Very Preliminary Draft

A Korea-Japan FTA: Economic Effects and Policy Implications

Inkyo Cheong*

I. Introduction

The need for economic cooperation in the Northeast Asian region is increasing due to several factors. These are the deepening of the economic interdependence among Korea, Japan and China; the need for the prevention of overlapping investment in major regional industries; and as a response to the formation of economic blocs in the world economy and the growing number of fields requiring the coordination of common interests such as fishing activity rights and the problem of trans-boundary pollution.

However, none of the Northeast Asian countries has joined any regional trade agreement thus far but Korea and Japan have renewed their interest in concluding some kind of regional trade agreement following the Asian financial crisis. During President Kim Dae Jung's state visit to Japan in October 1998, he proposed the "Action Plan for the New Korea-Japan Partnership for the 21st Century." Following the President's proposal, a number of ministers' meetings were held to discuss ways to achieve a closer economic relationship between the two countries. Moreover, Japanese Prime Minister Keizo Obuchi added momentum to the development of bilateral relations by introducing the "Korea-Japan Economic Agenda 21."

Closer economic relations can be achieved by strengthening bilateral or existing multilateral cooperation channels. However, this would seem to lead to show a loose and slow progress, due to the lack of strong commitments by the three countries. Contrary to this, formal economic integration, as embodied by an FTA, provides the member economies with commitments for preferential trade liberalization and the harmonization of economic institutions between the treaty powers. Economic

* Research Fellow, KIEP. Any questions and comments may be directed to Tel: (82 2) 3460-1208, Fax: (82 2) 3460-1133, E-mail: ikcheong@kiep.go.kr. This working paper is an extension and elaboration of Cheong (1999b, c).

integration should be pursued through a preferential trading bloc that is compatible with WTO rules and that can gain momentum in the process of implementation.

This paper analyzes the economic effects of a Korea-Japan FTA, focusing on the impacts on Korean industrial production and trade. Then, based on the findings of the analysis, this paper tries to provide some policy implications with respect to the economic integration of Korea and Japan. Finally, limitations of the analysis done in this paper are discussed.

II. Economic Effects of a Korea-Japan FTA

It can be said that the effects of an FTA are generated largely by static factors (elimination of trade barriers) and dynamic factors (increase in intra-regional investment, economies of scale, and the promotion of competition.). Since the Computational General Equilibrium (CGE) model,[1] utilized in this research, is a model of having perfect competition structure, it has limitations in being able to estimate the impacts of economies of scale. Thus, this research will try to analyze the static and dynamic effects caused by the elimination of trade barriers, the expansion of intra-regional investment, and the promotion of competition. This model is appropriate for the analysis of static impacts such as the effects of trade liberalization on trade patterns and, if some of its structures are modified, can be used to analyze dynamic impacts at the same time. In the case of dynamic analysis, it is necessary to estimate, in advance, the extent of the improvement in productivity resulting from the growth of intra-regional investment and the promotion of competition.

The applied rates of tariffs in the GTAP database[2] are used to estimate static impacts. In order to estimate dynamic impacts, it is assumed that Korean productivity will grow annually by 1.0 percent for 10 years (10 percent for 10 years) under an FTA between two countries.[3,4] That is, because the productivity gap between Korean and

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[1] The major structure of the model and the discussions on parameters are presented at Cheong and Wang (1999).

[2] Refer to Hertel (1998) about the GTAP database. The database contains a set of data for production, trade, consumption, etc, which can be used for CGE simulations.

[3] The annual growth rates of 1.0 percent consists of an 0.85 percent growth in productivity, produced by

Japanese companies is supposed to be narrowed by 10 percent over the 10 years following the implementation of the agreement, only a growth in Korean productivity is assumed for the simulation using the CGE model. As it seems rather arbitrary to presume that productivity will increase by 1.0 percent under a Korea-Japan FTA, two more assumptions, of 0.5 percent and 1.5 percent, will be employed to implement a sensitivity test about the stability of the estimates.

