HS74	0.72	0.41	0.76	0.40	0.13	0.09
HS84	0.47	0.46	0.41	0.49	0.40	0.70
HS85	0.89	0.78	0.69	0.63	0.76	0.62
HS87	0.13	0.14	0.43	0.46	0.58	0.41
HS88	0.14	0.77	0.03	0.36	0.12	0.18
HS89	0.14	0.83	0.17	0.03	0.68	0.54
HS90	0.81	0.75	0.40	0.24	0.80	0.50
HS94	0.76	0.38	0.46	0.67	0.10	0.15
HS95	0.92	0.37	0.64	0.64	0.22	0.20

Another way to show the degree of intra-industry trade between two countries is to aggregate the individual index of the industries. The aggregate intra-industry trade index between two countries is thus defined as: ²⁾

$$IIT = 1 - \frac{\sum_i |X_i - M_i|}{\sum_i |X_i + M_i|}, \tag{5}$$

The *IIT* takes a value between 0 (when all industries have an intra-industry trade index equal to 0) and 1 (when all industries have an index equal to 1). A larger index represents a higher degree of intra-industry trade between the two countries. It has been argued that the *IIT* is positively correlated with the level of a country’s per capita income, market size, similarity of factor endowments, and activities of multi-national firms (Kim and Choi, 2001).

Table 14 presents the aggregate intra-industry trade index between any two of the three countries from 1998 to 2003. All three countries showed high degree of intra-industry trade with each other. Over time, Korea’s degree of intra-industry trade with China has been increasing, while its intra-industry trade with Japan remained fairly stable, or showed a mild decreasing trend. China’s trade with Japan also showed a minor rising trend.

<Table 14> **Intra-industry Trade among Korea, China, Japan, 1998-2003**

	1998	1999	2000	2001	2002	2003
Korea-China	0.49	0.56	0.56	0.58	0.54	0.53
Korea-Japan	0.52	0.52	0.53	0.52	0.50	0.49
China-Japan	0.41	0.39	0.40	0.43	0.45	0.46

11) The formula defined here does not take into consideration the possibility of non-zero trade balance. To see how an alternative formula corrects for a possible trade imbalance, see Grubel and Lloyd (1975) and Wong (2003).

<Table 15>

Definitions of the HS Codes

Code	Product	Code	Product
01	Live animal	26	Ores, slag, ash
02	Meat, edible meat offal	27	Mineral fuels, oils, waxes
03	Fish, crustaceans, mollusks, others	28	Inorganic chemicals
04	Dairy products, birds eggs, honey	29	Organic chemicals
05	Other products of animal origin	30	Pharmaceutical products
06	Live trees, other live plants, bulbs	31	Fertilizers
07	Edible vegetables, roots	32	Tanning or dyeing extracts, paint
08	Edible fruit and nuts	33	Essential oils, cosmetic preparations
09	Coffee, tea, mate	34	Soap, candles
10	Cereals	35	Albuminoidal substances, glues
11	Products of milling industry	36	Explosives, matches
12	Oil seeds, oleaginous fruit, medicine	37	Photographic and cinematographic
13	Lac, gums, other vegetable products	38	Miscellaneous chemical products
14	Vegetable plaiting materials	39	Plastics and articles thereof
15	Animal or vegetable fats, oils	40	Rubber and articles thereof
16	Preparation of meat, of fish	41	Raw hides and skins (other than furskins)
17	Sugars and sugar confectionery	42	Articles of leather or animal gut, harness
18	Cocoa, cocoa preparations	43	Furskins and artificial fur
19	Preparations of cereals, flour, milk	44	Wood and articles of wood, wood charcoal
20	Preparations of vegetables, fruit, nuts	45	Cork and articles of cork
21	Miscellaneous edible preparations	46	Manufactures of straw, esparto
22	Beverages, spirits, vinegar	47	Pulp of wood or of other fibrous cellulous
23	Residues, wastes from food industry	48	Paper and paperboard, articles of paper
24	Tobacco, tobacco substitutes	49	Printed books, new paper, pictures
25	Salt, earths, stone, cement	50	Silk