The results of the analysis of the economic effects of a Korea-Japan FTA, by using a CGE model, will be categorized as follows: effects by industries, effects on the balance of trade, and changes in real GDP and welfare levels. Each of these categories will be discussed, respectively, below.

1. Effects on Production Activity by Industrial Sectors

Table 1 summarizes the effects of a Korea-Japan FTA on production activities by industrial sectors in Korea. It indicates that the dynamic effects would surpass the static effects on the major Korean export industries, such as transport equipment, electronic goods and appliances, implying that these industrial sectors will expand their scale of production. Observation of the static effects of tariff elimination reveals that there would be little effect on the production of the industrial sectors, other than for apparel and leather goods.

<Table 1> Effects of a Korea-Japan FTA on Production by Industries

(Unit: % changes)

enlarged investment, and an additional 0.15 percent of growth caused by the promotion of competition. Under most FTAs, preferential rules of origin are established in order to apply preferential treatment to originating goods, thereby inducing an increase in intra-regional investment. Considering the costs of labor, rental costs for land etc, it is likely that Japanese investment in Korea will dominate the foreign direct investment between the two countries. As there exists no previous study on the effects of competition promotion, this research presumes the rate of 0.15 percent for the sake of convenience. A sensitivity test will be performed, in order to test the stability of estimates, using different assumptions of productivity growth. Refer to KIEP(2000) about the estimates of Korea's productivity growth under a Korea-Japan FTA.

[4] Although productivity will increase in most industries, this research presumes that the improvement in productivity is limited to the heavy and chemical industries, including chemicals, steel, automobiles, other transport equipment, and the electric and electronic industries, whose productivities have increased most

	Static Effects	Dynamic Effects	Total
Agriculture	0.15	-0.21	-0.06
Food Processing	1.05	0.19	1.24
Forestry	0.02	0.15	0.17
Fisheries	0.24	-0.01	0.23
Mineral Resource	-0.30	-0.34	-0.64
Non-ferrous Metals	-0.93	0.67	-0.26
Beverages & Tobacco	-2.38	0.91	-1.47
Textiles	0.69	-3.26	-2.57
Apparel	8.75	-4.16	4.59
Leather Goods	9.56	-7.20	2.36
Wood & Pulp	-0.30	0.71	0.41
Paper & Printing	-0.49	0.13	-0.36
Chemical Industry	-0.79	2.68	1.89
Steel Industry	-1.80	6.91	5.11
Metal Goods	-1.14	4.99	3.85
Automobiles	0.68	6.63	7.31
Other Transport Equipment	-1.31	14.67	13.36
Electric & Electronic Industry	-0.65	6.90	6.25
Other Equipment	-1.65	8.23	6.58
Other Manufacturing	-1.86	-3.98	-5.84

Note: Estimates are changes of quantity.

When both countries' tariffs are eliminated, 12 out of 20 industries classified in this research will exhibit a contraction in production activities. However, the rates of production are expected to decrease by 2 percent, or less, annually, with the exception of the beverage and tobacco industries.[5] The industries expected to experience declines in production, are the major exporting industries of Korea. They are the chemicals, steel and metal goods, electronic goods and appliances, machinery, and other manufacturing industries. The industries, whose levels of production are expected to grow, are the primary industries, textile, apparel, leather goods and automobile industries. It is anticipated that the apparel and leather processing industries will record the highest

significantly over the last few decades.

[5] The base year applied for these estimates will be when trade liberalization is implemented fully and the internal reorganization of institutions for the FTA is completed. It is proper to think that the base year suggested in this research is 10 years after the agreement comes into force, since trade liberalization for most items is generally accomplished within 10 years, with the exception of highly sensitive items. This base year is applied to all the estimates provided for the analysis of the economic impacts of the FTA in this section.

production increase rates of 8.75 percent and 9.56 percent, respectively. This implies that these industries will be the biggest beneficiaries of a Korea-Japan FTA.