51	Wool, fine or coarse animal hair	74	Copper and articles thereof
52	Cotton	75	Nickel and articles thereof
53	Other vegetable textile fibers, paper yarn	76	Aluminum and articles thereof
54	Man-made filaments	78	Lead and articles thereof
55	Man-made staple fibers	79	Zinc and articles thereof
56	Wedding, felt and nonwovens	80	Tin and articles thereof
57	Carpets and other textile floor coverings	81	Other base metals, cermets
58	Special woven fabrics, tufted textile	82	Tools, implements, cutlery, spoons
59	Impregnated, coated, covered textile	83	Miscellaneous articles of base metal
60	Knitted or crocheted fabrics	84	Nuclear reactors, boilers, machinery
61	Articles of apparel and clothing, knitted	85	Electrical machinery and equipment
62	Articles of apparel and clothing, not knitted	86	Railway or tramway locomotives
63	Other made up textile articles, sets	87	Vehicles other than railway or tramway
64	Footwear, headgear, umbrellas	88	Aircraft, spacecraft and parts thereof
65	Headgear and parts thereof	89	Ships, boats and floating structures
66	Umbrellas, sun umbrellas, walking-sticks	90	Optical, photographic, cinematographic
67	Prepared feathers and down	91	Clocks and watches and parts thereof
68	Articles of stone, plaster, cement, asbestos	92	Musical instruments, parts
69	Ceramic products	93	Arms and ammunition, parts
70	Glass and class	94	Furniture, bedding, mattresses, cushions
71	Pearls, precious pr semi-precious stones	95	Toys, games and sports requisites
72	Iron and steel	96	Miscellaneous manufactured articles
73	Articles of iron and steel	97	Works of art, collectors pieces and antiques

IV. The Economics of Free Trade Areas

To better understand the implications and factors of the proposed free trade area (FTA) of Korea, China, and Japan, let us examine some of theoretical issues of FTA. We first begin with the traditional views of FTA (or customs union or other forms of economic integration). We then propose some newer views that better explain the situation faced by the three countries.

1. The Traditional Views of FTA

The traditional views recognize the fact that FTAs (or customs unions) can contribute to more efficient allocation of resources within the region, but possibly at the expense of resource allocation between member countries and non-member countries. Such dual roles of FTAs could thus make the welfare implications of FTAs ambiguous.

Viner's approach is to compare the change in the patterns of import of a member country and the relative productivity levels of the initial and final supplying countries. He argues that trade is diverted if the formation of an FTA causes a member country to switch its import of a product from a low-cost non-member country to a high-cost member country. Such switch is possible, thanks to the preferential treatment the high-cost member country receives because of the free trade agreement. On the other hand, (more) trade is created if a member country imports more from another member country, which is also a low-cost supplier. The increase in the volume of trade is the result of trade liberalization among the member countries.

It is argued that trade diversion may be detrimental (to both the importing country and to the welfare of the world) because of the import of the product from a high-cost country instead of from a low-cost country. It is, however, not true that welfare of the world must drop in the presence of trade diversion because of trade liberalization. On the other hand, trade creation is regarded as beneficial to the importing country (a small open economy assumption) and possibly that of the world as well.

Viner's partial equilibrium view (usually with the assumption of small open

economies of the member countries) focuses more on the import side of the member countries, and links the welfare of the member countries (and that of the world) to the import patterns and volumes of the member countries.

The ambiguous welfare impacts of FTAs in the approach of Viner are not surprising, even though FTAs may be considered as a step in the direction of free trade among all countries. According to the Theory of Second Best, the removal or reduction of some of the existing distortions, while some other distortions still exist, is not a good prediction of how the welfare of the world may change. In other words, such partial removal or reduction of distortions may improve or deteriorate welfare. As a result, forming FTAs is not a guarantee of welfare enhancement for either individual country or the world.

A more definite assertion of positive welfare impact of FTAs is due to Kemp and Wan (1976), who argue that a Pareto improving FTA for any subgroup of countries can always be found, as long as the external tariffs of the member countries can be set endogenously and intra-regional compensations can be imposed. The intuition behind their argument is simple: The external tariffs are chosen in order to maintain the volume of trade of each non-member country so that its welfare would not be affected. At the same time, the removal of trade restriction will allow more efficient use of the endowed factors in the member countries, and intra-regional compensation will allow a Pareto distribution of the gains from more efficient production.¹²⁾

The Kemp-Wan result is appealing, because if any FTA is welfare improving, when properly specified, then FTA is regarded as the right movement and in the right direction toward ultimate free trade among all countries. For example, a Pareto improving FTA is formed with $n \geq 2$ countries. Then it can be expanded with more members, or a separate Pareto improving FTA is formed. Eventually, all countries form a single FTA. In the process, all countries will either remain as well off as before or gain.