This is due to the particularity of Korean-Japanese economic relations. In other words, Korea has followed the Japanese model for its own economic development, as a result of which Korea has been competing with Japan in its major exporting industries while the former has been less competitive than the latter in the world market. It is natural that opening up markets will consequently lead to a reduction in the production activities of these industries in Korea. In addition, the Korean tariff rates for these industries have been higher than Japan's, which indicates that Japanese firms will benefit from a bilateral elimination of tariffs due to improving price competitiveness while the Korean industries will be in a relatively disadvantageous position. The Korean tariff rates applied to steel, automobiles, machinery, and chemicals are 7 to 8 percent (trade-weighted average tariff rates), while Japan applies much lower tariffs of only 0 to 2 percent.

However, the dynamic analysis, utilizing the assumption of there being an increase in productivity, presents results opposite to those of the static analysis. For instance, the apparel and leather processing industries, the production of which was supposed to increase according to the static analysis, are now projected to have their production activities dampened. Furthermore, it also suggests that our major exporting industries, including the transport equipment, electric and electronic, and machinery industry, will experience great expansion in their levels of production.

The total effects of the FTA are calculated by totaling the static and dynamic impacts. It can be summarized that an FTA between two countries will result in a production expansion for our major industries and a production contraction for our primary industries. The transport equipment, machinery, electric and electronic, and steel industries will see the most significant gains, with annual growth rates of 5 to 13 percent. For the primary industries, whose levels of production are expected to contract according to the static analysis, the effects of the FTA will be minimal with only a slight increase of 0.2 percent for both forestry and fisheries production and a small decline in agricultural production.

2. Effects on Korean Exports to Japan and the Balance of Trade

As was the case with the analysis of the effects on Korean production by industries, discussions of the effects on Korean exports to Japan and Korea's balance of trade will be divided into static and dynamic aspects.

According to the static analysis, tariff elimination, under a Korea-Japan FTA, will boost Korean exports to Japan for most items. The apparel industry will experience the strongest export growth (1 billion dollars annually), followed by food processing (0.86 billion dollars) and the leather goods industry (0.73 billion dollars), all of which were expected to expand production on a massive scale.

Meanwhile, other industries will record medium levels (less than 0.1 billion dollars) of export growth. Japanese exports to Korea will make notable gains in all sectors and the net increase in Japanese exports to Korea will be as high as 8.4 billion dollars, thereby exacerbating Korea's trade deficit with Japan by 5.4 billion dollars. Imports of Japanese machinery on which Korea has already been highly dependent, will record substantial growth, accounting for half of the estimated import growth, from Japan, of 8.4 billion dollars. There will be an improvement in the balance of trade with the rest of the world by 3.9 billion dollars. All told, Korea's balance of trade with the world will be worsened by 1.5 billion dollars.

<Table 2> Effects of a Korea-Japan FTA on exports to Japan and the balance of trade

(Unit: changes in million dollars)

	Static Effects			**Dynamic Effects**			**Effects on overall TB (1+2)**
	Exports to Japan	Balance of trade (TB) with Japan	TB with the world (1)	Exports to Japan	TB with Japan	TB with the world (2)	
Agriculture	62.41	49.07	-137.39	-33.70	-34.98	-228.05	-365.44
Food Processing	854.61	764.78	624.62	-96.90	-98.21	-207.00	417.62
Forestry	-0.02	-0.14	-0.45	-0.04	-0.07	-16.10	-16.55
Fishery	30.18	19.02	7.67	-8.03	-8.92	-36.51	-28.84
Mineral Resources	-0.20	-5.82	88.89	-0.99	-1.50	-361.05	-272.16
Non-ferrous Metal	8.82	-228.70	-104.53	-35.55	-102.26	-432.89	-537.42
Beverage·Tobacco	53.11	-389.29	-232.57	-4.35	-13.53	-47.33	-279.90