The Kemp-Wan proposition works beautifully in the theory. However, in reality, it meets two major difficulties. First, the external tariffs of the member countries have to

12) Kemp and Wan (1976) did not explain the compensation scheme in detail. Wong (1995) provides an elaborate discussion of different types of compensation schemes that can be used.

be chosen to maintain the volumes of trade of the non-member countries. In reality, external tariffs of the member countries are nearly never coordinated to achieve such a goal. In most cases, the external tariffs of the member countries are kept at the pre-FTA levels.¹³⁾ Second, even if external tariffs can be set endogenously, to find the right set of external tariffs and a suitable compensation scheme will require a lot of information about the preferences, technologies, and factor endowments of all the countries, including the member countries and non-member countries. It will be very difficult and costly to obtain this information, even if it is possible. Moreover, if individuals are to receive lump-sum compensation and if they need to voluntarily reveal their preferences, then there is the question of whether they have the right incentive to reveal the true information.

2. The International Rivalry Approach

Neither the Viner approach nor the Kemp-Wan approach is appropriate in explaining the recent fever of FTAs, especially that in Asia. The Viner approach, which is based on partial equilibrium usually with the assumption of small open economies, focuses more on the import side of member countries. The Kemp-Wan approach indicates the needs of the policies of choosing the right external tariffs of the member countries, but the policies are not what are being considered.

Rather, governments are more concerned about the market shares of their exporting firms in other member countries. Very often, they view FTA as a way to increase the market shares of some of their exporting firms, often at the expense of their firms' rivals. In other words, they are exploiting the discriminatory nature of FTA and make it work in their own favor.

We can provide a rigorous model to explain this approach. Consider countries A, B, and C. Countries A and B have firms producing a homogeneous product, which is exported to country C. To make our analysis simpler, we assume that there is no demand for the product in countries A and B, while there is no domestic production in

13) If it is a customs union, member countries are required to maintain the same external tariff structure. This will very likely require all the member countries to make some adjustments in their external tariff policies.

country C. Furthermore, there is only one firm in country A or country B producing the product. This means that the production of the two firms will have their outputs exported to country C, and the demand for their outputs is the same as the demand for the product of country C.

Initially country C imposes a non-prohibitive tariff scheme, which is usually the same on the exports from countries A and B. Now country C and country A form an FTA. Thus the tariff on the import from firm A is removed while that on firm B's export is still subject to the same positive tariff as before. As a result, the export of firm A is encouraged by the FTA while that of firm B is discouraged. How would the welfare of the countries be affected?

To answer the above question, consider the demand function of country C as given by $p = p(q)$, where p is the market price and q is the quantity demanded. Assume that the demand curve is negatively sloped and not too convex to the origin.

The profit of the firm in country A can be written as:

$$\pi = p(q)x - cx - tx, \quad (6)$$

where c is the marginal cost (fixed), x the output of the firm, and t the specific tariff imposed by country C on the firm's export. For simplicity, the fixed cost is not included in (6), as it is assumed to be not significant. A similar function can be stated for the firm in country B:

$$\pi^* = p(q)x^* - c^*x^* - t^*x^*, \quad (7)$$

where an asterisk is used to denote a corresponding variable of firm B. In equilibrium, the sum of the firms' outputs satisfies the demand, i.e., $q = x + x^*$. Initially both firms face the same tariff rate, $t_0 > 0$, imposed by country C. Both countries A and B allow free export of this product to country C.

Each of the firms takes the output of the other firm and the policy parameters as given, and chooses the optimal output to maximize its profit. Thus equations (6) and (7) can be used to derive the reaction functions of the firms, which can then be solved for the Nash equilibrium.

The equilibrium can be illustrated in Figure 1. Curve AA represents the reaction function of firm A at the initial tariff rates while curve BB represents that of firm B. It is easy to show that when given the usual properties of the demand function, both reaction curves are negatively sloped, with curve AA steeper than curve BB at least in the small region near point N, the point of intersection between the two curves. Point N illustrates the initial Nash equilibrium. The diagram also shows two iso-welfare contours of country A labeled W_A^N and W_A^S . The two labels also indicate the corresponding welfare levels of country A, and it is easy to show that $W_A^S > W_A^N$. The contour labeled W_A^N passes through point N, meaning that at the initial Nash equilibrium, country A achieves a welfare level of W_A^N .

Suppose now that countries A and C form a FTA. As a result, country C removes the tariff imposed on the product imported from firm A. Suppose further that country C maintains the same tariff rate on the import from firm B.¹⁴⁾ Simple comparative static exercises will show that the FTA will shift the reaction function of firm A to the right (the production of firm A at any production level of firm B being encouraged) while the reaction curve of firm B does not move. The new Nash equilibrium will then be another point on curve BB to the right of point N. The location of the new Nash equilibrium depends on the original tariff rate, t , and the extent of trade liberalization country C makes. Figure 1 shows one possibility: The new reaction curve of country A is denoted by A'A', cutting curve BB at point S. In the case shown, point S happens to be the point of tangency between curve BB and iso-welfare contour of country A, W_A^S .

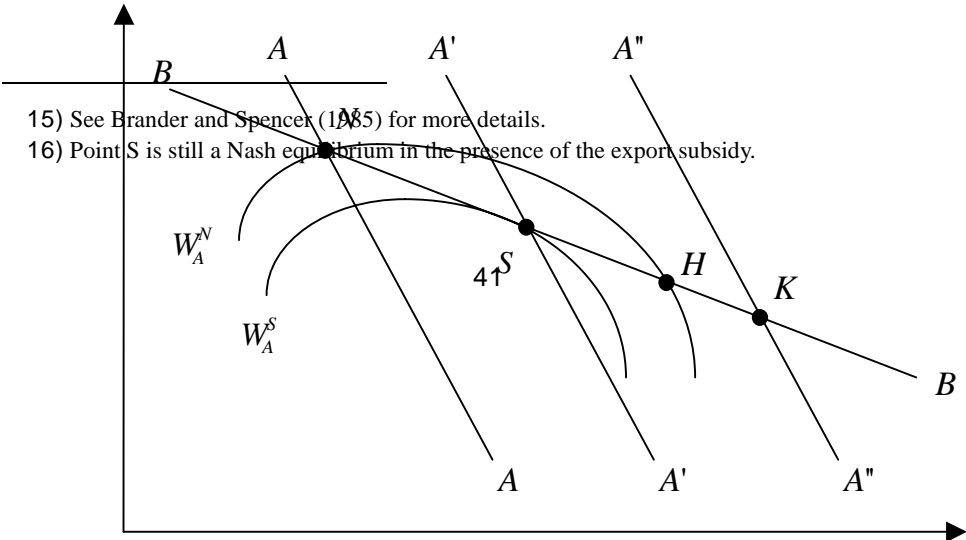
To see the significance of point S, suppose for the time being that the FTA between countries A and B has not been established so that firm A's export to country C is still subject to the tariff t_0 . If, for example, firm A can take a credible, irreversible first move in production, with the expectation that firm B will take this production as given when choosing its own production. Then firm A will play the role of a Stackelberg leader, with firm B as a follower. Firm A will choose point S, the point of tangency between curve BB and iso-welfare contour W_A^S . Firm A will benefit but firm B will be hurt.

14) Free trade agreements usually would not affect the trade policies toward non-member countries.

However, it will be difficult for firm A to take such a first move, and without appropriate government actions, the Nash equilibrium N will be expected. Such a case is common in the literature. In the international context, it has been suggested that each of the exporting countries may use an export subsidy to promote the export performance of its own firm, at the expense of the firm of the other exporting country. Such changes in the profits of the two firms thus lead to the term “profit-shifting” effect of policies like an export subsidy in the presence of international rivalry.¹⁵⁾ An export subsidy imposed by country A will shift the reaction curve of its firm to the right, and the optimal subsidy is the one that shifts the curve so that point S is the new equilibrium point.¹⁶⁾

Nowadays, the World Trade Organization prohibits such use of export subsidies by the government of any of its member countries for the sake of improving the export performance of its firms. As a result, governments can no longer improve the trade performance of their firms using policies that involve the budgets of the governments.