Textile	73.66	-193.25	-359.15	-26.62	-18.83	-495.24	-854.39
Apparel	1,006.95	961.63	940.03	-170.91	-173.93	-536.43	403.60
Leather Goods	732.88	695.41	535.62	-84.37	-84.20	-420.55	115.07
Wood·Pulp	-2.71	-28.30	-29.61	-10.49	-12.49	-99.32	-128.93
Paper·Printing	0.03	-50.15	-62.57	-4.93	-13.55	-196.87	-259.44
Chemical Industry	91.15	-1,047.62	-469.98	78.86	39.27	424.36	-45.61
Steel Industry	166.49	-880.79	-221.01	136.15	30.29	60.45	-160.57
Metal Goods	0.66	-173.18	-125.48	40.19	38.30	263.99	138.51
Automobile	11.89	-524.73	-11.93	8.83	11.53	1,093.38	1,081.46
Other Transportation	8.74	-235.81	-178.06	17.74	26.45	1,267.23	1,089.17
Electric·Electronic	48.76	-481.66	-307.66	108.96	100.13	1,365.60	1,057.94
Machinery	82.89	-4,845.12	-1,180.98	389.18	-49.85	2,055.98	875.00
Other Manufacturing	1.20	-231.11	-235.11	-59.55	-73.45	-439.77	-674.89
Total	3,125.07	-5,354.34	-1,459.64	243.46	-439.70	3,013.88	1,554.23

Note: 1) Estimates are based on quantity changes.

There exists little, if any, similarity between the effects on the pattern of exports to Japan generated by productivity improvement in our major industries, and those due to the tariff elimination. First of all, the share of the heavy and chemical industries in Korea's total exports to Japan will grow notably while those of the other industries will shrink. Contrary to the estimated effects of the tariff eliminations, there will be a drop in exports for items of the apparel and leather processing industries, which were expected to make up half of the total exports to Japan.

Furthermore, productivity improvements do not seem to have any remarkable effects on the increase of Korean exports to Japan, compared with tariff elimination. In other words, the elimination of tariffs will contribute significantly to the escalation of Korean exports to Japan by nearly 3.1 billion dollars, while the export of Korean goods to Japan will grow by only 0.2 billion dollars when productivity improvement is assumed. However, Korea's trade balances with its other trading partners will be augmented by 3.4 billion dollars (5.4 billion dollars due to an increase in exports with a subsequent import growth of 2.0 billion dollars) with the expected productivity improvements. Consequently, it can be said that most of the dynamic effects on Korean

exports will take the form of a growth in exports to other countries rather than to Japan. Although our trade balance with Japan would deteriorate by 0.4 billion dollars, the 3.4 billion dollar increase in exports to other regions will explain the 3 billion dollar augmentation of Korea's trade balance with the world.

It is the heavy and chemical industries that will contribute to the improvement of the trade balance. Machinery, whose trade balance with Japan is assumed to deteriorate the most, will account for a 2.1 billion dollar improvement, in the trade balance, with its expected increase in productivity. In addition, it can be anticipated that the trade balance will be improved by more than 1 billion dollars in the automobile, other transport equipment, and the electric and electronic industries.

Even though the elimination of tariffs worsens Korea's trade balance with the world, the amelioration of the trade balance explained by productivity improvements under an FTA, will surpass the deterioration of the trade balance that the negative effects of tariff eliminations will produce, thereby accounting for the gains in the trade balance as a whole. The right-end line in <Table 2> provides the impacts of a Korea-Japan FTA on our overall trade balance, which will grow annually by 1.6 billion dollars.

3. Effects on Welfare and Real GDP

After Korea and Japan eliminate their tariff barriers, our real GDP and welfare level are expected to decline by 0.07 percent and 0.19 percent, respectively. Generally speaking, the elimination of tariffs raises the level of welfare by efficiently redistributing the factors of production. Thus, the predicted decline in the Korean welfare level can be seen as being quite exceptional.

This is intimately related with the above-mentioned effects on the production changes, by industries, that tariff elimination creates. When Korean tariff rates are higher than those of Japan, tariff elimination has the effect of diverting its factors of production from the major export industries to the primary and light industries with low

value added[6], as well as deteriorating the terms of trade, deteriorating real GDP and the level of welfare.[7,8]

<Table 3> Effects of a Korea-Japan FTA on real GDP and the level of welfare

	Static Effects	**Dynamic Effects**	**Total Effects**
Welfare Level (%)	-0.19	11.43	11.24
Equiv. Variation (billion $)	-0.77	46.27	45.50
Real GDP (%)	-0.07	2.88	2.81

Note: 1) Equivalent variations are changes in the GDP equivalent to the changes of the level of welfare.