<Figure 1> Nash Equilibrium



15) See Brander and Spencer (1985) for more details.

16) Point S is still a Nash equilibrium in the presence of the export subsidy.

However, we explained earlier that forming an FTA with country C will have the effect of shifting the reaction curve of firm A to the right, say, A'A'. Firm A's profit will increase to W_A^S . However, this equilibrium is exactly what country A would want should it be able to impose an export subsidy. Thus forming a FTA can be a way for a country to increase the profits of its exporting firms and thus its welfare.

Figure 1 does show an important feature of the present policy. The extent of shift of firm A's reaction curve depends on the initial tariff rate. Unlike the case of export subsidy, the change in the policy parameter is not under the control of the government of country A. The case shown in Figure 1, with the new curve at A'A', is a possibility. However it is also possible that the reaction curve of firm A will shift more or less.

If the initial tariff rate is less than t_0 , firm A's reaction curve will shift to a less extent. In this case, we can be sure that forming the FTA is good for country A, at least so long as this industry is concerned. We can thus see that if the initial tariff rate is small, country A can expect to benefit from country C's trade liberalization. If the initial tariff rate is greater than t_0 , then firm A's reaction curve will shift beyond A'A', and the change in country A's welfare is ambiguous. If the initial tariff rate is high so that country A experiences a significant drop in the tariff, country A could lose out. Figure 1 shows such a case, with the new reaction curve of firm A represented by A''A'' and the new equilibrium at point K. In this case, country A's welfare drops.¹⁷⁾

The above analysis shows how countries are willing to form FTAs with countries that have markets for some of their own firms and international rivalry firms. Such an argument is very similar to the export subsidy argument. Of course, some major differences between the present argument and the export subsidy argument should be noted. For example, in the present case, forming a free trade is permitted by the WTO, under certain conditions. On the other hand, the extent of tariff reduction depends on the initial tariff rate, which is beyond the control of other member countries.

The above argument can be used to explain Japan's eagerness of forming a FTA with Mexico. Mexico is an important market for Japan's cars and computers. Currently these products when exported to Mexico are subject to tariffs. However, the

17) Figure 1 shows that if point K is beyond point H, the point of tangency between curve BB and iso-welfare contour W_A^N , then country A loses.

competitors of the Japanese firms, like Ford, GM, and Hewlett Packard, can export their products to Mexico without any impediments from the Mexican government, thanks to the North American Free Trade Agreement (NAFTA). Japan hopes to form a separate FTA with Mexico in order to get the same treatment as what these American firms get.

3. The Political Economy of FTA

In societies in which lobbying, protests, and pressure from the media and interest groups exist to influence the choice of trade policies, the formation of FTA is much more complicated and subject to more uncertainties. South Korea and Japan are examples of these societies. The political decision power in China is more centralized and thus the formation of FTA in China could be more straightforward.

When a country forms a FTA with other countries, it not only gains access to the markets of these countries with less government impediments, but also has to allow access to the imports from the other countries with less impediments. The removal of trade restrictions on its part could meet with domestic restrictions, especially from those industries that are currently protected.

When a FTA is formed, it is easy to identify gainers and losers: In general, producers of the exportables and consumers of the importables gain while consumers of the exportables and producers of the importables lose. By the compensation principle, if an FTA is gainful to the economy as a whole, the gainers will have sufficient gain to be distributed to the losers to cover their losses. Of course, in the real world, income is rarely redistributed up to the point to ensure positive gain for every individual. Thus individuals will react to an FTA based on how their own welfare will be directly affected.

As a result, gainers will welcome the formation of a new FTA but losers will not. If there are ways for the losers to express their opposition to the formation of a new FTA and to exert their political pressure and influence, they will have an incentive to do so.

In countries like Korea and Japan, farmers proved to be a group of individuals with strong will to resist any trade liberalization in agricultural products. For governments that care about the political pressure from these groups (both the legislative and

executive branches), the resistance from the agricultural sector would have to be taken into account when planning for a new FTA. Very often such resistance is regarded as additional costs of forming an FTA.