However, if the dynamic effects are considered, our welfare level and real GDP

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[6] Hong, Sung-duk and Kim, Jung-ho (1996) studied the variations of factor productivity based on the outputs by sectors between 1967 and 1993, indicating that the heavy and chemical industries showed noticeable growth in the productivity of production factors while lower marks were recorded for resource (non-ferrous metal) and labor intensive industries (light industries embracing beverages, textiles, apparel, leather processing, wood and wood products, and other manufacturing). Moreover, Nam's study (1999)(using production data between 1971 and 1996) came up with the similar results, suggesting low capital and labor efficiency in agriculture, food and beverages, textiles, apparel, leather processing, wood and furniture industries, and a high rate of efficiency for the metals, transport equipment, and electric and electronic industries.

Korea's Trend in the Productivity of Capital, Labor and TFP in the Manufacturing Sectors (1971-1996)

(Unit: % changes)

Sector	K-Productivity Growth Rates	L-Productivity Growth Rates	Total Factor Productivity Growth Rates
Food, beverage and tobacco	-0.48	9.69	-0.64
Textiles and apparel	2.28	10.72	2.45
Wood and furniture	-2.04	7.29	-1.09
Paper and its products	0.33	10.77	2.58
Chemicals and plastics	0.25	10.64	1.21
Basic metals	2.91	13.51	3.23
Metal products and machinery	5.75	16.09	5.18
Electronic and electric products	7.76	19.21	7.24
Transportation equipment	6.04	16.12	5.02

Source: Nam, S. Y (1999), "Total Factor Productivity Growth in Korean Industry and Its Relationship with Export Growth", P. 22, <Table 6>, KIEP Working Paper.

[7] Apart from the deterioration in the terms of trade and the degraded efficiency of production factors, the level of welfare is affected by the loss of governmental revenue due to the elimination of tariffs.

[8] The terms of trade are to deteriorate because Korean tariff rates are higher than those of Japan and

will be elevated to a large degree. This is because the advancement of productivity in the heavy and chemical industries will improve international competitiveness, under an FTA between the two countries, thereby enlarging the scale of production. As a result, unlike in the tariff reduction case, Korea's factors of production will exhibit higher productivity, as a whole, resulting in an increase in real GDP and improvement in the level of welfare. If the tariffs of the two countries are completely eliminated and our major export industries have their productivity enhanced, Korea can expect a growth, in real GDP, of 11.24 percent and an annual improvement in the level of welfare of 45.5 billion dollars.

4. Sensitivity Test of the Estimates

As discussed above, the stability of the estimated economic effects will be tested by applying the production growth rates of 0.5 percent and 1.5 percent, apart from the assumed annual growth rate of 1 percent, under a Korea-Japan FTA. <Table 4> summarizes the changes in the scale of production, by industries, under the assumed rates of an increase in productivity of 0.5 percent, 1 percent, and 1.5 percent, respectively.

The scale of production, by industries, is seen to grow in proportion to the increase in productivity, which indicates that the model employed in this research provides stable estimations. For instance, as the productivity in the steel industry rises by 0.5 percent, 1.0 percent, and 1.5 percent, the production scale of the industry is increased by 3.51 percent, 6.91 percent, and 10.19 percent, respectively, meaning that the changing rates of the production scale to productivity are 96.9 percent and 94.9 percent, respectively. It can be seen that the estimates resulting from this research are quite stable.

<Table 4> Changes in production by industries with increasing rates of productivity

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Korea shows a preference for Japanese goods

(Unit: %)

	0.5% Increase	**1.0% Increase**	**1.5% Increase**
Agriculture	-0.11	-0.21	-0.31
Food Processing	0.09	0.19	0.28
Forestry	0.08	0.15	0.21
Fisheries	-0.01	-0.01	-0.01
Mineral Resources	-0.18	-0.34	-0.5
Non-ferrous Metals	0.34	0.67	0.99
Beverages·Tobacco	0.47	0.91	1.32
Textiles	-1.68	-3.26	-4.76
Apparel	-2.17	-4.16	-5.98
Leather Goods	-3.76	-7.20	-10.35
Wood·Pulp	0.36	0.71	1.04
Paper·Printing	0.06	0.13	0.2
Chemical Industry	1.37	2.68	3.93
Steel Industry	3.51	6.91	10.19
Metal Goods	2.54	4.99	7.35
Automobiles	3.38	6.63	9.74
Other Transportation	7.29	14.67	22.12
Electric·Electronic	3.51	6.90	10.17
Machinery	4.19	8.23	12.14
Other Manufacturing	-2.05	-3.98	-5.79

Note: Changes of quantity.

The effects of productivity changes on exports to Japan, the trade balance with Japan, real GDP and the trade balance are provided in <Table 5> and <Table 6>, respectively. It is anticipated that exports to Japan, the trade balance with Japan, real GDP and the level of welfare will move following a pattern in line with the productivity changes as was the case for production changes by industry.

Summing up, the estimated economic effects of productivity improvement reveal considerable stability with an increase in productivity under a Korea-Japan FTA.

<Table 5> Effects of a productivity changes on Korea's trade

(Unit: changes of billion dollars)

	Effect on Production Change	**Total balance**

	Exports to Japan	Balance of trade with Japan	Balance of trade with the world	**of trade (Static + Dynamic)**
0.5% Increase	1.19	-2.28	1.50	**0.044**
1.0% Increase	2.43	-4.40	3.014	**1.554**
1.5% Increase	3.72	-6.37	4.523	**3.063**

<Table 6> Effects of productivity changes on real GDP and the welfare level

(Unit: changes of billion dollars)

	Effects on Productivity change			**Real GDP (Static+Dynamic)**
	Welfare Level	Equiv. Variation	Real GDP	
0.5% Increase	5.74	23.3	0.96	**0.89**
1.0% Increase	11.43	46.3	2.88	**2.81**
1.5% Increase	17.04	69.0	5.76	**5.69**

III. Policy Implications of a Korea-Japan FTA and Limitations of the Analysis

In light of their interdependent economic and industrial structures, there exists high potential for economic cooperation between Korea and Japan. However, the potential for disputes due to different economic interests is also high. Moreover, this paper shows that trade liberalization can deepen Korea's current imbalances in intraregional trade as well as in Korea's overall trade balance. A country experiencing trade deficits cannot help being negative with respect to liberalized trade. Therefore, feasible mechanisms to resolve trade conflicts, or distrust, between the two countries are indispensable if any initiative is to lead to successful conclusion of a trading bloc in the region. However, this paper shows that by taking Japanese investment into Korea, under an FTA, into consideration, Korea's overall trade balance will, in fact, be positive.

Based on the results analyzed so far, the following conclusion can be conservatively presented: a Korea-Japan FTA is feasible when bilateral trade liberalization is linked with a deliberately designed investment scheme. One way to compensate Korea's losses stemming from the expansion of market access would be to arrange for specific Japanese investment commitments into those sectors in Korea

which would be most seriously affected by worsening sectoral trade balances.

An alternative approach could be the introduction of flexible market access. To relieve the problems relating to the extension of market access, we should consider the international competitiveness of the countries in addition to the tariff rate system. The simple average applied tariff rates of Japan and Korea, for 1998, were 4.9% and 16.9%, respectively. Considering the tariff structures of the two countries and their relative degrees of international competitiveness, it would be possible to apply tariff reductions with different implementation periods, depending on the strength of the industry, or the country. For example, let us consider asymmetric trade liberalization, which would allow Korea to have a longer implementation period for tariff reductions. Also, another possible alternative would be to ease the conditions for invoking the safeguard mechanism, in order to reduce injury to weak industries which might occur during the implementation period, and to secure the time needed for restructuring.