To formulate the idea of FTA in the presence of political pressure, let us denote the economic benefit of an FTA by EB , the economic cost by EC , and the political cost by PC . Obviously, on the political side, there is a political cost but political benefit will be minimal. The aggregate net benefit ANB of an FTA can be written as:

$$ANB = EB - EC - PC . \quad (8)$$

On the other hand, the economic net benefit can be defined as:

$$ENB = EB - EC . \quad (9)$$

Since $PC > 0$, $ENB > ANB$.

Two criteria for choosing an FTA can be stated: (A) $ANB > 0$; and (B) $ENB > 0$. If a government cares about the political resistance, criterion (A) will be used, but if only economic benefits and costs are considered, criterion (B) should be adopted.

The issue here is whether it matters which criterion the government adopts. Depending on whether each criterion passes, three cases can be identified:

- (i) $ANB > 0$ and $ENB > 0$;
- (ii) $ANB < 0$ and $ENB > 0$; and
- (iii) $ANB < 0$ and $ENB < 0$.

Note that because $ENB > ANB$, $ANB > 0$ implies $ENB > 0$, or $ENB < 0$ implies $ANB < 0$. In other words, if an FTA is approved using criterion (A), it will be approved even if criterion (B) is used. Alternatively, if an FTA is rejected using criterion (B), it will also be rejected if criterion (A) is used.

In case (i), the FTA will be approved, no matter which criterion is used, or in case (iii), the FTA will be rejected by either criterion. The more interesting case is case (ii). If criterion (A) is used, the FTA is rejected, but if criterion (B) is used, the FTA is

approved.

As a result, in case (ii), what the government chooses and whether the general public agrees with what the government chooses depends on which criterion one uses. Sometimes conflicts between the government and the general public arise when they use different criteria and come to different conclusions.

Many governments are thus reluctant to consider FTAs that will meet with big political resistance at home, even if the FTAs are good economically. In the real world, what we can see is that countries usually try to form an FTA with those countries that the economy has small trade volumes. This is a way to guarantee that an FTA will not cause too much adjustment in the import-competing sectors. Thus Thailand formed an FTA with Bahrain. Japan signed a free trade agreement with Singapore, knowing that Singapore will have insignificant export of agricultural products, even in the absence of any trade restriction. Furthermore, Singapore finds it easy to form FTAs with many countries (Japan, the United States, for example) because it is not a major agriculture exporter and thus does not pose any threat to the agricultural sector of its trading partners.

Let us take an example. Last February, the National Assembly of Korea passed an FTA with Chile. It is generally believed that such an FTA will be good to the economy of Korea, and many people had urged the government to pass it as soon as possible. Yet, for one whole year the National Assembly had hesitated in passing the proposed agreement, and at some point it was not clear whether the National Assembly will ever pass it. This is a good example of case (ii): The FTA is regarded by the general public to be good to the economy, i.e., $ENB > 0$. However, it met with political resistance from the farmers. As a matter of fact, Chile does not have big volumes of export of agricultural products to Korea, and the trade liberalization associated with the FTA will not affect too much the domestic production of agriculture in Korea. Yet, farmers worried that if the Korea-Chile FTA is passed, they will have to make more concession in the future. Thus they expressed strong opposition to the agreement, and the National Assembly was reluctant to pass the agreement, even though many economists urged it to do so.

How may political costs affect the formation of an FTA in Northeast Asia? To answer this question, let us examine the trade in agriculture among the three countries

and the rest of the world. Table 16 shows the percentage trade in agriculture (HS01 to HS23) among Korea, China, Japan, and the rest of the World in 2002.¹⁸⁾

South Korea is not a big exporter of agriculture. For example, 1.58% of the world's import from South Korea was agriculture, and the corresponding figure for China is only a mere 0.40%. However, Japan did rely more on Korea, as 9.15% of its import from Korea was agriculture. Korea, on the other hand, was a big importer of agriculture, as 6% of its import was agriculture. It depended minimally on Japan in terms of agriculture but much more on China.

The table also shows that Japan is a big importer of agriculture, not only from the rest of the world, but also from Korea and China. China is a much stronger country in terms of comparative advantage in agriculture: It imported not much but exported a lot.

What does that table tell us? In Korea, since farmers resist strongly to trade liberalization in the agricultural sector, the government may find it more costly to form an FTA with China than one with Japan. Japan, however, will find it politically costly when forming a FTA with either China, Korea, or both. China, on the other hand, has a much more centralized government, and political pressure from the local agriculture industry is not significant. Thus it will be much easier, at least politically, for China to consider the Northeast Asia Free Trade Area.

<Table 16> **Percentage Trade in Agriculture among Korea, Japan, China, and the Rest of the World, 2002**

	Export from			
	South Korea	China	Japan	World
South Korea	-	12.67	0.95	6.00
China	0.40	-	0.88	3.42
Japan	9.15	14.42	-	12.97
World	1.58	5.21	0.51	-

18) The table was taken from Wong (2004), where more discussion about the strategies of Korea is available. The data were taken from Comtrade of the United Nations, and at the time of writing this part of the paper, the 2003 data were not available.

. Concluding Remarks

Due to its impressive economic growth in the past two to three decade, China saw its trade with Korea and Japan rising rapidly. Nowadays the three countries in Northeastern Asia are very much trade-dependent on each other. Together they form a huge economic unit.

In terms of their stages of economic development, Japan has the most advanced economy, and China has the least developed one. Korea, both in terms of geographical location and economic development, is the middle one. It is therefore important to study the features of the trade among them and investigate the prospect and implication of economic integration.¹⁹⁾

We first note that their export structures are getting similar to each other. Second, as the export structures of three countries are getting similar, their competition in the world market is also getting more intense. Looking at the TSI, the ESI, and changes in the US market share of these countries from 1998 to 2003, competition in particular between Korea and China and between China and Japan are getting more intensified. Our result points out the pressure Korea and Japan may be getting from China as the latter is growing rapidly and fast catching up.

However, our results suggest that Korea and Japan got more than rivalry and competition from China. There is much complementarity between the exports of these countries. That is because the three economies are in different stages of development, and many of their industries, especially manufacturing industries, show much vertical differentiation. Thus our results indicate that they have high degrees of intra-industry trade, and that their intra-regional trade shares have been steadily rising in the past several years. They also have high intra-industry trade indices. In particular, the IIT between Korea and Japan has been rising quite remarkably.

In view of the growing importance and mutual trade-dependent of their economies,

19) Urata and Kyota (2003) argue that the impact of the East Asia FTA is not large enough to change the composition of each country's exports and imports substantially.

and the fever on free trade areas in Asia, it is quite natural for Korea, China, and Japan to consider tighter integration of their economies. The present paper briefly describes how the ideas of FTAs were initiated, and the status of negotiation among the countries. It also describes and discusses the policies and attitudes of the governments toward forming FTAs.

There have been a number of reasons suggested to explain why a government chooses to form an FTA with other countries, and which other countries would a government choose as partners of an FTA; for example, the expansion of production in a larger unified market, the enjoyment of economies of scale, increase in competition (or the drop in monopoly power of some of the firms), and so on.²⁰⁾ In this paper, we put an emphasis on the existence of international rivalry and the desire to increase the market share of a country's firms in another market as a major reason for forming an FTA. We argued that the discriminatory nature of an FTA provides an incentive to governments to seek trade concession from its important markets. At the same time, a government is afraid of being left behind. If a rival country that has firms competing closely with its own firms has formed an FTA with an important overseas market, it will have a huge incentive to form another FTA with the same market in order to get the same preferential treatment.

However, despite the fever of FTA many governments are experiencing, it is observed that some governments are quite conservative or even hesitant in rushing into free trade agreements. We argued that many governments are too worried about domestic political resistance on the formation of new FTAs, especially when some domestic industries could be hurt directly by an FTA. We call it the political costs of forming a new FTA. We argued that sometimes political costs are big and a government may be too concerned about political costs that it avoids forming the FTAs that may bring big economic benefits to the economy.²¹⁾

20) Urata and Kiyota (2003) also analyze the effects of FTAs: FTAs are an effective way to penetrate the market of the member countries. FTAs would promote deregulation and structural reform to revitalize their economy. Also, FTAs could help avoid another financial crisis and promote regional economic growth.

21) In this paper, we have not done any quantitative assessment of the costs and benefits of FTAs for the economies. Readers interested in some of the estimates may read, for example, Park (2003) and the studies of KIEP.

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