The introduction of institutional devices for maximizing intraregional trade creation between the member countries could also be considered. An example would be making preferential rules of origin (ROO) more favorable to member economies. The study by Cheong (1999a) shows that preferential ROO will increase intraregional trade substantially. Cheong investigated the economic effects of an FTA between Japan and Korea with two scenarios, the first with preferential ROO taken into consideration, the second without. Under the assumption of no preferential ROO, Korean imports from Japan are expected to increase by 171.45% in agricultural products and by 39.64% in industrial products. When preferential ROO was considered, Korean imports of agricultural products would rise by 230.81% while imports of industrial products would drop to 34.73%. However, the huge increase in the percentage of agricultural products imports would not be significant in overall quantitative terms because the trade volume of agricultural products between Japan and Korea is rather small.[9]

Preferential ROO would affect Korea's exports to Japan more than Korea's imports from Japan. Korean exports of industrial products and agricultural products to

[9] The reason for the larger increase in agricultural imports from Japan where preferential ROO was considered, as opposed to where it was not considered is that Korea's tariff rates would decrease through the adoption of a common external tariff (CET) on agricultural products (this is too technical. See the author for a detailed explanation). However, Korean tariff rates are currently higher than those of Japan. Thus, Korean importers would change the source of their imports of agricultural products from other

Japan would increase by 59.81% and 13% respectively without preferential ROO. However, when ROO are taken into consideration, Korean exports of agricultural products would grow by 52.06%, while exports of industrial products would expand to 35.36%. Investigating the effects on the trade of industrial products between Korea and Japan, we find that Korean imports of industrial products will decrease by 4.9% while Korean exports to Japan will rise by 22.4%. According to the above estimation, preferential ROO can considerably contribute to the creation of intra-regional trade (at least between Korea and Japan) and, therefore, will be a very important issue in the negotiation of an FTA in the region.

Finally, we can take a long-term perspective in moving forward the economic integration of the two countries. First of all, trade regimes in the respective countries should be harmonized through strengthened cooperation, which can serve as the framework for economic integration in the short and medium-term.[10] Then, based on unified trade regimes, the elimination of tariff and non-tariff barriers through gradual and asymmetric approaches can follow for the purpose of expanding market access. Following these steps, we can temporarily mitigate the negative side effects which may be incurred through simply expanding market access by securing time in advance for enterprises in the region to acclimatize themselves to the new trade environment.

The last part of this chapter will be allocated for the discussion about the limitations of the analysis for the evaluation of an FTA between Korea and Japan. While the CGE model employed in this research has merits in assessing the impacts of external shocks, such as tariff reductions, on major economic variables, including production and exports, using the CGE model bears limitations in analyzing the economic impacts of an FTA for the following reasons, and as a consequence, requires a cautious approach with respect to interpreting the results.

First, the model presupposes constant returns to scale without considering the economies of scale achieved in the heavy and chemical industries. According to Prattern's 1988 study, the heavy and chemical industries recorded high degrees of economies of scale in the European economic integration case.

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regions to Japan.

[10] Strongly preferential modifications of trade regimes without the formation of a trading bloc consistent with the WTO could cause trade disputes with other countries. Thus, for the time being, it is necessary to

Second, this research evaluates the dynamic effects by applying external productivity improvement shocks. It is necessary, however, to employ internal channels and embrace the effects of an FTA on investment for a more precise assessment of the dynamic effects. For this, it is essential to construct a dynamic model which will internalize the investment variables. In the dynamic model internalizing investment, the impacts of economic integration are expected to be greater than in the static modeling.

Third, a more precise analysis of the trade barriers is needed, since the results of the simulation are greatly influenced by the degree and type of trade barriers. Although this research involves the tariff barriers which are readily quantified and can be easily utilized for estimation and modeling, it is also necessary to consider the non-tariff barriers which cause so many serious trade problems between the two countries. The non-tariff barriers have been converted into equivalent tariff values. However, if the equivalent tariff values applied are higher than the existing tariff rates, simulation errors are likely to occur. It means that the model should be modified in order to apply the equivalent tariff values for non-tariff barriers properly.

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coordinate trade rules in an MFN-consistent manner.

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